love every drop
anglianwater

Annual Performance Report 2024

Anglian Water Services Limited

Revised Version December 2024

FTSE Women Leaders TOP 10 Women in Leadership TOP 50 Private Companies 2023

Proud to be one of The Times Top 50 Employers for Gender Equality 2023

THE QUEEN'S AWARDS FOR ENTERPRISE: SUSTAINABLE DEVELOPMENT 2020

UtilityWeek AWARDS 2023 WINNERS

WINNER WATER COMPANY OF THE YEAR Anglian Water

Version Control

1 Following the Annual Performance Report query process with our economic regulator, Ofwat, and through additional assurance procedures, in conjunction with our PR24 submission, a number of amendments were required to the document we published in 2024. The amendments made do not materially change a reader's understanding of our performance or financial position as described in the narrative of the Annual Performance Report and as such we have not obtained an updated audit opinion from our auditors, Deloitte. This means the assurance reports and sign offs included are aligned to our original submission.

2 The table below summarises the changes that have been made to input data and these changes have been highlighted red within the data tables and the commentary (total values are not highlighted).

Reference no.	Table	Lines	Description of Change
1	1F	5, 10	Change of tax rate
2	3A	4	Commentary updated
3	3A	9	Updated figures
4	3F	5, 6	Updated figures
5	4B	12, 257, 258, 259	Updated figures
6	4L	18, 27, 77, 80, 83	Updated figures
7	6D	11, 12, 13, 14	Clarification issued by Ofwat from PR24 query
8	11A	47, 48, 50, 51	Updated figures
9	N/A	N/A	Updated figure in Board Statement on Company Direction and Performance

Introduction

Annual Performance Report and required regulatory information

We present over the following pages the Annual Performance Report (APR) for the year ended 31 March 2024. This provides specific and transparent information on our progress on the delivery of customer outcomes, service levels, costs and financial and environmental performance. The APR is prepared to comply with Condition F of the Instrument of Appointment of Anglian Water Services Limited as a water and sewerage undertaker under the Water Industry Act 1991 and the Regulatory Accounting Guidelines (RAGs) published by Ofwat. This report complements our separately published Annual Integrated Report, available on our website www.anglianwater.co.uk, which provides more information about our activities in 2023/24.

Commentary has been included beneath each APR table to provide further information, to explain significant year-on-year variances in performance and to highlight assumptions where appropriate. The subheadings in the commentary refer to the APR table line numbers to aid navigation.

Beyond the tables, a full set of the disclosures required by RAG 3.14 is set out in a separate section.

This report includes the data assurance summary, which demonstrates the process carried out by Anglian Water Services Limited to evidence that information provided is reliable.

At the end of the report are the summary reports of our Independent Auditor and our External Non-financial Assurance provider on the conclusions of the work they have undertaken to assess the reliability of our submission.

The APR is prepared in accordance with the Regulatory Accounting Guidelines (RAGs) issued by Ofwat, which are based on International Financial Reporting Standards (IFRSs). There are differences between IFRSs and the RAGs and where there is a conflict, the RAGs take precedence.

In this report, Anglian Water Services Limited is also referred to as Anglian Water, AWS or the Company.

The Annual Performance Report was approved by the Board of Directors on 10 July 2024 and was signed on their behalf by:

Peter Simpson

Chief Executive

Anthony Donnelly

Chief Financial Officer

Key Messages

Chief Executive, Peter Simpson, commented:

"The last 12 months saw strong financial performance, with regulated revenue of £1.5 billion (up 10.1 per cent) and operating profit of £337 million (up 3.9 per cent). During the year we made £963 million of Capital Investment; significantly more than operating profit. Our shareholders agreed £350 million of additional investment, including £100 million to accelerate our work on reducing spills and pollutions. This is over and above the level agreed by Ofwat.

Our continued focus on supporting customers was demonstrated through our improved CMeX, leading DMeX and outperforming RMeX scores, while an independent survey, run by the Consumer Council for Water showed positive and above average scores. We also helped 389,371 customers through a £136.9 million support package and met our Priority Services Register (PSR) target, with an industry-leading 12.7 per cent (380,853) of customers on our register.

Steady progress on improving operational performance continued through extreme weather challenges as our region experienced widespread flooding during the second half of the year; now on record as the wettest six months ever. Despite this our spills performance remained industry leading (22 vs 33) and at 22 per overflow is encouragingly close to our 20 per overflow end of AMP target, especially given the exceptional weather. In the 2023 calendar year, we had 11 Category 2 pollutions, which we know is unacceptable. Our turnaround plans have seen an improvement on lead measures, especially on networks, but we know we need to do more, faster, and the additional £100 million supported by our shareholders will enable this.

Over the last 12 months we've achieved our best-ever acceptance score for safe reliable drinking water – our customers' number one priority – and the continued rapid deployment of smart meters, installing 259,908 in 2023/24. Alongside this, we saw our lowest-ever recorded three-year rolling average for leakage.

2023/24 saw enormous efforts right across the business, but the impacts of climate change, particularly around flooding continue to pose a challenge. We are constant in our work to establish a better multi-agency approach to flooding, aiming to ensure complex flood risks are as low as reasonably practicable, and well managed.

As a result, while lead measures improved in many areas, our performance did not meet the levels we aspire to, and our customers rightly expect. This has culminated in a year-end ODI penalty of £37.6 million.

We will continue to invest to meet the changing expectations of customers and stakeholders. Our business plan, worth over £9 billion, is the next step in our long-term plan to ensure we are resilient against the impact of climate change, while keeping bills affordable (£1.45 per day in 2024/25) and supporting customers when they need it most."

Financial highlights

ODI penalty

- Operations across the region were significantly impacted by the prolonged period of wet weather seen at the end of 2023 and start of 2024 that principally affected ODIs such as pollutions, which had the biggest contribution to the £37.6 million penalty incurred.

- In 2023, we had 40 pollutions per 10,000km of sewer network (33 in 2022).
    - We are disappointed with our performance, but confident that lead measures are showing improvements – a result of the actions already being taken as part of our Pollutions Incident Reduction Plan.
    - While no spill to the environment is acceptable, we achieved the lowest average number of storm spills per overflow in the industry, again as a result of work underway to improve performance.
- Despite the challenges faced this year, we've seen strong performance across a number of areas of the business, most notably on customer experience, for which we are in reward.
    - We finished 7th in the industry for Customer Measure of Experience (CMeX) (5th in the Water and Sewerage Companies table) and 4th in the industry for Developer Measure of Experience (DMeX) - our highest year-end position this AMP and outperformed in Retailer Measure of Experience (RMeX).

- **Totex Performance**

  Our cumulative position AMP to date is an overall overspend of £371 million. This is primarily as a result of higher Botex spend, where we have seen higher energy costs whilst simultaneously reinvesting efficiencies to seek to improve the performance of the business. We expect this trend to continue in year 5 of AMP7 and are also planning a further £100 million spend in our pollution recovery plan.

  With enhancement capex we have seen additional spend in delivering our strategic interconnecting pipeline project, where we have seen increased costs over and above CPIH due to increased costs of steel and other supply chain challenges, whilst we have continued to deliver our Water Industry National Environment Programmes (WINEP) environmental obligations through innovative projects. The efficiency in delivering these WINEP projects has been reinvested into Botex as described above.

  The Board continues to actively chose to reinvest efficiencies in Water Recycling as we seek to recover from a number of weather-related events throughout the AMP.

  These decisions highlight the flexibility of the business to manage both cost and delivery across the business as a whole which has been enabled by the broadly symmetrical cost sharing rates between price controls as well as between base and enhancement expenditure.

  In addition to reinvesting efficiencies, our shareholders agreed £350 million of additional investment, including £100 million to accelerate our work on reducing spills and pollutions. This is over and above the level agreed by Ofwat.

- **Appointed revenue up £138.5 million (+10.1 per cent)**

  The increase is, in part, as a result of prices set based on the November 2022 Consumer Price Index (CPIH) inflation of 9.4 per cent, and the impact of changes applied to our tariffs as agreed with the regulator.

- **EBITDA up £6.1 million (+1.4 per cent)**

  The increase in earnings before interest, taxes, depreciation and amortisation (EBITDA) is consistent with the increase in revenue described above. This has been partly offset by the increase in operating costs, largely as a result of inflation and increased power costs.

  Our proactive approach to energy hedging enabled us to adopt a flexible approach to purchasing in the most volatile and expensive market periods.

- **Operating profit up £12.8 million (+3.9 per cent)**

  The increase in operating profit is consistent with that seen in EBITDA, partially reduced by the increase in depreciation.

  The increase in depreciation reflects the significant investment made in our asset base - the year saw a record investment of £963 million.

- **Operating cash flow up £56.2 million (+7.9 per cent)**

  The increase is principally driven by higher EBITDA, as described above, and favourable working capital.

- **Dividend**

  Refer to pages 351 to 354 for the statement on dividend policy for the appointed business.

  The Directors have proposed a dividend of £88.6 million which was paid in June 2024 (2023: £79.9 million paid in June 2023). In line with the Company's dividend policy, and consistent with prior years, this has been adjusted to reflect the Company's performance.

Investing for the future

- Highest-ever annual investment in our capital programme at £963 million, totalling £2.7 billion for the AMP to date.
  - One of the biggest Water Industry National Environment Programmes (WINEP) in the industry worth £811 million (2020-2025).
- Delivered 1,533 schemes since 2020 and overall WINEP programme remains on track, with delivery of only three obligations slightly delayed.
- AMP8 plan, which was shared with Ofwat in October 2023, will see a significant step up in investment.
  - Valued at more than £9 billion overall, with £4 billion proposed for environmental enhancements.
  - Designed to mitigate impacts of climate change, enhance the environment, further bolster water resilience, and support social and economic growth in our region – while keeping bill rises to a minimum.

Financially robust

- Our shareholders agreed £350 million of additional investment to support delivery of our Strategic Interconnector Grid and work on pollutions. This is over and above the level agreed by Ofwat. It includes £100 million specifically to accelerate our work on spills and pollutions performance.
- Their unwavering support has meant we have continued to invest over and above our operating profit and in support of our customers and the environment.
- All funding is in place to complete AMP7, including the final £1 billion of capital investment during 2024/25.

Protecting and enhancing the environment

- Achieved lowest average number of storm spills per overflow in the industry.
  - Target to reduce spills to an average of 20 across all our overflows by 2025.
  - Despite the exceptional rainfall, our spills performance remained industry-leading (22 vs 33), and just off our 20/CSO (Combined Sewer Overflows) target.

- Between 2020 - 2025 we will stop operating 157 (10 per cent) storm overflows, and in 2023 we surrendered 131 storm overflow permits.
- To further tackle spills, we are increasing network capacity, installing storm tank storage (increased by 4,343m^3 in 2023, from c.11,000m^3 in 2022).
- In 2023 we completed our rollout of Event Duration Monitors (EDMs) on 100 per cent of our storm overflows (1,432 monitors), a year ahead of the government target.
- During the 2023 calendar year, we had 11 serious pollution incidents (category 2), level with the prior year but lead measures are showing signs of improvement, demonstrating our Pollution Incident Reduction Plan is working:
    - 13 per cent less pollutions compared to 2021, another year where we experienced prolonged wet weather.
    - No serious incidents on our networks since October 2023 - the start of the wettest period, despite our networks being inundated.
    - Year-to-date, no treatment works have failed, marking our highest level of compliance performance this AMP.
    - Reduced the risk of failure on our pumping station assets (despite pumping twice as long in hours compared to last year),
    - Furthermore, in 2023 we saw the lowest number of blockages, representing a year-on-year reduction of over 10 per cent, the lowest number on our foul network since 2018.
- Installed approximately 22,000 monitors across 11,000km of high-risk sewers, increasing proactive blockage prediction by 271 per cent in 2023.
- Rapid response to widespread flooding due to saturated ground and high ground water levels across the region.
    - Doubled the operations of pumping stations compared to usual levels, rolled out tankering to remove water from the network and completed sewer lining work.
    - This is an issue we cannot solve alone, and we are working with the other parties responsible for managing the drainage system to mitigate flood risk, alongside co-funding and co-delivering multi-agency solutions to flooding.
- Through Get River Positive, we are leading on 53 cross-sector projects to improve river health in our region. £7 million of shareholder funding has enabled us to unlock £9 million in match-funding.

Securing water supplies

- This year we achieved an in-year leakage result of 182.1 megalitres a day which saw our lowest three-year rolling average ever recorded (a 6.2 per cent reduction from the baseline period of 2017- 2020) .
- AMP to date have installed 800,245 smart meters for customers, including 259,908 in 2023/24.
    - Given funding in June 2023 to install a further 60,000 smart meters under Defra's Accelerated Infrastructure Delivery programme.
- As part of responsible water management, abstraction from rivers increased slightly over the last 12 months as we refilled our reservoirs following the 2022 drought.
- Work is continuing to develop two new reservoir solutions for the region, one in Lincolnshire and another in the Fens.
- Timescales for delivery of our strategic interconnecting pipeline, being delivered by our Strategic Pipeline Alliance (SPA) are being rephased. It will now be completed during the next AMP cycle, 2025-2030, rather than by end of 2025, as originally planned within the AMP7 performance commitments.
- ◦ Delivery by the end of the AMP was an ambitious timeframe for a complex infrastructure programme. Several external factors have had an impact including

Covid-19, the war in Ukraine, delays in Development Consent Orders (DCOs) and local planning, alongside the impact of inflation and extreme wet weather.
    - We continue to have constructive conversations with our regulators regarding the rephasing to ensure we meet the associated environmental and Performance Commitment obligations.

Delivering on customer priorities and keeping bills affordable

- Our CMeX and DMeX positions continue to improve:
    - For CMeX we achieved 5th place in the Water and Sewage Company table, and 7th overall, putting us in reward.
    - On DMeX, we jumped from 9th to 4th place - our highest year-end position this AMP - and outperformed our Retailer satisfaction measure.
- An independent survey, run by the Consumer Council for Water (CCW) across Water and Sewage Companies (WaSC) showed customers are broadly happy with our service and drinking water quality remains their top priority.
    - 94 per cent were satisfied with the colour and appearance of tap water, and 90 per cent were satisfied with the taste and smell, against WaSC averages of 91 per cent and 84 per cent, respectively.
    - Furthermore, 64 per cent agreed that our charges were fair, compared to an WaSC industry average of 55 per cent.
- Achieved our best ever 'acceptability' score for drinking water, achieving 0.86, compared to 1.01 in 2022, narrowly missing our 0.85 target. This is our best score to date and reflects the improving trend over the past decade.
- Our provisional Event Risk Index (ERI) score is 109.305, against an Ofwat target of 15.
    - Our score was impacted by a one-off event at Heigham, Norwich. The event was a result of the wet weather, which can negatively impact the quality of the water we take out of rivers and reservoirs.
    - Throughout this time, our water met all regulatory microbiological and chemical standards.
- £136.9 million package over the last 12 months has supported more than 389,371 customers. This brings the total support package to around £246 million since 2020. This will increase to over £300 million across this AMP.
- 12.7 per cent of customers are now on our Priority Services Register (PSR), well ahead of target and the industry (average 5-6 per cent).
- Anglian Water bills will average at £1.45 per day by the end of 2025 (£1.35 in 2023/24).

Supporting our People and Partners

- Committed to building a diverse and inclusive organisation and improving the gender and ethnicity balance across our organisation.
- Named as a Times Top 50 Employer for Gender Equality 2023 and as one of the 'Top 10 Best Performing Private Companies' in the FTSE Women Leaders Review.
- Building on our Disability Confident Level 2 status and working towards Level 3.
- Achieved our 2023 target for 36 per cent of all new hires to be women (actual 41 per cent), and for 36 per cent of senior manager positions to be held by women (actual 39 per cent).
- We review our Health and Safety performance in the round, including alliance members, framework contractors, and Anglian Water staff – approximately 9,500 people. In recent years, our health and safety measures have broadly been improving, and this year we were pleased to see this continue with the results from our directly employed

workforce. However, we were disappointed to see an increase in category one events and reportable accidents in our overall results.

  - We are working to turn this around, with plans across the whole business, including our alliances and contractors to identify and address the issues, including investing in further health and safety capital maintenance, doubling down on leadership and behaviours and undertaking detailed reviews of operational risks.
  - Our alliance partners share our laser focus on ensuring health and safety remains our first priority, as we ramp up investment and delivery into AMP8.

- More than 358,000 Point of Work Risk Assessments (PoWRA) were undertaken in 2023/24 (compared to over 210,000 from May 2022 to April 2023), empowering our people to pause jobs which are not safe and driving greater understanding of potential on-site safety issues.
- Awarded RoSPA Gold Medal Award for health and safety performance in 2023, our eighth consecutive gold and 18th consecutive year of recognition.

Holding ourselves to Account

- Our Purpose - to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop - remains at the heart of everything we do.
- In 2022, with the British Standards Institution (BSI), we led the development of a new Publicly Available Specification (PAS) for embedding purpose in organisations.
- New PAS has been sponsored by the UK Government. One year on, we were the first company to be assessed against PAS 808 by BSI.
- In 2023, we have been rated as an organisation with purpose driven principles fully embedded.
- To monitor our progress against our Purpose we participate in the Business in the Community (BITC) Responsible Business Tracker. In 2023, our overall score was 87 per cent (80 per cent in 2022) and we scored 100 per cent for purpose and values.

Executive Remuneration

- In advance of Remuneration Committee discussions to determine Executive bonuses, Peter Simpson, CEO, chose to surrender all parts of his Full Year 2024 bonus – including personal objectives and Group bonus elements – on the basis that he felt the organisation's performance on serious pollutions, whilst showing signs of improvement in the second half of the year, did not meet our commitment to our customers and stakeholders.

Board statement on accuracy and completeness of data and information

RAG 3.14 requires the Board to confirm that the data and information which the Company has provided to Ofwat in the reporting year and/or which it has published in its role as a water and sewerage undertaker was accurate and complete.

The Board has considered the following sources of assurance in response to this requirement:

- the Company's Assurance Framework, which describes the Company's assurance philosophy and the approach it takes to test the reliability and accuracy of its data. The Assurance Framework is published on the Company's website
- the formal system used by the Company for the 'collection and storage of reliable data relating to our key assets and activities to fulfil all the requirements of Ofwat and other stakeholders and to deliver our business goals'. This system is part of our quality management system which is certified to ISO 9001.
- the other certified management systems used by the Company to manage its operations, such as water services, environmental management, occupational health and safety, laboratory services and carbon management. Accuracy of data is integral to all of these systems
- the feedback from Ofwat on its 2022/23 Annual Performance Report and, where relevant, other submissions
- the Board's comprehensive approach to risk management, which includes maintenance of a corporate risk register. 'Performance data – not robust' is a Top Tier risk in the register which is monitored by the Management Board. Each risk is "owned" by a member of the Management Board and mitigating actions are regularly reviewed
- reports to the Board's Audit Committee from the Company's external auditors who, as part of their routine audit process, consider and report on a range of risks which could result in inaccurate financial information (including the risk associated with the exercise of management judgement).
- the Board Audit Committee oversees the execution of the approved Internal Audit plan, including a regular update on completion of Internal Audit recommendations.
- reports to the Board's Audit Committee from the Company's Internal Auditors which highlight potential improvements to business activities and processes, some of which may result in the production of data and information for onwards transmission to Ofwat. In the 2023/24 financial year, an Internal Audit of ODI Governance was completed and rated as satisfactory.
- the annual "Statement of Responsibility" process (conducted by Legal and Finance) which requires key managers in the business to confirm that the Company's resources, policies, organisational structures, risk management processes, accounting systems and governance arrangements are sufficient to enable the Company to meet its responsibilities, including the provision of accurate information. The results of this process are reported to the Board's Audit Committee
- the cultural values of the business, which include the value of "Doing the Right Thing" and which are taken into account as part of the annual review of employee performance such that behaviour which is inconsistent with the values of the business is not rewarded
- the Company's code of conduct, which summarises a series of policies which are designed to underpin the cultural values referred to above
- the Company's Whistleblowing Policy and procedure which facilitates the reporting of concerns regarding the accuracy or legitimacy of data and information which may be relied upon by the Company; and
- the relevant reports of the Executive Directors to meetings of the Board during 2023/24.

The Board considered its approach to assurance in a review in 2021. The Board's discussion included consideration of the Company's Assurance Framework, the performance of its third party external assurance providers, the quality of the Company's submissions and publications (as measured by stakeholder feedback and errors found) and the roles of various parties, including the Board itself. The Board satisfied itself that the Company's

approach to assurance was fit for purpose and that the role of the Board was being fulfilled. Members of the Board have reiterated their satisfaction with the approach in subsequent discussions.

The Board Audit Committee met on four occasions during 2023/24. At each of these meetings it received reports from both internal and external auditors.

After consideration of all these factors, the Board is able to confirm that:

- all data and information provided to Ofwat or published has been compiled in a planned, professional, systematic fashion and submitted in good faith;
- the Company has sought to explain trends in data using best available, objective evidence;
- where assumptions have been required to make calculations, the Company considers those assumptions to be reasonable;
- where the Company has identified material errors in any data or information it has provided, it has disclosed and corrected those at the earliest opportunity;
- where relevant, the Company has made every effort to indicate the quality of its data and the likely margin of uncertainty.

Accordingly, the Board has no reason to believe that the information and data it has provided during 2023/24 is other than accurate and complete in all material respects.

This Statement was approved by the Board of Anglian Water Services Limited on 10 July 2024, drafts having been discussed by the Board meeting of 5 June 2024.

Certified by

……

Claire Russell

Company Secretary

Dated: 10 July 2024

Risk and Compliance Statement

As the Board of Anglian Water Services, we confirm the following:

- We have sufficient understanding of our obligations as set out in the Water Industry Act and our licence ('our Obligations').
- We are satisfied that we have sufficient processes and internal systems of control to meet our Obligations.
- Subject to the exceptions listed below, we believe we are meeting all our material obligations.
- We have taken adequate steps to understand the range of expectations of our diverse customer base. We have sought to provide a service offering that best meets those expectations, taking into account the requirements of other stakeholders, the sustainability of the business and the level of water bills that customers are willing and able to pay.
- We have appropriate systems and processes in place to allow us to identify, manage and mitigate our material risks.

Furthermore, we confirm the following:

- We have sufficient financial and management resources to enable us to carry out our regulated activities and have submitted to Ofwat the certificate to this effect required by Condition P.31 of our Instrument of Appointment.
- The Company has available to it sufficient rights and assets to enable a special administrator to manage the affairs, business and property of the Company in the event that a special administration order were made, as required by Condition P.14 of our Instrument of Appointment.
- All trade between the Company and associate companies in the year has been at arm's length, as required by Condition P.19 of our Instrument of Appointment.
- With our Annual Integrated Report for the year we have published a statement linking Directors' pay to standards of performance, as required under section 35A of the Water Industry Act 1991 and RAG 3.14.
- We have maintained for the whole year at least two investment grade issuer credit ratings for Anglian Water Services Financing Group in accordance with Condition P.26 of our Instrument of Appointment.
- We have declared or paid dividends only in accordance with a dividend policy which has been approved by the Board and which complies with the principles set out in condition P.30 of our Instrument of Appointment.

As set out in the business viability statement on pages 21 to 26 of this Annual Performance Report, the Directors have a reasonable expectation that the Company will be able to continue in operation and meet its liabilities as they fall due over the period set out in that statement.

In making this statement, the Board has considered specifically the information given by the Company in response to Ofwat's ongoing enquiry into companies' compliance with the flow-to-full-treatment conditions of their discharge permits.

Exceptions

The section below identifies obligations set out in the Water Industry Act, our Instrument of Appointment and the Regulatory Accounting Guidelines which – with Ofwat's knowledge – we are not complying with.

- The Water Industry Act places an obligation on wastewater companies to maintain maps of their sewers. In common with all other wastewater companies in England and

Wales, not all of our sewers are so mapped because the cost of doing so is generally agreed to be uneconomic.

- Condition B of our Instrument of Appointment requires us to appoint a Reporter to report to Ofwat on the reliability of the information we have supplied. Ofwat removed this requirement many years ago.

Certified by

……

Claire Russell

Company Secretary

Dated: 10 July 2024

Board statement on Company direction and performance

This statement explains how the Board of Anglian Water Services Limited (the Company) sets the aspirations of the Company, to meet the significant challenges facing the business and the region it serves, and its performance against targets in pursuit of these ambitions.

It explains how customers' and stakeholders' views are an integral part of setting these aspirations within our long-term strategic ambitions and Business Plan, ensuring the Company delivers for everyone it serves. For example, over the past two years, we have carried out almost 35,000 in-depth engagements with our household customers and over 2,500 engagements with our non-household customers, specifically on our plans for 2025 – 2030 (AMP8).

In March and November 2023, we hosted 'Your Water, Your Say' meetings. The highly engaging sessions, run by an independent facilitator, gave customers a chance to hear about our future plans and ask questions. We also re-established our Customer Board, facilitating discussions between customers and our Management Board on a variety of topics important to our customers, including bill increases. We continue to meet regularly with our Independent Challenge Group (ICG), under the Chair of Craig Bennett, CEO of the Wildlife Trusts.

We say more on these topics in our Annual Integrated Report (AIR) and Business Plan for AMP8 both of which are published on our website.

Operating environment

Across our region we are navigating a number of issues from rapid population and housing growth, the need to protect and enhance the natural environment and the impacts of climate change. When combined these issues pose a unique challenge.

The East of England is the driest region in the UK. Water resources are already scarce, and climate change could reduce them further. At the same time, we face the threat of more frequent flooding in this low-lying part of the country as winters become more wet.

We have had a graphic illustration of the latter threat over the last 12 months. We experienced the wettest February on record, with 308 per cent more rainfall than the long-term average, while the second half of 2023/24 was the wettest six months on record. Parts of our region saw at least twice the average rainfall, with some areas of Norfolk seeing three times as much.

Our customers and stakeholders rightly expect us to deliver an excellent service while also playing a crucial role in tackling these wider environmental and social challenges. We must continue to address these challenges alongside those common to the industry as a whole, including the need to keep our services affordable and support the vulnerable.

In addition to focussing on the measures in the regulatory performance framework, it's important that we deliver against customer priorities. Over the past five years, customer priorities have notably evolved, reflecting shifting societal values in response to climate change and the increased scrutiny on the water sector at large.

Customers want us to ensure a sensible balance between ambition, affordability and intergenerational fairness. While necessary increases to investment will raise bills in the long-term, we have tested our proposals with customers and stakeholders to make sure they reflect the things that matter most to them and represent the best value for our region.

Anglian Water's aspirations

Our ultimate goal is to fulfil our Purpose: to bring social and environmental prosperity to the region we serve through our commitment to Love Every Drop. Our Purpose embeds public interest into our constitution and even considering the societal and environmental challenges we must navigate, has kept us striving to deliver the best possible outcomes in every situation. The Board aims to ensure the effective delivery of the Company's Purpose

which is founded in finding solutions to the challenges we face while always providing safe, clean drinking water, protecting our environment and delivering world-class customer service.

First published in 2007 and then updated in 2017, our 25-year Strategic Direction Statement (SDS), sets out four long-term ambitions for us and our region:

- Make the East of England resilient to the risks of drought and flooding;
- Enable sustainable economic and housing growth;
- Be a carbon neutral business by 2050; and
- Work with others to achieve significant improvement in ecological quality across our catchments.

In addition to our SDS, the Long Term Delivery Strategy (LTDS) which we published in October 2023 sets out how we will achieve our future vision, with our core pathway outlining the investments we expect to make to 2050. To ensure our long-term plan is financially viable and delivers for society's future needs, we cannot be constrained by the methods and tools that we know and have in today's context. Our LTDS therefore considers a range of plausible future opportunities. We have used Ofwat's common reference scenarios: technology, demand, climate change, and abstraction reduction, to test our future plans. And, we have looked to the future through a variety of lenses including digital, innovation, partnership-working, and place-based approaches, to ensure we have considered every possible solution. This enables us to create a core pathway and a set of alternative routes should circumstances change.

Future Demand for Water

We have always taken a long-term view to managing water resources. Our Water Resources Management Plan (WRMP) sets out how we will manage water supply and demand in our region, looking ahead 25 years. Our WRMP19 plan (2020-2025) focussed on our twin-track approach: investments in new water infrastructure such as our interconnecting pipeline and new reservoirs (one in Lincolnshire, and another in the Fens), reducing leaks and encouraging water-wise behaviours with our customers and businesses.

Furthermore, we have the highest level of water consumption from business and industry in the country, with 15 per cent of all water taken from the environment used for non-household supply. Development of green industries and wider economic growth will require a significant increase in water availability to meet rising demand. In 2023, we saw a large increase in requests for water for business and commercial use - over 30 megalitres per day.

The risk of a lack of available water resources could undermine industrial development, housing growth and decarbonisation. Regional water resource plans set out how current and future needs can be met, and collaboration between regulators, Government and industry is needed to identify how these needs can be efficiently and equitably delivered.

Our WRMP24 (2025-2030), yet to be approved by Defra, will see us take a three-tiered approach to demand management, with two new raw water storage reservoirs and utilising other sources of water, such as water reuse, desalination and transfers. It also accounts for new challenges, such as demand for water from the Oxford to Cambridge arc, a potential strategic growth corridor that could increase the amount of water needed in our area.

We continue with the delivery of our strategic interconnecting pipeline, the largest single infrastructure project we have ever undertaken, which will help us to move water around our dry region. As a result of several factors which have delayed progress timescales are being rephased. The project will now be completed during the next AMP cycle, 2025-2030, rather than by the end of 2025, as originally planned. Delivery by the end of the current AMP was a hugely ambitious timeframe for such a complex and important infrastructure programme.

Delivering more for our region

Our plan for AMP8 (2025 - 2030), which we published for all stakeholders in October 2023, will see a significant step up in investment. It was created in consultation with our customers (of whom 73 per cent supported our proposals) and seeks to balance ambition and affordability.

We have proposed an investment programme valued at over £9 billion which is designed to deliver environmental enhancements, help mitigate the effects of climate change especially in climate vulnerable assets, bolster water resilience, drive further carbon reduction and support social and economic growth in our region.

It will create over 7,000 jobs and meet the unique challenges facing our fast-growing and climate-stressed region, helping the East of England to thrive and prosper. We will achieve all this while continuing to support customers by keeping bill rises to one of the lowest in the sector across AMP8.

Holding ourselves to account

Our position as a supplier of an essential public service presents us with both the opportunity and responsibility to do more for customers and the environment in our region.

It is essential we maintain the trust and confidence of our customers. That means running our business in a responsible and transparent way.

We are committed to:

- acting in the public interest, and recognise our wider role to the communities we serve beyond providing fresh clean drinking water and protecting the natural environment we operate in
- ensuring customer bills are fair, affordable and value for money and we are responsible with customer money
- our profits are fair and not excessive, and we pay our fair share of tax.

These principles are woven through our business, through our defined purpose, which is underpinned by our company values and our six capitals model for decision-making. Our Group Chief Sustainability Officer works with and challenges our Board, ensuring decisions are guided by our purpose framework. Purpose-related criteria is embedded across all our bonus structures.

When we embedded our purpose into our Articles of Association in 2019, we committed to assessing ourselves against a set of responsible business principles, including Business in the Community's (BITC) Responsible Business Tracker®. The Tracker assesses our work against principles, underpinned by the UN's Sustainable Development Goals and we use the feedback from the Tracker to agree future areas of focus. Given the headwinds we have experienced this year, it's encouraging to see the latest results from the Business in the Community's (BITC) Responsible Business Tracker®. Following last year's results, we have progressed further on our sustainable procurement approach and diversity and inclusion work. We have increased our score every year since we started participating in 2019, with our score increasing by 14 per cent to 87 per cent in 2023.

Responding to scrutiny

Over the past 12 months public scrutiny of the water sector and companies operating within it has intensified, making national headlines with much of the public discourse centred on financial stability and environmental protection. We remain one of the most financially secure companies in the water industry, something that has been recognised by Ofwat in their 2023 assessment of financial resilience where we were placed in the top banding.

Reducing pollutions and spills has always been a key area of focus. We know when it comes to pollutions, even one pollution is one too many, and firmly believe zero pollutions is the only acceptable standard and are relentlessly making improvements to achieve this objective.

During the 2023 calendar year, we had 11 serious pollution incidents (category 2). Our performance has remained stable since 2022, where we also had 11 incidents. Our lead measures are showing signs of improvement, demonstrating the work we've taken via our Pollution Incident Reduction Plan is working.

We know also that spill numbers are too high. 70 per cent of our storm spills occurred during the last three months of the year when our networks were regularly overwhelmed by the record levels of rainwater. Despite the record wet weather, we achieved the lowest average number of spills per overflow in the industry, with an average of 22 spills per Event Duration Monitor (EDM) compared to an industry average of 33. We continued to surrender storm overflow permits too, as we move towards a future where overflows are no longer required.

Following completion of our monitor-installation programme in December, we now have 100 per cent EDM coverage on all our storm overflows – equating to 1,432 monitors. EDMs enable us to be as open and as transparent as possible about spills across our region. Our interactive, real-time map went live in April 2024 and shows customers not only where our storm overflow monitors are located but also their current status in terms of spilling. This gives people in our region real-time information when they’re making decisions on undertaking activities on their local river.

The improvements we are seeing, despite the weather, is down to the vast amount of work taking place on the Water Recycling side of the business, including improvements across our operations and processes and the investment in new technologies, which is giving us much better sight of our performance. While our plans are being implemented at pace, we are realistic that it will take time to translate into results. We remain confident that we are on track to deliver the outcomes our customers want to see, with additional investment targeted to where it will deliver the greatest benefit. To accelerate the rate of progress a further £100 million has been invested by our shareholders to improve pollution and spills performance.

We must also acknowledge the changing environment we’re operating in. We are delivering the final year of a business plan that we committed to in 2019. That plan delivered on customer priorities at that time. Since then, there has been a seismic shift in customer expectations and public perception, particularly around pollutions and spills. As we look to the long-term, our ambition is to reach zero serious pollutions, zero spills and work towards achieving a 4-star EPA rating. This is a fundamental aspect of our Long Term Delivery Strategy.

Following Ofwat’s 2022/23 Water Company Performance Report we also continue to work on regaining or achieving our place as a leading company across our performance metrics, after their assessment placed us in the lowest ‘lagging’ category. We take our performance extremely seriously and hold ourselves to account for our customers, stakeholders and the environment through a variety of forums, such as independent scrutiny committees, and reports, such as our integrated annual report where we detail our performance against a full range of measures as well as Ofwat Performance Commitments to form our balanced scorecard. You can read more about the actions we are undertaking to get us back on track against nine critical measures in our Service Commitment Plan.

Unwavering support for customers

While the wider macroeconomic environment is in a slightly more stable position than this time last year, we know that the cost-of-living impact remains challenging for our customers. This year, we’ve focused on enhancing our services, all with one focus in mind: Making Today Great for our customers. We’re committed to doing everything we can to ensure that every experience with us is nothing short of excellent.

Over the last 12 months, we have provided £135 million in affordability support for customers throughout our region and we will provide a further £70 million in 2024/25 which means we can help even more people in a way that's tailored to their individual circumstances. This builds on the £266 million of support we have provided since the start of this AMP in 2020.

In January 2024 we announced trials of new seasonal tariffs with groups of customers in Lincoln and Norwich. We're working with these communities to encourage water saving in and out of seasons where we use more water at home and in the garden. Our aim is to inspire customers to play a part by using less water resources to help us protect the environment together.

Our seasonal tariffs were carefully crafted so that discounted charges in the colder months offset higher charges during summer. Using around the same amount of water each month will on average cost customers the same as it would on our existing Standard tariff – putting customers in control of what they use and helping them to make potential savings on their bill.

Following this announcement, in February we launched a trial to fix leaks for vulnerable customers where a leak was identified as a result of us installing a smart meter. Many of these customers either don't have the skills to fix their leaks or the finances available to pay for a repair. Our team were able to visit and repair many leaks on the same day or within a few days, with 60 per cent of leaks coming from 'leaky loos'.

Other key highlights include giving support to 389,681 customers through one of our financial support schemes (exceeding our performance commitment level by over 93,000) and getting 380,853 customers (12.7 per cent) onto our Priority Services Register (PSR).

With 2024 marking the final year of the current AMP, as a business we are getting ready to deliver AMP8, with a business plan worth over £9 billion, and we will go even further when it comes to supporting our customers. Some of this will include extra capacity to support customers predicted to be in water poverty, providing a 50 per cent discount for eligible households on low income; expanding our Extra Care service to all who need it; and, in another industry first, a new Medical Needs Discount, funded by our owners, will provide direct financial aid to those with specific medical needs (which create a high-water dependency) without adding to the bill increases for other customers.

We welcome the addition of the customer-focussed licence condition to our licence, and you can read more about how we are meeting the principles of the new condition in the Annual Integrated Report.

Company performance

Our sector continues to face unparalleled demand for investment both in the near and long-term future, but we have provided the reassurance we can deliver the uptick in capital infrastructure anticipated in future. With the support of our stakeholders, we are facing into the challenges ahead, investing with purpose front and centre to help the region we serve to thrive.

This Board statement was approved by the Board of Directors on 10 July 2024, drafts having been discussed by the Board meeting of 5 June 2024.

Certified by

.....

Claire Russell, Company Secretary.

10 July 2024

Long Term Viability Statement

Background

The Directors are responsible for ensuring the resilience and viability of the Group's water and water recycling services to meet the needs of its customers in the long term. This means the Group must be able to avoid, manage and recover from disruptions to its operations and finances.

The Directors' review of the longer-term prospects and viability of the Group is an extension of our business planning process, which includes financial forecasting, a robust risk management assessment, regular budget reviews and scenario planning. This activity is strengthened by a culture throughout the Group of review and challenge. Our vision and business strategy aim to make sure that our operations are resilient and our finances are sustainable and robust.

As part of Anglian Water's approach to defining risk appetite, each year the Directors review our specific risk tolerance levels and consider whether our decision-making behaviours over the past year have been consistent with these risk levels. The Directors confirmed that the Group's behaviours over the past year had been in line with our risk appetite.

Look forward period

As one of the 11 regional water and sewerage services companies operating in England and Wales, Anglian Water's prices are set by the industry regulator Ofwat for five-year Asset Management Plan (AMP) periods, which support the Group's underlying costs. This provides the basis for future tariffs, revenues, costs and cash flows over the current AMP (April 2020 to March 2025).

Assessment of prospects and viability

The Directors have assessed Anglian Water's financial prospects over the next 10 years from April 2024 to March 2034. A 10-year period has been chosen to ensure that our business plan for the current AMP does not impact on the longer-term viability of the Group:

- The first year takes us to the end of the current AMP, for which there is reasonable certainty and clarity, with a stretching five-year plan to deliver in line with the CMA Final Determination for AMP7.
- The next nine years of the period are outside the current AMP and therefore subject to the final outcome of the following five-year price reviews, PR24 and PR29, for which uncertainty exists. Our assumptions for AMP8 align to the AMP8 forecasts that we submitted in our PR24 Business Plan.
- The Board considered whether there are specific, foreseeable risk events relating to the principal risks that are likely to materialise within a 10-year period, and which might be substantial enough to affect the Group's viability and therefore should be taken into account when setting the assessment period. These events were modelled appropriately within our downside scenarios.
- The Board has considered the impact of the wider activities of other Group companies and transactions and of the overall Group structure.
- The Board considers the maturity profiles of debt and the availability of new finance over 10 years as part of its review of financial modelling and forecasting, as well as considering the credit ratings of the debt.
- Finally, we take note of the Water Industry Act, which requires Ofwat to ensure that water companies can (in particular through securing reasonable returns on their capital) finance the proper carrying out of their statutory duties.

Principal risks

We have set out the details of the principal risks facing the Group within our Annual Integrated Report, described in relation to our ability to deliver our 10-year outcomes. We identify our principal risks through a robust assessment that includes a continuous cycle of bottom-up reporting and review, and top-down feedback and horizon scanning. Through this assessment, priorities are elevated appropriately and transparently.

The Directors regularly review business plans that show projected cash flows for the current AMP period, and long-term cash flow modelling projections which extend into AMP8 and beyond. This includes reviewing the expected outcome relating to the principal risks with this impact included in our business plans.

Stress testing the business plan

In reviewing its financial viability, Anglian Water considers the stringent covenant tests required under its securitised structure to provide comfort to our bondholders that our business is viable to the end of the current AMP period and beyond, and to ensure the availability of debt to finance Anglian Water's investment programme. At each regulatory price review and throughout the AMP, the Board satisfies itself that the agreed five-year business plans ensure adequate covenant headroom throughout the AMP period and beyond. This includes extensive downside scenario testing at both Anglian Water and Group level from severe, plausible and reasonable scenarios chosen because they pose the greatest risk to the business. The following scenarios have been used individually and in combination to model the impact on the overall performance of the business, the ability of the business to service its debt and the impact on its credit rating:

Principal risk	Scenario	Impact modelled	Potential mitigations required
People Technology Financial Asset infrastructure Business resilience Commercial & third party Strategic execution	Material totex underperformance against the Final Determination allowance	- Overspend of 10 per cent across an AMP - CAPEX overspend of 5 per cent - OPEX overspend of 5 per cent	- No mitigations required - No mitigations required - No mitigations required
Customer proposition Environment People Reputation Asset infrastructure Business resilience Strategic execution	Material Outcome Delivery Incentive (ODI) penalties	- Up to £144 million applied in years four and five	- Mitigations required
Environment Water supply and quality Health and safety People Reputation Legal Regulatory	Regulatory fines and legal penalties	- Up to 6 per cent of turnover applied in a single year	- Mitigations required
Financial	Unfunded pension liabilities	- Up to £15 million applied per annum	- No mitigations required
Customer proposition Financial Business resilience	Risks associated with the disruption caused by cost of living crisis, potential reductions in revenue collection	- Up to 5 per cent decrease in cash collection - 20 per cent increase in bad debt	- Mitigations required - No mitigations required
Financial Reputation Strategic execution	The potential impact of credit rating agencies downgrading the debt for any companies in the Group	- 2 per cent increase in cost of new debt	- No mitigations required

Financial Reputation Strategic execution	Cost of debt increases	- 2 per cent above base level assumptions across an AMP	- No mitigations required
Customer proposition Financial Asset infrastructure Commercial & third party	Significant inflation fluctuations	- 1 per cent above and below base level assumptions for each AMP - 2 per cent below base level assumptions for each AMP	- No mitigations required - No mitigations required
Customer proposition Environment People Technology Financial Reputation Asset infrastructure Business resilience Commercial & third party Strategic execution	Combined scenario based on totex underperformance for a whole AMP, along with a significant ODI penalty and a revenue penalty	- Overspend of 10 per cent across an AMP, combined with an ODI penalty of 1.5 per cent of RORE in year four and five plus a financial penalty of 1 per cent of revenue in year four	- Mitigations required
Customer proposition Financial Asset infrastructure Commercial & third party Reputation Strategic execution	Combined scenario based on low inflation and high cost of debt	- Inflation 2 per cent below base level for the AMP combined with cost of debt 2 per cent above base level assumptions across an AMP	- No mitigations required
Customer proposition Environment People Technology Financial Reputation Asset infrastructure Business resilience Commercial & third party Strategic execution	Combined scenario based on low inflation, an opex cost shock plus a significant ODI penalty	- Inflation 1 per cent below base for the AMP combined with 2.5 per cent opex cost shock in AMP7 and a £50 million ODI penalty in each year	- Mitigations required

In deciding on appropriate downside scenarios and corresponding stress tests, management have considered the required modelling set out by Ofwat as part of the financial resilience testing for PR24. Management have taken the view that where the PR24 scenarios were more severe it would be prudent to align to these, this also provides consistency with our PR24 Business Plan submission.

Management have also considered the current business performance, in particular in respect to Totex overspend and ODI penalties, and how this impacts on the range of potential downside scenarios that could occur in future. In addition to the performance of the business, management have considered the performance of the sector in relation to increasing frequency of penalties and fines ensuring the downside testing provides an appropriate level of prudence. Finally, management has considered the potential impacts from a failure of a competitor company and how this may impact of the availability and cost of financing our operations.

The cost impacts of these events (including longer term recovery impacts such as leakage reduction), were in the order of £7 million for 'Beast from the East' and £3 million for each extreme wet weather event. During the current year, as a result of the severe wet weather experienced, we have seen costs increase by £9.3 million. Our modelled downside

scenarios include cost shocks equal to experiencing several of these events in continuous years across the AMP; we are therefore confident that we can withstand the financial impacts of extreme weather events, predicted to increase as a result of climate change.

Supplementary information to the above viability statement in support of meeting the requirements of Ofwat Information Notice IN 19/07 "Expectations for companies in issuing long term viability statements"

Plans reflect an accurate up to date view and take account of anticipated changes in financing and gearing

Our future operational and expenditure plans which have been stress tested in support of our long term viability statement (LTVS), fully reflect the PR24 Business Plan submission and our assumptions for AMP9 are aligned to those submitted with our PR24 Business Plan.

Justification for scenarios selected

As part of our stress testing we have modelled appropriate scenarios and sensitivities which reflect the risks that the business faces. We have listed the scenarios tested (both individual and in combination) in our viability statement, including where appropriate, the severity of the stress testing. Our stresses and cost shocks that we have applied and tested are substantially more extreme than any actual risk that has crystallised in Anglian Water since privatisation, some 30 years ago. Macroeconomic impacts have been set with consideration of recent economic trends. We have also considered the size of historic cost shocks experienced by the wider industry since privatisation.

Consideration of full range of categories of risk and link to wider risk assessment reported in statutory accounts

Our stress testing aligns to the principal risks identified in our Annual Integrated Report. These risks consider individual company risks, as well as common external risks that affect the sector as a whole, including severe, but plausible macroeconomic impacts. Available mitigations against downside shocks, where necessary are detailed in our long term viability statement.

Our approach to risk management is detailed in our Annual Integrated Report (AIR). In our AIR we describe in detail our processes for identifying, assessing and mitigating risks. We have considered the full range of categories of risk which could impact the company; these include financial risks, operational risks and regulatory risks.

Methodology used and justification

We maintain a comprehensive long term cashflow model against which we test the impact of downside scenarios. This model is subject to annual independent third party assurance to ensure its integrity, which underpins the financial projections and outputs. As well as future cashflows, this model includes metrics testing our forecast compliance against our lending covenants and key Rating Agency metrics (for example PMICR and FFO/net debt). The robustness of this cashflow model, together with the internal and external assurance applied to the outputs of the stress testing, provide reassurance to the Board, that our approach to viability testing is appropriate.

Workforce considerations

As part of our risk management framework we actively consider the need to continue to attract and retain a workforce with the talent and skills to ensure our long term success.

Pension risk

With regard to pension risk, our defined benefit pension schemes are closed to future accrual of benefits, and therefore the only remaining risk relates to pension deficit recovery payments. As part of our stress testing we have included the impact of downside risks which would trigger additional pension deficit payments and have modelled these impacts as part of our stress testing.

Revenue variation risk

Our stress testing included plausible, but severe reductions in revenue, through testing of large ODI revenue penalties and increases in bad debt. We have also included stress testing of severe reductions in revenue cash collection as a result of the economic impacts of Covid-19.

Credit rating risk assessment and mitigations

Our downside stress tests include the impact on key Ratings Agencies metrics and where metrics come under pressure, appropriate mitigations have been identified. These mitigations have been quantified and tested for ability to implement in the necessary timeframe and are sufficient to avoid the risk of downgrade to sub-investment grade in all scenarios.

Our LTVS considers the need to raise further funding for investment and we have assessed the impact on key Ratings Agencies metrics in all of our downside scenarios. In addition our shareholders have demonstrated their long term commitment and support of the business as evidenced by their past actions which have included injecting additional capital into the business, reducing gearing through dividend reduction and re-investing operational outperformance and efficiencies for the benefit of customers.

Mitigating actions

For each sensitivity and combined scenario, we identify, where required, the appropriate mitigations against the potential risks. In the event that the situations used for stress testing were to result in an unacceptable level of deterioration in the Group's financial metrics, management's principal actions would include further reducing the level of shareholder distributions, potential shareholder equity injections, reviewing the financing structure and identifying further opportunities to reduce the Group's cost base or reduce financing costs.

Evidence of the shareholders' support for equity injections is provided by the equity injections made in October 2018 of £22.0 million, April 2021 of £110.0 million and July 2021 of £1,065.0 million.

As a further mitigation we have a significant portfolio of insurance cover in place to provide protection against many catastrophic scenarios such as dam failure, pluvial and fluvial flood, terrorism, and public and employer's liability. There would still be a short-term liquidity impact from such events due to the time it would take between incurring the expenditure and recovering this through the insurance claim; however, it is an important consideration in terms of medium-term liquidity. The Board formally reviews the output of the stress testing twice a year.

Benefits of the securitised structure

The highly covenanted nature of our financing arrangements (often described as a whole business securitisation) enhances our financial resilience by imposing a rigorous governance framework. This requires continuous monitoring and reporting of our financial and operating performance by senior management, through a well-established business process, to ensure compliance with our financing arrangements, and provides an additional layer of control over how we transact with our stakeholders, including suppliers, business partners, customers, shareholders and lenders, compared to the regulatory frameworks by which we are governed.

Assurance

Robust internal assurance is provided by the Board reviewing and challenging the stress test scenarios selected and the risk mitigation strategies. The Directors also obtain annual independent third-party assurance on the integrity of the long-term cash flow model which underpins the financial projections. In addition, our external auditor, Deloitte, reviews this viability statement and the outputs of our stress testing as part of its normal audit procedures. It considers whether these are consistent with the Directors' conclusion with respect to business viability, and if the processes undertaken are sufficient to support the statements made.

Directors' statement

In making this statement, the Directors have assumed that funding for capital expenditure in the form of capital markets or bank debt will be available in all reasonable market conditions. They have also considered the impact of the Group structure, intra-Group transactions and any other Group activities on the viability of the regulated business.

Anglian Water Services is an efficient company with a history of outperformance. The Directors can be satisfied that the business has a reasonable expectation of being able to continue in operation and meet its liabilities as they fall due at least to March 2034, and is financially resilient in the face of severe but plausible downside shocks that reflect the current and potential future regulatory environment.

This is based on the reasonable certainty of its future revenue stream, the strength of the balance sheet (in particular the substantial cash balance and strong net assets), the availability of undrawn debt facilities in the unlikely event that debt markets were temporarily restricted, and by reviewing the business plans and strategic models, combined with the robust risk management process and mitigations described above.

Statement of Directors' Responsibilities

Further to the requirements of Company law, the Directors are required to prepare accounting statements which comply with the requirements of Condition F of the Instrument of Appointment of the Company as a water and sewerage undertaker under the Water Industry Act 1991 and Regulatory Accounting Guidelines issued by Ofwat.

The Directors of the Company hereby confirm that the Company has kept proper accounting records, which comply with Condition F.

The Instrument of Appointment additionally requires the Directors to:

a. Confirm that, in their opinion, the Company has sufficient financial resources and facilities, management resources and methods of planning and internal control for the next 12 months.

The Directors have included within this report a ring-fencing certificate which confirms the adequacy of resources and facilities as set out above and in accordance with clause P.30 of the Instrument of Appointment.

b. Confirm that, in their opinion, the Company has sufficient rights and assets which would enable a special administrator to manage the affairs, business and property of the Company.

The Directors confirm this requirement has been met throughout the year.

c. Confirm that, in their opinion, all contracts the Company has with any associate Company include the necessary provisions and requirements concerning the standard of service to be supplied to ensure compliance with the Company's obligations as a water and sewerage undertaker.

The Directors have included within this report a ring-fencing certificate which confirms the adequacy of contracts as set out above and in accordance with section P.30 of the Instrument of Appointment.

d. Report to Ofwat changes in the Company's activities which may be material in relation to the Company's ability to finance its regulated activities.

The Directors hereby confirm there were no such changes in the year ended 31 March 2024.

e. Undertake transactions entered into by the appointed business, with or for the benefit of associated companies or other businesses or activities of the appointed business, at arm's length.

This has been confirmed within disclosure 'Transactions between the appointee and associated companies'.

These responsibilities are additional to those already set out in the statutory financial statements:

In the case of each of the persons who are Directors at the time when the Report is approved under Section 418 of the Companies Act 2006 the following applies:

- So far as the Director is aware, there is no relevant audit information of which the Company's auditors are unaware; and
- He/she has taken all the steps that he/she ought to have taken as a Director in order to make himself/herself aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

Ring-Fencing Certificate

1 Condition P requires that Anglian Water submits to Ofwat a Ring-Fencing Certificate at the same time as it publishes its APR. When the Appointee submits its Ring-Fencing Certificate, it must submit a statement of the main factors which the Board of the Appointee has taken into account in giving its opinion for the Ring-Fencing Certificate. The Ring-Fencing Certificate should be accompanied by a report prepared by the Appointee's Auditors and addressed to Ofwat, stating whether they are aware of any inconsistencies between that Ring-Fencing Certificate and any information which the Auditors obtained in the course of their work as the Appointee's Auditors.

Anglian Water's Ring-Fencing Certificate

Financial resources and facilities

2 In the opinion of the Directors, Anglian Water Services Limited ("the Company") will have available to it sufficient financial resources and facilities to enable it to carry out, for the next twelve months, the Regulated Activities (including the investment programme necessary to fulfil its obligations under the appointment). Additionally, the Directors have approved a business viability statement covering the ten year period to March 2034 which is included in the Annual Performance Report.

Management resources

3 In the opinion of the Directors, the Company will, for the next twelve month period, have available to it management resources which are sufficient to carry out the Regulated Activities (including the investment programme necessary to fulfil the Company's obligations under the Instrument of Appointment).

Systems of planning and internal control

4 The Directors note that an internal control system can provide reasonable but not absolute assurance against material misstatement or loss, as it is designed to manage rather than eliminate the risk of failure to achieve business objectives. However, in the opinion of the Directors, the Company will, for the next twelve month period, have available to it systems of planning and internal control which are sufficient to carry out the Regulated Activities.

Rights and resources other than financial

5 In the opinion of the Directors, the Company will, for the next twelve month period, have available to it rights and resources other than financial resources which are sufficient to carry out the Regulated Activities.

Contracting

6 In the opinion of the Directors, all contracts entered into include all necessary provisions and requirements concerning the standard of service to be supplied to the Company, to ensure that it is able to meet all its obligations as a water and sewerage undertaker.

Material issues

7 The Directors have taken into consideration a number of material factors, including the response of the Company to the macroeconomic challenges of the year and the challenges posed by episodes of extreme weather.

8 This Certificate was approved by the Board of Anglian Water Services Limited on 10 July 2024, a draft having been discussed by the Board meeting of 5 June 2024.

9 The licence requires that our external auditor, Deloitte, provides an accompanying report stating whether they are aware of any inconsistencies between this Certificate and any information obtained during their assurance in relation to the regulatory accounting

statements and their work as Anglian Water's Auditors. Deloitte's overall auditor assurance statement is included in our APR and its assurance statement specific to the Ring-Fencing Certificate has been separately submitted to Ofwat.

Certified by

.....

Claire Russell

Company Secretary

Dated: 10 July 2024

RELEVANT FACTORS

The following main factors have been taken into account by Directors in giving this declaration:

Financial resources and facilities

- Financial details – In considering the requirements of Condition P, the Directors took financial resources and facilities to mean the cash requirements and funding arrangements needed to run the Company as follows:
- The financial strength of the Company, as recorded in the statutory financial statements for the year ended 31 March 2024 - Cash flow projections for the forthcoming year have been prepared and subjected to sensitivity analysis using various downside scenarios. This analysis has shown that it is reasonable to believe that facilities will be sufficient for the next twelve months.
- The Euro 10 billion global secured medium term note programme of financing implemented on 30 July 2002 by Anglian Water Services (Financing) Plc (AWSF), a subsidiary Company to, inter alia, provide future financing for the Company (including the investment programme necessary to fulfil the Company's obligations under the Instrument of Appointment).
- Cash and deposit balances at 31 March 2024 for Anglian Water Services Limited of £1,002.1 million - As at March 2024 Anglian Water has access to £1,025.0 million of undrawn facilities (March 2023: £975.0 million), to finance working capital and capital expenditure requirements. In addition, Anglian Water has access to a further £425.0 million of liquidity facilities (March 2023: £375.0 million), consisting of £294.0 million to finance debt service costs and £131.0 million to finance operating expenditure and maintenance capital expenditure in the event that the company was in an Event of Default on its debt obligations and had insufficient alternative sources of liquidity.
- All bank facilities and debt capital market issuance are issued pursuant to the Global Secured Medium Term Note Programme dated 30 July 2002 between the Company, AWSF and Deutsche Trustee Company Ltd (as agent and trustee for itself and each of the finance parties). This agreement provides that any facilities drawn by AWSF will be passed directly on to the Company upon utilization of the facility.
- Performance against the FD – The Board have agreed to reinvest the inflation upside seen during the AMP in additional Totex for the benefit of our customers and the environment. This will result in an overspend against the Totex FD allowance, whilst ensuring the Company remains financially resilient.
- Credit related factors – The Company has maintained its investment grade credit rating at a level that allows adequate access to the financial markets.
- Business plans and long-term viability – In considering the Company's financial strength, the Directors are mindful that there is a reliance on the accuracy of forecasting. The Company has undertaken a detailed planning and budgeting process that incorporates the period of twelve months commencing on the date of the Certificate. The Directors have reviewed forecasting accuracy and are satisfied that it is acceptable for this purpose.

Management resources

- In respect of the adequacy of management resources, the Directors have gained assurance from the Company's chosen business model and organisational design resulting from the ring fencing of the Company. Robust identification and allocation of resources has been made through alignment of objectives, processes and manpower requirements.
- Management skills, experience and relevant qualifications - The Company is managed operationally by the Management Board. The Board believes that the members of the Management Board have the appropriate mix of skills, experience and relevant qualifications to continue to run the Company effectively for the next 12 months. Details of the individuals who form the Management Board can be found on page 124 of the Annual Integrated Report 2024.

- Recruitment process, staff engagement – The Company has a robust and fair recruitment process, using an applicant tracking system (ATS) to ensure GDPR compliance. The Company is an equal opportunities employer which aims for inclusion, diversity and fair treatment for all. The Company promotes this within its attraction strategies (including branding, careers website, adverts and job boards), throughout the application process and within its hiring manager recruitment and selection training and ongoing coaching.
- The Company values and recognises that diversity is central to its success as an organisation and each member of the management board champions a different diversity demographic to drive advocacy, engagement and to reinforce organisational importance. We believe that the Company is better able to understand and meet the needs of its customers if the organisation reflects the communities it serves.
- The Company regularly engages with employees in a number of different ways, including regular consultations with trade unions and our 'Open House' employee forum. In the annual 'Love to Listen' employee survey, carried out in October 2023, 7,265 employees took part: our highest ever participation and representing a response rate of 83%. An action plan to follow up on the survey feedback is being implemented, with updates provided through communications channels Key themes of the action plan include reinforcing focus on cross-team collaboration and efficiency, completing a review of our performance and reward framework and continued progress on connectivity, systems and data.
- During the year we broadened Open House from a group of employee representatives to a truly open forum in which all our people have direct access to regular interactive sessions with our CEO and senior management. This is now well established as an inclusive conversation, with up to 800 people participating live, both virtually and in person, at a range of company sites and others accessing via follow-up recordings and Q&As.
- Succession Planning for key management staff - The Company's succession plans for its key management staff are developed by the Management Board, led by the People Director. The succession plans are reviewed and challenged annually by the Company's Nomination Committee (which consists of a majority of Independent Non-Executive Directors). Further information can be found on pages 144-147 of the Company's Annual Integrated Report 2024.
- Quality of management/staff induction and other training and development - On joining the Company, all staff are required to complete online induction training to understand the Company. This, combined with other mandatory modules including Acceptable Use of IT, Data protection and Inclusion, ensure all staff understand the Company's expectations and commitments. In addition, all new starters are provided with a booklet entitled 'Doing the Right Thing'. This booklet summarises key Company policies in a clear and concise way to ensure that the Company's values and standards are clear to colleagues from their very first day. All new Directors receive a comprehensive induction to the business; further information can be found on page 133 of the Company's Annual Integrated Report 2024.
- The Company offers a wide range of training and development to its employees during their careers in both operational and non-operational roles, including the externally accredited 'Licence to Operate' programme. We continue to develop virtual and remote training options where possible whilst retaining face-to-face training where physical interaction is required. We continue to develop our e-learning suite across a broad range of business areas and have accelerated the roll-out of our Virtual Reality training programme which is now fully accredited by CABWI.
- Our apprenticeship and graduate programmes continue to grow and now cover over 200 positions across operations, project management, data analysis, IS, finance and laboratories.
- Process for ensuring diversity of perspectives - The Company is committed to creating an environment where all employees feel included and valued in order to achieve their potential. Further information on the Company's approach to inclusion can be found on pages 74-75 of the Company's Annual Integrated Report 2024.
- Board or management activities, reports or statements – Both the Board (consisting of Executive Directors, Independent Non-Executive Directors and Non-Executive

Directors) and Management Board meet regularly to consider and decide upon a range of operational, financial and strategic matters impacting the Company. Further information on the operation of the Board can be found in the Section 172 Statement on pages 84-86 and in the Corporate Governance Report on pages 122-177 of the Annual Integrated Report 2024.

- The Company publishes a range of annual and periodic reports including: Annual Integrated Report, Annual and Interim Financial Results, Annual Performance Report, Drinking Water Quality Report, Gender Pay Gap Report, Drought Modelling Report, Modern Slavery Statement and Water Resources Management Plan.
- Independence of Board – It is a requirement of Ofwat's Board Leadership, Transparency and Governance (BLTG) Principles that independent non-executive directors are the largest single group on the Board. The Board confirms that, for the 2023/24 financial year and up to the date of this certificate, it has been compliant with this requirement, with the Board consisting of an independent Chair, five Independent Non-Executive Directors, four Non-Executive Directors and two Executive Directors. The Board confirms it intends to maintain this structure for the next 12 months. Further information on the structure of the Board can be found in the Corporate Governance Report on pages 124-127 of the Company's Annual Integrated Report 2024.

Systems of planning and control

- Governance procedures, risk management frameworks, oversight procedures – In October 2020, the Board adopted the Anglian Water Services Corporate Governance Code 2020 (the 2020 Code), which incorporates Ofwat's BLTG Principles and most of the provisions contained in the 2018 UK Corporate Governance Code. Full details of the compliance against the 2020 Code is detailed in the Corporate Governance Report on pages 122-177 of the Annual Integrated Report 2024. In keeping with the Board's commitment to the highest standards of governance, the Board intends, prior to 1 January 2025, to update the 2020 Code to reflect the changes in the FRC's UK Corporate Governance Code 2024.
- Both the Management Board and Board regularly review the Company's Top Tier Risk Register and the Company has a full risk management framework in place. During 2022 and 2023 the Company's Principal Risk Areas were reviewed and updated along with the risk appetite statements, details of which can be found on pages 105-118 of the Company's Annual Integrated Report 2024.
- Internal and external audit policies, processes, activities – Deloitte was awarded the contract for external audit services in September 2016. During the 2021/22 financial year the Audit Committee undertook a tender of the external audit contract. Following a detailed process, the Committee recommended to the Board that Deloitte be reappointed as external auditor on a four-year contract to commence from September 2023 with the option for four successive one-year extensions. The Board approved Deloitte's re-appointment on the terms detailed above at its Board meeting in March 2024.
- The internal audit function is an integral part of the company's internal control framework. With effect from 1 August 2021, the provision of internal audit services has been undertaken by an in-house team, with support provided by external specialists as necessary. The work undertaken by the internal audit function provides key insights into the practices, processes, systems and controls of the company. As such, the internal audit plan is approved on an annual basis at the March Audit Committee meeting. The Head of Internal Audit then provides a detailed update on progress against the plan at least four times a year. This update provides insight into the results of the audits, including management plans in place to address any actions. More information can be found on page 142 of the Annual Integrated Report 2024.
- The internal audit plan for 2024/25 is aimed at providing depth and quality assurance where it matters to the Company, taking into account the principal risk and business areas, discussions with management, organisational objectives and priorities. The number of audits included in the 2024/25 plan has increased significantly to reflect the increased resource available to the function. Audits on the 2024/25 internal audit plan include Biosolids Quality and Assurance, WINEP Delivery Compliance, Pollution Incident Handling and the Strategic Pipeline Alliance.

- Systems for maintaining supply/ business continuity - the Company has robust operational and organisational resilience mitigations in place to ensure its essential services to customers can continue during events that affect the Company's assets, people or processes. These include plans and procedures, incident room facilities, workplace recovery facilities, emergency equipment stocks, card warning stocks and stocks of alternative supplies such as bottled water. All processes and plans are regularly reviewed against risks to the business, and the Company undertakes training and exercises to validate these.
- The Company continues to utilise its established Business Impact Analysis via an online platform to provide visibility and consistency across the business and respond to incidents. This uses a systematic approach to assess the criticality of activities delivered within the business and the people, buildings, equipment, partners and systems that teams need to deliver them. The Business Impact Analysis continues to be used to form a whole range of Business Continuity plans including workplace recovery arrangements and backfill plans. These plans are regularly tested and exercised with all our critical teams. Business Impact Analyses forms part of the Company's ISO 22301 Business Continuity certification for which the Company is audited annually.
- The Company has also further strengthened its approach to supply chain resilience by carrying out mapping of some of its most critical supply chains and producing a dashboard together with supporting plans to respond to disruptive events affecting these suppliers, to quickly understand the business impact and the contingencies required to maintain operations.
- Organisational incident management structures and processes continue to be enhanced with a weekly risk monitoring group bringing together subject matter experts from across the team to provide a holistic view of emerging risks, their possible impact to the business, and the response required. This was used to good effect when planning for power outage risks over the winter period. Our adoption of J-Cells for more complex, long-duration incidents, in addition to our use of the more traditional command and control, has greatly improved our ability to achieve interoperability and engage all relevant stakeholders to resolve incidents in the most effective way.
- This year, alongside our "Anglian Water Force" (where all employees are allocated a secondary Incident support role), we are resourcing and training a dedicated team of core and specialist roles, who will remain on standby, to provide a rapid response in the event of an incident. This, together with our robust training and exercising plans and hybrid approach to managing incidents, has enhanced our capacity to resource Incident Response Teams and provide greater resilience across the business.
- The Company has a Protective Security strategy to manage the direction and support for all aspects of security to mitigate risk and to ensure that regulatory and operational needs of the business are met. The Company recognises the requirement to remain compliant with our responsibilities, and as such work within a set of legal and regulatory directives.
- Policies to prevent fraud and other unethical behaviour including whistleblowing – The Company expects all employees, partners, agents and contractors to adopt a high standard of business ethics and have zero tolerance of bribery and corruption. The Company requires all employees to complete training, including on anti-bribery, maintaining a level playing field and data protection. The Company has a whistleblowing policy (which was updated during the 2023/24 financial year) whereby employees can, in confidence, report on matters where they feel malpractice, criminal activities, improper or unethical behaviour is taking place. Employees can raise any concerns with management or, if this in inappropriate, raise them with the externally facilitated helpline or confidential email address which is managed by an independent provider. The independent provider maintains a register of all allegations and senior management decide whether there are grounds for further investigation. Details of all whistleblowing allegations and subsequent investigations are considered by the Audit Committee. Further information on the Company's approach to whistleblowing, anti-fraud and anti-bribery processes can be found on pages 142-143 of the Company's Annual Integrated Report 2024.
- Risk, compliance and other assurance statements - The Company has a well established risk management process, with principal risk areas and top tier key risks regularly

reviewed by the Management Board and Board. A full disclosure relating to resilience, risk management and viability is included in the Company's Annual Integrated Report 2024 on pages 105-121. The Company maintains registers that demonstrate that the Company complies with the relevant sections of the Water Industry Act and its Licence. In addition, annual assurance statements from external assurance providers are included in the Annual Performance Report.

Rights and resources other than financial

- Corporate missions and values – The Company operates within its values framework, the North Star, which combines its Purpose, Mission and Values to give a common goal for all employees. Along with the Company's public interest commitment, which is enshrined in the Company's Articles of Association, the values framework provides direction and guidance across all areas of the business to support the Company to deliver its purpose and keep the business running over the coming years.
- Technology and other systems for ensuring checks and balances - The Company has robust systems in place to ensure the management of a stage-gate approach to investment delivery, as well as a change control process for the initial allocation and subsequent re-allocation of capital and operational expenditure budgets. The Company has worked to better integrate these systems to improve the consistency of management information and enable improved benefits decision making. In addition to the systems it has in place to manage the delivery of the investment programme, the Company has a corporate risk tool which hosts the corporate risk register and allows risk owners to update their risks prior to Board updates.
- A wide range of technology and systems are deployed to ensure the functioning of the business, including an Enterprise Resource Planning (ERP) system, risk management system, extensive operational monitoring and control systems, field scheduling systems, employee management and customer and billing systems. The Heads of each business area are required to assess and confirm annually that the Business Unit Information Technology requirements are adequately met. The Board receives regular reports on the status of our cyber security risk landscape. The Company is undertaking a major business improvement project associated with the upgrading of its ERP to S/4HANA. Some outputs were delivered in 2023, with the completion of the enabling functions migrations in early 2025. Further outputs around customer and asset information will be delivered in subsequent years. The Company continually explores the potential for new digital technologies to support its objectives. For example, in 2023/24 it has been trialling the use of artificial intelligence tools.
- Policies to encourage an integrated approach and 'systems thinking' - The Company's management systems help ensure it meets customer commitments and deliver its outcomes. The Company's Integrated Management System Framework sets out all its management system standards in a clear and consistent way, aligning to strategic priorities, business goals and good outcomes. Strategic and business unit plans form the basis on which Anglian Water sets and reviews its objectives, obligations and targets. These cover areas such as the following:
- Customer - To make life better for our customers every single day, by delivering a personal, trusted and effortless experience
- Water Quality - Protecting water from source to source, providing confidence that our drinking water and recycled water is always safe and clean
- Environment - Safeguarding and enhancing the air, water and land where we live and operate, to sustain and maintain a flourishing environment
- Asset Management - Exploiting the whole lifecycle of our assets to maximise value and reduce our capital and operational carbon footprint
- Resilience - Effective planning and preparation to manage and mitigate the impact of any disruptive event so we can successfully respond and recover
- Certified Business Management Systems (BMS) have been established to reinforce the management of risks associated with many areas of the business and compliance with obligations. Areas covered by BMSs include water and water recycling operations, asset management and occupational health and safety management. In 2023 we became the first water company to achieve certification for the ISO45003 standard, which

recognises the important work we do to support our people's health and wellbeing. Audits of compliance with the requirements of these systems are conducted internally and by third party certifiers.

- The Company uses the integrated human resources management software system, Workday, to ensure a common approach is taken across the business in areas such as performance management. We use Workday to ensure all relevant employees undertake training on essential legal obligations, such as the Bribery Act and GDPR, and key internal policies which protect the companies' assets, such as the acceptable use of IT and the risks of cyber attack. The Heads of each business unit are required to assess and confirm annually that all the employees within their units are up-to-date with their training requirements.
- Planning systems - The Company has an asset management approach based on continuous planning and management of assets and investments, supported by the Company's Copperleaf C55 system, that ensures that the Company delivers efficient outcomes for customers. This is used to test all investment proposals and ensures that funds are allocated in the most efficient way to deliver benefits of greatest value to customers at the lowest whole-life cost.
- Assets maintenance / insurance factors - Anglian Water is one of the leaders in the industry when it comes to Asset Management and coverage of asset information and asset models. The Company completes deterioration modelling coupled with an assessment of criticality of the Company's asset base to identify maintenance needs and completes site by site reviews to create bespoke site and catchment asset plans.
- Working with Ofwat, in 2021 the Company completed a maturity assessment of its approach to asset health and asset resilience. In its assessment of Anglian's submission, Ofwat rated Anglian's approach most highly of all of the companies in the sector. The assessment also highlighted areas where the Company can improve further. For AMP7 the Company has developed this approach further to complete system plans, which look further at the interactions between the Company's assets and the communities they serve. These system plans are revealing forward looking risk relating to the effects of climate change and a need for a step change in asset renewal. The Company submitted proposals in its PR24 business plan to ensure asset maintenance is properly funded for long term resilience.
- The Company appoints a London Insurance Broker to facilitate the placement of its insurance programme. The broker, in conjunction with the business, will annually (or more frequently if required) undertake a review of business activity combined with an assessment of the corporate risk profile, to determine the key threats to the business and its ability to meet its overall corporate objectives. This process, combined with a review of historic business losses and overall loss trends in the wider insurance market, determines the value of these financial risk exposures that can be transferred to the insurance market. The Company will, via its appointed Brokers, ensure it has met its statutory obligations to procure certain insurance policies and seek to place all other policies to the required limits (where available in the insurance market) to ensure key financial risks and assets are protected against significant loss.

Contracting

- Position/ status of key contracts in place - The Company's Delivery Investment Programme key alliance Tier 1 & 2 contracts have been sourced in compliance with EU procurement regulations and signed by all shareholders. The contracts are differentiated by the degree of integration and alignment and the opportunity for longer-term collaboration with financially sustainable contractors. They adopt an appropriate works allocation to assure no material infringements to the Company's covenants are incurred and these are assured monthly through Company procedures.
- As key contractors within the investment programme, the alliances follow the following principles:
- Commercial arrangements align partners' returns with the Final Determination
- Targets and arrangements incentivise innovation and performance.
- Stretching targets are set around affordability, outcome performance, a carbon challenge and time to deliver

- A strong focus on culture and behaviour exists across all of the Alliances, leading to greater collaboration and a constant exchange of best practice
- Engagement with the partners is at programme / portfolio level rather than project level, enabling far greater degrees of efficiencies through governance procedures
- Common supply chain frameworks are developed, providing scale benefits and more effective supplier management.
- Adherence to these principles creates a greater level of cost efficiency, shared resourcing, and exchange of best practice and is assured through Self Assurance Contacts embedded into the alliances.
- The terms of contracts awarded by the Company to independent third parties for the provision of certain services and operations are issued in compliance with the Utilities Contract Regulations 2006 and or 2016 (as applicable at the time of tender), and other appropriate UK regulations and EC Directives for the procurement of such outsourced services. In addition, we took part in the Government consultation on the creation of new utilities and public procurement regulations post Brexit, which have now received Royal Assent, and the Procurement Act 2023 will go live on the 28th October 2024.
- The Company currently sources from external sources a proportion of services, such as water main repairs, sewer repairs and facilities management. The Company has no intention to materially extend its outsourcing beyond current levels in the twelve months following the date of this certificate.
- The Company also complies with the requirements of the licence conditions and guidance issued by Ofwat in respect of cross-subsidies between the Appointee and any Associated Company.
- No Guarantees or Cross-Default Obligations have been given without Ofwat's written consent.
- The terms of contracts with all Associated Companies include service levels and appropriate terms and conditions and have been reviewed by the Company's Auditors as part of their annual audit. Any conflicts of interest for individual Directors must be disclosed under the Company's Article of Association. No Director may vote on any contract or arrangement between the Company and any other Anglian Water Group Company if he/she is also a Director of that Anglian Water Group Company.

Material Issues or Circumstances

- Helping vulnerable customers - We remain committed to helping customers and are proud to say we have successfully exceeded our performance for the fourth consecutive year by supporting 12.7 per cent of our customers in non-financial circumstances through our Priority Service Register (PSR). This is attributable to the hard work of our teams, successfully acting and responding to vulnerability disclosure and proactively promoting the PSR, in addition to our extensive customer engagement strategy and partnership work. We have also exceeded our end of year performance with 63.5 per cent of customers aware of priority services compared to our target of 61 per cent. This is a result of our extensive customer engagement strategy and our attendance at over 100 community events alongside more than 11.5 million social media impressions promoting our full range of financial and non-financial support services. The result of this has seen us provide financial support to over 389,000 customers this year.
- River water quality – public dissatisfaction with the frequency of discharges to rivers from overflows continued during the year. The Company has set out its objectives for reducing the number of spills in its 'Get River Positive' programme. It was successful in securing funding to accelerate its spill reduction activities through Defra's Accelerated Infrastructure Delivery programme (AID) in June 2023 and set out a substantial investment programme for 2025-30 in its PR24 business plan. It completed the installation of Event Duration Monitors at all of its overflows in December 2023.
- The Company continued to respond fully to Ofwat's information requests under its enquiry into companies' compliance with the flow to full treatment (FFT) conditions of their discharge permits and remains confident that there are very few issues at its sites. The Board receives an update on the progress of the investigation as a standing item at every meeting. The Company is undertaking a programme of works at a small number of WRCs which are potentially FFT non-compliant and working closely with the

Environment Agency to develop principles and further methodology for reporting and assessing FFT. The Company looks forward to receiving the provisional findings of Ofwat's investigation.

- Price review – in October the company published its business plan for 2025-30, setting out a £9 billion investment programme that will, among other things, progress plans for two new water storage reservoirs, deal with the growth needs of our region and reduce the risk of pollutions and waste water spills. In July Ofwat published its draft determination of the Company's price controls, to which the Company will respond in September. The Company looks forward to receiving the Ofwat's final determination in December.
- Following the general election on 4 July the Company looks forward to working with the new government to meet the needs of society, the economy and the environment.

Table 1A - Income statement

	Line description	Units	Statutory	Adjustments			Total appointed activities
				Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
1	Revenue	£m	1,626.648	-96.666	25.588	-122.254	1,504.394
2	Operating costs	£m	-1,211.504	26.531	-15.899	42.430	-1,169.075
3	Other operating income	£m	15.813	-14.342	-	-14.342	1.471
4	Operating profit	£m	430.956	-84.478	9.689	-94.167	336.790
5	Other income	£m	-	98.277	-	98.277	98.277
6	Interest income	£m	43.476	-2.473	-	-2.473	41.003
7	Interest expense	£m	-547.932	-71.024	-	-71.024	-618.957
8	Other interest expense	£m	-	2.473	-	2.473	2.473
9	Profit before tax and fair value movements	£m	-73.500	-57.225	9.689	-66.914	-140.413
10	Fair value gains/(losses) on financial instruments	£m	204.911	-	-	-	204.911
11	Profit before tax	£m	131.411	-57.225	9.689	-66.914	64.497
12	UK Corporation tax	£m	47.700	0.261	-2.422	2.683	50.383
13	Deferred tax	£m	-78.900	14.045	-	14.045	-64.855
14	Profit for the year	£m	100.211	-42.919	7.267	-50.185	50.026
15	Dividends	£m	-79.900	-	-7.267	7.267	-72.633
	Tax analysis						
16	Current year	£m	-47.300	-0.261	2.422	-2.683	-49.983
17	Adjustment in respect of prior years	£m	-0.400	-	-	-	-0.400
18	UK Corporation tax	£m	-47.700	-0.261	2.422	-2.683	-50.383
	Analysis of non-appointed revenue						
19	Imported sludge	£m	-	-	-	-	-
20	Tankered waste	£m	-	-	4.712	-	-
21	Other non-appointed revenue	£m	-	-	20.875	-	-
22	Revenue	£m	-	-	25.588	-	-

The figures in the statutory columns in tables 1A to 1D are based on the Company only accounts of Anglian Water Services Ltd. The principal differences between the statutory accounts and the APR are in respect of capitalised interest and the classification of grants and contributions income. For regulatory reporting, capitalised interest is not permitted and therefore the adjustments are to reverse out the impact on depreciation, interest and deferred tax.

1 Grants and contributions income in the statutory accounts is classified as revenue (in accordance with IFRS 15 'Revenue from Contracts with Customers'), whereas in the regulatory accounts it is classified as 'other income'. The other adjustments are reclassifications of the following items:

- Profit on disposals of fixed assets is treated as operating costs in the statutory accounts and other operating income in the APR.
- Rents received are classified as other operating income in the statutory accounts and other income in the regulatory accounts.
- Contributions received for rechargeable works and fluoridation are other operating income in the statutory accounts, but classified as revenue in the regulatory accounts.
- Certain income items treated as negative expenditure in the regulatory accounts (table 2B) are classified as other operating income in the statutory accounts in accordance with IFRS 15.
- Interest charges in respect of defined benefit pension schemes are classified as interest expense in statutory accounts and other interest expense in the APR.
- An accrual has been recorded within the statutory accounts in relation to the innovation fund. As agreed by Ofwat, the cost has been reversed for the purposes of the regulatory accounts but no corresponding adjustment has been made within revenue. The only costs recorded in the APR for the innovation fund are the actual costs on projects that have been funded by the innovation fund. These are offset by the release of the accrual in the statutory accounts.

2 These adjustments explaining the difference between statutory and RAG definitions are summarised in the following table.

Difference between statutory and RAG definitions

Line Description	Adjustments						Total adjustments
	Reclassification of profit on disposal of assets	Capitalisation of interest and related depreciation	Income offset	G&C	Reclassification of pension scheme interest	Reversal of provision for innovation fund	
Revenue			1.171	(97.837)			(96.666)
Operating costs	(1.475)	14.844	14.206			(1.044)	26.531
Other operating income	1.475		(15.817)				(14.342)
Other income			0.441	97.837			98.277
Interest expense		(71.024)			(2.473)		(73.497)
Other interest expense					2.473		2.473
UK Corporation tax						0.261	0.261
Deferred tax		14.045					14.045
Total	0.000	(42.136)	0.000	0.000	0.000	(0.783)	(42.919)

The following commentary is in relation to the appointed business only.

Revenue (1A.1)

3 Revenue for the year, excluding grants and contributions, was £1,504.4 million (2023: £1,365.9 million), an increase of £138.5 million (10.1 per cent) on last year. The increase in revenue is as a result of the following factors:

- The price increase for customers following the regulatory pricing formula, resulting in a £165.4 million increase. This is reflected in an average increase of 10.7 per cent in dual-service bills.
- A net decrease in demand of £5.8 million. Household consumption is down £8.0 million reflecting a cooler, wetter summer compared with the prior year. Non-household consumption is up £2.2 million as we move back towards pre-Covid 19 levels of consumption.
- A decrease of £12.0 million relating to discounts for the LITE tariff funded from prior year cross-subsidy contributions.
- Other increases in revenue of £7.7 million.

4 The money we can raise from bills, along with how much we are allowed to invest in our service, is decided every five years through Ofwat's price-setting process and set out in our Final Determination (FD).

Operating costs (including depreciation, charge for bad and doubtful debts) (1A.2)

5 Operating costs of £1,169.1 million comprise opex of £796.5 million and depreciation of £388.6 million. Overall operating costs (including depreciation) for the year increased by £123.3 million (11.8 per cent) from £1,045.8 million in 2023. This increase is explained within the Annual Integrated Report and summarised below.

Inflation

6 The inflationary increases in our cost base formed part of the Final Determination and are therefore, whilst subject to a timing delay, funded through the inflationary increases in revenues.

Weather related

7 The first six months of the year saw very little rainfall and as a result we saw exceptionally dry ground conditions, which can cause pipes to move and split. As a consequence of this, in the prior year, we experienced increased costs, particularly around leakage. Relatively benign weather conditions were present for the first half of 2023/24, however these gave way to extremely wet weather, leading to flooding, in the second half which has put pressure on our water recycling operations.

8 As a result, we have seen a reduction in the drought related expenditure, with increased costs associated to the impact of the extremely wet weather.

Loss allowance for expected credit losses

9 The increase is primarily a result of the increase in revenue seen in the year. Our cash collection performance remains strong, despite a slight reduction on the prior year due to the wider economic conditions.

Power

10 The increase in power is due to the prior year energy prices being locked-in ahead of the war in Ukraine, whereas the current year reflects the significant cost increases since then. Our proactive energy hedging approach enabled us to have flexibility in the most volatile and expensive market periods.

Rates

11 A refund was received as a result of a rates review in the second half of 2022/23. Our rates charge is therefore higher in the current year.

Other significant items

12 Other significant items primarily relate to costs that have risen above average inflation, such as fuel and chemicals. These include a £1.5 million increase in the Ofwat licence fee with the balance relating to a range of individually small offsetting items.

13 Depreciation and amortisation

14 Depreciation and amortisation is up 2.5 per cent to £388.6 million, primarily as a result of higher fixed asset balances as we construct and commission assets in line with our capital investment programme.

Other operating income (1A.3)

15 Other operating income comprises primarily external income from power generation, bio-solid sales to farms, rents received and various other non-core activities; this was consistent with prior years.

Operating profit (1A.4)

16 Operating profit for the year was £336.8 million, an increase of 3.9 per cent compared with the previous year. This reflects the increase in revenue more than offsetting the increase in operating costs including depreciation, as discussed above.

Other income (1A.5)

17 Other income has decreased by £6.7 million, 6.4 per cent. This line primarily represents the cash and asset contributions made principally by property developers and local authorities for connecting new property developments to the water and sewerage network, and for diverting existing infrastructure.

Interest income (1A.6)

18 Interest income has increased from £15.5 million in 2023 to £41.0 million in the current year. This is as a result of increased rates on our borrowings and the amount of cash held.

Interest expense (1A.7)

19 Interest expense (excluding fair value gains and losses on financial instruments) decreased from £(772.2) million in 2023 to £(619.0) million in 2024. This was primarily the result of the non-cash impact of higher inflation on index-linked debt which decreased from £(561.4) million to £(359.9) million.

Other interest expense (1A.8)

20 Other interest expense is made up of the actuarial pension charge or credit on the defined benefit pension scheme, which is partly driven by the level of the pension scheme accounting deficit or surplus at the start of the year. There was a credit for the year of £2.5 million, compared with a credit of £4.5 million in the previous year. This is consistent with there having been a significant accounting surplus on the funded defined benefit scheme.

21 The below table shows the components which make up the interest figures in interest expense (1A.7) and other interest expense (1A.8):

Component	Amount £m	Table Ref
Interest expense on bank loans and overdrafts	12.848	1A.7
Interest expense on other loans including financing expenses	241.704	1A.7
Indexation of loan stock	359.860	1A.7
Amortisation of debt issue costs	2.912	1A.7
Interest on leases	1.059	1A.7
Unwinding of discount on provision	0.098	1A.7
Debt mangement fee to AWSF	0.416	1A.7
Defined benefit pension scheme interest	(2.413)	1A.8

Profit before tax and fair value movements (1A.9)

22 The profit before tax and fair value movements has decreased from a £323.2 million loss in the previous year to £140.4 million loss in 2024. This movement is largely as a result of the indexation discussed above.

Fair value gains and (losses) on financial instruments (1A.10)

23 There was a fair value gain of £204.9 million on derivative financial instruments in 2024, compared to a gain of £645.3 million in 2023. The fair value gains in the current year are predominantly non-cash in nature and have no material effect on the underlying commercial operations of the business. The driving factors for the gain in 2024 were primarily due to increases in the average levels of forward inflation expectations, in combination with the rise in forward interest rates (decreasing the discounted present value of derivatives). During the period, forward inflation decreased by circa 90 basis points and forward interest rates increased by 208 basis points across the curves.

Profit before tax (1A.11)

24 The profit before tax for the year was £64.5 million, compared to £322.1 million in the previous year. This reflects the decrease in profit before tax and decrease fair value movements referred to above.

Current tax and deferred tax (1A.12 / 1A.13)

25 The current tax credit for the year was £50.4 million (2023: £26.5 million). The deferred tax charge has decreased by £43.3 million from £108.1 million in 2023 to £64.9 million this year.

26 The current tax credit for both years reflects receipts from other group companies for losses surrendered to those group companies. The tax losses arise mainly because capital allowances exceed the depreciation charged in the accounts, as well as some income not being taxable and the availability of tax relief on pension contributions paid in the year. This is offset by disallowable costs and interest.

27 The deferred tax charge for this year mainly reflects capital allowances claimed in excess of the depreciation charge, a charge on the fair value gains on derivatives, offset by a credit on losses carried forward to future years.

28 The current and deferred tax adjustments in respect of previous periods for both years relate mainly to the agreement of prior year tax computations.

29 The amounts included for tax liabilities in the financial statements include estimates and judgements. If the computations subsequently submitted to HMRC include different amounts then these differences are reflected as an adjustment in respect of prior years in the subsequent financial statements.

Profit / (loss) for the year (1A.14)

30 The profit for the year was £50.0 million, compared with £240.5 million for the previous year. The profit in the current year is consistent with the increased profit before combined with the tax charge described above.

Dividends (1A.15)

31 Dividend payments in the year of £72.6 million (2023: £161.2 million).

Table 1B - Statement of Comprehensive Income

	Line description	Units	Statutory	Adjustments			Total appointed activities
				Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
	Profit for the year	£m	100.211	-42.919	7.267	-50.185	50.026
1	Actuarial gains/(losses) on post-employment plans	£m	-19.300	-	-	-	-19.300
2	Other comprehensive income	£m	-5.000	-	-	-	-5.000
3	Total Comprehensive income for the year	£m	75.911	-42.919	7.267	-50.185	25.726

1 The principal difference between the statutory accounts and the APR for this table is in respect of capitalised interest. For regulatory reporting, capitalised interest is not permitted and therefore the adjustments are to reverse out the impact on profit for the year.

2 Appointed comprehensive income for the year of £25.7 million, comprising profit for the year of £50.0 million, offset by actuarial losses on post employment benefits of £19.3 million and other comprehensive expenses which are losses on cash flow hedges of £5.0 million.

3 Other than the changes to the profit for the year as detailed in the commentary for table 1A, there are no differences between the statutory and regulatory accounts on the statement of other comprehensive income.

Actuarial gains/(losses) on post employment plans (1B.2)

4 Actuarial losses on retirement benefit obligations for the year were £19.3 million (2023: losses of £105.9 million), comprising actuarial losses of £25.8 million partially offset by deferred tax on these gains of £6.5 million. This resulted in Anglian Water reporting a net retirement benefit asset of £30.7 million as at 31 March 2024 (2023: £51.2 million).

Other comprehensive income (1B.3)

5 Other comprehensive income for the year comprises losses on cash flow hedges of £5.0 million (2023: loss £1.2 million), partially offset by deferred tax credit on these gains of £1.9 million (2023: gain £0.2 million).

Table 1C - Statement of Financial Position

	Line description	Units	Statutory	Adjustments			Total appointed activities
				Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
	Non-current assets						
1	Fixed assets	£m	11,414.696	-422.288	11.345	-433.632	10,981.064
2	Intangible assets	£m	256.639	-18.221	2.727	-20.948	235.692
3	Investments - loans to group companies	£m	-	-	-	-	-
4	Investments - other	£m	-	-	-	-	-
5	Financial instruments	£m	233.100	-	-	-	233.100
6	Retirement benefit assets	£m	61.457	-	-	-	61.457
7	Total non-current assets	£m	11,965.892	-440.508	14.071	-454.580	11,511.313
	Current assets						
8	Inventories	£m	17.858	-	-	-	17.858
9	Trade & other receivables	£m	621.436	-	-	-	621.436
10	Financial instruments	£m	0.930	-	-	-	0.930
11	Cash & cash equivalents	£m	1,002.139	-	-	-	1,002.139
12	Total current assets	£m	1,642.363	-	-	-	1,642.363
	Current liabilities						
13	Trade & other payables	£m	-609.712	-83.407	-11.649	-71.758	-681.470
14	Capex creditor	£m	-157.125	-	-	-	-157.125
15	Borrowings	£m	-453.813	100.849	-	100.849	-352.964
16	Financial instruments	£m	-92.774	-	-	-	-92.774
17	Current tax liabilities	£m	-76.201	-4.360	-2.422	-1.938	-78.139
18	Provisions	£m	-4.352	-	-	-	-4.352
19	Total current liabilities	£m	-1,393.977	13.081	-14.071	27.153	-1,366.824
20	Net Current assets/(liabilities)	£m	248.386	13.081	-14.071	27.153	275.539
	Non-current liabilities						
21	Trade & other payables	£m	-	-	-	-	-
22	Borrowings	£m	-7,527.498	-	-	-	-7,527.498
23	Financial instruments	£m	-796.497	-	-	-	-796.497
24	Retirement benefit obligations	£m	-30.858	-	-	-	-30.858
25	Provisions	£m	-5.603	-	-	-	-5.603
26	Deferred income – grants & contributions	£m	-	-	-	-	-
27	Deferred income - adopted assets	£m	-	-	-	-	-

	Line description	Units	Statutory	Adjustments			Total appointed activities
				Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
28	Preference share capital	£m	-	-	-	-	-
29	Deferred tax	£m	-1,601.758	110.128	-	110.128	-1,491.630
30	Total non-current liabilities	£m	-9,962.214	110.128	-	110.128	-9,852.086
31	Net assets	£m	2,252.065	-317.300	-	-317.300	1,934.765
	Equity						
32	Called up share capital	£m	32.000	-	-	-	32.000
33	Retained earnings & other reserves	£m	2,220.065	-317.300	-	-317.300	1,902.765
34	Total Equity	£m	2,252.065	-317.300	-	-317.300	1,934.765

1 The statement of financial position is based on the statutory Company only balance sheet with adjustments for interest capitalised and associated deferred tax, innovation fund and reclassifications of trade and other payables as detailed below.

2 The principal difference between the statutory accounts and APR is in respect of capitalised interest. For regulatory reporting, capitalised interest is not permitted and therefore the adjustments are to reverse out the impact on accumulated depreciation, deferred tax and reserves. With the introduction of the innovation fund this AMP, as discussed in the commentary to Table 1A, the only costs related to the innovation fund expected to be included are actual costs on projects that have been funded by the innovation fund (as reported in line 9A.22 of the APR). Companies are also expected to unwind any accrual that was reported previously. The only other adjustments are the reclassification of current grants and contributions and accrued interest to trade and other payables and of capital creditors.

3 These adjustments are summarised in the table below.

4 The following commentary is in relation to the appointed business only.

Line Description	Adjustments					
	Reversal of capitalised interest cost £m	Reclassification of capital creditors £m	Reclassification of interest accrual on debt £m	Deferred tax impact of reversal of capitalised interest cost £m	Reversal of provision for innovation fund £m	Total adjustments £m
Fixed assets	(429.361)	-	-	-	-	(429.361)
Intangible assets	(19.737)	-	-	-	-	(19.737)
Trade & other payables	-		(100.849)	-	17.442	(83.407)
Current tax liabilities	-	-			(3.314)	(3.314)
Capex creditor	-		-	-	-	-
Borrowings	-	-	100.849	-	-	100.849
Provisions <1 Year	-	-	-	-	-	-
Provisions >1 Year	-	-	-	-	-	-
Deferred tax	-	-	-	112.274	-	112.274
Retained earnings & other reserves	449.098	-	-	(112.274)	(14.128)	322.696

Fixed assets (1C.1)

5 The net book value (NBV) for tangible fixed assets has increased by £658.2 million due to capital expenditure in the year, partially offset by the depreciation charge.

Intangible assets (1C.2)

6 The NBV of intangible assets decreased by £1.4 million over the year, reflecting expenditure on IT systems, partially offset by the amortisation charge for the year.

Retirement benefit surpluses/obligations (1C.6 and 1C.24)

7 Net retirement benefit assets were £30.7 million comprising a surplus of £61.5 million on the combined Anglian Water Services and Hartlepool schemes, and a £30.9 million obligation on an unfunded scheme.

Current assets (1C.8-1C.12)

8 Total current assets have increased by £374.8 million (29.6 per cent) in the year. This is primarily due to an increase in cash and cash equivalents of £375.8 million.

9 The statutory cash figure includes £530.0 million of other short term deposits with a tenor of more than three months which are classified as investments - cash deposits within the statutory accounts.

10 Included within cash is £6.5 million of money collected from customers which has been ring fenced to be used to fund projects awarded by Ofwat in relation to their innovation fund.

Trade and other payables (1C.13)

11 Compared with the prior year, trade payables have increased by £103.3 million (17.9 per cent) to £681.5 million. This is consistent with the increase in operating costs and also due to the increase in bills causing an increase in payments on account.

Capex creditor (1C.14)

12 Capital creditors have decreased by 17.1 per cent to £157.1 million at 31 March 2024. This movement reflects decreased spend in the current year as reflected in the decreases seen on the intangible asset lines above.

Borrowings (1C.15 and 1C.22)

13 Total borrowings have increased by £1,069.2 million in the year. This primarily reflects new term loans of £1,379.5 million less loan repayments of £487.1 million. The remainder of the movement is largely cause by indexation of £229.9 million increasing the balance offset by fair value gains and losses and foreign exchange of £37.9 million. A full reconciliation can be found in the analysis of net debt in our statutory accounts.

Current tax liabilities (1C.17)

14 Current tax liabilities have decreased by £45.9 million in the year. The liability solely reflects amounts owed to other group companies where the regulated company, Anglian Water Services Limited, has increased its taxable profits by disclaiming capital allowances only for the benefit of these other companies. There is agreement that the regulated company will pay the tax liabilities arising from the increased taxable profits when it receives the benefit of the disclaimed capital allowances. No amounts are owed to the tax authorities.

Deferred tax (1C.29)

15 The deferred tax credit is £110.1 million lower than the statutory accounts due to the reversal of capitalised interest on fixed and intangible assets, lines one and two. The deferred tax charge for this year mainly reflects capital allowances claimed in excess of the depreciation charge, a charge on the fair value gains on derivatives, offset by a credit on losses carried forward to future years.

Retained earnings (1C.33)

16 The difference of £317.3 million between the statutory and regulatory accounts is the reversal of capitalised interest less the related movement in deferred tax as a result of this and the reversal of the innovation fund accrual.

Table 1D - Statement of Cash Flows

	Line description	Units	Statutory	Adjustments			Total appointed activities
				Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
	Operating activities						
1	Operating profit	£m	430.956	-84.478	9.689	-94.167	336.790
2	Other income	£m	-48.224	98.277	-	98.277	50.054
3	Depreciation	£m	388.585	-14.844	1.143	-15.986	372.598
4	Amortisation – Grants & contributions	£m	-	-	-	-	-
5	Changes in working capital	£m	8.341	1.044	-2.660	3.704	12.045
6	Pension contributions	£m	-3.200	-	-	-	-3.200
7	Movement in provisions	£m	-1.693	-	-	-	-1.693
8	Profit on sale of fixed assets	£m	-1.475	-	-	-	-1.475
9	Cash generated from operations	£m	773.290	0.000	8.172	-8.172	765.119
10	Net interest paid	£m	-199.925	15.200	-	15.200	-184.725
11	Tax paid	£m	-	-	-	-	-
12	Net cash generated from operating activities	£m	573.365	15.200	8.172	7.028	580.394
	Investing activities						
13	Capital expenditure	£m	-994.300	-	-0.905	0.905	-993.395
14	Grants & Contributions	£m	-	-	-	-	-
15	Disposal of fixed assets	£m	2.000	-	-	-	2.000
16	Other	£m	-	-	-	-	-
17	Net cash used in investing activities	£m	-992.300	-	-0.905	0.905	-991.395
18	Net cash generated before financing activities	£m	-418.935	15.200	7.267	7.933	-411.001
	Cashflows from financing activities						
19	Equity dividends paid	£m	-79.900	-	-7.267	7.267	-72.633
20	Net loans received	£m	874.500	-15.200	-	-15.200	859.300
21	Cash inflow from equity financing	£m	-	-	-	-	-
22	Net cash generated from financing activities	£m	794.600	-15.200	-7.267	-7.933	786.667
23	Increase (decrease) in net cash	£m	375.665	0.000	0.000	0.000	375.665

1 The principal differences between the statutory accounts and the APR are in respect of capitalised interest and the classification of grants and contribution income. For regulatory reporting, capitalised interest is not permitted and therefore the depreciation of capitalised interest has been removed here. Grants and contributions (G&C) income is included in revenue within the statutory accounts, but classified as other income in the regulatory accounts. As discussed in the commentary for 1A and 1C, the accrual for the innovation fund has been reversed for regulatory purposes, with the only costs recorded being those incurred on projects funded by the innovation fund. The other adjustments are a reclassification of debt issue costs from interest paid to net loans received and a reclassification of pensions operating expenditure from contributions to movements in provisions.

2 These adjustments, explaining the difference between statutory and RAG definitions, are summarised in the table below.

3 The following commentary is in relation to the appointed business only.

Line Description		Statutory	Reclass issue costs	Capitalisation of interest and related depreciation	Reclass of G&C and rental income	Reversal of provision for innovation fund	Total adjustments
1D.1	Operating profit	430.943		14.844	-98.277	-1.044	-84.478
1D.2	Other income	-48.224			98.277		98.277
1D.3	Depreciation	388.585		-14.844			-14.844
1D.5	Changes in working capital	8.341				1.044	1.044
1D.10	Net interest paid	-199.801	15.200				15.200
1D.20	Net loans received	874.500	-15.200				-15.200

Operating profit (1D.1)

4 The increase in operating profit is explained in the commentary to table 1A. Largely as a result of the increase in revenue more than offsetting the increase in costs.

Other income (1D.2)

5 Other income has decreased by £8.9 million to £50.1 million as a result of the strong rebound seen in the housing market in the current year and additional income from new schemes, such as HS2.

6 The £48.2 million included within the statutory column relates to assets adopted for nil consideration. This is shown within a separate line within the statutory accounts as an adjustment within operating activities, therefore this has been included within Other income within the regulatory accounts.

Changes in working capital (1D.5)

7 Changes in working capital increased by £31.5 million from the prior year to a increase in cash generated from operations. This is largely as a result of the increase seen in trade and other payables of 103.3 million and the increase in trade and other receivables of £56.7 million as discussed in the commentary to table 1C. The remainder of the movement is due to the timing of certain payments around the year end.

Profit/loss on sale of fixed assets (1D.8)

8 The decrease in profit on sale of fixed assets reflects the lower number of disposals in the year compared to prior year.

Net interest paid (1D.10)

9 Net interest paid decreased by £1.4 million to £185.1 million in the current year - even though borrowings increased and therefore attracted additional interest costs in comparison there was a make-whole payment in respect of early repayment of debt in the prior year.

Net cash generated from operating activities (1D.12)

10 Net cash inflow from operating activities increased by £67.5 million from £512.6 million in 2023 to £580.1 million in 2024.

Equity dividends paid (1D.19)

11 Appointed dividend payments in the year of £72.6 million (2023: £161.2 million), which excludes an assumed non-appointed dividend of £7.3 million (2023: £7.8 million).

12 We have set dividends to reflect performance and build financial resilience. After the balance sheet date, the Board proposed to pay a final statutory dividend of £88.6 million (2023: £79.9 million).The base dividend was adjusted for a total of £51.1 million deduction to reflect service delivery for customers and the environment.

Table 1E - Net Debt Analysis

	Line description	Units	Fixed rate	Floating rate	Index linked		Total
					RPI	CPI/CPIH	
	Interest rate risk profile						
1	Borrowings (excluding preference shares)	£m	2,372.838	934.314	3,704.993	1,350.218	8,362.363
2	Preference share capital	£m	-	-	-	-	-
3	Total borrowings	£m	2,372.838	934.314	3,704.993	1,350.218	8,362.363
4	Cash	£m	-	-	-	-	-227.139
5	Short term deposits	£m	-	-	-	-	-775.000
6	Net Debt	£m	-	-	-	-	7,360.224
	Gearing						
7	Gearing	%	-	-	-	-	68.944%
8	Adjusted Gearing	%	-	-	-	-	68.758%
	Interest						
9	Full year equivalent nominal interest cost	£m	135.143	62.724	225.382	57.299	480.548
10	Full year equivalent cash interest payment	£m	135.143	62.724	63.343	13.655	274.865
	Indicative interest rates						
11	Indicative weighted average nominal interest rate	%	5.695%	6.713%	6.083%	4.244%	5.747%
12	Indicative weighted average cash interest rate	%	5.695%	6.713%	1.710%	1.011%	3.287%
	Time to maturity						
13	Weighted average years to maturity	nr	8.377	14.086	16.172	12.446	11.837

Borrowings (excluding preference shares) (1E.1)

1 As per the guidance, borrowings are shown at nominal values plus indexation to 31 March 2024. Accrued interest and fair value adjustments are excluded, and so the numbers shown are different to Anglian Water's statutory accounts which are prepared on an IFRS basis. A reconciliation of gross and net debt calculated on a regulatory and statutory accounts basis is shown below. The mix of debt has moved from prior year as discussed in the commentary to Table 4H.

	Total £m
Borrowings (per regulatory definition)[1]	**8262.363**
Fair value IFRS adjustments[2]	(100.200)
Deduct accreted indexation on swaps[3]	(353.762)
Adjust issue costs[4]	(26.939)
Non-current and Current Debt as per Table 1C	7880.462
Debt interest accrual[5]	100.849
IFRS debt (per statutory accounts)	**7981.311**

2 1 Includes £24.1 million of leases, in addition to £9.6 million defined under the CTA.

2 This represents the IFRS fair value accounting adjustment to applicable debt and derivatives due to spot foreign exchange and fair value hedge adjustments

3 Strip out accreted indexation of index-linked derivatives included in the regulatory definition but classified as derivatives under IFRS.

4 Directly attributable debt issue costs added to reflect IFRS treatment but excluded from the regulatory definition.

5 Under the RAGs, debt is shown excluding accrued interest. Under IFRS, debt is shown including accrued interest.

3 Fixed rate debt increased by £457.1 million year on year mainly due to the following issuances:

- £300 million 5.875 per cent fixed rate 2031
- £560 million 6.0 per cent fixed rate 2039
- JPY 8.5 billion 1.917 per cent fixed rate 2034
- £375 million 5.75 per cent fixed rate 2043.

4 This was partially offset by the repayment of £200 million 6.875 per cent fixed rate 2023, $170 million 3.84 per cent fixed rate 2023, £93 million 3.537 per cent fixed rate 2023 and also from entering into interest rate swaps to partially change new fixed rate debt to synthetic floating rate debt.

5 Floating rate debt increased by £416.5 million due to the above mentioned interest rate swaps where we swapped a proportion of new debt from fixed to floating rate.

6 RPI Index linked debt increased by £120.2 million as a result of £306.4 million of accretion in the year, which was partially offset by £83.5 million contractual amortisation paydowns on EIB debt and £102.7 million repayment of accretion on inflation swaps. There has been no new RPI linked debt in the year.

7 CPI Index linked debt increased by £139.9 million due to £100 million new CPI debt and £53.4 million of accretion in the year, which was partially offset by £13.5 million repayment of accretion on inflation swaps.

Cash and short term deposits (1E.4 - 1E.5)

8 Cash and short-term deposits are split as per RAG 4.11. This differs from the statutory accounting treatment in that all money market deposits are shown as short-term deposits here, whereas in the statutory accounts these are split based on their original term to maturity with those with an initial term of three months or less classified as cash and cash equivalents.

Adjusted gearing (1E.8)

9 The adjusted gearing shown is Anglian Water's 'Senior RAR' ratio as at 31 March 2024, representing net debt divided by year-end RCV.

Interest (1E.9 - 1E.12)

10 Full year cash equivalent interest rate this year is higher in 2024 as compared to previous year. This is mainly due to interest on incremental fixed and floating rate new debt.

11 Full year equivalent nominal interest rate is at 5.747 per cent as at 31 March 2024 compared to 11.450 per cent as at 31 March 2023. This reduction is mainly due to lower RPI and CPI inflation this year partially offset by higher Sonia rates.

12 Full year equivalent cash interest rate is at 3.287 per cent as at 31 March 2024 compared to 2.937 per cent as at 31 March 2023. This increase is mainly due to higher Sonia rate and marginally higher real rates.

Weighted average years to maturity (1E.13)

13 The weighted average years to maturity is similar to the previous year. The minor difference between weighted average years to maturity between 4B and 1E is due to the inclusion of derivative accretion in 4B which is not included in 1E as per the RAG.

Table 1F - Financial Flows

	Line description			12 months ended 31 March 2024						Average 2020-25					
				Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity
		Units		%			£m			%			£m		
1	Regulatory equity	£m	3	3340.54	3,340.544	2,723.839	-	-	-	3,170.763	3,170.763	2,222.932	-	-	-
	Return on regulatory equity														
2	Return on regulatory equity	See Column Heading		4.42%	3.60%	4.42%	147.652	120.394	120.394	4.38%	3.07%	4.38%	138.903	97.381	-
	Financing														
3	Impact of movement from notional gearing	See Column Heading		-	0.82%	0.00%	-	27.258	13.237	-	1.31%	0.78%	-	41.52	17.33
4	Gearing benefits sharing	See Column Heading		-	0.00%	0.00%	-	0.000	0.000	-	0.00%	0.00%	-	0.00	0.00
5	Variance in corporation tax	See Column Heading		-	1.28%	1.56%	-	42.623	42.623	-	0.52%	0.74%	-	16.45	16.45
6	Group relief	See Column Heading		-	0.00%	0.00%	-	0.000	0.000	-	0.00%	0.00%	-	0.00	0.00
7	Cost of debt	See Column Heading		-	-0.26%	-0.36%	-	-8.658	-9.758	-	-1.17%	-1.98%	-	-36.98	-43.95
8	Hedging instruments	See Column Heading		-	0.00%	0.00%	-	0.000	0.000	-	-0.01%	-0.01%	-	-0.18	-0.25
9	Return on regulatory equity including Financing adjustments	See Column Heading		4.42%	5.44%	6.11%	147.652	181.617	166.496	4.38%	3.73%	3.91%	138.903	118.193	86.957
	Operational Performance														

10	Totex out / (under) performance	See Column Heading	-	-7.34%	-9.00%	-	-245.177	-245.177	-	-1.64%	-2.01%	-	-54.763	-54.763
11	ODI out / (under) performance	See Column Heading	-	-1.21%	-1.49%	-	-40.564	-40.564	-	-0.48%	-0.59%	-	-16.151	-16.151
12	C-Mex out / (under) performance	See Column Heading	-	-0.01%	-0.01%	-	-0.262	-0.262	-	0.01%	0.01%	-	0.216	0.216
13	D-Mex out / (under) performance	See Column Heading	-	0.00%	0.00%	-	0.000	0.000	-	0.02%	0.02%	-	0.564	0.564
14	Retail out / (under) performance	See Column Heading	-	-0.48%	-0.58%	-	-15.903	-15.903	-	-0.11%	-0.13%	-	-3.551	-3.551
15	Other exceptional items	See Column Heading	-	0.09%	0.11%	-	2.870	2.870	-	0.07%	0.09%	-	2.493	2.493
16	Operational performance total	See Column Heading	-	-8.95%	-10.98%	-	-299.036	-299.036	-	-2.13%	-2.61%	-	-71.192	-71.192
17	RoRE (return on regulatory equity)	See Column Heading	4.42%	-3.51%	-4.87%	147.652	-117.419	-132.541	4.38%	1.60%	1.30%	138.903	47.001	15.765
18	RCV growth	See Column Heading	4.59%	4.59%	4.59%	153.331	153.331	125.024	6.22%	6.22%	6.22%	197.380	197.380	138.378
19	Voluntary sharing arrangements	See Column Heading	-	-	-	-	-	-	-	-	-	-	-	-
20	Total shareholder return	See Column Heading	9.01%	1.08%	-0.28%	300.983	35.912	-7.516	10.61%	7.82%	7.52%	336.283	244.381	154.142
	Dividends													
21	Gross Dividend	See Column Heading	3.18%	1.74%	2.14%	106.229	58.287	58.287	3.18%	2.14%	3.05%	100.830	67.797	67.797
22	Interest Receivable on Intercompany loans	See Column Heading	-	0.00%	0.00%	-	-	-	-	0.00%	0.00%	0.000	0.000	0.000
23	Retained Value	See Column Heading	5.83%	-0.67%	-2.42%	194.754	-22.376	-65.804	7.43%	5.68%	4.47%	235.453	176.584	86.345

	Cash impact of 2015-20 performance adjustments													
24	Totex out / under performance	See Column Heading	-	-	-	-	-	-	-	-0.34%	-0.48%	-	-10.65	-10.65
25	ODI out / under performance	See Column Heading	-	-	-	-	-	-	-	0.60%	0.86%	-	19.15	19.15
26	Total out / under performance	See Column Heading	-	-	-	-	-	-	-	0.27%	0.38%	-	8.50	8.50

Footnotes

1. Numbers included in the above table are in 2017/18 prices in line with Ofwat Regulatory Accounting Guidelines (RAGs).
2. The numbers in the percentage column above are subject to rounding difference as a result of the way that the percentages are calculated in the Ofwat table templates. These differences do not have a material impact on the numbers presented.

Attracting investment and sharing the rewards

1 Our position as a monopoly provider of essential public services makes it essential that we maintain the trust and confidence of our customers while providing fair returns to our investors. Table '1F Financial Flows' compares the base return set in the Final Determination with actual performance in the period providing greater transparency to our stakeholders on how the company earns its returns and what is ultimately earned by investors.

2 The money we can raise from bills, along with how much we're allowed to invest in our service, is decided every five years through Ofwat's price-setting process and set out in our Final Determination. Any regulated wholesale revenue raised over and above the agreed amount is returned to customers through something called the revenue correction mechanism.

Any profits, and returns to investors, that we make in excess of those derived from allowed pricing come from:

- increasing efficiency – running the business more cost-effectively than was funded at the time of the Final Determination; and
- any rewards for meeting our performance commitment targets.

3 Efficiencies are either reinvested to improve service for customers or shared with customers, helping to keep bills down.

4 In addition, our focus on sustainable savings that can be maintained over the long term will help reduce our cost base in 2020–2025.

5 Profits are essential to attract private investment, which in turn enables us to spread the cost of improving and extending our assets over their operational life, similar to a mortgage. In this way, tomorrow's customers pay for tomorrow's use of the asset.

6 We have to provide investors with a reasonable return on their investment in exchange for the risks they carry. During the past financial year, a number of risks have crystallised including high energy prices. Investors have borne the cost of dealing with these risks, which have therefore not been passed on to customers.

7 We also believe that in years where we deliver excellent performance, this should be reflected in higher profits. In contrast, this year, dividends have been reduced down to reflect performance (see pages 351 - 354). However, profits can also rise or fall due to factors not directly related to performance – for instance, the level of interest rates or unexpected new legal obligations.

8 The table is split into two sections, current year and AMP average. Each has three columns, the first shows the notional return as a percentage of notional equity (40 per cent of RCV). The next two columns show actual returns against both notional and actual regulated equity. Where actual regulated equity is different from Ofwat's notional regulated equity the two columns will show different percentage returns for the same performance. In our case, as a consequence of having higher gearing and less regulated equity than the notional company, any underperformance will adversely impact returns disproportionately for shareholders. Conversely, any outperformance will deliver proportionately greater returns.

Key messages

- High inflation has impacted both operating and interest costs as well as growth in RCV.

- Challenging year for performance against regulatory commitments resulting in net ODI penalty.
- Botex overspend, where we have seen higher energy costs whilst simultaneously reinvesting efficiencies to seek to improve the performance of the business. We expect this trend to continue in year 5 of AMP7 and are also planning a further £100 million spend in our pollution recovery plan.
- Enhancement efficiency reinvested
- Cumulative dividend yield of 3.2 per cent

Return on regulatory equity

9 This reflects the return set by the CMA in their Redetermination.

Financing

10 This section combines the impacts of our financing arrangements with tax performance. The table calculates a gearing out performance reflecting the difference between our actual structure and the notional structure in which funding is set.

11 Our cost of debt underperformance in the period reflects the impact of high inflation which has increased our nominal cost of debt. In order to minimise the gearing impact of low inflationary growth in RCV we raise index-linked debt which provides a natural hedge. This does however mean that in times of high inflation our nominal cost of debt rises.

12 Ofwat sets allowed returns at a fixed real rate plus inflation.

13 The current tax credit reflects losses to be surrendered to other group companies. The tax losses arise mainly because capital allowances exceed the depreciation charged in the accounts, as well as some income not being taxable and the availability of tax relief on pension contributions paid in the year. The Final Determination provided a tax allowance in relation to retail profits with wholesale tax losses being carried forward to future years.

Operational

Totex

14 Our cumulative position AMP to date is an overall overspend of £371 million. This is primarily as a result of higher Botex spend, where we have seen higher energy costs whilst simultaneously reinvesting efficiencies to seek to improve the performance of the business. We expect this trend to continue in year 5 of AMP7 and are also planning a further £100 million spend in our pollution recovery plan.

15 With enhancement capex we have seen additional spend in delivering our strategic interconnecting pipeline project, where we have seen increased costs over and above CPIH due to increased costs of steel and other supply chain challenges, whilst we have continued to deliver our Water Industry National Environment Programmes (WINEP) environmental obligations through innovative projects. The efficiency in delivering these WINEP projects has been reinvested into Botex as described above.

16 The Board continues to actively chose to reinvest efficiencies in Water Recycling as we seek to recover from a number of weather-related events throughout the AMP.

17 These decisions highlight the flexibility of the business to manage both cost and delivery across the business as a whole which has been enabled by the broadly symmetrical cost sharing rates between price controls as well as between base and enhancement expenditure.

18 In addition to reinvesting efficiencies, our shareholders agreed £350 million of additional investment, including £100 million to accelerate our work on reducing spills and pollutions. This is over and above the level agreed by Ofwat.

ODI

1. Operations across the region were significantly impacted by the prolonged period of wet weather seen at the end of 2023 and start of 2024 that principally affected ODIs such as pollutions, which had the biggest contribution to the £37.6 million penalty incurred.

In 2023, we had 40 pollutions per 10,000km of sewer network.

- We are disappointed with our performance, but confident that lead measures are showing improvements – a result of the actions already being taken as part of our Pollutions Incident Reduction Plan.
- While no spill to the environment is acceptable, we achieved the lowest average number of storm spills per overflow in the industry, again as a result of work underway to improve performance.

Despite the challenges faced this year, we've seen strong performance across a number of areas of the business, most notably on customer experience, for which we are in reward.

- We finished 7th in the industry for Customer Measure of Experience (CMeX) (5th in the Water and Sewerage Companies table) and 4th in the industry for Developer Measure of Experience (DMeX) - our highest year-end position this AMP and outperformed in Retailer Measure of Experience (RMeX).

Total Returns and dividends

19 We have set dividends to reflect performance and build financial resilience. After the balance sheet date, the Board proposed to pay a final dividend of £88.6 million (2023: £79.9 million). The dividend has been adjusted with a £51.1 million deduction to reflect aspects of underperformance against ODIs, including the ODI penalty incurred. In doing so, we aim to demonstrate how we are operating responsibly and balancing the needs of all our stakeholders, while attracting the continued investment vital for this region and customers now and in years to come.

20 There is no proposal to pay a dividend to ultimate shareholders for performance in this period (2023: £nil).

21 See further details on pages 351 to 354.

Table 2A - Segmental Income Statement

	Line description	Units	Residential retail	Business retail	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
1	Revenue - price control	£m	80.008	-	66.733	513.691	702.195	116.973	-	1,479.600
2	Revenue - non price control	£m	-	-	-	18.844	5.950	-	-	24.794
3	Operating expenditure - excluding PU recharge impact	£m	-87.628	-	-54.214	-251.118	-327.312	-76.173	-	-796.445
4	PU opex recharge	£m	-5.023	-	-2.336	-12.189	26.383	-6.835	-	0.000
5	Operating expenditure - including PU recharge impact	£m	-92.651	-	-56.550	-263.307	-300.929	-83.008	-	-796.445
6	Depreciation - tangible fixed assets	£m	-0.122	-	-11.668	-127.023	-160.626	-21.060	-	-320.499
7	Amortisation - intangible fixed assets	£m	-9.014	-	-1.262	-3.747	-35.164	-2.911	-	-52.098
8	Other operating income	£m	0.004	-	0.605	0.602	0.349	-0.089	-	1.471
9	Operating profit	£m	-21.775	-	-2.142	139.060	211.775	9.905	-	336.823
	Surface water drainage rebates									
10	Surface water drainage rebates	£m	-	-	-	-	-	-	-	0.604

Revenue (2A.1 and 2A.2)

1 Total revenue for the year was £1,504.4 million, up £138.5 million (10.1 per cent) on last year, which is explained in table 1A commentary. The increase in non-price control revenue is primarily a result of higher bulk supply revenue reflecting increasing NAV penetration in supplying new development.

Operating expenditure, depreciation and amortisation (2A.3 / 2A.6 / 2A.7)

2 Operating costs of £1,169.1 million comprise operating expenditure of £796.4 million and depreciation (including amortisation) of £372.6 million (including the impact of the PU recharge). The increase in opex costs is explained in the commentary to table 1A.

PU opex recharge (2A.4)

3 This is the recharge of depreciation on assets used by multiple price controls, primarily shared information technology and vehicle assets. As the business unit of principal use, Wastewater Network+ incurs the gross depreciation charge for these shared assets in the first instance. The calculation of the recharges between price controls uses the same allocation used for information services operating expenses, under the assumption that this closely equates to the number of personnel in each area and therefore asset users.

Other operating income (2A.8)

4 Represents the profit on disposal of fixed assets which was £2.5 million lower than the previous year due to a decrease in the number of land and vehicle disposals in the current year.

Surface water drainage rebates (2A.10)

5 The value of surface water drainage rebates has increased this year but remains in line with historic rates.

Table 2B - Totex Analysis - Wholesale

	Line description	Units	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
	Base operating expenditure							
1	Power	£m	15.657	54.961	83.934	0.221	-	154.773
2	Income treated as negative expenditure	£m	-0.596	-1.102	-1.156	-10.951	-	-13.805
3	Service charges/ discharge consents	£m	9.146	0.483	8.252	0.119	-	18.000
4	Bulk Supply/Bulk discharge	£m	-	2.698	-	-	-	2.698
5	Renewals expensed in year (Infrastructure)	£m	-	35.394	20.939	0.002	-	56.334
6	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-
7	Other operating expenditure (including Location specific costs & obligations)	£m	18.044	107.235	152.801	88.450	-	366.530
8	Local authority and Cumulo rates	£m	2.583	34.080	25.164	3.871	-	65.698
9	Total base operating expenditure	£m	44.834	233.749	289.933	81.712	-	650.229
	Other operating expenditure							
10	Enhancement operating expenditure	£m	4.971	8.563	8.495	-	-	22.028
11	Developer services operating expenditure	£m	-	0.997	0.216	-	-	1.213
12	Total operating expenditure excluding third party services	£m	49.805	243.309	298.644	81.712	-	673.470
13	Third party services	£m	6.745	19.998	2.285	1.296	-	30.324
14	Total operating expenditure	£m	56.550	263.307	300.929	83.008	-	703.794
	Grants and contributions							
15	Grants and contributions - operating expenditure	£m	-	-	-	-	-	-
	Capital expenditure							
16	Base capital expenditure	£m	10.486	118.074	169.616	25.948	-	324.124
17	Enhancement capital expenditure	£m	29.472	387.350	135.668	2.966	-	555.456
18	Developer services capital expenditure	£m	0.064	54.140	20.414	-	-	74.618
19	Total gross capital expenditure excluding third party services	£m	40.022	559.564	325.698	28.914	-	954.198
20	Third party services	£m	0.299	2.914	0.145	0.010	-	3.368
21	Total gross capital expenditure	£m	40.321	562.478	325.843	28.924	-	957.566
	Grants and contributions							
22	Grants and contributions - capital expenditure	£m	0.093	28.464	21.053	-	-	49.610

23	Net totex	£m	96.778	797.321	605.719	111.932	-	1,611.750
	Cash expenditure							
24	Pension deficit recovery payments	£m	-	-	-	-	-	-
25	Other cash items	£m	-	-	-	-	-	-
26	Totex including cash items	£m	96.778	797.321	605.719	111.932	-	1,611.750

1 Total operating costs were £703.8 million, an increase of £69.4 million in real terms (10.9 per cent) on the previous report year.

2 The power cost in 2023/24 has faced a significant increase. This is due to our strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. This in effect fixes our wholesale cost at an average price of all the forward contracts for the relevant year. In volatile market conditions, forecasting the direction of future prices is a risk decision, and we spread the risk by building up our purchase of future energy use over time, and we do so to ensure financial certainty, not to outperform the market. A hedging strategy of this nature, by its design, avoids the highs, but also the lows in markets through the multiple purchase of small volumes of energy over time. This strategy protected us in 2022/23 from the significant spikes in the wholesale energy market but means in 2023/24 we have faced increased costs as contracts purchased during the peak are included in the cost base for the current year. Expectation is that energy costs will remain high in 2024/25 compared with a base year of 2019/20 regardless of open market movements , regardless of what the volatile market price actually does, because of the strategy of buying forward contracts.

Change in operating expenditure compared to 2022/23.

3 Water services operating expenditure increased by £24.6 million (7.7 per cent) and Wastewater costs increased by £44.8 million (11.7 per cent) in real terms against an underlying baseline.

Operating expenditure

Refer to the commentary within tables 4D and 4E for key variances in underlying costs (real terms) from 2022/23.

Capital expenditure

4 The figures presented relate to all our regulated capital investment in wholesale services. Wholesale regulated capital expenditure for 2023/24 was £957.6 million, split between water £602.8 million and wastewater £354.8 million.

5 Where possible, capital expenditure is allocated directly to the applicable price control. Where this is not possible because use of the asset is shared between two or more price controls (for example with capital expenditure on shared information systems, central offices and vehicles used by support services), expenditure is allocated to the price control of principal use and a subsequent recharge of the relevant depreciation charge is made between price controls.

6 Total capital expenditure includes £3.4 million of spend on assets used to fulfil third-party agreements.

Cash expenditure

7 There was nothing to report as cash expenditure within the year.

Table 2C - Operating Cost Analysis - Retail

	Line description	Units	Residential	Business	Total
	Operating expenditure				
1	Customer services	£m	16.873	-	16.873
2	Debt management	£m	9.411	-	9.411
3	Doubtful debts	£m	38.701	-	38.701
4	Meter reading	£m	3.504	-	3.504
5	Services to developers	£m	-	-	-
6	Other operating expenditure	£m	18.924	-	18.924
7	Local authority and Cumulo rates	£m	0.215	-	0.215
8	Total operating expenditure excluding third party services	£m	87.628	-	87.628
	Depreciation				
9	Depreciation (tangible fixed assets) on assets existing at 31 March 2015	£m	0.021	-	0.021
10	Depreciation (tangible fixed assets) on assets acquired after 1 April 2015	£m	0.101	-	0.101
11	Amortisation (intangible fixed assets) on assets existing at 31 March 2015	£m	-	-	-
12	Amortisation (intangible fixed assets) on assets acquired after 1 April 2015	£m	9.014	-	9.014
	Recharges				
13	Recharge from wholesale for legacy assets principally used by wholesale (assets existing at 31 March 2015)	£m	0.612	-	0.612
14	Income from wholesale for legacy assets principally used by retail (assets existing at 31 March 2015)	£m	0.007	-	0.007
15	Recharge from wholesale assets acquired after 1 April 2015 principally used by wholesale	£m	4.418	-	4.418
16	Income from wholesale assets acquired after 1 April 2015 principally used by retail	£m	-	-	-
17	Net recharges costs	£m	5.023	-	5.023
18	Total retail costs excluding third party and pension deficit repair costs	£m	101.787	-	101.787
19	Third party services operating expenditure	£m	-	-	-
20	Pension deficit repair costs	£m	-	-	-
21	Total retail costs including third party and pension deficit repair costs	£m	101.787	-	101.787
	Debt written off				

22	Debt written off	£m	84.980	-	84.980

	Capital expenditure				
23	Capital expenditure	£m	5.741	-	5.741

	Other operating expenditure includes the net retail expenditure for the following household retail activities which are part funded by wholesale		
24	Demand-side water efficiency - gross expenditure	£m	2.228
25	Demand-side water efficiency - expenditure funded by wholesale	£m	-
26	Demand-side water efficiency - net retail expenditure	£m	2.228

27	Customer-side leak repairs - gross expenditure	£m	0.547
28	Customer-side leak repairs - expenditure funded by wholesale	£m	-
29	Customer-side leak repairs - net retail expenditure	£m	0.547

	Comparison of actual and allowed expenditure		
30	Cumulative actual retail expenditure to reporting year end	£m	329.301
31	Cumulative allowed expenditure to reporting year end	£m	315.008
32	Total allowed expenditure 2020-25	£m	396.662

1 Total operating expenditure was £87.6 million, a headline increase of £11.3 million (14.8 per cent) on the previous report year and a real terms increase of £6.4 million (7.9 per cent) after adjusting prior year atypical transactions.

2 The cumulative AMP to date retail expenditure is £329.3 million, which is £14.3 million adverse to the cumulative allowed retail costs at PR19 (at 2017/18 prices). This is partly due to the increase in doubtful debts, which has been driven by increased revenues over the course of the AMP and also due to depreciation on Retail intangible assets, which generally have shorter useful live than traditional fixed assets and are amortised mainly throughout the course of the AMP.

3 Recharges of costs from other business units of £5.0 million reflects the recharge of IT systems and office buildings from the business unit of principle use of wastewater.

4 There were no pension deficit contributions in 2023/24 financial year (2023: £2.6 million).

5 Household retail capex was £5.7 million, primarily in support of enhanced customer data and data exploitation.

6 Demand side water efficiency costs were £0.9 million greater than the prior year and customer side leak repairs were lower at £0.5 million compared to £1.9 million in the prior year. The increase in these costs has been driven by the greater understanding of customer usage habits obtained through our smart metering programme.

7 The charge for amortisation increased compared to prior years largely as a result of assets relating to Smart Meter Data Infrastructure. The amortisation for these assets totalled £3.5 million in the year.

8 Total household customers increased by circa 33,929 in the year (1.1 per cent).

	Total £m
2022/23 total reported operating expenditure	76.4
Atypical doubtful debt provision releases and provision rate changes	6
2022/23 Underlying expenditure	**82.4**
2023/24 reported operating expenditure	87.6
Atypical doubtful debt provision releases and provision rate changes	1.2
2023/24 Underlying expenditure	**88.8**

Key variances (real terms)

9 The underlying increase in total operating expenditure of £6.2 million from the prior year is due to increases in bad debt of (£3.8 million), Billing and Debt management costs (£1.6 million) and general support and other costs (£0.8 million).

10 The increase in the bad debt charge has been driven through increases in revenue. Our cash collection performance remains strong, despite a slight reduction on the prior year due to the wider economic conditions.

Debt written off

11 Total household debt written off was £84.9 million, an increase of £76.6 million over the prior year write offs of £8.4 million. The significant increase in amounts written off relates to a large one-off exercise in the year to write off fully provided debt. The bad debt write-off would cancel arrears over six years old for all eligible customers. Outside of this one-off exercise, our write off policy has not changed in the year. Broadly the same value of debt meets our ageing threshold and other criteria for assessing that collection is deemed highly unlikely or is uneconomic to pursue (e.g. old, small account balances or insolvencies).

Table 2D - Historic Cost Analysis of Tangible Fixed Assets - Wholesale and Retail

	Line description	Units	Residential Retail	Business Retail	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
	Cost									
1	At 1 April 2023	£m	10.234	-	350.465	6,391.389	8,078.703	776.125	-	15,606.916
2	Disposals	£m	-0.637	-	-1.830	-46.948	-15.553	-4.154	-	-69.122
3	Additions	£m	0.273	-	45.617	574.375	293.491	17.081	-	930.837
4	Adjustments	£m	-	-	-	-	-	-	-	-
5	Assets adopted at nil cost	£m	-	-	-	-	48.224	-	-	48.224
6	At 31 March 2024	£m	9.870	-	394.252	6,918.816	8,404.865	789.052	-	16,516.855
	Depreciation									
7	At 1 April 2023	£m	-9.202	-	-120.151	-1,804.059	-2,874.946	-475.701	-	-5,284.059
8	Disposals	£m	0.636	-	1.807	46.903	15.490	3.931	-	68.767
9	Adjustments	£m	-	-	-	-	-	-	-	-
10	Charge for year	£m	-0.122	-	-11.668	-127.023	-160.626	-21.060	-	-320.499
11	At 31 March 2024	£m	-8.688	-	-130.012	-1,884.179	-3,020.082	-492.830	-	-5,535.791
12	Net book amount at 31 March 2024	£m	1.182	-	264.240	5,034.637	5,384.783	296.222	-	10,981.064
13	Net book amount at 1 April 2023	£m	1.032	-	230.314	4,587.330	5,203.757	300.424	-	10,322.857
	Depreciation charge for year									
14	Principal services	£m	-0.122	-	-11.668	-126.893	-160.626	-21.060	-	-320.369
15	Third party services	£m	-	-	-	-0.130	-	-	-	-0.130
16	Total	£m	-0.122	-	-11.668	-127.023	-160.626	-21.060	-	-320.499

1 The net book amount includes £1,129.8 million in respect of assets in the course of construction, £303.3 million of adopted assets and £2,823.2 million of revaluation of assets undertaken 1 April 2013. Adopted asset additions increased from £46.0 million in 2022/23 to £48.2 million in 2023/24 in line with an increase in number and size of development mains vestings during the year. The adopted values at each site vary depending on the pipe diameter, material, depth and length and are vested by Anglian Water according to when developers complete the mains.

2 Table 2D excludes intangible assets with a net book amount at 31 March 2024 of £235.7 million (31 March 2023: £237.1 million) as shown in table 2O. Additions have increased during 2023/24 in line with expectations of the rise in capital expenditure according to the business plan. Disposals mostly relate to removal of expired life, nil book value operational assets which have been replaced and has increased during 2023/24, especially in Water Networks plus, due to the nature of the asset replacement programmes.

3 Following the adoption of the lease treatment standard IFRS 16 with effect from 1 April 2019, new leases form a net increase to cost of £3.6 million during the year, which mostly relates to vehicles. The net book amount of tangible assets includes £32.5 million (31 March 2023: £35.3 million) of leased assets which would not have been included in tangible assets but for the adoption of IFRS 16.

4 The depreciation charge for third party services relates to fluoridation and some reverse osmosis assets. None of our other third party expenditure is incurred on assets used solely for the fulfilment of third party agreements. As such all other third party expenditure is included within the principal services asset values.

Assumptions used

5 In accordance with RAG 2.09, section 2.6, where assets are used by more than one business unit, these have been reported in full in the business unit of principal use. A recharge based on depreciation is made between business units to account for the use of these assets by the non-principal user(s).

6 Due to the above, the majority of management and general assets have been assigned to wastewater Network Plus as the largest business stream except where the asset has been identified as relating principally to another business stream or retail operations. It is also common for general use assets, such as vans, to be allocated to a specific business unit one year but then moved to another in a subsequent year. In these cases the relevant cost and depreciation movements are reflected within the current year additions and depreciation charge.

7 An offline assessment is made to determine whether assets are solely wholesale, solely retail or shared between the two.

Table 2E - Analysis of grants and contributions

	Line description	Units	Fully recognised in income statement	Capitalised and amortised (in income statement)	Fully netted off capex	Total
	Grants and contributions - water resources					
1	Diversions - s185	£m	-	-	-	-
2	Other contributions (price control)	£m	-	-	-	-
3	Price control grants and contributions	£m	-	-	-	-
4	Diversions - NRSWA	£m	-	-	-	-
5	Diversions - other non-price control	£m	0.093	-	-	0.093
6	Other contributions (non-price control)	£m	-	-	-	-
7	Total grants and contributions	£m	0.093	-	-	0.093
8	Value of adopted assets	£m	-	-	-	-
	Grants and contributions - water network+					
9	Connection charges	£m	13.035	-	-	13.035
10	Infrastructure charge receipts – new connections	£m	7.693	-	-	7.693
11	Requisitioned mains	£m	4.752	-	-	4.752
12	Diversions - s185	£m	3.309	-	-	3.309
13	Other contributions (price control)	£m	-	-	-	-
14	Price control grants and contributions before deduction of income offset	£m	28.789	-	-	28.789
15	Income offset	£m	10.153	-	-	10.153
16	Price control grants and contributions after deduction of income offset	£m	18.636	-	-	18.636
17	Diversions - NRSWA	£m	8.796	-	-	8.796
18	Diversions - other non-price control	£m	1.007	-	-	1.007
19	Other contributions (non-price control)	£m	0.025	-	-	0.025
20	Total grants and contributions	£m	28.464	-	-	28.464
21	Value of adopted assets	£m	-	-	-	-
	Grants and contributions - wastewater network+					
22	Receipts for on-site work	£m	2.852	-	-	2.852
23	Infrastructure charge receipts – new connections	£m	13.329	-	-	13.329

24	Diversions - s185	£m	0.285	-	-	0.285
25	Other contributions (price control)	£m	3.860	-	-	3.860
26	Price control grants and contributions before deduction of income offset	£m	20.326	-	-	20.326
27	Income offset	£m	-	-	-	-
28	Price control grants and contributions after deduction of income offset	£m	20.326	-	-	20.326
29	Diversions - NRSWA	£m	0.664	-	-	0.664
30	Diversions - other non-price control	£m	0.001	-	-	0.001
31	Other Contributions (non-price control)	£m	0.062	-	-	0.062
32	Total grants and contributions	£m	21.053	-	-	21.053

33	Value of adopted assets	£m	48.224	-	-	48.224

	Line description	Units	Water resources	Water network+	Wastewater network+	Total
	Movements in capitalised grants and contributions					
34	b/f	£m	-	-	-	-
35	Capitalised in year	£m	-	-	-	-
36	Amortisation (in income statement)	£m	-	-	-	-
37	c/f	£m	-	-	-	-

Grants and contributions - Water resources

1 There was negligible income during the year for Water Resources.

Grants and contributions - Water Network+

Connection charges (2E.9) - Connection charges

2 Connection charges remained reduced in 2023/24 compared to the prior year, which was expected as fewer properties were connected in the year compared to previously. The same was true for contributions for on-site work as significantly fewer lengths of main were commissioned in the year.

Diversions - NRSWA (2E.17)

3 This income represents contributions from all water diversion schemes applied for under NRSWA, and has increased compared to the prior year.

Grants and contributions - Wastewater

Receipts for on-site work (2E.22)

4 Contributions for on-site work reduced compared to the prior year, which was in line with expectations after fewer properties were connected in the year than previously.

Diversions - NRSWA (2E.29)

5 This income represents contributions from all sewer diversion schemes applied for under NRSWA.

Value of adopted assets (2E.33)

6 Income from adopted assets increased from £46.0 million in 2023/23 to £48.2 million in 2023/24 in line with an increase in number and size of development mains vestings during the year. The adopted values at each site vary depending on the pipe diameter, material, depth and length and are vested by us according to when developers complete the mains.

Table 2F - Household - Revenues by Customer Type

	Line description	Revenue	Number of customers	Average residential revenues
	Units	£m	000s	£
	Residential revenue			
1	Wholesale revenue	1,108.763	-	-
2	Retail revenue	80.008	-	-
3	Total residential revenue	1,188.771	-	-
	Retail revenue			
4	Revenue Recovered ("RR")	80.008	-	-
5	Revenue sacrifice	-	-	-
6	Actual revenue (net)	80.008	-	-
	Customer information			
7	Actual customers ("AC")	-	2,977.333	-
8	Reforecast customers	-	2,985.862	-
	Adjustment			
9	Allowed revenue ("R")	93.484	-	-
10	Net adjustment	13.476	-	-
	Other residential information			
11	Average household retail revenue per customer	-	-	26.872

Retail revenue (2F.2)

1 The household retail revenue control is a total revenue control, which can be recovered across the household customer base. The allowed revenue is calculated by multiplying the cost to serve by the number of unique customers.

Net adjustment (2F.10)

2 The £13.5 million under recovery of revenue against the control (14.4 per cent of retail revenue) reflects increased take-up on our social tariff LITE and our approach to true-up against allowed retail revenue across the AMP. Cross-subsidies raised in charges for 2023/24 were kept deliberately low compared to forecast discounts in order to offset the over-recovery of retail revenue in prior years. As a result, we expect to balance retail revenue recovery back to a neutral position over the remainder of AMP7.

Table 2G - Non-household Water - Revenues by Customer Type

1 We are not required to report against this table.

Table 2H - Non-household Wastewater - Revenues by Customer Type

1 We are not required to report against this table.

Table 2I - Revenue Analysis and Wholesale Control Reconciliation

	Line description	Units	Household	Non-household	Total	Water resources	Water network+	Total
	Wholesale charge - water							
1	Unmeasured	£m	81.171	0.390	81.561	9.628	71.933	81.561
2	Measured	£m	348.725	134.019	482.744	53.867	428.877	482.744
3	Third party revenue	£m	-	16.119	16.119	3.238	12.881	16.119
4	Total wholesale water revenue	£m	429.896	150.528	580.424	66.733	513.691	580.424

	Line description	Units	Household	Non-household	Total	Wastewater network+	Bioresources	Total
	Wholesale charge - wastewater							
5	Unmeasured - foul charges	£m	115.188	0.783	115.971	94.499	21.472	115.971
6	Unmeasured - surface water charges	£m	16.478	0.102	16.580	16.469	0.111	16.580
7	Unmeasured - highway drainage charges	£m	8.752	0.049	8.801	8.709	0.092	8.801
8	Measured - foul charges	£m	405.289	132.304	537.593	443.421	94.172	537.593
9	Measured - surface water charges	£m	85.231	4.830	90.061	89.461	0.600	90.061
10	Measured - highway drainage charges	£m	47.929	2.233	50.162	49.636	0.526	50.162
11	Third party revenue	£m	-	-	-	-	-	-
12	Total wholesale wastewater revenue	£m	678.867	140.301	819.168	702.195	116.973	819.168

	Wholesale charge - Additional Control				
13	Unmeasured	£m	-	-	-
14	Measured	£m	-	-	-
15	Total wholesale additional control revenue	£m	-	-	-

16	Wholesale Total	£m	1108.763	290.829	1399.592

	Retail revenue				
17	Unmeasured	£m	18.173	-	18.173
18	Measured	£m	61.835	-	61.835
19	Retail third party revenue	£m	-	-	-
20	Total retail revenue	£m	80.008	-	80.008

	Third party revenue - non-price control				
21	Bulk supplies - water	£m	-	-	16.042
22	Bulk supplies - wastewater	£m	-	-	5.408

23	Other third-party revenue - non price control	£m	-	-	2.785

	Principal services - non-price control				
24	Other appointed revenue	£m	-	-	0.559

25	Total appointed revenue	£m	-	-	1504.394

1 This table shows an analysis of revenue across our price control units split by revenue streams. The table reflects the disaggregated charges set to separately recover foul, surface and highway revenue. Calculation of water resources, water network plus, wastewater network plus and bioresources actual revenue is in line with the proportion of each fixed and volumetric charge as set when calculating charges in order to recover the allowed revenue requirement.

2 Measured and unmeasured wholesale charges reflect the revenue recovered for the provision of principal services. Third party revenue within the price control reflects the supply of non-potable water.

3 Bulk supplies relate to provision of treated water supplies and wastewater services to neighbouring water companies. Other third party revenue – non-price control includes "Excluded Charges" and all other sources of revenue received from third parties for which costs are not covered by the wholesale price control e.g. rechargeable works where the appointee is a monopoly supplier.

Table 2J - Infrastructure Network Reinforcement

	Line description	Units	Network reinforcement capex	On site / site specific capex (memo only)
	Wholesale water network+ (treated water distribution)			
1	Distribution and trunk mains	£m	2.956	-
2	Pumping and storage facilities	£m	1.103	-
3	Other	£m	-	-
4	Total	£m	4.059	-
	Wholesale wastewater network+ (sewage collection)			
5	Foul and combined systems	£m	4.258	0.089
6	Surface water only systems	£m	-	-
7	Pumping and storage facilities	£m	2.408	0.858
8	Other	£m	-	-
9	Total	£m	6.666	0.947

General assumptions (2J.1-2J.9)

1 Table 2J shows the total capital expenditure on network reinforcement split between below ground infrastructure assets and pumping and storage facilities, classified in accordance with the definition set out in Ofwat's "Charging rules for new connections services" document.

2 The onsite/site specific capex shows the network enhancement expenditure incurred in relation site specific new developments.

3 The source of the data is the project systems module of our SAP business management system. Each project holds as part of its master data Business Investment Category (BIC) codes which map the expenditure to infrastructure and non-infrastructure, and between Water and Wastewater Network+.

4 All network reinforcement spend is in relation to below ground infrastructure, pumping stations and storage facilities. No expenditure is therefore shown within "other".

Wastewater below ground infrastructure (2J.5-2J.6)

5 For Wastewater Network+ infrastructure spend, an assessment of all projects has been performed to determine whether the costs are in relation to foul and combined or surface water only systems. No surface water only schemes were included in the current year.

Table 2K - Infrastructure Charges Reconciliation

	Line description	Units	Water	Wastewater	Total
	Impact of infrastructure charge discounts				
1	Infrastructure charges	£m	7.693	13.329	21.022
2	Discounts applied to infrastructure charges	£m	-	-	-
3	Gross Infrastructure charges	£m	7.693	13.329	21.022
	Comparison of revenue and costs				
4	Variance brought forward	£m	-14.356	12.567	-1.789
5	Revenue	£m	7.693	13.329	21.022
6	Costs	£m	-4.059	-6.666	-10.725
7	Variance carried forward	£m	-10.722	19.230	8.508

1 Over a rolling five-year period we expect to fully recover the costs of network infrastructure reinforcement from developers. However, owing to the long-term nature of these infrastructure schemes, the uneven profile of network reinforcement spend over an AMP period and the fact that we aim to recover these infrastructure costs over a five year period, we would not expect the costs and revenues to match in any given financial year.

2 Our charges scheme has been designed to maintain the pre-existing balance between developers and customers and the timing of expenditure is such that it is often out of sync with the collection of revenues. We believe the differences in expenditure and revenue seen in 2023/24 is temporary in nature and would expect this gap to narrow over time, particularly as the new development activity reaches maturity and all network reinforcement expenditure incurred to enable this growth is recovered from developers. We expect year-end balances to fluctuate over time as varying levels of expenditure and receipts occur.

3 No discounts have been applied to infrastructure charges in 2023/24.

Table 2L - Analysis of land sales for the 12 months ended 31 March 2024

	Line description	Units	Water resources	Water Network+	Wastewater Network+	Additional control	Total
1	Land sales – proceeds from disposals of protected land	£m	0.598	0.512	0.022	-	1.132

1 Proceeds are net of costs. Most proceeds are from the sale of minor pieces of land. There were no items requiring prior approval from Ofwat (2023: Sundon Reservoir (£3.0 million)).

Table 2M - Revenue reconciliation for the 12 months ended 31 March 2024 - Wholesale

	Line description	Units	Water resources	Water network+	Wastewater network+	Bioresources	Additional Control	Total
	Revenue recognised							
1	Wholesale revenue governed by price control	£m	66.733	513.691	702.195	116.973	-	1,399.592
2	Grants & contributions (price control)	£m	-	18.636	20.326	-	-	38.962
3	Total revenue governed by wholesale price control	£m	66.733	532.327	722.521	116.973	-	1,438.554
	Calculation of the revenue cap							
4	Allowed wholesale revenue before adjustments (or modified by CMA)	£m	65.952	529.519	700.893	115.609	-	1,411.973
5	Allowed grants & contributions before adjustments (or modified by CMA)	£m	-	25.489	32.738	-	-	58.227
6	Revenue adjustment	£m	0.006	-10.728	3.490	0.203	-	-7.029
7	Other adjustments	£m	-	-0.168	-7.189	-	-	-7.357
8	Revenue cap	£m	65.958	544.112	729.932	115.812	-	1,455.814
	Calculation of the revenue imbalance							
9	Revenue cap	£m	65.958	544.112	729.932	115.812	-	1,455.814
10	Revenue Recovered	£m	66.733	532.327	722.521	116.973	-	1,438.554
11	Revenue imbalance	£m	-0.775	11.785	7.411	-1.161	-	17.260

Grants & contributions (2M.2)

1 We do not receive any grants. All current year contributions revenue governed by the wholesale price control were received in relation to new development activities.

Amount assumed in wholesale determination (2M.4)

2 Wholesale revenue controls are set for water resources, water network plus, wastewater network plus and bioresources separately. The values set out in the Final Determination in 2017/18 prices are repriced based on CPIH and adjusted according to the PR19 Reconciliation Rule Book, to give the allowed revenue for 2023/24. The resulting calculation of revenue was then used for setting charges for the 2023/24 Charges Scheme.

3 Allowed wholesale water resources revenue and network plus revenue were calculated as £66.0 million and £544.1 million, respectively.

4 Allowed wholesale wastewater network plus revenue and bioresources revenue were calculated as £729.9 million and £115.8 million, respectively.

Difference (2M.11)

5 The level of wholesale water resources revenue recovered from customers is £0.8 million above allowed revenues and water network plus revenue is £11.8 million below allowed revenue. These represent 1.2 per cent and 2.2 per cent of allowed revenues respectively. This reflects an under-recovery of main charges revenue across both controls (£4.1 million) along with an under-recovery of grants and contributions (£6.9 million). The under-recovery on main charges is primarily due to lower new household connections and a net over-accrual in respect of 2022/23 revenue partly offset by higher household and non-household demand and more non-household customers moving from void to occupied.

6 The level of wholesale wastewater network plus revenue is £7.4 million below allowed revenue and bioresources revenue is £1.2 million above allowed revenue. These each represent 1.0 per cent of allowed revenues. For wastewater network plus this reflects an under-recovery of grants and contributions (£12.4 million) partly offset by an over-recovery of main charges for network plus and bioresources (£6.2 million). The over recovery on main charges is primarily due to higher non-household demand and more non-household customers moving from void to occupied partly offset by a net over-accrual in respect of 2022/23 revenue.

Table 2N - Residential retail - social tariffs

	Line description	Revenue	Number of customers	Average amount per customer
	Units	£m	000s	£
	Section A - social tariffs			
	Number of residential customers on social tariffs			
1	Residential water only social tariffs customers	-	7.595	-
2	Residential wastewater only social tariffs customers	-	23.251	-
3	Residential dual service social tariffs customers	-	110.724	-
	Number of residential customers not on social tariffs			
4	Residential water only no social tariffs customers	-	237.200	-
5	Residential wastewater only no social tariffs customers	-	841.794	-
6	Residential dual service no social tariffs customers	-	1756.769	-
	Social tariff discount			
7	Average discount per water only social tariffs customer	-	-	129.427
8	Average discount per wastewater only social tariffs customer	-	-	130.790
9	Average discount per dual service social tariffs customer	-	-	239.388
	Social tariff cross-subsidy - residential customers			
10	Total customer funded cross-subsidies for water only social tariffs customers	0.983	-	-
11	Total customer funded cross-subsidies for wastewater only social tariffs customers	3.041	-	-
12	Total customer funded cross-subsidies for dual service social tariffs customers	26.506	-	-
13	Average customer funded cross-subsidy per water only social tariffs customer	-	-	4.016
14	Average customer funded cross-subsidy per wastewater only social tariffs customer	-	-	3.515
15	Average customer funded cross-subsidy per dual service social tariffs customer	-	-	14.193
	Social tariff cross-subsidy - company			
16	Total revenue forgone by company to fund cross-subsidies for water only social tariffs customers	-	-	-
17	Total revenue forgone by company to fund cross-subsidies for wastewater only social tariffs customers	-	-	-
18	Total revenue forgone by company to fund cross-subsidies for dual service social tariffs customers	-	-	-
19	Average revenue forgone by company to fund cross-subsidy per water only social tariffs customer	-	-	-
20	Average revenue forgone by company to fund cross-subsidy per wastewater only social tariffs customer	-	-	-

21	Average revenue forgone by company to fund cross-subsidy per dual service social tariffs customer	-	-	-

	Social tariff support - willingness to pay			
22	Level of support for social tariff customers reflected in business plan	-	-	4.000
23	Maximum contribution to social tariffs supported by customer engagement	-	-	12.000

Section B - WaterSure tariffs

	WaterSure tariffs			
24	Number of unique customers on WaterSure	-	38.358	-
25	Total reduction in bills for WaterSure customers	12.215	-	-
26	Average reduction in bills for WaterSure customers	-	-	318.447

Section C - other direct bill reduction schemes for household customers struggling to pay

	Other bill reduction schemes				
	Line description	Target households	Number of unique households helped by scheme	Total amount bills reduced by through scheme	Funding source
	Units	Text	000s	£m	Text
27a	Aquacare Plus	Customers in receipt of specific income-related state benefits	71.869	8.464	Customer cross subsidy
27b	Name of scheme 2	-	-	-	-
27c	Name of scheme 3	-	-	-	-
27d	Name of scheme 4	-	-	-	-
27e	Name of scheme 5	-	-	-	-
27f	Name of scheme 6	-	-	-	-
27g	Name of scheme 7	-	-	-	-
27h	Name of scheme 8	-	-	-	-
27i	Name of scheme 9	-	-	-	-
27j	Name of scheme 10	-	-	-	-

	Section D - debt metrics			
	Total number of household customers served - active and final accounts			
	Line description	Water only	Wastewater only	Dual service
	Units	000s	000s	000s
28	Number of household customers served – active accounts	244.323	866.909	1,876.963
29	Number of household customers served – final accounts	27.727	52.408	159.828

Household customers in arrears

	Line description	Number of households	Total amount of debt
	Units	000s	£m
30	Households in arrears – active accounts with debt repayment arrangements	77.656	71.218
31	Households in arrears – final accounts with debt repayment arrangements	16.860	11.379
32	Households in arrears – active accounts without debt repayment arrangements	171.961	145.690
33	Households in arrears – final accounts without debt repayment arrangements	208.741	101.573
34	Households not having made any payment for the year – active accounts	76.652	98.914
35	Households not having made any payment for the year – final accounts	177.487	80.330

Temporary payment suspension

	Line description	Number of households	Total amount deferred
	Units	000s	£m
36	Households with temporarily suspended payments – payment break arrangements	3.989	1.407
37	Households with temporarily suspended payments – breathing space arrangements	3.133	3.197

Household debt collection through third party agents where water company remains creditor

	Line description	Number of households	Total value of debt
	Units	000s	£m
38	Debt collected by external agents – active accounts	51.644	24.870
39	Debt collected by external agents – final accounts	9.724	4.482
40	Number of Priority Services Register customers with debt passed on to external debt collection agents – active and final accounts	7.980	5.091

Household debt sold to external agencies

	Line description	Number of accounts	Total value of debt	Total sale value of debt
	Units	000s	£m	£m
41	Debt sold to an external agency / third party debt purchaser – active accounts	-	-	-
42	Debt sold to an external agency / third party debt purchaser – final accounts	-	-	-
43	Number of Priority Services Register customers with debt sold to an external agency / third party debt purchaser – active and final accounts	-	-	-

Unpaid household bills referred to courts

	Line description	Number of accounts	Total amount involved
	Units	000s	£m
44	Number of county court claims	7.022	5.099
45	Number of county court judgements	9.091	7.828
46	Number of county court judgement enforcements	7.261	7.454
47	Number of high court claims	N/A	N/A
48	Number of high court judgements	N/A	N/A
49	Number of high court judgement enforcements	3.690	5.066

Section E - Payments to household customers made in accordance with the Guaranteed Standards Scheme (GSS)

GSS payments to household customers

	Line description	Number of payments	Total amount	Number of unique households
	Units	000s	£m	000s
50	Total value of payments made to household customers under GSS	-	0.627	-
51	Total number of payments made to household customers under GSS	11.622	-	-
52	Total number of unique household customers receiving GSS payments	-	-	10.643

Number and value of GSS and other payments to household customers by type in the reporting period

	Line description	Total number of unique payments made to household customers under GSS	Total value of payments made in relation to column 1	Total number of unique payments to household customers that could be classed as compensation or goodwill (including all payments made under GSS, customer charter payments and/or other payments e.g. goodwill payments)	Column 4 Total value of payments made in relation to column 3
	Units	000s	£m	000s	£m
53	Keeping of appointments	1.803	0.036	1.803	0.036
54	Incidences of low water pressure	-	-	-	-
55	Incorrect notice of planned interruptions to supply	0.004	-	0.004	-
56	Supply not restored	8.027	0.250	11.387	0.351
57	Written account queries and requests to change payment arrangements not actioned on time	0.023	-	0.023	-
58	Written complaints not responded to within 10 working days	0.001	-	0.001	-
59	Properties sewer flooded internally	0.524	0.144	1.012	0.193
60	Properties sewer flooded externally	1.240	0.195	1.240	0.195
61a	Payment type_1 (extension of columns 3 & 4)	-	-	6.376	0.096

6b	Payment type_2 (extension of columns 3 & 4)	-	-	0.217	0.059
6c	Payment type_3 (extension of columns 3 & 4)	-	-	-	-
6d	Payment type_4 (extension of columns 3 & 4)	-	-	-	-
6e	Payment type_5 (extension of columns 3 & 4)	-	-	-	-
6f	Payment type_6 (extension of columns 3 & 4)	-	-	-	-
6g	Payment type_7 (extension of columns 3 & 4)	-	-	-	-
6h	Payment type_8 (extension of columns 3 & 4)	-	-	-	-
6i	Payment type_9 (extension of columns 3 & 4)	-	-	-	-
6j	Payment type_10 (extension of columns 3 & 4)	-	-	-	-
62	Late payment penalties (paid in relation to lines 2N.53 to 2N.60)	6.472	0.147	-	-

1 Numbers reported in section A relate to the LITE tariffs. The average number of customers on the tariffs in the year was 141,570. Take-up increased by circa 38,000 during the year, reflecting eligibility criteria aligned with "water poverty". The discount per customer reflects the weighted average of the discount bands available. There has been limited take up for single service customers with majority of customers being dual service. When setting charges the cross-subsidies raised in 2023/24 were kept deliberately low compared to forecast discounts in order to offset the over-recovery of retail revenue in prior years. The discount is fully funded by the cross subsidy set following consultation in 2020.

Section B - Watersure tariffs

2 Numbers reported in section B relate to the Watersure tariffs.

Section C - other direct bill reduction schemes for household customers struggling to pay

3 Numbers reported in section C relate to the Aquacare Plus tariffs.

4 Across all three concessionary tariffs (LITE, Watersure and Aquacare Plus) take-up increased from 232,000 on 1 April 2023 to 272,000 on 31 March 2024, reflecting our capacity to support all households in the region who may be in water poverty (8 per cent of customers according to external data).

5 To ensure our customers who need extra help receive an accessible and inclusive service, we provide a wide range of practical support through our Priority Service register. The Priority Service register can provide support to our customers should their water stop, and we need to carry out a repair, including proactive contact and bottled water delivered to their door.

6 Moreover, we provide a range of extra services to help our customers manage their accounts. From bills in alternative formats to translation services, assistance with reading meters, password schemes, and our knock-and-wait service, to ensure our customers have the support they need, when they need it.

7 In the 2023/24 period, we significantly increased the number of customers benefiting from our Priority Service register, reaching 12.8 per cent of households. This nearly doubled the industry target of seven per cent by 2025. This achievement is a direct result of our proactive approach, including our customer-facing teams responding effectively to disclosures of vulnerability, promotional campaigns to raise awareness, and ongoing partnership initiatives.

8 We've actively engaged with over 150 partners across our region, generating over nine million emails and more than 11.4 million social media impressions to promote the support available. As a result, 63.5 per cent of our customers are now aware of the assistance we provide through our Priority Services.

9 Furthermore, we expanded our vulnerability training program in 2023/24. Our specialist support team received annual refresher training to ensure they have the confidence and ability to handle sensitive disclosures effectively. We also introduced monthly bitesize learning sessions in collaboration with our partners, drawing insights from the lived experiences of our customers.

10 We are proud to maintain our certification of the International Standard for Inclusive Service Provision ISO 22458. This high-level certification is only awarded to businesses that meet stringent criteria for protecting customers in vulnerable situations. We were among the first nine companies globally to achieve this prestigious certification.

11 In addition, we have expanded our network of partners. This year, we launched an innovative partnership with SHOUT, providing our customers with free 24/7 access to mental health support. This initiative highlights our ongoing commitment to providing comprehensive support to all our customers, particularly those in vulnerable situations.

Section E - Payments to household customers made in accordance with the Guaranteed Standards Scheme (GSS)

12 GSS payments to household customers (2N.51 and 2N.52)

13 We made 11,622 payments under GSS to household customers in the report year. These were made to 10,643 unique household customers.

14 Of the 979 payments that were made to customers more than once, the majority - 767 payments - were attributed to sewer flooding. We saw prolonged periods of wet weather throughout the region during the second half of the report year, which led to an increased number of sewers overloading and GSS payments becoming due.

Number and value of GSS and other payments to household customers by type in the reporting period

15 Supply not restored (2N.56)

16 We made a total of 11,387 unique payments to household customers that could be classed as compensation or goodwill.

17 Of these, 8,027 GSS payments were made in the report year, of which 80 were made for events in the report year 2022/23. Of the remaining 7,947 payments, 5,731 were due to two large incidents: 2,779 for a supply interruption in Stamford and 2,952 for a supply interruption in Ipswich.

18 In addition to the payments made under GSS for the Ipswich incident, we made the decision to make goodwill payments of £30 to a further 3,360 customers who did not qualify for GSS because their water was restored in under 12 hours but were affected by the incident.

19 We have enhanced the payments we make for supply interruptions from the minimum standards and pay our customers £30 for every 12 hours they are without water.

20 Properties sewer flooded (2N.59 and 2N.60)

21 As part of our commitment to CCW's "End sewer flooding misery" campaign, we have made some changes to our reporting and payments for sewer flooding in the report year. This has been reflected in the table.

22 We made a total of 1,012 unique payments to household customers for internal sewer flooding that could be classed as compensation or goodwill in the report year.

23 Of these, 524 GSS payments were made for internal sewer flooding in the report year. 36 payments were made for events in 2022/23 and 488 were paid for events in 2023/24.

24 The remaining 488 payments made were goodwill payments of £100 paid to customers under our commitment to the "End sewer flooding misery" campaign. This is to cover any additional costs incurred and/or for the inconvenience experienced.

25 We made 1,240 external flooding payments in the report year. 10 payments were made for events in 2022/23 and 1,230 were paid for events in 2023/24.

26 Another commitment we made under the "End sewer misery campaign" was to make automatic payments for external sewer flooding due to overloaded sewers. Prior to the report year customers had to claim this payment.

27 The prolonged rainfall throughout the second part of the report year accounts for the high number of payments we made.

28 Goodwill payments (2N.61a and 2N.61b)

29 We made 6,376 goodwill payments of £15 where we issued precautionary boil notices in the report year. 2,519 payments were made for an incident in Toft and a further 3,857 payments were made for an incident in Gazeley.

30 Under the "End sewer misery" campaign we committed to waive the yearly sewerage charges for customers who experience repeat flooding incidents. This is in addition to the required GSS payment and any subsequent GSS payments if they experience flooding again. In the report year we made payments (equivalent to annual sewerage charges) to 217 customers for this reason.

31 Late payment penalties (2N.62)

32 We made 6,472 late penalty payments in the report year. Of these, 5,731 were paid for the two large incidents at Stamford and Ipswich.

33 Both incidents occurred around the same time, and modelling the data to determine which customers required a payment took longer than we would normally expect due to the sheer number of properties involved in both areas. Because of this all affected customers received a penalty payment.

34 A further 439 late penalty payments were made for sewer flooding. This was due to the knock-on effect of the prolonged rain and an increased number of events to verify and process for payment.

Table 2O - Historic cost analysis of intangible fixed assets

	Line description	Units	Residential Retail	Business Retail	Water Resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
	Cost									
1	At 1 April 2023	£m	90.938	-	27.513	66.317	444.451	17.539	-	646.758
2	Disposals	£m	-1.674	-	-11.059	-25.238	-70.190	-1.743	-	-109.904
3	Additions	£m	17.558	-	9.869	1.096	22.201	-0.007	-	50.717
4	Adjustments	£m	-	-	-	-	-	-	-	-
5	Assets adopted at nil cost	£m	-	-	-	-	-	-	-	-
6	At 31 March 2024	£m	106.822	-	26.323	42.175	396.462	15.789	-	587.571
	Amortisation									
7	At 1 April 2023	£m	-72.763	-	-15.531	-31.560	-281.419	-8.412	-	-409.685
8	Disposals	£m	1.674	-	11.059	25.238	70.190	1.743	-	109.904
9	Adjustments	£m	-	-	-	-	-	-	-	-
10	Charge for year	£m	-9.014	-	-1.262	-3.747	-35.164	-2.911	-	-52.098
11	At 31 March 2024	£m	-80.103	-	-5.734	-10.069	-246.393	-9.580	-	-351.879
12	Net book amount at 31 March 2024	£m	26.719	-	20.589	32.106	150.069	6.209	-	235.692
13	Net book amount at 1 April 2023	£m	18.175	-	11.982	34.757	163.032	9.127	-	237.073
	Amortisation for year									
14	Principal services	£m	-9.014	-	-1.262	-3.747	-35.164	-2.911	-	-52.098
15	Third party services	£m	-	-	-	-	-	-	-	-
16	Total	£m	-9.014	-	-1.262	-3.747	-35.164	-2.911	-	-52.098

1 Intangible assets included in the above comprise capitalised software assets and models, studies and plans used to inform future investments.

2 Additions have increased during 2023/24 in line with expectations of the rise in capital expenditure according to the business plan, including £24.4 million spent in 2023/24 on the continuing SAP system replacement scheme. Disposals relate to removal of expired life, nil book value software assets which have been replaced and has increased during 2023/24.

3 The net book amount includes £130.0 million in respect of assets in the course of construction.

4 Table 2O excludes tangible assets with a net book amount at 31 March 2024 of £10,981.1 million (31 March 2023 of £10,322.9 million) as shown in table 2D.

Table 3A - Outcome performance - Water performance commitments

	Line description	Unique reference	Unit	Performance level - actual	PCL met?	Outperformance or underperformance payment	Forecast of total 2020-25 outperformance or underperformance payment
						£m	£m
	Common PCs - Water (Financial)						
1	Water quality compliance (CRI)	PR19ANH_3	number	3.57	No	-1.631	-6
2	Water supply interruptions	PR19ANH_4	hh:mm:ss	12:09:ss AM	No	-4.297	-22.3
3	Leakage	PR19ANH_5	%	6.23	No	-8.4	-25.3
4	Per capita consumption	PR19ANH_6	%	2.2	No	-	-9.8
5	Mains repairs	PR19ANH_11	number	123.0	Yes	-	-4.5
6	Unplanned outage	PR19ANH_12	%	2.05	Yes	-	-
	Bespoke PCs - Water and Retail (Financial)						
7	Percentage of population supplied by a single supply system	PR19ANH_15	%	22.30	No	-	0.60
8	Properties at risk of persistent low pressure	PR19ANH_16	nr	65.00	Yes	0.54	2.00
9	Abstraction Incentive Mechanism	PR19ANH_20	nr	29.00	No	0	-0.2
10	Managing void properties	PR19ANH_23	%	0.08	Yes	-0.059	5.7
11	Water quality contacts	PR19ANH_34	nr	0.86	No	-0.027	-0.6
12	Smart metering delivery	PR19ANH_38	nr	806,307	No	-	-
13	Internal interconnection delivery	PR19ANH_39	nr	8.9	Yes	-	-
14	Cyber Security	PR19ANH_41	%	-	-	-	-
15	Underperformance incentive for Elsham treatment works and transfer scheme	PR19ANH_47	text	n/a	-	-	-
16	Outperformance payment for Elsham treatment works and transfer scheme	PR19ANH_48	text	n/a	-	-	-

27	Financial water performance commitments achieved		%	38
28	Overall performance commitments achieved (excluding C-MEX and D-MEX)		%	49

1 The information we have published in table 3A is consistent with the updates we have reported to our Independent Challenge Group (previously our Customer Engagement Forum) during the course of the year. We have set out our plans for improving performance in our Service Commitment Plan which we published on our website in November 2023.

Water Quality Compliance (CRI) (3A.1)

2 The DWI developed the Compliance Risk Index (CRI), alongside the Event Risk Index (ERI), for measuring compliance based risk.

3 The CRI for an individual exceedance is calculated based on the parameter severity and impact. The score includes factors of the cause of the failure, the way the company investigates the failure and any risk mitigation put in place by the company. It is the Inspectorate's assessment of that which produces the assessment score. Each assessment score is divided by the applicable company reference value for the type of exceedance, which produces the individual CRI score. The company CRI score is the sum of the CRI scores for each individual exceedance.

4 In 2023 the CRI score for Anglian Water confirmed in the DWI Chief Inspectors' Report is 3.57. This is higher than our 2022 score of 2.83 and misses the performance commitment level of 1.5 but compares favourably to other water companies. CRI was impacted in 2023 by an increased number of water quality exceedances from our storage points and water treatment works in comparison to 2022. We have instigated a programme that is aimed to reduce the number of water quality exceedances from our assets. We comply with very strict regulations on drinking water quality, which means we report each of these failures to the DWI. We also carry out full investigations on each failing sample. Overall, 99.95% of our samples passed this year.

Water Supply Interruptions (3A.2)

5 The total time lost due to interruptions >= 3 hours per property is 09 minutes 08 seconds (14 minutes 35 seconds 2022-23). This includes 52,642 properties of a total of over 2 million experiencing an interruption. The breakdown of the score is 08 minutes 59 seconds (14 minutes 06 seconds in 2022-23) unplanned and 09 seconds (29 seconds in 2022-23) planned.

6 During the course of the reporting year, the calculated verified score was significantly affected by two events:

- Stamford – Asset Failure – 1 min 08 secs approx
- Ipswich – Asset Failure – 2 mins 11 secs approx

7 Whilst maintaining 24/7 shift coverage within our front line Tactical Operations teams, the ability to hybrid work by exception and for those non-shift personnel has been established, with the additional provision of mobile IT devices. This approach has ensured we have maintained the level of resource oversight to meet the needs of the business. This is constantly under review and is adequately flexible to ensure in times of increased sickness, we have available resource to satisfy the required staffing levels.

Common methodology compliance

8 For this performance commitment there is an immaterial risk of worse performance being reported due to non-compliance with the common methodology. This affects sections 2c (start time - block of flats) and 3c (stop time - block of flats).

9 We do not treat blocks on a floor by floor basis in every circumstance as the modelling of tower blocks by floor is not cost beneficial where the information is not readily available.

10 We verify every event on a case by case basis, not however on a floor by floor basis. Variations in building height, internal plumbing, storage tanks, boosters and header tanks present too great a challenge (currently) to be able to accurately report, though we would

assess on a case by case basis were data on these factors available. Instead, a consistent approach is made to all event verification where all supply points are considered at ground level.

11 We treat any outage where sufficient information is not available as the whole building being off water. This results in a slightly higher reported number if relevant.

12 We are compliant with all the other requirements of the common methodology.

Leakage (3A.3)

13 The three-year rolling average leakage continues to reduce this year despite adverse weather impacting our network during year 3. Three-year average leakage is assessed at 182.0 Ml/d against a performance commitment level of 170.0 Ml/d. This is a 6.2 per cent reduction against the 2019/20 baseline, below our target reduction of 12.4 per cent. As a result the ODI mechanism generates £8.4 million of penalty for the year.

Restatement of 2022-23

14 On 29th April 2024 we wrote to Ofwat to explain that we uncovered an issue with NHH demand data reported in 2022/23 due to two bugs in a new system that was introduced in 2022/23. We explained in the letter that the two issues are:

15 1. The inclusion of data from Supply Point Identification (SPID) numbers that we only supply water recycling services to (e.g. customers of Cambridge Water), and

16 2. Incorrect handling of meters that have dials that have rolled over.

17 Correcting for these reduces our pre-MLE assessment of NHH demand for year 3 by 15.8 Ml/d. This increases the water balance imbalance and results in a change to all post-MLE water balance components including leakage, PCC and NHH demand. The table below details the key changes and impacts of this revision:

		2022-23	
Measure	Units	Previously reported	Restated
Leakage	Ml/d	182.6	190.5
PCC	l/person/d	131.3	132.3
Non-Household demand	Ml/d	324.2	305.8
Distribution Input	Ml/d	1178.1	1173.4
Imbalance	Ml/d	30.5	46.2
Imbalance %	%	2.6%	3.9%

3yr. leakage PCL	Ml/d	177.6	177.6
3yr. leakage	Ml/d	179.5	182.1
Penalty - leakage	£m	1.3	3.2

18 The restatement only impacts the 2022/23 water balance. For avoidance of doubt no other years are impacted, including the baseline years.

19 The reporting for 2023/24 has used the corrected automation model and is compliant with the Ofwat leakage reporting guidance.

20 Our third party assurance provider has reviewed the issues with the data/model and the restated numbers.

21 The restatement results to an increase in penalty due under the Leakage ODI in 2022/23 from £1.3 million to £3.2 million in 2017/18 prices. As there is no in-period determination for 2023/24 we propose that this incentive is applied alongside other ODI payments for 2023/24 and 2024/25 as part of the PR24 determinations. In the in-period adjustments model we have increased the additional penalty by 3.21 per cent to reflect the cost of capital that would apply for the one year delay to the penalty being applied, thus compensating customers for the delay in returning this funding. This has resulted in an additional £56,784 being included within our proposed adjustment for a total value of £1.877. Our proposal is to include this in the In-Period Adjustments Model as a bespoke adjustment.

22 Performance in 2023-24 represents a 8.4 Ml/d decrease from the restated 2022/23 figure.

23 The restatement also has an impact on PCC ODI but as Ofwat has deferred decision on ODI penalty/reward payments for PCC due to the impact of the Covid-19 pandemic until reporting for 2024/25 is complete, its currently unclear how the change will impact those payments and can be taken into account as part of that determination.

Leakage strategy

24 Our AMP7 leakage strategy continues themes that we started in AMP6 such as network optimisation and intensive leakage investigation. It is supplemented with new SMART strategies such as permanent noise logging, smart metering and widespread pressure transient monitoring. Outputs from our strategies are as follows:

Proactive Leakage Resource:

- In 2023/24 we had 223 roles in our operational proactive leakage team. (175 are field based detection roles)
- These are supported by 42 analytical roles
- In 2023/24, 15,007 leaks were located through proactive detection activities (up from 14,134 in previous year).

Leakage capital delivery programmes:

Leakage sensors

- Our fixed network hydrophone monitoring system now incorporates 305 District Meter Areas (DMAs). This is a slight reduction on the figures for 2022/23. This is due to removing loggers from DMAs not suitable for monitoring
- The total number of leaks found from sensor detection in 2023/24 was 3,289. This brings the total number of leaks detected using this technology to 19,758 since 2020
- In 2023/24 the sensor programme delivered 1.89Ml/d of leakage benefit.

Intensive investigation

- Our intensive investigation process continues to develop well and incorporates a comprehensive programme of operational step testing using flexible metering assets, camera insertion detection and mains condition assessment, and the use of drones with thermographic imagery. We established a contract with a company to image and analyse 5,000km of targeted large rural distribution and trunk mains each year. This technology uses Synthetic Aperture Radar with patented analysis to detect underground leaks. To complement the satellite detection, we now use leakage detection dogs as part of our investigation process

- In 2023/24 the intensive investigation process delivered 5.15Ml/d of leakage benefit. (up from 3.54 Ml/d in previous year).

Customer supply pipe leakage / internal private leakage

- We continue to work closely with our customers to ensure they are supported through the process of repairing private leaks in a timely manner. Excluding the smart metering programme, the customer leakage policy support team resolved 7,680 cases in 2023/24 with only 930 Waste of Water notices requiring to be issued

- Smart metering - our smart metering programme has installed 800,245 meters by the end of 2023/24, up 259,908 from 2022/23.The issues with supply chain resolved during the year with 106,000 installs being completed in Quarter 4. In 2023/24 we identified 109,469 domestic properties with continuous flow greater than 1l/hr. We saw 12,964 of these leaks fixed with no contact from us to the customers. Of the 109,469 leaks where we informed and worked with our customers to ensure that the issue was resolved by them we saw 72,224. This has resulted in 29.93 Ml/d of leakage or plumbing loss being resolved

- Network/pump optimisation schemes – There have been 53 (162) optimisation schemes implemented this year, delivering 2.31 Ml/d (4.56 Ml/d) leakage reduction. This was split between:

    - 18 (43) schemes to optimise existing pressure management assets, delivering 0.53 Ml/d (0.4 Ml/d) leakage reduction
    - 26 (112) schemes introducing first time pressure management, delivering 1.09 Ml/d (2.64 Ml/d) leakage reduction
    - seven (five) pump optimisation schemes delivering 0.12 Ml/d (0.44 Ml/d) leakage reduction
    - two (two) system optimisation schemes delivering 0.57 (1.08) Ml/d leakage reduction.

Common methodology compliance

25 We summarise our compliance with the common methodology in the commentary for 6D.24/25.

Per capita consumption, PCC (3A.4)

26 Three-year average PCC has reduced in 2023/24 to 132.0 l/person/day compared to a target of 128.9 l/person/day. This is a 2.2 per cent decrease from baseline against a target reduction of 4.5 per cent. The measure remains above target due to the impact of Covid-19 on domestic demand in 2021/22. The reduction seen in 2023/24 is due to water efficiency, smart metering and demand management savings as detailed below as well as a reduction caused by the summer of 2023 being wetter and colder than the summer of 2022.

27 In April 2024 we wrote to Ofwat to explain that we uncovered an issue with the figure reported in 2022-2023 for NHH demand due to a bug in a new system. This issue has now been corrected resulting in a restatement of the year 3 PCC figure to 132.3 l/p/d in year and 138.4 Ml/d three year average. This is an increase of 0.9 l/p/d in year.

28 Per Household Consumption values at PHC - 298 l/prop/d (as opposed to 309 l/prop/d 2022/23) and Per Capita Consumption values at PCC - 127.6 l/h/d (as opposed to 132.3 l/h/d for 2022/23) have been reduced to the lowest values we have ever recorded (a 4.7l/h/d decrease).

29 Demand management is a key part of our strategy to balance supply and demand, and up until recently (noting that recent changes in demand have been impacted by the Covid19 pandemic) we put the same amount of water into our network as we did in 1989, even though the number of properties supplied has increased by over 30 per cent. This has been achieved through household metering, leakage reduction and encouraging and

supporting our customers to become more water efficient. As part of our WRMP19 demand management strategy, our ambition has been to go even further with our smart metering rollout and digital communications strategy, along with our enhanced leakage programme.

Actuals - AMP7 method	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
In year PCC (Ml/d)	134.8	136.9	133.3	146.9	136.0	132.3	127.7
3 year PCC (Ml/d)			135.0	139.0	138.7	138.4	132.0
% reduction				-3.0%	-2.7%	-2.5%	2.2%

30 These numbers exclude the impact of the Covid adjustment which Ofwat proposed in the PR24 draft determination on 11/07/2024.

31 Following the 2022 prolonged dry weather conditions and the lack of recharge over 2022/23 winter (particularly in Norfolk), we were preparing to implement further drought interventions. However, moving into summer 2023, the conditions changed with above average rainfall occurring every month for the rest of Year 4. As the water resources began to recharge the company's focus switched from drought interventions back to delivering BAU water efficiency messaging to support our PCC performance.

32 Water saving activities

33 We are focused on utilising smart meters to connect customers with their data and reduce the gap between perception and actual consumption to ensure that usage feels relevant and quantifiable for customers. Monthly comparison emails for smart metered customers use social norms to compare household usage between similar properties and occupancies, to nudge behaviour changes. One of the biggest benefits of smart meters is the identification of continuous flow, indicating customer side leakage – either customer supply pipe or plumbing loss.

34 Of all active smart meters installed by the end of Year 4, 58 per cent of customers are registered with MyAccount and engaging with their usage. We send monthly reminders to view their usage to compare from the previous month and using 'social norms' to show their usage is either efficient, average or above average to similar homes based on occupancy provided. We consistently have around a 73 per cent open rate, which is one of our most engaged emails and subsequently we have seen that on average these households will save 3 litres/day compared to those who don't receive the monthly communications. At the end of Year 4 we also migrated our website users

35 Customers having frequent engagement with their usage helps them to take direct control of their usage by changing their behaviour. Customer side leakage (plumbing loss or cspl) accounts for most of the reduction in overall PCC/Household consumption and has been quantified separately in the smart metering benefits.

36 Our metering visits have been maximised to include a water efficiency home audit that is tailored to customer needs and provide water saving devices relevant to their consumption patterns. During year 4 we exceeded our target by completing 22,284 water efficiency visits with assumed savings of 409,843 litres in total from devices and audits. This means we achieved an average of 8.39 litres per visit from device savings, plus the additional 10 litres for behaviour change, average visits are 18.39 litres. Note that the total assumed savings using Ofwat assumptions based on the devices fitted is approximately 20 litres/prop/day. Our original target was to complete 12,500, which we exceeded in order to make up for the discrepancy in Year 3. The success was in part re-engaging our teams by delivering further training for existing and new starters, along with improving our IT systems and reporting of visits.

Customer engagement activities

37 We have continued customer engagement activities have occurred across the region in hotspot areas (including Colchester, Ely, Norfolk and Northampton) for Year 4. These activities are designed to educate customers on why it is important we protect our water resources and pipes from blockages, through helping customers reconnect with where their water comes from and the water cycle. The partnership strategy is to educate, build intent and create behaviour change at a hyper-local level with our customers.

- 3,268 face to face Anglian Water events throughout May-September 2023 in hotspot areas
- 6,342 water saving devices provided to customers during events, assumed savings 27,517 litres
- 3,761 face to face engagement via paid partnerships in hotspot areas, with 2,661 water saving devices. Total assumed savings 11,546 litres
- Online engagement resulted in an increase in customers coming to our website to order water saving kits – in total 14,880 orders. Throughout the year customers could order a garden kit (8,821 orders), bathroom kit (3,023 orders) and a kitchen kit (3,036 orders). Total assumed savings 28,002 litres.

38 Following the long period of dry weather in 2022/23 our focus into Year 4 was to maintain the drumbeat of water efficiency messaging, and to drive behaviour change via new partnerships. Our objective is to educate, build intent and drive behaviour change connected to water use behaviours in the home.

39 The Wild Tribe partnership targeted families in Northampton, delivering the following key messages:

- Understanding household water consumption
- The water cycle and how Anglian Water fit in
- Climate change and the effect it is having on the water industry, water resources & flooding
- What customers can do to help.

40 The Wild Tribe project was aimed at families to help them understand more about water, the water cycle and how they interact with it – with a view to educate customers on the need to save water in the home. The Wild Tribe team designed & delivered exceptional educational activity boxes along with downloadable activities, all aimed at pre-school children – so that families went on the journey of discovery together. The Wild Tribe team embedded the project into the heart of the community, working in a very targeted, hyperlocal way, building on their relationships with key stakeholders within the community to share the key messaging and activity boxes into the community. The boxes were collected from key locations within the community and made available free to all, to overcome barriers of access to the materials for vulnerable customers. 96 per cent of people took at least one new water saving action because of the project, and we received positive feedback from families.

41 *'Walter the Robot is now on my windowsill watching me wash up! I definitely think twice now when using water around the home, my kids do too'*

42 *'My daughters hanging is in the window and she likes reading out the water facts to me'*

43 *'I actually knew nothing about my water usage until we did some of these boxes. My children have learnt lots and we are doing changes around the house already'*

44 Key output in Northampton between April to October 2023:

- 339 face to face interactions
- 6,414 total engagements
- 1,032 downloads

- 2 case studies
- 6 Newsletters
- 353 total opens
- 59.1 per cent click through.

45 Social media across all channels:

- 72 Posts
- 57,007 reach
- 33,114 engagements.

Staycation

46 Our region is a popular staycation location for customers from all over the country to visit, putting pressure on our water resources over the summer months. In June and July 2023 we partnered with Visit East of England to reach out to businesses that host and support our customers in hotspot locations and share messaging through the businesses trusted voice. We designed a digital Newsletter targeting businesses in Norfolk before holiday visitor numbers increased. The newsletter focussed on highlighting the reasons 'why' we need to protect water, in particular in Norfolk and provided links for businesses to request their packs directly. This was sent directly from the VEoE marketing database, reaching over 50,000 local businesses. There was a 33.5 per cent open rate and following this 34 business engaged (ranging from campsites, family outdoor activity centres and holiday homes). Businesses could request a water saving pack including posters, activity sheets for customers, shower timers, leaky loo tablets & kitchen kits to roll out on their site. The assumed combined water savings is 2,290 litres.

Continuing water efficiency drumbeat messaging

47 We have expanded our digital channels to engage with a wider audience and capture further engagement through new social platforms so we can reach more customers in a cost effective way. We launched our Tik Tok channel to focus on sharing 'Life Hacks' campaign for water saving at home and in the garden. This is aimed at reaching a younger audience to raise the importance of water savings. This series of content has now evolved into our Small Swap series of building water saving content to maintain a drumbeat across our main social channels. From September we launched video and display ads across all four platforms for the 'Small Swaps' campaign. Small swaps build on our organic posts that focus on ways customers can save water, time, money and energy by making a small simple swap at home. Advertisements were grouped into home, garden, and family with appropriate audience targeting to match. During hotter, drier periods we also dialled up certain messages such as linking to seasonal demand targeting audiences with gardening advice, similar to Life Hacks. These paid ads performed the following:

- Total impressions: 4,363,923
- Total clicks: 6,900
- Video views: 4,206,651.

48 Insight has shown that garden activity is one of the biggest areas of consumption during the summer months, so we developed new gardening content and worked with local influencers building on Garden Responsibly campaign from 2022.

49 In Year 4, to increase our digital reach and engagement we have expanded our social channels to include the following:

- Facebook
- Tik Tok
- Instagram
- Google Display
- Outbrain.

50 Plus, we continue to work with social influencers based within our region to educate on water saving and directed behaviour change. We have utilised social influencers as trusted voices to deliver behaviour change advice; specifically, Garden and Mum influencers. Collectively their social posts engaged with over 550,000 customers across our region.

Reviewing our strategic approach for AMP 7

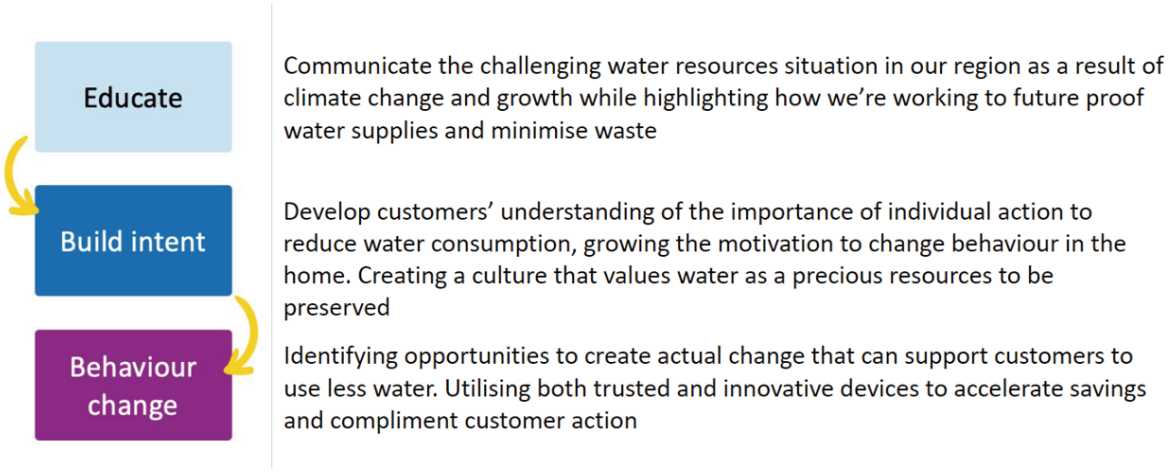
51 We remain fully committed to reducing consumption through a range of initiatives, especially through the introduction of our smart meter programme and digital communication strategy. As part of delivering our AMP 7 programme we have reviewed our strategic approach for driving and sustaining customer behaviour change.

52 Delivering behaviour change is not new for us and we have had seen success to date by reducing PCC. However, it is getting increasingly important we broaden this work and implement and evolve the science and expertise to help us act at pace. We are evolving our strategy to plan and deliver new opportunities to meet our business needs.

53 We are building out the strategy for demand management and beyond. We have demonstrated huge opportunities with our smart metering programme and customer engagement, informing a step change to transform how we use insights and data to inform our decision-making and planning. We continuously capture everyday customer insight to inform our communications and approach for engagement. In addition, we are aligning strategic and operational insight from across the business. The collective insight has helped inform our behaviour change strategy, and we're building on our water efficiency approach for reducing per capita consumption.

54 Figure X : Our Strategic approach in Year 4, setting out the framework for shaping our water efficiency plans

Our Stategic approach in Year 4, setting out the framework for shaping our water efficiency plans



55 We have a laid the foundations by educating our customers about the challenges we face in our region and communities, however we know Education and raising awareness isn't enough. We are evolving our behaviour change strategy and adapting as a team to deliver intent, drive action and create sustainable behaviour change to deliver on our purpose for social and environmental prosperity across the region.

56 Our framework for PCC shows that we intend to continue with operational and digital customer journeys through metering and completing water saving home visits. Additionally, we are gathering evidence to support our WRMP24 and PR24 options that are robust and will deliver savings for AMP7 and beyond.

57 We continued to work in collaboration with Waterwise and Water UK by supporting and engaging with Water Saving Week.

58 We continue to recognise that driving down consumption in our region is critical to long term resilience. Demand management is a key element of our WRMP to manage the supply demand balance in the region, and our goal during AMP7 remains to offset the demand requirements needed to serve new housing and population growth through effective demand-side measures including leakage control and PCC reduction.

Common methodology compliance

59 We summarise our compliance with the common methodology in the commentary for 6B.35.

60 It is important to note that our Annual Integrated Report (AIR) contained a provisional per capita consumption figure. The figure in this report is the final PCC figure.

Water mains repairs per 1,000 kilometres of pipe (3A.5)

61 For 2023/24 we are pleased to report that the number of mains repairs per 1,000km of pipe has improved on the performance in 2022/23 (175.2 repairs per 1,000km of pipe). We attribute this to a combination of clement weather conditions throughout the year, underpinned by continued focus on expanding the use of existing pressure control across the network in conjunction with targeted mains renewal in high burst frequency areas.

Common methodology compliance

62 We comply fully with the consistent reporting requirements defined by Ofwat during AMP7.

Proportion of unplanned outage of the total company production capacity (3A.6)

63 The 2023/24 unplanned outage figure of 2.05 per cent is an increase on the 2022/23 reported figure of 1.91 per cent. Overall there were 38 unplanned events, 12 excludable events and 22 planned outage events lasting over 24 hours.

64 This year's three largest unplanned events are shown in the table below.

Site Name	Plant Group	Event Type	Event Description	Unplanned % Impact
Clapham WTW	Site Offline	Unplanned	Chemical tank leaks and other site remedial works	0.718%
Sandhouse WTW	Site Offline	Unplanned	Offline until lime plant is updated/refurbed	0.266%
Pitsford WTW	Site Offline	Unplanned	Final water pump fault causing site flooding	0.259%

65 The highest scoring event was connected to Clapham WTW which has seen a number of unplanned outages over the last three years. A number of capital investments have been completed in that time which will reduce the number of future outages.

Common methodology compliance

66 We comply fully with the consistent reporting requirements defined by Ofwat during AMP7. We have responded to recent feedback from Ofwat (in its Final determinations of in-period outcome delivery incentives for 2022/23) surrounding PWPC calculations, by amending our processes. More information on the changes can be found in the commentary to line 6A.28.

Percentage of population supplied by a single supply system (3A.7)

67 The performance commitment for supply demand resilience is 'Percentage of Population supplied by a single supply system'. This is a bespoke reward-only Performance Commitment.

68 This programme is a continuation of our AMP6 programme.

69 The approach taken to develop the baseline was to identify the resulting deficit if each water treatment works was taken out of service for a prolonged period. The deficit was converted to an equivalent number of household customers and the percentage of population at risk calculated. The risk to the whole region was summed to form the baseline figure. This was calculated in 2014/15 to provide an AMP6 baseline of 46.9 per cent. At the end of AMP6 we reported an outturn position of 24.1 per cent which thus forms the baseline for AMP7.

70 As previously reported, the programme for reducing the percentage of population at risk during AMP7 is closely aligned to our Water Resources Management Plan (WRMP) Strategic Interconnector Programme.

71 We have not completed any further capital schemes in 2023/24. The outturn for the year 2023/24 is 22.3 per cent which is 2.3 per cent above the performance commitment level of 20 per cent. The remaining AMP7 schemes continue to progress as part of our strategic interconnectors programme, due to the reprofiling of that programme for safe and efficient delivery we now expect to complete our AMP7 percentage population on a single supply programme in AMP8. Further detail on the progress of the strategic interconnector programme can be found in out APR commentary for table 6F. As this is a reward only Performance Commitment there is no penalty associated with this outturn.

Year	Schemes Delivered	% population reduction from delivered schemes	% population supplied by a single supply system
AMP7 Baseline			24.1
2020-21	Pitsford WTW	1.34	22.7
	Ludham WTW	0.09	
2021-22	No schemes delivered		22.7
2022-23	High Oak WTW	0.36	22.3
2023-24	No schemes delivered		22.3

Properties at risk of persistent low pressure (3A.8)

72 The number of reportable properties on the register at year end is 65 for 2023/24, compared with 53 at the end of 2022/23. This is below the 2023/24 Performance Commitment Level of 150 properties.

73 During 2023/24, 19 properties were added and seven properties were removed following a capital intervention, operational intervention or better information. Removals from the register in 2023/24 is due to the beneficial completion of capital work completed. There were 19 additions to register in 2023/24 compared to no additions in 2022/23.

74 At the end of 2023/24, of the 65 properties below the reference level, nine are included under Section 65 of the 1991 Water Industry Act where a property receives pressure below the reference level due to its height in relation to the storage point.

Capital schemes

75 Three capital schemes to improve pressures realised benefits in 2023/24:

1. Alconbury – five properties were removed from the register following installation of a booster and mains laying
2. Pytchley – one property was removed following installation of a new boundary valve allowing rezoning of a property onto a higher pressure zone
3. Hannington – one property confirmed as not being reportable following an installation of a booster in a prior year.

76 There have been no changes to the confidence grades and no restatement of previous years' data.

Abstraction Incentive Mechanism (3A.9)

77 The Anglian Water supply area is geographically large with a significant rural population and experiences some of the lowest rainfall in the country. The Environment Agency has assessed the region as being in 'serious water stress' and, in addition, it is recognised as being particularly vulnerable to the impacts of climate change. The region is characterised by a high number of water–dependent designated conservation sites and we work closely with the Environment Agency to manage the associated environmental pressures. Our region's slow moving rivers are often ecologically diverse and, whilst they can support abstraction, this may cause environmental stress during periods of low rainfall.

78 There are a number of source closures and licence reductions planned for AMP7, along with river habitat improvements, as part of the Water Industry National Environment Programme (WINEP) of works to reduce our impact on the environment.

79 The Abstraction Incentive Mechanism (AIM) was introduced by Ofwat as a reputational measure in AMP6 and this moved to a financial measure in AMP7. AIM is designed to encourage water companies to reduce their environmental impact by abstracting less water from environmentally sensitive sites at times of low river flow. This can be difficult to achieve, even where there are alternative sources, as low river flows often coincide with periods of peak customer demand. AIM allows us to target reductions in environmentally sensitive abstraction areas ahead of WINEP solutions programmed for later in the AMP.

80 During AMP6 we reported AIM performance for Marham (River Nar), and this continues into AMP7 alongside three groundwater sources also identified as potentially impacting on nearby rivers. These include Marham (Groundwater), Wilsthorpe, and Wixoe sources.

81 For 2023/24 we have had limited opportunities for active AIM management at our Wilsthorpe source due to operational issues. Owing to the high rainfall during 2023 none of the other AIM sources experienced low river flows.

Marham (River Nar) (3A.9a)

82 There were no low flow days below the AIM threshold associated with the Marham surface water source during 2023/24.

Marham (Groundwater) (3A.9b)

83 There were no low flow days below the AIM threshold associated with the Marham groundwater source during 2023/24.

Wilsthorpe (3A.9c)

84 Despite the unusually high rainfall in 2023, we had 122 days with flow below the AIM threshold. Usually we would support Wilsthorpe from our sources at Bourne and Etton in order to reduce abstraction at times of low flow. However this year Bourne water treatment works (WTW) was out of service for an extended period due to repairs required on the contact tank. The spare flow from Etton WTW was required to make up for the shortfall at Bourne. Bourne WTW was returned to service on 17/11/2023, by which time the low flow season was over. As a result abstraction was greater than the 2007-13 baseline.

Wixoe (3A.9d)

85 The Wixoe source is located near the Bumpstead Brook. During 2023/24 there were no flows below the AIM threshold.

AIM Site	no Low flow days	AIM vol	Reward/Penalty
Marham GW	0	0	£ -
Marham SW	0	0	£ -

Wilsthorpe	122	28.81	£59,063.61
Wixoe	0	0	0
Total		28.81	£59,063.61

Managing void properties (3A.10)

86 Performance is calculated as a percentage of false voids against the total number of domestic properties. The figures are extrapolated using the outcome of an audit of a random sample of properties using both field visits and third party data.

87 We committed to audit 1,000 records. To ensure our sample number contained at least 1,000 records we extracted 1,286 records. After removing genuine exclusions this returned 1,198 audit results.

88 The performance commitment level was 0.30 per cent and we out-turned at 0.08 per cent. Accordingly, we have earned an outperformance payment of £1.0 million. The performance shows the continuing impact of the considerable work we put in to identify false voids. Activities in the year have included reviewing all properties void for more than four months, reviewing water consumption data, sharing data with water only companies, using bureau and land registry data, making doorstep visits and sending letters and emails.

Water quality contacts (3A.11)

89 The number of water quality contacts received in 2023 was 0.86 per 1,000 population served. This is the best performance we've ever achieved for customer contacts.

90 The approach to improving the customer contact rate continues through our 'keep water healthy' initiative that has been running for a number of years. The campaign aims to provide customers with information and advice to help prevent water quality problems arising from their own internal plumbing. We continue to keep focus on engagement with our customers through multi platforms, especially social media, which we have further extended to deliver key messaging on water quality through a number of targeted sprint activities. We have reviewed our water quality website pages, making it easier for customers to self-serve on water quality issues.

Smart metering delivery (3A.12)

91 We are now gearing up for completing the volume set out at PR19 for the end of AMP as well as the new programme of 60,000 smart meters that were funded under the AID (Accelerated Infrastructure Delivery) programme in 2024/25. The disruption to supply of AMI meters has now stabilised and we have managed to hit the re-forecasted numbers. The AID-funded meters are not included in the table below, which relates only to the performance commitment approved at PR19. The in-year PCLs are indicative only and delivery of the performance commitments is judged at end of the price control period.

Year	No. smart meters fitted	PCL
2020/21	164400	219279
2021/22	144453	219280
2022/23	231484	219279
2023/24	259908	219280
Total	800245	877118

92 We note table 4R lines 17 and 18 and the count of DS AMI meters fitted in table 3A will always be different as 4R counts all 'connections' made in the reporting year, and 3A counts all the meters fitted in reporting period. For new connections, the connection can

be made up to 180 days in advance of the meter being fitted. 4R is a count of new properties and therefore will exclude replacement supplies, field supplies etc; 3A will include any AMI meters fitted for these supplies.

Internal interconnection delivery (3A.13)

93 There is no target for this performance commitment in this reporting year. The performance commitment is defined in terms of capacity benefits delivered by the end of the AMP.

94 In 2023/24 we have continued our work on the reminder of the Interconnector Programme across our region. We have completed the pipeline for the East Ruston scheme (which is listed as Norwich & the Broads to Happisburgh WRZ (5 Mld) in the Performance Commitment Appendix) which went into supply in October 2023. The capacity delivered this year based on calculated and modelled design gravity flow is 2.4 Mld, the associated pumping station for this scheme will go into supply in 2024/25 increasing the capacity delivered from 2.4 Mld to 5 Mld.

95 This brings the total AMP7 benefit reported to 8.9 Mld as detailed in the table below.

Year	Schemes Delivered	Capacity Ml/d	Total Capacity Delivered
2020-21	Norwich & the Broads WRZ to Happisburgh WRZ (Ludham)	1.5	1.5
2021-22	No schemes delivered		1.5
2022-23	Norwich & the Broads WRZ to Norfolk Rural North WRZ (NNR8)	5	6.5
2023-24	Norwich & the Broads WRZ to Happisburgh WRZ (East Ruston)	2.4	8.9

96 Work on the remainder of the Interconnector Programme across our region continues to progress and our strategic alliance partners are now on site carrying out enabling and construction activities. More detail can be found in the table commentary for 6F.

97 In February 2024 we wrote to Ofwat detail the additional challenges faced from ground conditions to delivering the programme by the end of AMP7, and that despite our best endeavours to continue pipelaying we had been forced to suspend pipelaying until the ground conditions improved. We set out our proposals for alternative treatment of the AMP7 ODI penalty in respect of late delivery and have forecast our end-of-AMP penalty in accordance with our proposals. We will continue discussions on this with Ofwat during the draft determination consultation period.

Cyber security (3A.14)

98 Our cyber security performance commitment will not be assessed until 2024/25.

99 As required by the performance commitment, we have conducted an estate-wide risk assessment across 388 Water Supply sites to determine areas of higher risk. The risk assessment has identified one water system containing 19 operational sites with a higher risk profile and these sites are to be remediated via our AMP7 Network & Information Systems (NIS) Compliance Programme. The Programme's structure and governance have been implemented, with site surveys and design efforts focusing on the high-risk sites currently in progress. We will deliver remediation to all high-risk sites by the end of AMP7.

Elsham DPC (3A.15-16)

100 Our performance commitments for direct procurement for customers for the new Elsham water treatment works incentivises us to procure the scheme through a competitively appointed third party under a design, build, finance, maintain and operate model.

101 To achieve an out-performance payment, we must appoint a competitively appointed provider (CAP) in circumstances where the direct procurement for customers (DPC) scheme meets certain qualifying criteria outlined by Ofwat.

102 However, Ofwat confirmed to us on 13 May 2022 that it has accepted that we will not now progress the initially proposed Elsham DPC scheme (aka Middlegate), and instead will take forward the alternative North Lincolnshire Alternative Solution. Ofwat will not at this stage de-designate Middlegate as a DPC scheme but expects us to take the alternative solution forward. We worked with Ofwat to communicate this to the market and have made clear that we are pursuing an alternative solution under which the initially proposed Middlegate scheme is not required.

103 At this stage it is expected that these PCs will no longer be required, so we have reported these measures as N/A for 2023/24.

Table 3B - Outcome performance - Wastewater performance commitments

	Line description	Unique reference	Unit	Performance level - actual	PCL met?	Outperformance or underperformance payment	Forecast of total 2020-25 outperformance or underperformance payment
						£m	£m
	Common PCs - Wastewater (Financial)						
1	Internal sewer flooding	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	2.27	No	-9.08	-17.90
2	Pollution incidents	PR19ANH_8	Pollution incidents per 10,000 km of sewer length	40.16	No	-7.90	-27.60
3	Sewer collapses	PR19ANH_13	Number of sewer collapses per 1,000 km of all sewers	5.43	Yes	-	-1.10
4	Treatment works compliance	PR19ANH_14	%	98.44	No	-0.75	-3.10
	Bespoke PCs - Wastewater (Financial)						
5	External Sewer Flooding	PR19ANH_17	nr	6564.00	No	-9.38	-19.20
6	Bathing Waters Attaining Excellent Status	PR19ANH_19	nr	29.00	No	-	-1.60
7	Water Industry National Environment Programme	PR19ANH_32	nr	1533.00	No	-0.62	5.70
8	Partnership working on pluvial and fluvial flood risk	PR19ANH_42	number	61.00	-	-	-
9	Additional sludge treatment capacity at Whitlingham	PR19CMA_ANH-01	%	-	-	-	-
19	Financial wastewater performance commitments achieved		%		14		

1 The information we have published in table 3B is consistent with the updates we have reported to our Independent Challenge Group (previously our Customer Engagement Forum) during the course of the year.

Internal Sewer Flooding (3B.1)

2 There were 662 internal flooding incidents in 2023/24. This includes 169 incidents caused by overloaded sewers and 493 incidents caused by other causes including blockages, collapses, equipment failure, pumping station failure and third party causes. This total includes severe weather events, we had a total of 22 internal severe weather events for 2023/24. Our flooding performance commitment is calculated by dividing the total number of internal incidents by every 10,000 sewer connections. The total number of sewer connections as reported in table 4R line 16 is 2,922,618. The calculated performance level is 2.27.

3 In 2022/23 we reported 491 internal flooding incidents, we have seen an increase of internal floodings in 2023/24 due to the severe wet weather conditions.

4 To highlight just how challenging it was over the winter, here are some statistics:

- Between 1 October 2023 and 4 January 2024, parts of the UK received more than 150 per cent of the 1991-2020 long term average rainfall for the four-month period
- Following Storm Henk 1,378 flooding jobs were raised - a 15-fold increase compared to 10 days earlier
- Between 2 January - 8 January we received 8,939 calls, significantly more than our average of 6,000 calls per week
- We received nearly 160,000 telemetry alarms during Storm Babet and 115,000 at the peak of Storm Henk.

Common Methodology Compliance

5 We are fully compliant with the Sewer Flooding common definition.

6 We have not changed our methodology for calculating the number of incidents that were caused due to severe weather. We do not use the classification options for severe weather for "multiple rainfall events", surface water run-off not originated from public sewer" and "river levels > 1 in 100 year return period". Regardless of whether they are categorised as severe weather or not these incidents must be reported as there is no exclusion for severe weather impact. As a result, there is no impact on our reported performance.

Pollution Incidents (3B.2)

7 The definition of this measure is taken from the Environmental Performance Assessment (EPA) methodology document: the total number of pollution incidents (categories one to three) from sewerage assets per 10,000km of sewer length for which the company is responsible in a calendar year. The number we have used to normalise the absolute total number of pollution incidents is also taken from this document (76,437km).

8 We have seen an increase in the number of total pollution incidents categories one to three in 2023 (307) compared to 2022 (258). This performance of 40.16 incidents per 10,000 km sewer does not meet the performance commitment level of 171 (22.4 per 10,000 km), leading to a penalty of £7.903 million.

9 Two additional events which occurred in 2023 have been omitted from this reporting in order to retain alignment with the Environment Agency's EPA reporting. For transparency, details of these are set out below:

- A category three UV compliance failure on a water recycling centre self-reported to the EA on 15/11/2023. The EA have a recorded date of 29/02/2024. The omission is presumed to be an administrative oversight by the EA.
- A category three, foul sewer discharge due to hydraulic overload, reported to us by the National Trust on 06/01/2024 and connected with a previous report made to the

EA but not passed over to us in the same location on 26/12/2023. The omission is due to the observed and reported date falling into different calendar years.

10 The impact is not material, equating to a margin of error of 0.65 per cent, however an additional penalty of £116,000 would have been applied had these events been included.

11 We experienced challenging circumstances towards the end of 2023 as a result of the ten consecutive named storms. Heavy rainfall coupled with high groundwater levels caused widespread catchment flooding. During Storm Babet, we saw more than 200 per cent of the 1991 to 2020 historic average of rainfall for the time of year. Our sewerage network and pumping stations were inundated with water and unable to cope with the volume despite operating to maximum capacity and as designed. We had a small number of sites which were entirely submerged with water and temporarily inoperable, even in locations with flood defences.

12 Although these difficult conditions affected the entire Anglian Water region, some areas experienced this more acutely. For example, there were 24 incidents attributed to hydraulic overload in Norfolk alone. Widespread flooding of the Norfolk Broads and high groundwater levels on the North Norfolk coastline led to some communities suffering with loss of facilities for extended periods. We minimised the impact through mitigation such as tankering but recognise that moving and treating predominantly clean water is not the right solution environmentally or economically in the long term.

13 Hydraulic overload is complex requiring a coordinated approach and partnership working. We are fulfilling our role alongside other responsible flood risk management authorities for the right outcome, engaging and communicating with local groups and communities on our plans. We are already taking action through infiltration reduction plans in our Pollution Incident Reduction Plan (PIRP). We have completed 4,039-metres of sewer lining work in 13 villages, sealing our assets to prevent entry of groundwater. We have also completed surface water removal schemes in five villages, mainly through the rectification of misconnections where either the foul sewer has been incorrectly plumbed into the surface water sewer or vice versa causing overloading. We continue with this important work with plans to complete 25 infiltration reduction plans by the end of the AMP.

14 As expected, we also saw an increase in the number of storm spills as a result of the named storms. The vast majority of storm spills do not lead to impact to the environment and there were less than two per cent of pollutions caused by combined sewer overflows in 2023. We have 100 per cent Event Duration Monitor (EDM) coverage on storm overflows – equating to 1,432 monitors. We are committed to transparency on storm spills and have responded to the increased interest through the publish of our storm overflows map (What we're doing to improve your local rivers & coastline (anglianwater.co.uk).

15 The challenging conditions in 2023 are comparable to early 2021 where we also saw an elevation in pollution events due to the combination of high groundwater and heavy rainfall. The lessons learned in the previous period enabled us to be better prepared and as a result we returned to our operational baseline more quickly. Our renewed focus on measuring performance, root cause analysis and learning culture is fast tracking our progress. For example, despite increasing demands on our routine tankering resource to respond to higher than usual volumes of emergency works, we did not see a detrimental impact on our sludge management. Conversely, the activity in our PIRP such as our sludge base plan review and review of action limit standards, has optimised sludge removal, improved visibility and understanding of risk on our sites driving preventative action. This additional resilience is one of many positive signs that our PIRP is taking effect.

16 We are also celebrating our lowest total blockage rate this AMP period, well below our average blockage rate. In a typical year, blockages account for over a third of pollution events and in 2022 this was even higher at 43 per cent. Our 2023 total pollution data shows an approximate 14 per cent reduction in pollutions caused by blockages compared to 2022 and reduction is seen across all asset classes. We believe we're starting to see the decline in overall blockages filter through to a decline in blockages as the root cause of pollutions.

17 We attribute this change to our blockage reduction activity on foul sewers as part of the PIRP to include; the delivery of 15 per cent over and above our already enhanced planned maintenance programme (sewer and wet well cleansing), the installation of 15,000 additional sewer monitors (Dynamic Sewer Visualisation) allowing us to detect and clear 462 building blockages, 1,934 food service establishments visits (ECAS sewer misuse) diverting 1,633 tonnes of fats, oils and greases from our sewers and the implementation of our repeat blockage standard process.

18 We've also seen blockage reduction benefit on pumping stations from the implementation of our Ovarro system. This uses existing data and algorithms to detect abnormalities which could indicate declining performance. We've attended 1,670 alerts from this system leading to the rectification of 461 issues; interventions include cleaning, replacement, repair and reset. Our 87 per cent success rate at detecting issues has given us the confidence to utilise the system to direct our maintenance strategy on an ongoing basis, moving away from static frequency based checks to condition based. This change has been facilitated by our maintenance review programme where efficiencies have created capacity to complete 10 per cent more maintenance jobs per month.

19 Ovarro has been used in combination with Syrinix to detect bursts on rising mains; one fifth of pollutions caused by rising main bursts have been detected so far. The primary benefit of Syrinix technology is the longitudinal pressure data collected enabling interventions to smooth out spikes and reduce the likelihood of bursts. So far, we've made 46 true positive interventions – that is mains that were selected due to repeat burst history, have not burst again following intervention. Rising main serious pollutions have reduced by one in 2023 compared with 2022 which we attribute to a keener eye on early detection and faster response. Our enhanced alarm approach and continuous improvement changes within our Tactical Operation function have ensured more prompt escalation and visibility of risk supporting this. We have seen an overall increase in rising main bursts in 2023 (33) compared with 2022 (22), as such this still remains a focus area for us.

20 We have seen a stabilisation in the number of all serious pollution incidents included in this measure in 2023 (11) compared to 2022 (11). We're seeing a shift away from our typical root causes and asset types in these categories. Within this total there has been a doubling of Water Recycling Centre (WRC) incidents in 2023 (six) compared to 2022 (three) however, only one event was linked to sludge management and this has historically been the leading cause of WRC incidents, reiterating the impact of our progress in this area. Regrettably, there were three serious incidents at a single WRC site in Norfolk, two of which were caused by additional hydraulic loading on the WRC as a result of the difficult operational conditions already discussed and the other an unavoidable fire preventing the normal operation of the site.

21 Although in 2023, we have undertaken more targeted pollution interventions than in any other year the only acceptable number of pollutions is zero so we're set to do even more in 2024/25 with an additional £100m from our investors (at no cost to our customers). This shows their unwavering commitment to our purpose of creating environmental prosperity in our region. Their confidence in our PIRP is evident through this investment and will allow us to supersize our blockage reduction activity to cover the top 100 catchments, targeting 4,400 blockages and extending surface water management and infiltration to the top catchments building on the delivery of 4,039-metres of sewer lining work in 13 villages through our 10 infiltration reduction plans and surface water removal schemes in five villages in the current plan. There will be some new activity such as a dual manhole removal programme and a risk reduction programme on 27 rising mains. The latter will include new technology and exploratory work using satellite imagery to detect sewage leaks and understanding how ground conditions affect the likelihood of a burst.

Sewer collapses per 1,000 kilometres of sewers (3B.3)

22 Data recorded is linked with Table 3G. The total number of reactive sewer collapses and the total number of reactive burst rising mains is then calculated against the total sewer length, which automatically populates the current reporting year field.

23 There were 308 reactive sewer collapses in 2023/24 compared to 2022/23 (259). There were 114 reactive burst rising mains in 2023/24 compared to 2022/23 (142). Totalling 422 for 2023/24, this is divided by the total length of sewer reported for 2023/24 (77,780km), giving a rate of 5.43 in comparison 2022/23 (5.19). We have seen a decrease in burst rising mains in 2023/24. This is due to our pressure monitors, alerting us to the risk of a burst.

Common Methodology Compliance

24 We are fully compliant with the sewer collapses common definition. We have not changed our methodology for calculating the length of formerly private sewers since our 2021 APR submission. While this is compliant to the letter of the definition (to report the length of transferred sewers separately), we have previously reported this line to Ofwat as "amber" on compliance due to the low confidence in the data that we believe exists across the industry.

25 Our estimate of our length of formerly private sewers is based on initial assessments made before the transfer for PR09. We are aware that our approach is consistent with most of the industry in that we continue to use the modelled lengths calculated at that time. However, we believe that new technologies and approaches can be used to improve upon the modelling carried out for PR09. As a result we have commenced a project to provide improved modelled estimates for our private sewer as well as our modelled section 24 sewer lengths as part of our PR24 submission.

Treatment Works Compliance (3B.4)

26 We have reported in line with the Environment Agency's Environmental Performance Assessment methodology version 9.

27 This is a measure of the number of our water treatment works and water recycling centres which were compliant during 2023 as a percentage of our total number of discharges with numerical consents. The data are sourced from the Environment Agency End of Year (EoY) Performance report.

28 Out of 836 discharges at sites with numeric consents, 13 sites were non-compliant for 2023. At 98.44 per cent compliance for 2023, this is a deterioration compared to 2022 (twelve sites out of 837, 98.57 per cent, on a like-for-like basis).

29 The numbers in our EoY report include our discharges that are located in other EA regions, such as our Hartlepool treatment works and those in the EA's Thames region.

30 Initiatives to drive performance improvement include:

Water Recycling

- Operational Control has helped to drive performance improvements in key compliance and other driver metrics, which has resulted in a reduction in site risk and an improvement in the number of regulatory determinand fails.
- A systems approach has been implemented for sludge which has enabled sites to be intelligently optimised and drive proactive interventions. This approach has reduced the compliance risk of sludge through the implementation of Sludge Base Plan, reducing inter-process sludge levels, improving thickness from dewatering equipment, increasing effective thickening asset availability and improving efficiency of sludge movements.
- To support a step change in compliance performance, we have enhanced our understanding of root cause through the implementing a new Environmental Protection Plan process. The approach is carried out for all environmental interventions and has helped to identify more in-depth local and system improvement opportunities. Learning is embedded and sustained in the long term through improvements in the management systems and sharing knowledge through Communities of Practice.

Water

- For any failing water treatment works compliance action plans are created and reported to department Directors, with actions tracked to completion.
- Increased gathering and reporting of internal monitoring data, has improved visibility of data and trigger investigation before a permit breach occurs.
- Site investigation trigger levels are in place for all sites and a Power BI alert system to direct an appropriate response.
- Same day site actions are clearly defined in procedures.
- Lead measure monitoring for check and investigation completion are regularly reviewed.
- Best practice findings from site investigation are shared with operational and scientific teams.
- A Water Services focus group continues to drive performance improvements and enhance knowledge / learning through training and awareness.

31 The 13 non-compliant Treatment Works were Bedford WRC, Bedford (Clapham) WTW, Brandon WRC, Brightlingsea WRC, Cublington WRC, Hitchin WRC, Latchingdon WRC, Mundesley WRC, Newton Marsh WRC, West Bradenham WTW, West Mersea WRC, Whitlingham WRC, Wighton WTW.

External Sewer Flooding Incidents (3B.5)

32 There were 6,564 external flooding incidents in 2023/24. This includes 1,271 incidents caused by overloaded sewers and 5,293 incidents caused by other causes including blockages, collapses, equipment failure, pumping station failure and third party causes. This total includes severe weather events, we had a total of 94 external severe weather events for 2023/24.

33 In 2022/23 we reported 4,673, this year we've seen an increase in our external flooding numbers especially flooding caused by other causes due to the severe wet weather conditions. We have included statistics that highlight the challenging winter within the Internal Flooding commentary for line 3B.1.

Bathing waters attaining excellent status (3B.6)

34 The percentage of bathing waters attaining 'Excellent' status at the end of 2023 was 29 (60 per cent). This is a fall from 32 bathing waters attaining 'Excellent' in 2021 and 2022.

35 2020 was where the Environment Agency did not take the samples required to classify bathing waters due to its interpretation of the restrictions imposed by the Covid-19 pandemic. The assessment of bathing water under the regulations depends on the sampling results from the latest four years, and the lack of sufficient data for one of these years means that assessments for 2020 were not made. Classification for 2023 use the following four years' worth of data (2019, 2021, 2022, 2023).

36 2023 has been a generally poor year for beach classifications, with four beaches reducing in classification, and many beaches returning results that leave them worse off than the beginning of the year. Extremely elevated results experienced during the bathing water season were often associated with dry weather, high tides or other unknown factors. Classifications and 95th percentiles were also impacted by the dropping off of the 2018 data.

Water Industry National Environment Programme (WINEP) (3B.7)

37 We have delivered a total of 134 obligations in Year four of the WINEP (2023/24), as defined by Environment Agency (EA) sign-off within the WINEP spreadsheet. Measured against the 2019 WINEP (in accordance with the performance commitment approach), this gives a total delivery value of 1,533 obligations completed to date in AMP7 against an anticipated baseline of 1,577 for year 4. Discrepancy from the baseline is explained by the formal movement of obligation dates into year 5 (2025), or due to obligations being removed

from the WINEP where the need has changed since PR19. Approximately 450 remaining obligations (including those that do count towards this performance commitment) will be delivered in 2024/25.

Highlights of our year 4 programme include:

- Bathing water enhancement through the reduction of overflow spills into the Lowestoft outer harbour
- 109 MCERTS flow monitors installed at Water Recycling Centres across the region, improving the accuracy of our flow compliance (under the U_MON4 driver)
- 100 per cent Event Duration Monitor delivery on storm overflows in the sewerage network and at Water Recycling Centres (under U_MON2 and U_MON_3 drivers)
- Flow improvement at 18 Water Recycling Centres, including the delivery of 4,343m^3 of new storage (under the U_IMP5&6 drivers).

38 We have secured confirmation from the EA that performance has been correctly reported using their WINEP tracker. A copy of the WINEP tracker for Anglian Water has been provided to Ofwat. The schemes are marked as signed off or pending in the file (column "O"), and can be filtered to show just AMP7 obligations (column "B"). Five of the schemes were not marked as Green in the WINEP at the time of the Final Determinations and therefore do not count towards the performance commitment so should be excluded from the total.

39 The EA's regulatory position remains that any obligations marked "pending" should be considered as signed-off for year-end reporting, with the anticipation that these will be clarified as signed-off. There are three such occurrences in 2023/24, which require minor technical amendments to the associated sign-off reports. These technical queries do not relate to the operability of the solution, and therefore do not present a material risk to our ability to meet the obligation requirements.

40 Further confirmation of WINEP delivery can be found in the EA's Environmental Performance Assessment (EPA). In section 6 the EA confirms that 99 per cent of schemes considered under the EPA were completed for the financial year. The EPA does not include EDM or U_INV2 obligations.

Partnership working on pluvial and fluvial flood risk (3B.8)

41 This performance commitment is designed to incentivise the company to work in partnership with others to deliver investment to protect its wastewater treatment sites and water recycling network from pluvial, fluvial and coastal flooding.

42 We have defined an output as follows:

- A partnership scheme providing increased capacity to the sewer network shall count as one output
- Where partnership schemes provide greater resilience to one or more of our above ground assets, each individual asset shall count as one output (e.g. one pumping station and one WRC protected would count as two separate outputs).

43 We delivered 12 outputs in 2023/24 across nine schemes. A list of all the schemes and the respective number of regulatory outputs are in the table below.

Scheme	Outputs	Partner
Westfield Rd and Langdale Rd - SUDS Retrofit	2	Central Bedfordshire Council
Heron Rd Leighton Buzzard - SuDS Retrofit	1	Central Bedfordshire Council
Hornes End Rd Flitwick - SuDS Retrofit	1	Central Bedfordshire Council
Long Bennington Surface water Improvement Scheme	2	Lincolnshire County Council
Flood storage pond & rainfall capture gardening	2	Alconbury Flood Action Group

Leiston Primary School SuDS Scheme	1	Suffolk County Council
Alde Valley Academy SuDS Scheme	1	Suffolk County Council
Springfield Road Canvey Rain Gardens	1	Essex County Council
Tyrrells Road Raingardens	1	Essex County Council

44 The total programme across the price control period to date is summarised in the table below. in total, 61 regulatory outputs have so far been delivered.

	No. schemes	**No. outputs**
2020/21	12	14
2021/22	12	21
2022/23	12	14
2023/24	9	12
Total	45	61

Additional sludge treatment capacity at Whitlingham (3B.9)

45 This performance commitment incentivises us to ensure that customers have sufficient sludge treatment capacity in the future. The commitment will be fulfilled by installing capacity to treat an additional 6.4 ttds of sludge per year at Whitlingham sludge treatment centre, Norwich, by 31 March 2025. Additional capacity will be provided by upgrading the existing Cambi THP pre-treatment plant from Mk I to Mk II and the provision of two new digesters.

46 Work has commenced on site and is scheduled for completion by 31 March 2025.

Table 3C - Customer measure of experience (C-MeX) table

	Item	Unit	Value
1	Annual customer satisfaction score for the customer service survey	Number	76.14
2	Annual customer satisfaction score for the customer experience survey	Number	78.84
3	Annual C-MeX score	Number	77.49
4	Annual net promoter score	Number	19.50
5	Total household complaints	Number	10,591
6	Total connected household properties	Number	3,082,287
7	Total household complaints per 10,000 connections	Number	34.36
8	Confirmation of communication channels offered	TRUE or FALSE	TRUE

1 C-MeX is the Customer Measure of Experience, it is comprised of two surveys, the Customer Satisfaction Survey (CSS) and the Customer Experience Survey (CES). CSS survey aims to measure the experience of customers following a recent interaction with their water company. CES surveys aims to measure the overall experience of their water company, by surveying a random sample of members of the public within our region.

Annual customer satisfaction score for the customer service survey (3C.1)

2 For Customer Service (CSS) we achieved fifth position among Water and Sewerage Companies (WaSCs), with a score of 76.14.

3 The CSS score is made up by performing surveys across three core areas of our Customer Service provision, these are Billing, Water and Water Recycling.

4 Within CSS our billing performance achieved a score of 79.17 which saw us place sixth among all WaSCs.

5 Water scored 76.95, achieving third position among all WaSCs, an increase in one place from last year.

6 Water Recycling scored 68.44, achieving sixth position among all WaSCs.

7 Comparisons between companies remains ambiguous, as sampling quotas are aligned to the proportion of digital and non-digital contacts received by each company. This varies significantly across the industry. C-MeX has demonstrated there is a clear variance between telephone and online survey respondent scores. The variance is attributed to the survey method as opposed to the channel of contact. Digital contacts surveyed via email typically score lower.

8 Whilst we remain committed to offering our customers the ability to contact us via their channel of choice, this results in a large proportion of our contacts being through digital channels, resulting in a lower CMEX score.

Annual customer satisfaction score for the customer experience survey (3C.2)

9 For customer experience we achieved a score of 78.84 and a position of tenth place across all water companies and seventh place amongst WASCs.

10 We continue to focus our efforts of reassurance with our customers. By sharing stories about how we make the day great for our customers and show we are on their side. Showcasing the investments we are making in future improvements and reaching customers across a range of channels to improve their knowledge about the breadth of work we do as Anglian Water.

11 This sees an overall improvement in rank of three places in comparison to the previous year.

Annual C-MeX score (3C.3)

12 Our overall C-Mex position at the end of the reporting year improved to seventh position among all companies and fifth position among WaSCs, with a score of 77.49.

13 This marks a rise of three places from the previous year.

14 While the industry average declined by 2.4 points, as a reflection on the continued national focus on the sector, our scores have only reduced by 1.3 points. We believe this to be a direct result of the increased focus and drive to maintain high levels of customers satisfaction.

Annual net promoter score (3C.4)

15 Our combined Net Promoter Score achieved was 19.50.

Total household complaints (3C.5)

16 For the third year in a row we have been able to achieve a significant reduction in complaints volumes. Overall, we have seen a reduction of 19 per cent across all areas and channels. The volume of billing complaints reduced by 25 per cent and Water by 37 per cent.

17 We have increased the level of insight and analytics performed into our complaint's performance at a more granular level. Internally we continue to operate a complaints reduction working group to drive change and service improvements.

18 This has highlighted key areas for improvement, leading us to implement several new processes to enhance customer experience. These include smart metering, sewerage abatements, lawn allowances, and a new bill information page on our website. Additionally, we deliver targeted coaching for our customer-facing teams to address and bridge any knowledge gaps.

Total connected household properties (3C.6)

19 The number of connected properties has seen an increase from 2023/24 to this reporting year. This is the net result of growth.

Total household complaints per 10,000 connections (3C.7)

20 In the first two quarters of the year we achieved an industry leading level of complaints, we saw an increase the second half of the year as a direct result of the extreme weather, however despite this we managed to end the year with an overall reduction in complaints.

Confirmation of communication channels offered (3C.8)

21 In total we operate 12 communications channels, providing a diverse range of methods in which our customers can contact us. We continually evaluate and analyse our customer communication preferences and demand to ensure we are providing a service that meets our customers' needs and lifestyles.

Table 3D - Developer services measure of experience (D-MeX) table

	Item	Unit	Value
1	Qualitative component annual results	Number	82.44
2	Quantitative component annual results	Number	99.99
3	D-MeX score	Number	91.22
4	Developer services revenue (water)	£m	28.79
5	Developer services revenue (wastewater)	£m	20.33

	Calculating the D-MeX quantitative component		
	Water UK performance metric	Unit	Reporting period (1 April to 31 March)
W1	S1.1 Pre-development enquiry – reports issued within target	%	100.00%
W2	S3.1 Sewer requisition design – offers issued within target	%	100.00%
W3	S7.1 Adoption legal agreement – draft agreements issued within target	%	100.00%
W4	SAM - 3/1 Execute Adoption Agreement (Stage 3) – Sewerage Company – SAM – 3/1 – Update draft Agreement	%	100.00%
W5	SAM - 4/1 Customer notifies of construction start date and requests inspections (Stage 4) – Sewerage Company – SAM – 4/1 Inspections & construction period	%	100.00%
W6	SLPM – S1/2 POC (Stage 1C) – Water Company – SLPM – S1/2 – Review PoC proposal	%	100.00%
W7	SLPM - S2/2a Design Self-Laid Main (Stage 2) – Water Company – SLPM - S2/2a – Provide design	%	100.00%
W8	SLPM - S2/2b Design Self-Laid Main (Stage 2) – Water Company – SLPM - S2/2b – Water Company to Provide design acceptance	%	100.00%
W9	SLPM – S3 Execute Water Adoption Agreement (Stage 3) – Water Company – SLPM – S3 – Review / revise Water Adoption Agreement	%	100.00%
W10	SLPM – S4/1 Delivery Date (Stage 3 / 4) – Water Company – SLPM – S4/1 – Source of Water Delivery Date	%	100.00%
W11	SLPM – S5/1a Connect Self-Laid Main – (Stage 5) – Water Company – SLPM – S5/1a – Review request and carry out Final Connection	%	100.00%
W12	SLPM – S7/1 Make Service Connections (Stage 7 – Part 2) – Water Company – SLPM – S7/1 – Validate notification and provide consent to progress with connection	%	100.00%
W13	W1.1 Pre-development enquiry – reports issued within target	%	100.00%
W14	W17.1 Mains diversions (without constraints) - quotations within target	%	100.00%
W15	W17.2 Mains diversions (with constraints) - quotations within target	%	100.00%
W16	W18.1 Mains diversions - construction/commissioning within target	%	100.00%
W17	W26.1 Self-lay water for pressure/bacteriological testing - provided within target	%	99.82%
W18	W27.1 Self-lay permanent water supply - provided within target	%	100.00%
W19	W3.1 s45 quotations - within target	%	100.00%
W20	W30.1 Self-lay plot references and costing details - issued within target	%	100.00%
W21	W4.1 s45 service pipe connections - within target	%	100.00%

	Calculating the D-MeX quantitative component		
	Water UK performance metric	Unit	Reporting period (1 April to 31 March)
W22	W6.1 Mains design <500 plots - quotations within target	%	100.00%
W23	W7.1 Mains design >500 plots - quotations within target	%	100.00%

W24	W8.1 Mains construction within target	%	100.00%	
W25	WN1.1 % of confirmations issued to the applicant within target period	%	100.00%	

7	D-MeX quantitative score (for the reporting period)	%	99.81%	
8	D-MeX quantitative score (annual)	Number		1.00

Qualitative component annual results (3D.1)

1 We are delighted to say that in 2023/24 we achieved our first score greater than 80 in quarter one, the first time this AMP. We took this momentum into the summer and exceeded again in quarter two scoring 82.75 and then closed the year with our highest qualitative score this AMP with 85.2 in quarter four. This result strengthened our final 2023/24 position with a year end performance of 82.44 and closing the year in fourth place.

2 Our final result was up 7.72 points on 2022-23 and a 10 per cent improvement, a considerable change and positive swing in how our customers feel about working with us for the provision of developer related services.

3 Our much improved connections experience, from design through to delivery, has greatly enhanced our score this year.

4 Project Connect, our Water Industry Awards nominated initiative, to drive health and safety and Construction Design and Management (CDM) assurance, combined with a collaborative approach with our partners, has seen in a significant improvement in our right first time delivery.

5 Our Customer Insight tool, delivered in 2023, has provided real-time and valuable insight to enable proactive responses to customer sentiment allowing us to ensure that the customers journey is delivered to the highest standard. It also allows our people to see how their interactions are influencing our D-MeX performance.

6 Through engagement with our customers and insight received from our D-MeX results, we have adopted agile working practices for quarterly planning sessions for the delivery of customer initiatives and service improvements. These sessions enable our people to identify opportunities, potential blockers or challenges, and implement into business as usual activities whilst removing those that bring little or no value to the customer experience.

D-MeX Assurance

7 We are required by Ofwat to report the process we have taken to assure that our performance against the selected Water UK metrics in D-MeX are an accurate reflection of our underlying performance in the reporting year, and to report any findings that indicate this is not the case. We explain how we meet this requirement below.

8 D-MeX metric management and reporting has a number of assurance controls in place. Controls are set appropriately at various levels of the organisation, including at a top level. Except where otherwise stated, our processes have been in place for the duration of the current price control period.

Top Level Performance management and reporting includes:

1. Management Board and Wholesale Board, Monthly

9 Monthly review of holistic Development Services performance.

10 Our Wholesale Board forum is chaired by the Director of Customer & Wholesale Services who is accountable for C-MeX, D-MeX and R-MeX.

2. Development Business Board, Quarterly

11 Stakeholders include a number of appropriate Directors, Finance, Legal & Departmental Heads.

12 These groups provide general oversight, review and challenges of DMEX performance.

13 On a day-to-day level, metrics are assigned to appropriate workstream areas. Metric owners are appointed from Management with the accountability for metric compliance and performance, ensuring the relevant controls are embedded and adhered to.

14 Improvements have been made through appropriate investment to ensure visibility of metric performance, jeopardy and level of service (LOS) management.

15 This includes automated application tracking along with weekly performance calls at a metric ownership level.

3. Water UK & Accent Submission

16 At the end of each month our data is reconciled by our dedicated Insight team to output, compile and provide quality assurance against metric parameters.

17 In Year 2 of the AMP, we introduced an additional sign-off step as part of enhancing our controls and assurance. Following the introduction of the monthly sign-off, all accountable workstream and metric owners meet to discuss performance and assure of their performance. This is chaired by the Heads of Departments.

18 Leading up to this forum, our Insight team provide weekly updates to show performance as we move through each reporting period. This shapes the monthly conversation, and any anomalies are highlighted and reviewed.

19 Spot checks are also carried out across the metrics by Insight team and metric owners throughout the reporting period.

20 Following conclusion of the meeting, the Heads of Departments will authorise the uploading of data to the Water UK and Accent portals.

4. System Controls

21 Our core business system and application management software is configured with LOS coded into applications and customer journeys to help effectively manage workflow and provide assurance around the integrity of our LOS data.

22 In addition, over the course of the last number of years, we have introduced greater depth to our data and analytics tools to surface metrics and increase confidence rating.

23 Dedicated systems are used to manage applications. User access and functionality is controlled and requires specific training.

24 User actions are auditable including data such as date and time, activity or interaction with a particular customer, stage in the customer journey or communication with third party such as the Highways Authority.

25 Job notes are used as a record history which is auditable and defines the journey of each application including the relevant LOS data.

5. Learning

26 Our Service Performance Group meets monthly to review any learning and actions arising from controls.

27 These include lessons learned activities which are owned by metric owners along with any corrective actions such as, for example, re-briefing of staff and further education of teams where any anomalies are identified.

Third Party Assurance

28 Our D-MeX process and performance is also reviewed and audited by Jacobs to provide and additional level of data assurance.

29 The benefits of third party assurance include:

- External providers can challenge behaviours and practices that employees of the company have come to regard as normal
- They can suggest improvements to processes based on their knowledge of industry good practice
- In comparison to reviews carried out by employees of the company, they may feel more able to question and challenge
- Stakeholders are likely to place greater reliance on the assurance provided compared to that provided by the company's internal activities.

30 We use our process risk and control framework in relation to our D-MeX performance to direct our internal and external assurance to the areas that are of highest risk of error. This is regularly reviewed to demonstrate reduction in risk and showing continual improvement in our controls and assurance mechanisms.

31 Our last audit from Jacobs was carried out in May and June 2024.

Quantitative component annual results (3D.2 and 3D.6-8)

32 We exceeded our 2022/23 score of 99.81 across the quantitative element of D-MeX with a performance of 99.99, up 0.18 points and achieved 3rd place, behind Hafren Dyfrdwy and Dwr Cymru.

33 With a shared ownership of performance metrics across Development Services workstreams, our people have embraced a fundamental change in accountability to drive and reduce delivery timescales for our customers.

D-MeX score (3D.3)

34 With our improving qualitative score and our quantitative performance complementing our overall score, we ended the year with a 91.22 and securing fourth place, our highest year end position this AMP.

35 The score is a significant improvement on 2022/23, jumping five places and earning a reward.

Developer services revenue (water and wastewater) (3D.4 and 3D.5)

36 A suppressed housing market from an increase in interest rates (which have since stabilised), and the impacts of rising inflation, affected market confidence with developer customers managing existing sites and new projects to help them balance the economic conditions. This saw a 20 per cent reduction in revenues compared to that of 2022/23.

Table 3E - Outcome performance - Non financial performance commitments

	Line description	Unique reference	Unit	Performance level - actual	PCL met?
	Common				
1	Risk of severe restrictions in a drought	PR19ANH_9	%	5.2	Yes
2	Priority services for customers in vulnerable circumstances - PSR reach	PR19ANH_22	%	12.7	Yes
3	Priority services for customers in vulnerable circumstances - Attempted contacts	PR19ANH_22	%	96.9	Yes
4	Priority services for customers in vulnerable circumstances - Actual contacts	PR19ANH_22	%	56.2	Yes
5	Risk of sewer flooding in a storm	PR19ANH_10	%	0.8	Yes
	Bespoke PCs				
6	Reactive Mains Bursts	PR19ANH_18	nr	3444	No
7	Customer awareness of the company's Priority Services Register	PR19ANH_21	%	63.4	Yes
8	Operational carbon	PR19ANH_24	%	-1.6	No
9	Capital carbon	PR19ANH_25	%	64.2	Yes
10	Non-household Retailer Satisfaction	PR19ANH_30	score	81.32	Yes
11	Event Risk Index (ERI)	PR19ANH_35	score	109.302	No
12	British Standards Institution - Standard for Inclusive Service	PR19ANH_36	text	Maintained	Yes
13	Helping those struggling to pay	PR19ANH_37	nr	389,371	Yes
14	Value for Money	PR19ANH_40	%	77	No
15	WINEP Delivery	PR19ANH_NEP01	text	Not met	No
16	Community investment	PR19ANH_43	%	81.4	Yes
17	Customer trust	PR19ANH_44	score	0.08	Yes
18	Natural capital impact	PR19ANH_45	text	Fail	No
19	Regional collaboration	PR19ANH_46	text	On track	Yes
	Non-financial performance commitments achieved		%		68

Risk of severe restrictions in a drought (3E.1)

1 The Ofwat guidance relates to the fixed period 2020-2045. The percentage of customers at risk has been provided for, based on the total population across seven Water Resource Zones that could (in planning terms) experience severe supply restrictions during a 1 in 200-year drought. The seven Water Resource Zones are: Bury Haverhill, Central Lincolnshire, Cheveley, Newmarket, Ruthamford South, South Essex and South Fenland (as defined for WRMP19).

2 Bury Haverhill, Central Lincolnshire, Cheveley, Newmarket and South Fenland have customers at risk from a severe restriction in a 1 in 200-year drought. Ruthamford South and South Essex are included due to having baseline deficits that effectively means a 1 in 200-year drought would have an impact (non-drought investment will eliminate this deficit).

3 The 25-year average percentage of the population the company serves that would experience severe supply restrictions is 5.2 per cent, and is unchanged from the previous year. The 25-year average total population at risk is 277,063.

4 There are no knock-on impacts to other Water Resource Zones and no Water Resource Zones that have 1 in 200 year drought impacts are in deficit as reported for the SOSI.

Priority services for customers in vulnerable circumstances - PSR reach (3E.2)

5 From 1 April 2023 to 31 March 2024, we have been able to increase the level of support provided to customers on our Priority Service Register (PSR) from 11.4 per cent of households to 12.7 per cent, which represents more than 380,000 customers.

6 In total we added 69,629 customers to our PSR through our data checking activities and removed 24,499 customers who no longer require support.

7 To calculate the PSR reach we have divided the total number of households on the PSR as of the 31 March 2024 by the total number of residential billed properties.

8 The total residential billed properties figure includes those supplied with both water and/or wastewater services and properties that are billed by other water companies on our behalf.

9 The below table shows a breakdown of the types of supports individual households are receiving through the PSR.

PSR Membership	Forecast for reporting year	Year-end total (31 March)
Households on PSR receiving support with communications	35446	71555
Households on PSR receiving support with mobility and access restrictions	136467	208337
Households on PSR receiving support with supply interruptions	173685	328924
Households on PSR receiving support with security	5317	6790
Households on PSR receiving support with 'other needs'	4431	7453

10 The first column shows the type of support, the second column shows the forecast figures based on our Year 4 target and the third column shows the numbers of households receiving support as of 31 March for the report year.

11 There is a sizeable difference between our forecast figures and our year-end total as we have exceeded our year four target by 36.2 per cent. It is also worth noting that the projections were calculated based on a substantially smaller dataset and various factors may have influenced a change in demand for support services, such as enhanced service offerings, partnerships working with organisations and charities that target specific user groups.

12 The increase to the number of customers supported by our PSR is the direct result of our customer facing teams proactively responding to disclosures of vulnerability and signposting our PSR. This year, we completed the final phase of rolling out system changes that enable our field teams to quickly and easily register customers for support, directly updating our core system. These enhancements give our teams greater visibility, allowing us to tailor our responses more effectively and accurately record and manage any disclosures.

13 Across the course of the year we have also undertaken a number of large promotional campaigns advertising the many ways in which we are able to support through both direct and indirect communications. This includes extensive engagement with a wide range of organisations who support those in most in need.

Priority services for customers in vulnerable circumstances - Attempted contacts (3E.3)

14 The percentage of customers contacted during 2023/24 reflects the numbers of customers who have been on our PSR for more than two years and have received two or more attempts to confirm they are receiving the right support.

15 The percentage of attempted contacts also includes customers whom we have successfully managed to re-engage with to confirm their support needs.

16 We have utilised a number of different contact methods aligned to customer communication preferences using bespoke communication messages. Customers are also able to update their support needs at any time using our online account management portal and mobile app.

Priority services for customers in vulnerable circumstances - Actual contacts (3E.4)

17 Our actual contact figures represent the percentage of customers who have been on the register over two years and have confirmed their support needs, including those that no longer require support as part of our PSR.

18 The majority of those no longer requiring support are those who have vacated and no longer reside within our region or those that have subsequently passed away.

19 As a result of our tailored communication strategy and bespoke messaging we have been able to achieve actual contact with 63.4 per cent of our customers. We also provide customers with the option to update their Priority Services registrations and support needs at a touch of a button, by having the capability to manage their services in real time using our online account management portal and mobile app.

20 Our communication strategy captures customer communication preferences within our internal systems providing the ability to tailor our communications to our customers channel of choice. Our internal system also provides prompts to our agents during key interactions and touch points, reminding them re-confirm the support needs as part of our day-to-day conversations. In doing so, we have removed the need for additional unnecessary contacts and reduced customer effort, with the aim of making every contact count.

Percentage of population at risk of sewer flooding in a 1-in-50 year storm (3E.5)

21 For 2023/24, we have continued to use Low and High risk categories to represent those properties at risk of flooding (High) and those not at risk of flooding (Low). This aligns with the Ofwat Methodology, which on Page 15 states that the 'Low' vulnerability grade should include the population equivalent not vulnerable to nodes predicted to flood.

22 The Low risk grade (Grade 1) represents the population equivalent (p.e.) not at risk from flooding as identified using the Option 1b methodology, for all catchments across the Anglian Water region. We continue to not exclude any catchments so to provide the true picture of risk, and to assist with future reporting and trend analysis.

23 The High risk grade (Grade 5) represents the p.e. identified as flooding in a 1:50 annual return period (ARP) event using the Option 1b methodology.

24 The actual numbers that contribute to the summary reporting table are shown in the following tables:

Total number of catchments	Total number of catchments pe > 2000	Total number of catchments pe < 2000	Total pe served	Total pe in included catchments	Total pe in excluded catchments	Percentage of total pe in excluded catchments	Total pe Option 1a	Percentage of total pe Option 1a	Total pe Option 1b	Percentage of total pe Option 1b
1,127	310	817	6,456,509	6,456,509	-	0%	-	-	6,456,509	100%

25 We have 1,127 modelled catchments, serving a population of over 6.45 million people. Modelled population has increased by 9,700 over the last 12 months.

26 Due to our modelling capability, Option 1b remains the most appropriate option for undertaking this vulnerability assessment. This year we have used the same modelling methodology used in previous years. The property threshold remains at 150mm (in line with the rest of the industry), and we have modelled storms at 60, 240 and 480 minutes.

27 As discussed last year, due to our modelling methodology we are able to consider which modelled storms have the biggest impact from a flood volume, or internal flooding perspective. Again, in line with the rest of the industry, we have reported numbers based on the storm that delivers the highest flood volume, but we can see that counting the number of internal flooding properties gives us a higher percentage of p.e. at risk, so we have also reported this below. The results for 2023/24 are shown below:

High-level vulnerability grade	Total number of catchments	Total number of nodes modelled	Total number of nodes predicted to flood	Percentage of nodes predicted to flood	Total pe in modelled catchments at vulnerability risk grade	Total pe associated with flooding nodes	pe associated with flooding nodes as a percentage of total modelled pe	Assessed overall model confidence grade
5	1,127	840,016	105,426	13%	6,456,509	48,158	0.75%	B4

28 The following should be noted about the above information:

- We have continued to count only those properties (and the associated population equivalent) that have been flooded internally, in line with the rest of the industry
- The population equivalent at risk has increased very slightly this year from 0.74 per cent to 0.75 per cent (an increase of 582 p.e.)
- This is likely due to changes to the modelling software we use, local changes in the models and the increased modelled population
- Occupation figures are based on 2022 data
- It remains the case that c. 50,000 p.e. will need to be made more resilient to show a 1 per cent improvement in the p.e. at risk. With this in mind, we continue to report the p.e. at risk to two decimal places
- We have been unable to update the receptor layer this year – OS master map and address point data – to ensure we have the latest view of properties at risk, but we have updated the receptor layer for Ely (as last year this was under-represented). We will be updating our processes to ensure we can update receptor layers in the future.

29 Based on the above, we consider our overall model confidence to remain at B4, for the same reasons as previous years.

Sensitivity analysis

30 Last year we reviewed the code used to generate the numbers out of our hydraulic models, and found that in some catchments the shorter duration storms (i.e. those with a higher intensity) often flood the largest number of manholes and properties, but do not produce the largest flood volumes.

31 Reporting based on the largest flood volumes doesn't always give a true picture of the risk across catchments and therefore we are able to also report the figures for all catchments using this alternative approach.

High-level vulnerability grade	Total number of catchments	Total number of nodes modelled	Total number of nodes predicted to flood	Percentage of nodes predicted to flood	Total pe in modelled catchments at	Total pe associated with flooding nodes	pe associated with flooding nodes as	Assessed overall model confidence grade

					vulnerability risk grade		a percentage of total modelled pe	
5	1,127	840,016	138,131	16%	6,456,509	58,630	0.91%	B4

32 Using this alternative methodology, our population equivalent at risk increases from 0.75 per cent to 0.91 per cent. We believe this is an improved way of counting properties at risk from a 1:50 storm, and so will continue to assess and report these numbers in the future.

Reactive mains bursts (3E.6)

33 There were 3,444 reactive mains repairs in 2023/24, compared to 5,140 in 2022/23. The region has benefitted from more benign weather conditions throughout the year, along with targeted focus on resolving issues on assets within high burst areas.

34 For AMP7 we have moved away from our method of reporting using the WISPA (Water Infrastructure Serviceability Performance Assessment) Model. This model is now used internally to better understand the impact of external factors such as soils, tree roots and weather on our assets to improve our prioritisation of mains rehabilitation schemes and leakage reduction programmes.

Customers aware of the priority services register (3E.7)

35 To measure the percentage of customers aware of Priority Services, we have conducted an independent survey of 4,933 customers. Customers were selected at random and engaged through both digital and non-digital channels. Customers were asked if they are aware of additional free services provided by Anglian Water known as Priority Services, of which 63.4 per cent of respondents said yes.

36 Throughout 2023/24 we have undertaken a wide range of promotional activities to increase awareness. We have issued more than nine million emails to our customers throughout the year, promoting both the financial and non-financial assistance available. Through social media campaigns we have been able to generate 11.4 million impressions.

37 Further promotional campaigns to increase awareness include advertisements through radio and hospital magazines. We have also promoted the support we offer through our network of more than 200 partners who directly support those in vulnerable circumstances, such as Scope, Carers First, McMillian, Kidney Care UK and local foodbanks. Our partnership network has a combined reach of approximately 4 million.

38 We have attended more than 100 community events, including financial inclusion partnerships and dementia cafes. We have set up information hubs at hospitals and attended renal units, to ensure our message of support reaches those most in need.

39 We continue to look at new ways to increase awareness and have actively engaged our customers to understand how they would like to hear about the support available. We will use our customers' feedback to inform our future communication and partnership strategy to extend our reach.

Operational carbon (3E.8)

40 Operational carbon emissions for 2023/24 have been calculated using the UKWIR Carbon Accounting Methodology. In line with our performance commitment for 2023/24 as re-published by Ofwat in February 2023 we have continued to use version 16 (CAW v16) of the UKWIK greenhouse gas (GHG) workbook.

41 Using the market-based methodology gross operational GHG emissions for the reporting year 2023/24 have increased by 1.6 per cent against the 2019/20 baseline from 354,222 tCO2e to 359,954. Our PCL for 2023/24 is a reduction of 8 per cent against the 2019/20 baseline, which we have therefore not achieved.

42 There are a number of contributory factors to this increase including an increase in electricity consumption of 3 per cent over 2022/23 in water recycling as a consequence of the extremely wet weather over the period and some instances of CHP downtime. In addition, solar electricity production has fallen due to the weather and there has been an increase in heavy vehicle movements as a consequence of sludge movements and sewer jetting. Further, the market-based residual emissions factor for our supplier (SSE) increased in 2023/24 to 363gCO2e/KWh from 332gCO2e/KWh in 2022/23 meaning that the grid electricity we procure from SSE is more carbon intensive than last year.

Embodied carbon (3E.9)

43 We achieved a 64.2 per cent reduction in capital carbon against our 2010 baseline. Our PCL for 2023/24 is a reduction of 64 per cent on the 2010 baseline, which we have achieved.

44 There is greater detail on our greenhouse gas emissions, and our approach to reducing them, in the commentary for table 11A.

Non-household retailer satisfaction (R-MeX) (3E.10)

45 In order to calculate this measure there are three factors, which are Net Promoter Score (NPS), Operational Performance Standards (OPS) and Market Performance Standards (MPS).

46 The OPS and MPS results are published via MOSL, the market operator, after they have been independently validated. MPS is calculated by the central market system (CMOS) and OPS is again validated by MOSL as transaction passed through by MOSL bilateral hub.

47 Net Promotor Score is taken during each formal Account Management meeting with our Retailers. It is captured as part of the formal meeting minutes shared between the two parties.

48 In line with Ofwat's published PR19 Outcomes & Performance commitments for Non-household retailer satisfaction, we use the three performance results to complete the calculation, giving us a score of 81.7 for 2023/24, exceeding our performance commitment.

Event Risk Index (3E.11)

49 The DWI has developed the Event Risk Index (ERI), alongside CRI, for measuring event-based risk. The ERI is calculated based on the event severity, DWI assessment, impacted population and event duration. This is converted into a company ERI by dividing the sum of the scores for the year by the population served by the company.

50 In 2023 the ERI score for Anglian Water (including Hartlepool) confirmed in the DWI Chief Inspectors' Report was 109.302. This is an increase from our 2022 ERI score of 2.77 and misses the performance commitment level of 15 but was below the median for the industry and was the second lowest score for any of the large water and wastewater companies. The increase from 2022 was impacted by a single short-lived event associated with our Heigham Water Treatment Works in Norwich following heavy rainfall. While all water quality samples were satisfactory, a number of customers noticed a very slight discolouration to their water, particularly in their baths. As a result of this event, we have made changes to the way we abstract water from the nearby River Wensum during heavy rainfall to ensure that the event does not happen again.

51 The DWI assesses any water quality sample failures and events, and makes recommendations for improvement; these are the initial stage of regulatory intervention, in line with Better Regulation principles. We were pleased that in 2023 the DWI made fewer recommendations to us than expected for a company of our size. Any recommendations made to us are regarded as crucial learning points and are acted on rapidly.

BSI standard for inclusive service (3E.12)

52 We completed our annual assessment for ISO 22458 in Inclusive Service Provision in October 2023. A statement of approval was given for our compliance with the requirements.

53 The BSI Kitemark for inclusive service is a high-level certification, issued to businesses that have met strict criteria for protecting their customers when they are in vulnerable situations.

54 ISO 22458 is an international standard that aims to increase positive outcomes for vulnerable consumers when dealing and reduce the risk that they will experience harm. It builds on a British standard (BS 18477) on inclusive service provision published in 2010. It was converted into an international standard in 2022, following Consumer of Public Interest Network recommendations.

55 The ISO aims to promote good practice and challenges companies to provide an inclusive service at all stages of service delivery, focusing on a companies ability to identify and support customers in vulnerable situations, through key principles such as access, safety, information and representation. We are overwhelmingly proud to be one of the first nine companies globally to achieve certification.

Helping those struggling to pay (3E.13)

56 We understand it continues to be a challenging time for many people, which is why we increased our support package to £135 million and continue to explore new ways to support customers who are struggling to pay. We awarded £82 million of Debt Relief and continue to operate a range of affordability assistance under our WaterCare package, including Concessionary Tariffs, Forgiveness Schemes, Temporary Payments Plans and Payment Breaks. During 2023/24 our WaterCare package supported 389,371 customers, exceeding the Affordability ODI target by 92,753.

57 Our ExtraCare team provide a holistic approach to assisting customers, including help we can provide to customers in managing their payments to us, and a check to see if they are claiming all benefits to which their household is entitled. This year we have signposted customers to more than £6.8 million worth of potential unclaimed benefits.

58 In the year we have assisted an additional 37,000 customers in "water poverty" on our social tariffs, LITE and Extra LITE. As a result, thanks to the generosity of our customers, we are providing direct tariff support to over 272,000 customers.

59 All this support is captured under our WaterCare banner, to help customers identify the help available and to promote our services directly to target groups.

Value for money (3E.14)

60 In the CCW 2023 survey ('*Water Matters*'), 76 per cent of our customers said that they were "satisfied" or "very satisfied" when asked "How satisfied are you with the value for money of water services in your area?". This is a decrease compared to 79 per cent in 2022. This three point decrease is smaller than in the industry as a whole, where the average figure fell by six points from 75 per cent in 2022 to 69 per cent in 2023.

61 The percentage who said that they were "satisfied" or "very satisfied" when asked "How satisfied are you with the value for money of sewerage services in your area?" decreased to 78 per cent compared to 82 per cent in 2022. This four point decrease is smaller than in the industry as a whole, where the average figure fell by eight points from 79 per cent in 2022 to 71 per cent in 2023.

62 Our weighted performance commitment score is therefore 77 per cent and does not meet our performance commitment level of 82 per cent. The weighting of the scores is based on the relative sizes of the water and sewerage services we provide, which is a 44:56 split from water to sewerage.

WINEP delivery (3E.15)

63 We delivered all but three of our obligations in year four of the WINEP (2023/24). Although these three schemes were physically delivered in the year, due to operational issues they did not pass Environment Agency inspections. These issues have since been resolved. See line 3B.7 for more details.

Community investment (3E.16)

64 Our community investment performance commitment consists of a number of different programmes and initiatives from long-term strategic programmes to responding to one-off requests for support. It spans the breadth of the Anglian Water region and supports the communities we serve and the local environment too.

65 This performance commitment tracks the beneficiaries of our community investment programme. The methodology used is provided by the London Benchmarking Group (LBG) framework which measures community investment that is both charitable and voluntary and allows us to measure the contribution Anglian Water and our Alliances make to communities and the number of people directly reached or supported. For further information on methodology, please refer to the LBG Guidance Manual 2018. Please note, after setting this performance commitment LBG rebranded as Business for Societal Impact (B4SI).

66 Following this methodology, during 2023/24 our community investment directly supported an estimated 51,826 people (exceeding our target). This figure has been audited by Jacobs as required by our final determination.

Programme Classification	**Number of people directly reached or supported**
Education	31,478
People in vulnerable circumstances	17,854
Environmental	2,494
Total	51,826

67 This performance commitment captures investment in communities which is reportable using the B4SI methodology, but there are also significant wider contributions which sit outside this reporting.

68 Further information and examples can be found in our Annual Integrated Report and Accounts 2024 and our Community Investment Report 2024.

Customer trust (3E.17)

69 This performance commitment captures the trust that customers place in the company. The company is incentivised to improve the service and performance it delivers to customers in such a way that they can place a greater level of trust in the company.

70 The performance commitment is calculated each year from a survey by CCW (formerly the Consumer Council for Water), which asks customers for feedback on their water and sewerage company. Customers are asked to what extent they trust their water company, on a scale of 1–10, with one being 'do not trust them at all' and 10 being 'trust them completely'. The measure of the performance commitment is the score of the company relative to the industry average of the CCW Trust score. Meeting the performance commitment level requires us to improve our score relative to the industry compared to a 2019/20 baseline.

71 The calculation is:

72 (Our score minus average score of all water companies) minus (our score in 2019/20 minus average score of all water companies in 2019/20)

73 The result of this calculation is shown in the following table:

	2019-20	2020-21	2021-22	2022-23	2023-24
Anglian Score	7.69	7.89	7.66	7.30	6.45
Industry Average Score	7.69	7.87	7.33	7.21	6.37
Anglian Difference	0.00	0.02	0.33	0.09	0.08
Performance Commitment Level	0.00	0.00	0.01	0.02	0.03
PCL met?	MET	MET	MET	MET	MET

74 Our absolute score for the survey question has fallen this year. However, it has fallen by less than the industry average score. This means that our score as measured by the performance commitment has increased and the performance commitment level is met.

Natural capital (3E.18)

75 The Natural Capital Impact performance commitment captures the improvement the company makes through four sub-measures: water quantity, ground water quality, surface water quality and biodiversity. All sub-measures must be on track for the PC to be considered on track. In 2023/24 only three of the four measures are on track and so the overall PC must be considered to fail this year.

76 The Water Quantity sub-measure must be classed as a fail for 2023/24. The target three year rolling average for distribution input/population was 228.64 litres/head/day but the actual was 233.04 l/h/d. This sub-measure continues to suffer from the impact of the dramatic change in water usage due to the Covid-19 pandemic across the UK and is not unique to the Anglian region; however reductions have been seen year-on-year since 2020/21.

Description	Unit	2019/20	2020/21	2021/22	2022/23	2023/24
Population - Total including non-household	000	4771.32	4837.75	4909.54	4972.8	5064.11
Distribution input	Ml/d	1136.35	1186.3	1157.31	1173.39	1151.76
DI/Population	l/h/d	238.16	245.22	235.73	235.96	227.43
3 year average DI/Pop	l/h/d	241.52	242.91	239.7	238.97	233.04

77 The **Ground Water Quality sub-measure** is on track, with us having delivered the nitrate engagement programme as agreed. The focus this year was on expanding our contacts with farmer groups in our target catchments, and further developing our funding support to facilitate changes in farm management. To this end, the main outputs were:

Continuation of Farm Innovation Grant, Farmer Training Grant and Cover Crop Grant

- Farm Innovation Grant - Farmers from strategic AW catchments competed for up to £7,500 of grant funding. 19 applicants were cited as improving nitrate leaching be it through improved application methods or other methods to improve nutrient management such as soil analysis.
- Farmer training Grant 2023/24 - 34 applications with 28 being successful. This supported 218 days of training covering a farmed area of 54,399ha. 11 of the applications cited better farm nutrient management as a reason for taking the course. A further 10 applications were for the BASIS Foundation course which includes some crop nutrient elements as well good practice when applying fertilisers.
- Cover Crop Grant - 100 farms received support to plant a minimum of 10ha of cover crops per farm. As a result of the support an additional 1,500ha of cover crops were planted above the planned hectarage stated by the applicants. Development and delivery of two new support schemes: Green Cover Seed for Outdoor Pigs, and Undersowing of Maize sponsorship. Both followed trials/ pilot years evaluating the best way to manage these novel systems.

Delivery at five knowledge exchange events in target areas:

- Green Cover for Outdoor Pigs – final trial results meeting 27 June 2023, Norfolk (joint with Norfolk Rivers Trust, AHDB, Kings/Frontier)
- Regenerative agriculture with Ben Taylor-Davies - 3 November 2023, Suffolk (joint with Catchment Sensitive Farming, Norfolk Rivers Trust etc)
- River Lark farmer liaison event - 10 November 2023, Suffolk (joint with Catchment Sensitive Farming, Norfolk Rivers Trust etc)
- Making best use of nutrients from manures and fertilizers – 29 February 2024, North Lincs (joint with Catchment Sensitive Farming)
- NICCS (Nitrogen Release from Cover Crops) results webinar 5 March 2024 (ADAS event).

Expanded contacts with farmer groups, such that of the 43 sources in the WINEP, the extent of our contacts are now :

- Four sources: we have good individual contacts with a majority of the priority area farmers (mainly small priority areas)
- 18 sources: working in partnership with a farm cluster or liaison group that encompasses our priority area (the groups across three of them funded/facilitated by Anglian Water)
- 15 sources: some individual contacts and initial links to farm cluster groups, to further strengthen this year
- At two sources there is an existing farming group which we are initiating contact with.

78 The Surface Water Quality sub-measure is on track with the relevant WINEP schemes for 2023/24 delivered on target. We are on-track to ensure delivery of all statutory obligations in 2024/25, with the completion of advanced enabling works in 2023. This includes the continued exploration of treatment wetland solutions, the first of which we expect to come online later this year.

79 The Biodiversity sub-measure is on track. Biodiversity Net Gain (BNG) is an approach to development and/or land management that aims to leave the natural environment in a measurably better state than beforehand. Recognising the responsibility that we have towards contributing to nature recovery across the region, both on its own land and where it impacts biodiversity through its activities, the business has made a corporate commitment to deliver 10 per cent BNG across capital schemes and land management activities where there is a material impact upon biodiversity. This is a corporate commitment and is one of the Natural Capital metrics set out in our Six Capitals Framework.

80 The 10 per cent BNG requirement only applies against the measured losses of biodiversity. This means that if the temporary or permanent losses of an intervention (i.e. construction or land management activity) can be reduced or avoided completely then the 10 per cent compensation has the advantage of being calculated against a lower measured loss. If there are no measurable losses, then there is no BNG requirement.

81 The performance commitment is an AMP7 commitment, the figure below is the current position of the cumulative gain across the AMP (2020-2025):

82 2023/24 end of financial year figures:

83 Cumulative precentage gain overall at company level = 92 per cent

84 Total measured losses (Habitat Biodiversity Units only) = 154

85 Total measured gains (Habitat Biodiversity Units only) = 295.

Regional collaboration (3E.19)

86 This metric measures the collaborative approach to measuring and managing natural capital beyond the company's operational boundaries. It aims to drive the development of a regional approach to assessing and considering natural capital in strategic planning and decision making.

87 In 2023/24 the Natural Capital East Group met formally three times (September 2023, January and March 2024) with representation from 13 organisations and members have met as subgroups to discuss mapping and aligning priorities. The Systematic Conservation Plan (now known as the Natural Capital Plan) was completed and published on the WRE website in January 2022 https://wre.org.uk/projects/systematic-conservation-planning/.

88 This plan has been used by organisations to inform their planning, including the development of Anglian Water's Long Term Delivery Strategy. Members continue to explore mapping future opportunities and to work in collaboration to deliver activity on the ground. Natural Capital East have contributed to the submission, as a supporting partner, of a £5 million EcoRise bid to develop a centre of excellence for nature markets in the region (bid being led by University of East Anglia).

89 The metric is therefore considered to be on track.

Table 3F - Underlying calculations for common performance commitments - water and retail

	Line description	Unit	Standardising data indicator	Standardising data numerical value	Performance level - Actual (current reporting year)	Performance level - Calculated (i.e. standardised)
	Performance commitments set in standardised units - Water					
1	Mains repairs - Reactive	Mains repairs per 1000 km	Mains length in km	39,397.00	3,444.00	87.42
2	Mains repairs - Proactive	Mains repairs per 1000 km	Mains length in km	39,397.00	1,400.00	35.54
3	Mains repairs	Mains repairs per 1000 km	Mains length in km	39,397.00	4,844.00	122.95
4	Per capita consumption (PCC)	lpd	Total household population (000s) and household consumption (Ml/d)	4,986.00	636.00	127.60

	Line description	Unit	Performance level - actual (2017-18)	Performance level - actual (2018-19)	Performance level - actual (2019-20)	Baseline (average from 2017-18 to 2019-20)	Performance level - actual (2020-21)	Performance level - actual (2021-22)	Performance level - actual (2022-23)	Performance level - actual (2023-24)	Performance level 3 year average (current and previous 2 years)	Calculated performance level to compare against PCLs
	Performance commitments measured against a calculated baseline											
5	Leakage	Ml/d	191.3	199.9	191.0	194.1	182.4	173.4	190.5	182.1	182.0	6.2
6	Per capita consumption (PCC)	lpd	134.8	136.9	133.3	135.0	146.9	136.0	132.3	127.6	132.0	2.2

Line description	Unit	Standardising data indicator	Standardising data numerical value	Total minutes lost	Number of properties supply interrupted	Calculated performance level

	Water supply interruptions						
7	Water supply interruptions	Average number of minutes lost per property per year	Number of properties (thousands)	2,313.36	14,671.67	52,642.00	12:09:ss AM

Line description	Current company level peak week production capacity (PWPC) Ml/d	Reduction in company level PWPC Ml/d	Outage proportion of PWPC %

	Unplanned or planned outage			
8	Unplanned outage	1,797.00	36.91	2.053978%

Line description	Total residential properties (000s)	Total number of households on the PSR (as at 31 March)	PSR reach	Total number of households on the PSR over a 2 year period	Number of attempted contacts over a 2 year period	Attempted contacts %	Number of actual contacts over a 2 year period		Actual contacts %

	Priority services for customers in vulnerable circumstances									
9	Priority services for customers in vulnerable circumstances	2,988.20	380,853.00	0.13	275,876.00	267,407.00	0.97	154,932.00		0.56

Mains repairs - Reactive (3F.1)

1 There were 3,444 reactive mains repairs in 2023/24, compared to 5,140 in 2022/23. The region has benefitted from more benign weather conditions throughout the year, along with targeted focus on resolving issues on assets within high burst areas.

2 For AMP7 we have moved away from our method of reporting using the WISPA (Water Infrastructure Serviceability Performance Assessment) Model. This model is now used internally to better understand the impact of external factors such as soils, tree roots and weather on our assets to improve our prioritisation of mains rehabilitation schemes and leakage reduction programmes.

Mains repairs - Proactive (3F.2)

3 In 2023/24 we identified and repaired 1,400 bursts using proactive leak detection. This was a reduction in real terms on the previous year, but 2022/23 as an exceptional year in terms of mains repairs. Performance has reverted back to the long-term average (between 2011/12 and 2021/22 we averaged 1,343 proactively detected bursts).

4 The proportion of bursts being found proactively rose to 29 per cent (marginally up from the long-term average of 27 per cent) as we continue to focus on driving down our leakage rate.

Mains repairs (3F.3)

5 This is a calculated field and is the sum of 3F.1 and 3F.2. The length of potable mains is 39,397km. This number is consistent with the number reported in table 6C.1.

Per capita consumption (PCC) (3F.4 and 3F.6)

6 The tables restrict the numbers of visible decimal places for line 3F.4 to two decimal places for population (000s) and to zero decimal places for consumption in Ml/d. This does not provide sufficient accuracy to calculate PCC correctly potentially resulting in rounding errors.

7 For further commentary on activities to manage PCC please see commentary for 3A.4.

Leakage (3F.5)

8 Please see commentary for 3A.3.

Water supply interruptions (3F.7)

9 This field takes the number of connected properties in the region and divides this into the total minutes that have been lost within the year to calculate the average number of minutes lost per property per year. The number of properties with their supply interrupted was 52,642. The total connected property figure is taken from 4R.27 (total column), which is 2,313,356. The average length of each property's interruption was therefore 09:08 minutes.

Unplanned outage (3F.8)

10 The 2023/24 unplanned outage figure of 2.054 per cent is an increase on the 2022/23 reported figure. This equates to 36.91Ml/d.

11 Overall Company PWPC saw a 16.97 Ml/d increase from 1,780.093 Ml/d in 2022/23 to 1,797.001 Ml/d in 2023/24. This is partially due to a change in how our PWPC is calculated as a result from feedback from Ofwat.

Priority services for customers in vulnerable circumstances (3F.9)

12 For details please see commentary for 3E.2 - 3E.4.

Table 3G - Underlying calculations for common performance commitments - wastewater

	Line description	Unique reference	Unit	Standardising data indicator	Standardising data numerical value	Performance level - actual current reporting year	Calculated performance level
	Performance commitments set in standardised units						
1	Internal sewer flooding - customer proactively reported	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	Number of sewer connections	2,922.62	653.00	2.23
2	Internal sewer flooding - company reactively identified (ie neighbouring properties)	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	Number of sewer connections	2,922.62	9.00	0.03
3	Internal sewer flooding	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	Number of sewer connections	2,922.62	662.00	2.27
4	Pollution incidents	PR19ANH_8	Pollution incidents per 10,000 km of sewer length	Sewer length in km	76,437.00	307.00	40.16
5	Sewer collapses	PR19ANH_13	Number of sewer collapses per 1,000 km of all sewers	Sewer length in km	77,780.00	422.00	5.43

Internal sewer flooding - customer proactively reported (3G.1)

1 There were 653 internal incidents which customers proactively reported to the business in 2023/24. These include customers proactively informing us when an incident has occurred either by contacting us direct or informing us if a neighbour has been affected. This is an increase from 2022/23 when we reported 486 internal incidents proactively reported to the business.

Internal sewer flooding - company reactively identified (i.e. neighbouring properties) (3G.2)

2 There were nine internal incidents which have been reactively identified by the business in 2023/24. These include reactively adding additional properties to an incident once we have confirmed from proactively visiting neighbouring properties. This is an increase from 2022/2023 when we reported five internal incidents reactively identified by the business. As part of their training, our network technicians are instructed to check two properties to each side of any property reporting flooding, to ensure that no additional flooding has occurred at those properties.

3 Ofwat has requested that, from 2021/22, if a company reports zero or near zero for this line it should explain why this is the case. At two per cent of the total internal sewer flooding incidents, the figure reported could be considered as near zero. However this is an increase on the prior year. While we are confident that our policies and procedures ensure that we have visited neighbouring properties and reported those that have flooded, we attribute the lower number of incidents reported against this line to a reduction in operative

understanding of the system that allows us to discern between proactively identified incidents and reactively identified ones. We are working to educate our operational colleagues, improve this system and resolve the issue.

Internal sewer flooding (3G.3)

4 There were 662 internal flooding incidents in 2023/24. This includes 169 incidents caused by overloaded sewers and 493 incidents caused by other causes including blockages, collapses, equipment failure, pumping station failure and third party causses. This total includes 22 incidents caused by severe weather events in 2023/24.

5 In 2022/23 we reported 491 internal flooding incidents, we have seen an increase of internal flooding's in 2023/24 due to the severe wet weather conditions. We have included statistics that highlight the challenging winter within the Internal Flooding commentary for line 3B.1

Pollution incidents (3G.4)

6 The definition of this measure is taken from the Environmental Performance Assessment (EPA) methodology document: the total number of pollution incidents (categories one to three) from sewerage assets per 10,000km of sewer length for which the company is responsible in a calendar year. The number we have used to normalise the absolute total number of pollution incidents is also taken from this document (76,437km).

7 The measure includes pollution incidents from a discharge or escape of a contaminant from a company sewerage asset affecting the water environment only (impacts to land and air are excluded). Sewerage assets include:

- Waste water treatment works
- Foul sewers, including private sewers transferred to the water companies in Oct 2011 (used in the EPA from 1 Jan 2016)
- Combined sewer overflows, excluding satisfactory CSOs
- Rising mains, including private rising mains transferred to the water companies in October 2016 (used in the EPA from 1 Jan 2021)
- Pumping stations, including private pumping stations transferred to the water companies in October 2016 (used in the EPA from 1 Jan 2021)
- Storm tanks
- Surface water outfalls
- Other.

8 Pollution incidents emanating from clean water distribution and water treatment works are excluded.

9 We have seen an increase in the number of total pollution incidents categories one to three in 2023 (307) compared with 2022 (258). This performance of 40.16 incidents per 10,000 km sewer does not meet the performance commitment level of 171 (22.4 per 10,000 km), leading to a penalty of £7.903 million. The commentary associated with 3B discusses this performance in more detail.

Sewer collapses (3G.5)

10 Data recorded in this table includes the total of reactive sewer collapses and reactive burst rising mains.

11 There were 308 reactive sewer collapses in comparison to 2022/23 (259), there were 114 reactive burst rising mains in comparison to 2022/23 (142), totalling 422 for 2023/24.

12 We have seen a decrease in burst rising mains in 2023/24, this is due to our pressure monitors alerting us to the risk of a burst.

Common Methodology Compliance

13 We are fully compliant with the sewer collapses common definition. We have not changed our methodology for calculating the length of formerly private sewers since our 2021 APR submission. While this is compliant to the letter of the definition (to report the length of transferred sewers separately), we have previously reported this line to Ofwat as "amber" on compliance due to the low confidence in the data that we believe exists across the industry.

14 Our estimate of our length of formerly private sewers is based on initial assessments made before the transfer for PR09. We are aware that our approach is consistent with most of the industry in that we continue to use the modelled lengths calculated at that time. However, we believe that new technologies and approaches can be used to improve upon the modelling carried out for PR09. As a result we have commenced a project to provide improved modelled estimates for our private sewers as well as our modelled section 24 sewer lengths.

Table 3H - Summary information on outcome delivery incentive payments

	Line description	Initial calculation of performance payments (excluding CMEX and DMEX)
		£m (2017-18 prices)
	Initial calculation of in period revenue adjustment by price control	
1	Water resources	-0.15
2	Water network plus	-14.11
3	Wastewater network plus	-27.35
4	Bioresources (sludge)	-
5	Residential retail	1.04
6	Business retail	-
7	Dummy control	-
	Initial calculation of end of period revenue adjustment by price control	
8	Water resources	-
9	Water network plus	-
10	Wastewater network plus	-
11	Bioresources (sludge)	-
12	Residential retail	-
13	Business retail	-
14	Dummy control	-
	Initial calculation of end of period RCV adjustment by price control	
15	Water resources	-
16	Water network plus	-
17	Wastewater network plus	-
18	Bioresources (sludge)	-
19	Residential retail	-
20	Business retail	-
21	Dummy control	-

1 The table below summarises our performance against the performance commitments for 2023/24 (excluding C-Mex and D-Mex). It shows that we met 48 per cent of the performance commitments for which we had performance commitment levels during the year.

	PCL met	**PCL not met**	**No PCL or PC not assessed**	**Total**
Water financial (3A)	5	8	3	16
Wastewater financial (3B)	1	6	2	9

Non-financial (3E)	13	6	0	19
Total	19	20	5	44

2 Adding in our estimates of the rewards for C-Mex and D-Mex, we have earned total net penalty of £37.6 million (2017/18 prices) for our performance under the performance framework in 2023/24. The table below shows where rewards and penalties were achieved and also shows the figures in 2023/24 prices.

	Rewards/penalties from 2023/24 performance (£m)	
	2017/18 Prices	2023/24 prices
Water		
Water supply interruptions	-4.3	-5.4
Leakage	-8.4	-10.5
Compliance Risk Index	-1.6	-2.0
Properties at risk of persistent low pressure	0.5	0.7
Water quality contacts	0.0	0.0
Abstraction Incentive Mechanism	-0.1	-0.1
Mains repairs	0.0	0.0
WINEP	-0.1	-0.1
Wastewater		
Internal sewer flooding	-9.1	-11.3
Pollution incidents	-7.9	-9.8
Treatment Works Compliance	-0.8	-1.0
External sewer flooding	-9.4	-11.7
WINEP	-0.5	-0.6
Retail		
C-Mex	0.9	1.1
D-Mex	2.2	2.7
Managing void properties	1.0	1.3
Total	-37.6	-46.8

3 These payments will be applied to bills from charging year 2025/26.

4 The table below shows the rewards and penalties we have earned across all our PCs over the first four years of the price control period (2017/18 ptb).

17/18 PTB	**20/21**	**21/22**	**22/23**	**23/24**	**Total**
Abstraction Incentive Mechanism	-0.0	0.0	-0.1	-0.1	-0.1
Bathing waters attaining excellent status					0.0
CMEX	1.1	0.0	-0.3	0.9	1.7
DMEX	1.2	1.2	0.0	2.2	4.5
External Sewer Flooding	2.4	-0.2	-2.4	-9.4	-9.6

Internal Sewer Flooding	3.6	-1.1	-1.2	-9.1	-7.8
Leakage (3YA)	0.1	0.2	-3.2	-8.4	-11.3
Mains repairs	0.0	0.0	-4.5	0.0	-4.5
Managing void properties	1.4	1.3	1.2	1.0	4.9
Percentage of population supplied by a single system	0.6	0.0	0.0	0.0	0.6
Pollution Incidents	-1.4	-4.5	-4.6	-7.9	-18.4
Properties at risk of persistent low pressure	0.0	0.6	0.6	0.5	1.8
Sewer collapses	-1.1	0.0	0.0	0.0	-1.1
Supply interruptions	1.0	-4.2	-10.1	-4.3	-17.6
Treatment Work Compliance %	0.0	-1.1	-0.6	-0.8	-2.4
Unplanned Outage	0.0	0.0	0.0	0.0	0.0
Water Quality Compliance (CRI)	0.0	-1.6	-1.1	-1.6	-4.4
Water quality contacts	-0.1	-0.1	-0.2	-0.0	-0.4
WINEP	3.0	1.1	2.2	-0.6	5.7
Total	11.7	-8.3	-24.2	-37.6	-58.3

5 No penalties have been assumed for PCC or our interconnector programme, in line with the proposals we have made to Ofwat. As set out in the commentary to 6B.35, we have restated our performance for 2022/23 leakage. The figure in the table above reflects the penalty associated with this revision and is therefore different from the number we quoted in APR23.

Table 3I - Supplementary outcomes information

	Line description	Current company level peak week production capacity (PWPC) Ml/d	Reduction in company level PWPC Ml/d	Outage proportion of PWPC %
	Unplanned or planned outage			
1	Planned outage	1,797	29	1.60%

	Line description	Deployable output	Outage allowance	Dry year demand	Target headroom	Total population supplied	Customers at risk
	Risk of severe restrictions in drought						
2	Risk of severe restrictions in drought	1,533	39	1167	60	4899	1386

	Line description	Total pe served	Total pe in excluded catchments	Percentage of total pe in excluded catchments	Total pe Option 1a	Percentage of total pe Option 1a	Total pe Option 1b	Percentage of total pe Option 1b	Vulnerability risk grade		
									Low	Medium	High
									Percentage of total population served		
	Risk of sewer flooding in a storm										
3	Risk of sewer flooding in a storm	6,456,509	-	-	-	-	6,456,509	100.00%	99.25%	-	0.75%

	Line description	Number of patch repairs or relining undertaken on sewer and not included in reported sewer collapses.
	Sewer collapses	
4	Sewer collapses	612

Planned outage (3I.1)

1 The planned outages number for 2023/24 is 1.597 per cent which equates to 28.698 Ml/d. Planned outages are captured on our Planned and Unplanned Outage event log.

Risk of severe restrictions in drought (3I.2)

2 The Ofwat guidance relates to the fixed period 2020-2045. The percentage of customers at risk has been provided for, based on the total population across seven Water Resource Zones that could (in planning terms) experience severe supply restrictions during a 1 in 200-year drought. The seven Water Resource Zones are: Bury Haverhill, Central Lincolnshire, Cheveley, Newmarket, Ruthamford South, South Essex and South Fenland (as defined for WRMP19).

3 Bury Haverhill, Central Lincolnshire, Cheveley, Newmarket and South Fenland have customers at risk from a severe restriction in a 1 in 200-year drought. Ruthamford South and South Essex are included due to having baseline deficits that effectively means a 1 in 200-year drought would have an impact (non-drought investment will eliminate this deficit).

4 The total population the company serves that would experience severe supply restrictions is 1,405,860 and is slightly higher than the previous year (1,385,760). There are small changes to deployable output, outage, dry year demand, target headroom and total population as we move through the planning horizon.

5 There are no knock-on impacts to other Water Resource Zones and no Water Resource Zones that have 1 in 200 year drought impacts are in deficit as reported for the SOSI.

Risk of sewer flooding in a storm (3I.3)

6 Please refer to the commentary for table 3E, line 5.

Sewer collapses (3I.4)

7 Data recorded in this line includes the number of spot repairs or relining undertaken on sewers and not included in reported sewer collapses.

8 There were 598 work orders in comparison to 2022/23 (873), which have been confirmed as spot repairs or relining and 14 potential sewer collapses in comparison to 2022/23 (29) which have been closed as relining. This totals 612 spot repairs and relining which have excluded from our reported sewer collapses. Proactive approaches have been carried out in 2023/24 by installing monitors and other solutions to find issues within the network before the customer is aware, this has reduced the number of lining repairs to sewers.

Table 4A - Water bulk supply information for the 12 months ended 31 March 2024

	Line description	Volume	Operating costs	Revenue
	Units	Ml	£m	£m
	Bulk supply exports			
1	Bulk supply 1	-	-	-
2	Bulk supply 2	-	-	-
3	Bulk supply 3	-	-	-
4	Bulk supply 4	-	-	-
5	Bulk supply 5	-	-	-
6	Bulk supply 6	-	-	-
7	Bulk supply 7	-	-	-
8	Bulk supply 8	-	-	-
9	Bulk supply 9	-	-	-
10	Bulk supply 10	-	-	-
11	Bulk supply 11	-	-	-
12	Bulk supply 12	-	-	-
13	Bulk supply 13	-	-	-
14	Bulk supply 14	-	-	-
15	Bulk supply 15	-	-	-
16	Bulk supply 16	-	-	-
17	Bulk supply 17	-	-	-
18	Bulk supply 18	-	-	-
19	Bulk supply 19	-	-	-
20	Bulk supply 20	-	-	-
21	Bulk supply 21	-	-	-
22	Bulk supply 22	-	-	-
23	Bulk supply 23	-	-	-
24	Bulk supply 24	-	-	-
25	Bulk supply 25	-	-	-
26	Total bulk supply exports	-	-	-

	Line description	Volume	Operating costs
	Units	Ml	£m
	Bulk supply imports		
27	Bulk supply 1	-	-	-
28	Bulk supply 2	-	-	-
29	Bulk supply 3	-	-	-
30	Bulk supply 4	-	-	-

31	Bulk supply 5	-	-	-
32	Bulk supply 6	-	-	-
33	Bulk supply 7	-	-	-
34	Bulk supply 8	-	-	-
35	Bulk supply 9	-	-	-
36	Bulk supply 10	-	-	-
37	Bulk supply 11	-	-	-
38	Bulk supply 12	-	-	-
39	Bulk supply 13	-	-	-
40	Bulk supply 14	-	-	-
41	Bulk supply 15	-	-	-
42	Bulk supply 16	-	-	-
43	Bulk supply 17	-	-	-
44	Bulk supply 18	-	-	-
45	Bulk supply 19	-	-	-
46	Bulk supply 20	-	-	-
47	Bulk supply 21	-	-	-
48	Bulk supply 22	-	-	-
49	Bulk supply 23	-	-	-
50	Bulk supply 24	-	-	-
51	Bulk supply 25	-	-	-
52	Total bulk supply imports	-	-	-

Bulk supply exports and imports (4A.1 - 4A.52)

1 As noted in Ofwat's response to the 2020/21 RAG consultation, this table is intended to capture imports and exports that qualify for the trading incentive for the PR19 reconciliation workbook. We do not have any supplies that qualify under the water trading incentive framework.

Table 4B - Analysis of debt

1 Table 4B has not been published in this document. The published version of the Ofwat tables can be viewed through the Our reports section on our website.

2 Table 4B is the granular data which is summarised in Table 1E. It is worth noting that foreign currency loans have been reported on a post swap GBP basis as per RAG. Some of these foreign currency loans might be both partially fixed and floating and have been appropriately reflected in that category. Issue date now reflects pricing date i.e. the date of contractual agreements as per RAG rather than date on which bond proceeds were received.

3 Instrument names are now aligned with annual report and other public disclosures with more details given in further information column. Relevant commentary has been added in Table 1E and is not duplicated here.

Table 4C - Impact of price control performance to date on RCV

	Line description	Units	12 months ended 31 March 2024					Price control period to date				
			Water resources	Water network plus	Wastewater network plus	Bioresources	Additional Control	Water resources	Water network plus	Wastewater network plus	Bioresources	Additional Control
	Totex (net of business rates, abstraction licence fees and grants and contributions)											
1	Final determination allowed totex (net of business rates, abstraction licence fees, grants and contributions and other items not subject to cost sharing)	£m	42.144	500.786	627.054	90.648	-	160.059	1,709.645	2,098.557	353.522	-
2	Actual totex (excluding business rates, abstraction licence fees, grants and contributions and other items not subject to cost sharing)	£m	51.904	724.190	571.481	106.756	-	153.298	1,967.889	1,881.019	353.086	-
3	Transition expenditure	£m	-	-	-	-	-	5.278	10.137	3.297	-	-
4	Disallowable costs	£m	-	1.702	1.309	-	-	-	4.064	4.961	-	-
5	Total actual totex (net of business rates, abstraction licence fees and grants and contributions)	£m	51.904	722.489	570.172	106.756	-	158.576	1973.962	1879.355	353.086	-
6	Variance	£m	9.759	221.703	-56.883	16.108	-	-1.483	264.317	-219.202	-0.437	-
7	Variance due to timing of expenditure	£m	-	-92.182	-234.000	-	-	-	-167.000	-234.000	-	-
8	Variance due to efficiency	£m	9.759	313.885	177.117	16.108	-	-1.483	431.317	14.798	-0.437	-
9	Customer cost sharing rate - outperformance	%	55.00%	55.00%	55.00%	-	-	55.00%	55.00%	55.00%	-	-
10	Customer cost sharing rate - underperformance	%	45.00%	45.00%	45.00%	-	-	45.00%	45.00%	45.00%	-	-
11	Customer share of totex overspend	£m	4.392	141.248	79.703	-	-	-	194.093	6.659	-	-
12	Customer share of totex underspend	£m	-	-	-	-	-	-0.816	-	-	-	-
13	Company share of totex overspend	£m	5.368	172.637	97.415	16.108	-	-	237.224	8.139	-	-
14	Company share of totex underspend	£m	-	-	-	-	-	-0.667	-	-	-0.437	-
	Totex - business rates and abstraction licence fees											
15	Final determination allowed totex - business rates and abstraction licence fees	£m	15.647	45.055	25.678	3.598	-	57.248	164.838	93.947	13.165	-

	Line description	Units	12 months ended 31 March 2024					Price control period to date				
			Water resources	Water network plus	Wastewater network plus	Bioresources	Additional Control	Water resources	Water network plus	Wastewater network plus	Bioresources	Additional Control
16	Actual totex - business rates and abstraction licence fees	£m	11.729	34.563	25.164	3.871	-	49.484	142.434	87.247	13.492	-
17	Variance - business rates and abstraction licence fees	£m	-3.918	-10.491	-0.515	0.272	-	-7.764	-22.404	-6.700	0.327	-
18	Customer cost sharing rate - business rates	%	80.15%	89.86%	90.00%	90.00%	-	82.34%	89.89%	90.00%	90.00%	-
19	Customer cost sharing rate - abstraction licence fees	%	75.00%	75.00%	-	-	-	75.00%	75.00%	-	-	-
20	Customer share of totex over/underspend - business rates and abstraction licence fees	£m	-3.140	-9.427	-0.463	0.245	-	-6.393	-20.138	-6.030	0.295	-
21	Company share of totex over/underspend - business rates and abstraction licence fees	£m	-0.778	-1.064	-0.051	0.027	-	-1.371	-2.266	-0.670	0.033	-
	Totex not subject to cost sharing											
22	Final determination allowed totex - not subject to cost sharing	£m	7.821	45.031	15.776	0.604	-	19.243	149.215	48.079	2.527	-
23	Actual totex - not subject to cost sharing	£m	33.145	40.269	10.384	1.306	-	56.166	129.125	49.488	13.909	-
24	Variance - 100% company allocation	£m	25.325	-4.762	-5.393	0.701	-	36.923	-20.090	1.409	11.382	-
25	Total customer share of totex over/under spend	£m	1.252	131.821	79.240	0.245	-	-7.208	173.954	0.629	0.295	-
	RCV											
26	Total customer share of totex over/under spend	£m	1.252	131.821	79.240	0.245	-	-7.208	173.954	0.629	0.295	-
27	PAYG rate	%	79.62%	47.60%	37.56%	86.79%	-	77.68%	50.28%	40.97%	82.08%	-
28	RCV element of cumulative totex over/underspend	£m	0.255	69.075	49.476	0.032	-	-1.609	86.482	0.372	0.053	-
29	Adjustment for ODI outperformance payment or underperformance payment	£m	-	-	-	-	-	-	-	-	-	-
30	Green recovery	£m	-	-	-	-	-	-	-	-	-	-
31	RCV determined at FD at 31 March	£m	-	-	-	-	-	259.020	4,067.817	5,956.964	391.913	-
32	Projected 'shadow' RCV	£m	-	-	-	-	-	257.411	4,154.299	5,957.335	391.966	-

1 The table sets out the Totex spend by price control for the year and AMP to date compared against the allowance set by our Regulator. The table is broken down into three sections

1. Totex (net of business rates, abstraction licence fees and G&C)

2. Business rates and abstraction licence fees
3. Totex not subject to cost sharing

2 Management is then required to show how much of the variance in spend is due to timing and how much is efficiency, with a proportion of the efficiency (or inefficiency) shared with customers as set out in the Final Determination.

Variance due to timing of expenditure

3 We note that assessing these timing impacts requires a degree of judgement to be exercised which we have undertaken to the best of our abilities, any inaccuracies in this judgement will unwind by the end of the AMP. Given the nature of assessing this, we have rounded to the nearest £million.

4 For Water Network+ our AMP to date timing differences reflect the profile of spend in relation to our strategic interconnecting pipeline project. This project is the biggest infrastructure project in our history and will be key to moving water around the region and improving resilience to drought. As with a project this size it has been extremely complex. This complexity has been exacerbated by, Covid-19, which caused delays in our ability to start the project. We have also had to deal with local planning and multiple different councils, who have all faced delays due to recovering from Covid-19 backlogs. In addition, supply chain challenges due to the Russian invasion of Ukraine have been particularly challenging, with the majority of the steel for the pipeline being supplied from Mariupol, where we had to find alternative sources.

5 Despite these delays, which have caused a timing difference between the cost profile in the Business Plan and our actual spend profile we have made great progress in delivery of the project. Whilst we recognise the significant risk in delivery we are closely managing the project and expect to be complete within the original target dates, albeit these challenges have seen additional cost pressures that we expect to continue.

6 For Water Recycling Network + timing adjustment primarily reflects the change in profile of our Water Industry National Environment Programmes (WINEP) spend. The programme is a huge success delivering large scale nature based solutions and we are committed to delivering all of our obligations. By thinking outside of the box we are able to meet these obligations in innovative environmentally positive ways. These solutions require additional planning and consideration which, along with the impacts of Covid-19 have resulted in an element of the spend being pushed into Year 5 compared to what was initially anticipated.

Totex Out / Under Performance AMP7 to Date (post timing)

7 Our cumulative position AMP to date is an overall overspend of £438 million (£371 million when including the allowance received for pension deficit payments excluded from the above). This is primarily as a result of higher Botex spend, where we have seen higher energy costs whilst simultaneously reinvesting efficiencies to seek to improve the performance of the business. We expect this trend to continue in year 5 of AMP7 and are also planning a further £100 million spend in our pollution recovery plan.

8 With enhancement capex we have seen additional spend in delivering our strategic interconnecting pipeline project, where we have seen increased costs over and above CPIH due to increased costs of steel and other supply chain challenges, whilst we have continued to deliver our Water Industry National Environment Programmes (WINEP) environmental obligations through innovative projects. The efficiency in delivering these WINEP projects has been reinvested into Botex as described above.

9 The Board continues to actively chose to reinvest efficiencies in Water Recycling as we seek to recover from a number of weather-related events throughout the AMP.

10 These decisions highlight the flexibility of the business to manage both cost and delivery across the business as a whole which has been enabled by the broadly symmetrical cost sharing rates between price controls as well as between base and enhancement expenditure.

11 In addition to reinvesting efficiencies, our shareholders agreed £350 million of additional investment, including £100 million to accelerate our work on reducing spills and pollutions. This is over and above the level agreed by Ofwat.

12 Within the £321 million overspend is £73 million of pension deficit recovery payments. The table requires us to include the actual costs but exclude the £77 million allowance, therefore increasing the overspend for the AMP.

Disallowable costs (4C.4)

13 Disallowable costs relate to fines, penalties and guaranteed service scheme payments incurred in the year, including court costs associates with fines and penalties.

14 As part of the IDOK settlement we agreed to invest £1.4 million in lead replacement funded by shareholders. In 2023/24 we spent £0.5 million relating to this, the remaining amount is expected to be spent across the remaining year of the AMP.RCV determined at FD at 31 March (4C.31)

15 This has been taken from Ofwat's published RCVs. We have not been able to fully reconcile the year-end RCV that was published by Ofwat. Whilst we have reported based on the Ofwat published RCV, we continue to believe that the RPI proportion of the RCV should be inflated by RPI only for it to be consistent with the publication of RCV in the previous years. Our calculation of the Year-end RCV on this consistent basis is around £5 million higher that the Ofwat published RCV.

Projected 'shadow' RCV (4C.32)

16 These are calculated cells. We note however the shortcomings of this "shadow" RCV reported number. The calculations performed in this table do not replicate the detailed PR19 cost reconciliations model, which calculates RCV adjustments as a result of totex out / under performance. In addition this "shadow" RCV takes no account of RCV adjustments published in Ofwat's "Blind Year" adjustments document, which will apply at the end of AMP7.

Table 4D - Wholesale Totex Analysis - Water

	Line description	Units	Water resources	Network+				Total
				Raw water transport	Raw water storage	Water treatment	Treated water distribution	
	Operating expenditure							
1	Base operating expenditure	£m	44.834	12.572	0.676	62.200	158.300	278.583
2	Enhancement operating expenditure	£m	4.971	0.102	0.005	0.997	7.459	13.534
3	Developer services operating expenditure	£m	-	-	-	-	0.997	0.997
4	Total operating expenditure excluding third party services	£m	49.805	12.674	0.681	63.197	166.757	293.114
5	Third party services	£m	6.745	1.383	0.008	7.256	11.351	26.743
6	Total operating expenditure	£m	56.550	14.057	0.688	70.453	178.108	319.857
	Grants and contributions							
7	Grants and contributions - operating expenditure	£m	-	-	-	-	-	-
	Capital expenditure							
8	Base capital expenditure	£m	10.486	0.811	0.124	18.315	98.824	128.560
9	Enhancement capital expenditure	£m	29.472	1.558	-	16.470	369.322	416.822
10	Developer services capital expenditure	£m	0.064	-	-	-	54.140	54.204
11	Total gross capital expenditure excluding third party services	£m	40.022	2.369	0.124	34.785	522.286	599.586
12	Third party services	£m	0.299	0.022	0.002	2.293	0.597	3.213
13	Total gross capital expenditure	£m	40.321	2.391	0.126	37.078	522.883	602.799
	Grants and contributions							
14	Grants and contributions - capital expenditure	£m	0.093	-	-	-	28.464	28.557
15	Net totex	£m	96.778	16.448	0.814	107.531	672.527	894.099
	Cash expenditure							
16	Pension deficit recovery payments	£m	-	-	-	-	-	-
17	Other cash items	£m	-	-	-	-	-	-
18	Totex including cash items	£m	96.778	16.448	0.814	107.531	672.527	894.099

Line description	Units	Water resources	Network+				Total
			Raw water transport	Raw water storage	Water treatment	Treated water distribution	

	Atypical expenditure							
19	Item 1	£m	-	-	-	-	-	-
20	Item 2	£m	-	-	-	-	-	-
21	Item 3	£m	-	-	-	-	-	-
22	Item 4	£m	-	-	-	-	-	-
23	Item 5	£m	-	-	-	-	-	-
24	Total atypical expenditure	£m	-	-	-	-	-	-

1 Movement in costs 2022/23 to 2023/24

£m	Water Resources	Raw Water Transport & Storage	Water Treatment	Treated Water Distribution	Water Total
2022/23 reporting operating costs	44.7	10.2	58.1	166.8	**279.6**
Inflation @ 5.5%	2.5	0.5	3.2	9.2	**15.6**
2022/23 costs indexed to 2023/24 prices	47.2	10.7	61.3	176.0	**295.2**
2023/24 reported operating costs	56.6	14.7	70.5	178.1	**319.9**
(Increase)/decrease in underlying costs from 2022/23	**(9.4)**	**(4.0)**	**(9.2)**	**(2.1)**	**(24.6)**

Power

2 The wholesale cost of power increased substantially in 2023/24 due to hedging strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. The agreements protected us from the worst impacts of open market peaks in 2022/23 but has meant energy cost for 2023/24 has included many contracts purchased during this peak Costs are expected to remain high for 2024/25 compared with base year of 2019/20 regardless of open market movements.

Water resources

3 Total Operating expenditure was £9.4 million higher in real terms.

4 Base operating expenditure was £5.0 million higher in real terms than 2022/23 primarily driven by increase in power costs due to hedging strategy as detailed in the note below. This is partially offset by Abstraction Licences not being subject to the inflation rate of 5.5 per cent.

5 Enhancement operating expenditure was £3.3 million higher than 2022/23 in real terms due to spend relating to land remediation at Helpston and an increase in spend linked to aborted capital projects.

6 Third Party has increased in real terms by £1.1 million compared with 2022/23, this is being driven by the substantial increase in power and an increase in spend on chemicals.

Raw Water transport and storage

7 Total operating expenditure was £4.0 million higher in real terms than 2022/23 primarily driven by significant increase in power costs due to hedging strategy as detailed in the note below.

Water treatment

8 Total operating expenditure was £9.1 million higher than 2022/23 in real terms primarily driven by significant increase in power costs due to hedging strategy as detailed in the note below. 2022/23 also had a rebate received in Rates relating to prior years. The rebate followed a collaborative review with the Valuation Office Agency (VOA) for the Rateable Values (RV) of our chargeable assets across the region which contributes to the increase of rates for 2023/24.

Treated water distribution

9 Total operating expenditure was £2.1 million higher than 2022/23.

10 Base operating expenditure was £1.1 million higher than 2022/23 in real terms due to a significant increase in power costs due to hedging strategy as detailed in the note (£13.2 million). This is offset by reduced Network Contractor costs being driven by a decrease in support and repair teams compared with 2022/23 which had increased teams due to the freeze/thaw and hot summer events during 2022/23.

11 Enhancement operating expenditure was £0.2 million lower than 2022/23 in real terms due to a reduction in Leakage spend. This is offset by an increase in expenditure relating to Smart Meter Data Charges as the number of cumulative smart meter installations rise and additional spend on innovation projects as shown in table 9A.

12 Third Party has increased in real terms by £1.0 million compared with 2022/23, this is being driven by the substantial increase in power.

Capital Expenditure (4D.8-4D.13)

13 All of our capital expenditure is delivered through projects where master data is used to identify whether the expenditure is for maintaining the long term capability of assets or other capital assets for both infrastructure and non infrastructure.

14 It is expected that capital expenditure profiles vary year on year significantly due to the strategic prioritisation of the investment programme. Large projects and stakeholder required investments can lead to variances in year on year comparisons of the same data point.

15 This master data is also used for the classifying expenditure within the relevant price control. The majority of capital expenditure is directly attributable to the price control. Where this is not possible, capital expenditure is assigned to the business unit of principal use with an appropriate recharge of depreciation charges for these shared assets made between price control segments in table 2A.

16 Refer to the commentary for 4L for enhancement variance analysis against allowances.

Table 4E - Wholesale Totex Analysis - Wastewater

	Line description	Units	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
	Operating expenditure										
1	Base operating expenditure	£m	78.631	24.368	12.187	168.532	6.215	34.602	34.299	12.812	371.645
2	Enhancement operating expenditure	£m	1.914	0.562	0.258	5.695	0.066	-	-	-	8.495
3	Developer services operating expenditure	£m	0.148	0.022	0.045	-	-	-	-	-	0.216
4	Total operating expenditure excluding third party services	£m	80.693	24.952	12.490	174.227	6.281	34.602	34.299	12.812	380.356
5	Total third party services	£m	0.264	0.105	0.054	1.826	0.035	0.171	1.048	0.077	3.581
6	Total operating expenditure	£m	80.957	25.057	12.545	176.054	6.316	34.773	35.346	12.888	383.937
	Grants and contributions										
7	Grants and contributions - operating expenditure	£m	-	-	-	-	-	-	-	-	-
	Capital expenditure										
8	Base capital expenditure	£m	36.189	11.099	5.506	116.822	-	4.088	19.895	1.965	195.564
9	Enhancement capital expenditure	£m	18.474	6.913	2.811	107.470	-	-	2.966	-	138.634
10	Developer services capital expenditure	£m	20.414	-	-	-	-	-	-	-	20.414
11	Total gross capital expenditure excluding third party services	£m	75.077	18.012	8.317	224.292	-	4.088	22.861	1.965	354.612
12	Third party services	£m	0.003	-	-	0.142	-	-	0.010	-	0.155

	Line description	Units	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
13	Total gross capital expenditure	£m	75.080	18.012	8.317	224.434	-	4.088	22.871	1.965	354.767
	Grants and contributions										
14	Grants and contributions - capital expenditure	£m	21.053	-	-	-	-	-	-	-	21.053
15	Net totex	£m	134.984	43.069	20.862	400.488	6.316	38.861	58.217	14.853	717.651
	Cash expenditure										
16	Pension deficit recovery payments	£m	-	-	-	-	-	-	-	-	-
17	Other cash items	£m	-	-	-	-	-	-	-	-	-
18	Totex including cash items	£m	134.984	43.069	20.862	400.488	6.316	38.861	58.217	14.853	717.651

	Line description	Units	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
	Atypical expenditure										
19	Item 1	£m	-	-	-	-	-	-	-	-	-
20	Item 2	£m	-	-	-	-	-	-	-	-	-

	Line description	Units	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
21	Item 3	£m	-	-	-	-	-	-	-	-	-
22	Item 4	£m	-	-	-	-	-	-	-	-	-
23	Item 5	£m	-	-	-	-	-	-	-	-	-
24	Total atypical expenditure	£m	-	-	-	-	-	-	-	-	-

Change in operating expenditure compared to 2022/23 - regulatory accounts

1 Underlying wastewater operating expenditure increased by £44.8 million (13.2 per cent) in real terms.

Movement in costs 2022/23 to 2023/24

£m	Sewerage Collection	Sewerage Treatment	Bioresources	Sewerage Total
2022/23 reporting operating costs	94.1	146.7	80.5	321.30
Inflation @ 5.5%	5.2	8.2	4.5	17.9
2022/23 costs indexed to 2023/24 prices	99.3	154.90	85.0	339.2
2023/24 reported operating costs	118.6	182.4	83.0	384.0
(Increase)/decrease in underlying costs from 2022/23	19.3	27.5	(2.0)	44.8

Operating expenditure key changes (4E.1-4E.11)

Sewage Collection

2 Total Collection costs increased by £19.3 million in real terms, due to the region's record levels of rainfall and continuous storms throughout the second half of the year. This drove up power costs and the requirement to hire additional contractors and tankers to reduce pollution risks. This was mitigated slightly by ongoing planned preventative maintenance and CCTV surveying.

Sewage treatment

3 Total Treatment Costs increased by £27.5 million in real terms, mainly due to the increased power and chemical costs which were heavily impacted by the record levels of rainfall and the need to maintain treatment work compliance.

Bioresources

4 Bioresources costs decreased by £2.0 million in real terms. In the second half of the year, there has been a concerted effort to utilise our logistics vehicles primarily for proactive, routine sludge haulage, which has reduced hired & contracted services. In the previous year, we saw an increase associated with the haulage and storage of biosolids, this year our disposals returned to normal levels, as the backlog of biosolids was cleared in 2022/23. Tankered sludge had returned to a more normal tankering distance following operational disruption caused by the temporary closure of Great Billing STC in prior year. Whilst there has been an increase in salaries with pay inflation and increased overtime, there has been a redirection of technician resource to collection and treatment due to the severe wet weather.

Power

5 The power cost in 2023/24 has faced a significant increase, as forecasted. This is due to our strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. This in effect fixes our wholesale cost at an average price of all the forward contracts for the relevant year. In volatile market conditions, forecasting the direction of future prices is a risk decision, and we spread the risk by building up our purchase of future energy use over time, and we do so to ensure financial certainty, not to outperform the market. A hedging strategy of this nature, by its design, avoids the highs, but also the lows in markets through the multiple purchase of small volumes of energy over time. This strategy protected us in 2022/23 from the significant spikes in the wholesale energy market but means in 2023/24 we have faced increased costs as contracts purchased during the peak are included in the cost base for the current year. Expectation

is that energy costs will remain high in 2024/25 compared with a base year of 2019/20 regardless of what the volatile market price actually does, because of the strategy of buying forward contracts.

Capital Expenditure (4E.8-4E.13)

6 All of our capital expenditure is delivered through projects where master data is used to identify whether the expenditure is for maintaining the long term capability of assets or other capital assets for both infrastructure and non infrastructure.

7 This master data is also used for the classifying expenditure within the relevant price control. The majority of capital expenditure is directly attributable to price control. Where this is not possible, capital expenditure is assigned to the business unit of principal use with an appropriate recharge of depreciation charges for these shared assets made between price control segments in table 2A.

8 It is expected that capital expenditure profiles vary year on year significantly due to the strategic prioritisation of the investment program particularly with Enhancement capex. To this effect, the Enhancement capex spend has increased in line with our 2023/24 plan by £16.9 million in real terms, due to our Water Industry National Environment Programme.

9 Base Capital Expenditure is 9.5 per cent lower than the previous year in real terms. Last year saw additional planned investment within Sewage collection and increased maintenance expenditure in relation to a Sewer inlet collapse at Southend Water Recycling Centre, which has not repeated this year.

10 An allocation was required for the foul, surface water drainage and highway drainage split. The allocation was based on flow estimate models provided by our modelling team.

11 Total wastewater capital expenditure includes £0.2 million of spend on assets used to fulfil third-party agreements.

12 The Sludge Liquor values above do not align with table 7A, 7B, & 8B, following the guidance on improving cost allocation between Sewage treatment and bioresources units in relation to sludge liquors.

Table 4F - Major project expenditure for wholesale water by purpose

	Line description	Units	Expenditure in report year £m					
			Water resources	Water network+				Total
				Raw water transport	Raw water storage	Water treatment	Treated water distribution	
	Major project capital expenditure by purpose							
1	WAT-07288 - WRMP DPC - Elsham to Lincoln Transfer	£m	-	-	-	-	-	-
2	WAT-07289 - WRMP DPC- Additional Capacity Elsham WTW	£m	-	-	-	-	-	-
3	WAT-07462 - WRMP North Lincs Deficit DPC	£m	-	-	-	-	-	-
4	WAT-07397 - WRMP19 Adaptive Planning Pre Planning	£m	-	-	-	0.317	-	0.317
5	WAT-07356a/WAT-07860 - South Lincs Reservoir	£m	17.446	-	-	-	-	17.446
6	WAT-07356b - Affinity Trf Dev (A2AT)	£m	-	-	-	-	-	-
7	WAT-07634 - Fens Reservoir RAPID 2021-23	£m	7.678	-	-	-	-	7.678
8	Capital expenditure purpose - line 8	£m	-	-	-	-	-	-
9	Capital expenditure purpose - line 9	£m	-	-	-	-	-	-
10	Capital expenditure purpose - line 10	£m	-	-	-	-	-	-
11	Total major project capital expenditure	£m	25.124	-	-	0.317	-	25.441
	Major project operating expenditure by purpose							
12	WPX-00048 - Lincs Res Dev't 23-25 OPEX	£m	0.687	-	-	-	-	0.687
13	WPX-00049 - Fens Reservoir RAPID Dev't 23-25 OPEX	£m	0.320	-	-	-	-	0.320
14	Operating expenditure purpose - line 3	£m	-	-	-	-	-	-
15	Operating expenditure purpose - line 4	£m	-	-	-	-	-	-
16	Operating expenditure purpose - line 5	£m	-	-	-	-	-	-
17	Operating expenditure purpose - line 6	£m	-	-	-	-	-	-
18	Operating expenditure purpose - line 7	£m	-	-	-	-	-	-
19	Operating expenditure purpose - line 8	£m	-	-	-	-	-	-
20	Operating expenditure purpose - line 9	£m	-	-	-	-	-	-
21	Operating expenditure purpose - line 10	£m	-	-	-	-	-	-
22	Total major project operating expenditure	£m	1.007	-	-	-	-	1.007

	Line description	Units	Cumulative expenditure on incurred on schemes in £m					
			Water resources	Water network+				Total
				Raw water transport	Raw water storage	Water treatment	Treated water distribution	
	Major project capital expenditure by purpose							
1	WAT-07288 - WRMP DPC - Elsham to Lincoln Transfer	£m	-	-	-	-	0.030	0.030
2	WAT-07289 - WRMP DPC- Additional Capacity Elsham WTW	£m	-	-	-	-	-	-
3	WAT-07462 - WRMP North Lincs Deficit DPC	£m	-	-	-	0.115	-	0.115
4	WAT-07397 - WRMP19 Adaptive Planning Pre Planning	£m	-	-	-	2.611	-	2.611
5	WAT-07356a/WAT-07860 - South Lincs Reservoir	£m	24.197	-	-	-	-0.308	23.889
6	WAT-07356b - Affinity Trf Dev (A2AT)	£m	-	-	-	-	0.308	0.308
7	WAT-07634 - Fens Reservoir RAPID 2021-23	£m	11.132	-	-	-	-	11.132
8	Capital expenditure purpose - line 8	£m	-	-	-	-	-	-
9	Capital expenditure purpose - line 9	£m	-	-	-	-	-	-
10	Capital expenditure purpose - line 10	£m	-	-	-	-	-	-
11	Total major project capital expenditure	£m	35.329	-	-	2.726	0.030	38.085
	Major project operating expenditure by purpose							
12	WPX-00048 - Lincs Res Dev't 23-25 OPEX	£m	0.687	-	-	-	-	0.687
13	WPX-00049 - Fens Reservoir RAPID Dev't 23-25 OPEX	£m	0.320	-	-	-	-	0.320
14	Operating expenditure purpose - line 3	£m	-	-	-	-	-	-
15	Operating expenditure purpose - line 4	£m	-	-	-	-	-	-
16	Operating expenditure purpose - line 5	£m	-	-	-	-	-	-
17	Operating expenditure purpose - line 6	£m	-	-	-	-	-	-
18	Operating expenditure purpose - line 7	£m	-	-	-	-	-	-
19	Operating expenditure purpose - line 8	£m	-	-	-	-	-	-
20	Operating expenditure purpose - line 9	£m	-	-	-	-	-	-
21	Operating expenditure purpose - line 10	£m	-	-	-	-	-	-
22	Total major project operating expenditure	£m	1.007	-	-	-	-	1.007

Elsham to Lincoln Transfer

1 Please refer to commentary for table 6F.

North Lincs Deficit

2 Please refer to commentary for table 6F.

South Lincs and Fens Reservoirs

3 We are developing three strategic options as part of the Strategic Resource Option (SRO) programme overseen by RAPID (the Regulators' Alliance for Progressing Infrastructure Development):

4 The Fens Reservoir which is being promoted jointly by Anglian Water and Cambridge Water

5 The Lincolnshire Reservoir (previously the South Lincolnshire Reservoir, SLR); and

6 The Peterborough to Grafham (P2G) strategic transfer (previously the Anglian to Affinity transfer, A2AT)

7 The main achievement in 2023/24 was the completion of site and option selection. Fens Reservoir is to be located just north of Chatteris and the Lincolnshire Reservoir south-east of Sleaford near Swaton. We also undertook phase one of ground investigations and surveys within the year, which was a significant driver of the increase in costs compared to 2022/23. Preparation for second round of non-statutory public consultation begins in May 2024 and is expected to conclude in Summer 2024. Gate two reports were submitted in November 2022, and the Final decision for Gate two submission was received in June 2023 confirming that all three options are able to progress to the next stage of the RAPID gated process. We are now progressing through Gate three, and will be looking to submit our Gate three reporting in September 2024. The draft regional plan and draft Water Resource Management Plans were published at the end of 2022 and both confirmed the need for the reservoirs. A second draft was published in August 2023, with further information provided to Defra in early 2024.

8 The Lincolnshire Reservoir and the P2G were originally promoted jointly by Anglian Water and Affinity Water but water resource modelling has confirmed there will be no exports from the region and therefore Anglian Water is now the sole promoter of the two options from Gate three onwards. The scope of the P2G has reduced to reflect this; providing a strategic transfer from Peterborough to Grafham only.

9 Stakeholder engagement continues to be instrumental to this process with regular engagement with a number of stakeholder partnerships including the Lincolnshire Reservoir Working Partnership and the Fens Water Partnership, and the development of Topic Working Groups. The main cost drivers in 2023-24 were ground investigation work and surveys, master planning and option selection, design freeze two, and stakeholder engagement. The focus for 2024/25 is a second round of surveys for ecology and ground investigation works, and developing the design of the reservoirs and transfer connections. This will form the basis of the next public consultation beginning May 2024 and the RAPID gate three reports which are to be submitted in September 2024.

Table 4G - Major project expenditure for wholesale wastewater by purpose

1 We have no major Wastewater projects.

Table 4H - Financial Metrics

	Line description	Units	Current year	AMP to date
	Financial indicators			
1	Net debt	£m	7,360.224	-
2	Regulatory equity	£m	3,315.491	-
3	Regulatory gearing	%	68.94%	-
4	Post tax return on regulatory equity	%	-2.70%	-
5	RORE (return on regulatory equity)	%	-3.51%	1.60%
6	Dividend yield	%	2.19%	-
7	Retail profit margin - Household	%	-1.80%	-
8	Retail profit margin - Non household	%	-	-
9	Credit rating - Fitch	Text	A- (Stable)	-
10	Credit rating - Moody's	Text	A3 (Stable)	-
11	Credit rating - Standard and Poor's	Text	A- (Negative)	-
12	Return on RCV	%	4.66%	-
13	Dividend cover	dec	0.69	-
14	Funds from operations (FFO)	£m	568.349	-
15	Interest cover (cash)	dec	3.52	-
16	Adjusted interest cover ratio (ACICR)	dec	1.29	-
17	FFO/Net debt	dec	0.08	-
18	Effective tax rate	%	35.60%	-
19	Retained cash flow (RCF)	£m	495.715	-
20	RCF/Net debt	dec	0.07	-
	Borrowings			
21	Proportion of borrowings which are fixed rate	%	28.38%	-
22	Proportion of borrowings which are floating rate	%	11.17%	-
23	Proportion of borrowings which are index linked	%	60.45%	-
24	Proportion of borrowings due within 1 year or less	%	4.42%	-
25	Proportion of borrowings due in more than 1 year but no more than 2 years	%	7.38%	-
26	Proportion of borrowings due in more than 2 years but no more than 5 years	%	15.72%	-
27	Proportion of borrowings due in more than 5 years but no more than 20 years	%	56.62%	-
28	Proportion of borrowings due in more than 20 years	%	15.86%	-

Net debt (4H.1)

1 Net debt has increased this year due to higher inflation rates driving higher indexation on index-linked debt and due to the continued investment in the capex programme.

2 There are several differences between statutory and regulatory net debt. These are principally that regulatory net debt excludes: swap accretion, accrued interest, accounting fair value adjustments, and debt issue costs. A full reconciliation between statutory and regulatory net debt can be found in the commentary to Table 1E.

Regulated equity (4H.2)

3 Compared with prior year regulated equity has decreased by £40.8 million to £3,315.5 million. This reflects the increase in net debt, discussed above, being greater than that in RCV.

Regulated gearing (4H.3)

4 Regulated gearing represents net debt per table 1E divided by year-end RCV.

Post tax return on regulated equity (4H.4)

5 A break down of the calculation for the current and prior year is shown below for information.

Line description	2022/23	2023/24
Profit/(loss) before tax and fair value movements (£m)	-323.232	-140.413
UK corporation tax (£m)	26.512	50.383
Profit/(loss) after current tax (excluding fair value movements) (£m)	-296.72	-90.030
Regulated equity (average for year) (£m)	3,191.758	3335.880
Post tax return on regulated equity (%)	(9.3)	(2.7)

RORE (4H.5)

6 RORE is calculated in table 1F, please refer to the table and associated commentary for more detail. The Ofwat submission table displays RORE as a decimal and not a percentage.

Dividend yield (4H.6)

7 A dividend of £79.9 million (£72.6 million appointed) was paid in the 2023/24 year compared to £169.0 million (£161.2 million appointed) payment in the 2022/23 year.

Retail profit margin - household and non-household (4H.7 and 4H.8)

8 Both lines 7 and 8 are Ofwat calculated cells.

9 The retail profit margins are calculated as earnings before interest and tax (after deducting wholesale charges) divided by total revenue charged to household or non-household customers respectively. Details of movements are shown in the table and discussed in the commentary to 2I and 2C.

10 Non-household retail margin is 0.0 per cent as a result of the transfer of the non-household retail business in 2017/18 and our exit from the non-household retail market.

Credit Rating (4H.9 - 4H.11)

11 The A- (A3) relates to our Corporate Family Rating by Moody's. This is on a stable outlook as at 31 March 2024.

12 Moody's also rate our senior secured debt as A3 and have this on stable outlook as at 31 March 2024.

13 S&P rate our senior secured debt as A- and have this on negative outlook as at 31 March 2024.

14 Fitch rate our senior secured debt as A- and have this on stable outlook as at 31 March 2024.

Return on RCV (4H.12)

15 Return on RCV for the year was 4.7 per cent compared with 4.6 per cent for the prior year. The increase is consistent with the increase in profit before interest, after current tax, compared with the prior year, and the increase in average RCV.

Dividend cover (4H.13)

16 A dividend of £79.9 million (£72.6 million appointed) was paid in the 2023/24 year compared to £169.0 million (£161.2 million appointed) payment in the 2022/23 year.

Funds from operations (4H.14)

17 FFO is net cash generated from operating activities adjusted to remove the changes in working capital. Ofwat acknowledge that their approach to calculating this differs from some of the methodologies applied by the credit rating agencies.

18 FFO for the year was £568.3 million compared with £532.1 million for the prior year. The increase is due principally due to the movement in cash generated from operations and movement in working capital discussed in the commentary for table 1D.

Interest cover (cash) (4H.15)

19 Interest cover (cash) equals FFO as calculated above plus interest paid on borrowings (1D.10), divided by interest paid on borrowings (1D.10). Interest paid on borrowings excludes any accretion of interest-linked debt which is a non-cash item and is made up of interest paid £224.3 million and interest paid on leases £1.1 million.

20 The interest cover ratio for the 2023/24 year was 3.52 compared with 3.64 for the 2022/23 year. This metric has decreased due to the lower FFO.

Adjusted interest cover (cash) (4H.16)

21 Adjusted interest cover (cash) is calculated as per the above but with FFO plus interest paid adjusted for regulatory depreciation of £503.0 million (2022: £469.5 million) as published by Ofwat.

22 The cover ratio for the 2023/24 year was 1.29 compared with 1.31 for the 2022/23 year. This decrease is a result of the increase in interest payments, as discussed in the commentary to 1D, and the increase in the regulatory depreciation.

FFO/debt (4H.17)

23 The ratio for 2023/24 is 0.08 which is consistent with that that disclosed in the prior year, 0.08. This reflects the increase in FFO, offset by the increase net debt in the current report year.

24 As noted above, Ofwat acknowledges that its approach to calculating FFO/debt differs from some of the methodologies applied by the credit rating agencies.

Effective tax rate (4H.18)

25 Effective tax rate is the current tax charge for the appointed business as a percentage of the profit before tax and fair value movements for the appointed business.

26 The rate for 2023/24 was 35.6 per cent compared with 8.4 per cent in the prior year as set out in the following table:

	2022/23 £m	**2023/24** £m
Profit before tax per the Annual Performance Report	322.1	64.5
Fair value profit on derivatives included in Profit before tax	645.3	204.9
Loss excluding Fair value loss on derivatives (A)	**-323.2**	**-140.4**
Corporation tax charged at 25% (2023: 19%)	-61.4	-35.1
Depreciation and amortisation	59.1	77.6
Capital allowances	-112.8	-189.7
Capital allowances superdeductions	-10.8	0.0
Items not taxable	-9.5	-12.1
Items not deductible for tax purposes	2.3	2.6
Capital grants and contributions	-5.0	-4.8
Pension payments	-5.5	-1.3
Change in general provision movement	0.7	0.7
Losses carried forward	115.7	112.1
Current tax charge for the year before adjustments in respect of previous years (B)	-27.2	-50.0
Adjustments in respect of previous years	0.7	-0.4
Current tax charge for the year after adjustments in respect of previous years	-26.5	-50.4
Effective tax rate (B/A)	8.4%	35.6%

Retained cash flow (RCF) (4H.19)

27 Retained cash flow for the year was £495.7 million compared with £370.9 million for the prior year. The increase results largely from there being a £72.6 million appointed dividend paid in the current year compared to prior year of 161.0 million.

RCF/Net debt (4H.20)

28 The ratio for the year was 0.07 as a result of the movement in RCF and net debt discussed above.

Borrowings (4H.21 - 4H.28)

29 The Group's policy for the management of interest rate risk is to achieve a balanced mix of funding at index-linked (to RPI or CPI and, in time, CPIH), fixed and floating rates of interest. The Group endeavours to obtain the finest rates (lowest borrowing and finest depositing rates) consistent with ensuring that the relevant treasury objectives are met in full, i.e. the provision of adequate finance for Anglian Water Services Group at all times and maintaining security of principal.

30 The proportion of borrowings split between fixed, floating and index-linked has changed modestly from the prior year. The main drivers for those change are given in the Table 1E commentary. The Treasury policy approved by the Board confirmed that inflation linked debt as a proportion of RCV, to be a range of 45-55 per cent with CPIH hedging to be undertaken subject to the market developing and floating rate debt to be in a 5-15 per cent range.

31 The maturity profile of our debt reflects the long average life of our assets and is structured to ensure the avoidance of significant concentrations of refinancing within any individual period. The weighted average years to maturity is 11.8 years. The main change is due to accretion on the longer dated index linked debt, new long dated debt raised in the year and the effluxion of time in relation to debt maturities and amortisation schedules.

Table 4I - Financial Derivatives

	Line description	Financial derivatives – Total								
		Nominal value by maturity (net) at 31 March				Total value at 31 March		Total accretion at 31 March	Interest rate (weighted average for 12 months to 31 March 2021)	
		0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market		Payable	Receivable
	Units	£m	£m	£m	£m	£m	£m	£m	%	%
	Interest rate swap (sterling)									
1	Floating to fixed rate	-	99.013	-	250.000	349.013	22.267	-	4.167%	5.567%
2	Floating from fixed rate	75.000	525.000	204.532	645.000	1,449.532	46.453	-	6.176%	3.369%
3	Floating to index linked	150.000	-	-	566.303	716.303	387.543	188.407	3.905%	6.458%
4	Floating from index linked	-	-	-	-	-	-	-	-	-
5	Fixed to index-linked	-	-	-	665.857	665.857	157.479	165.355	0.970%	3.588%
6	Fixed from index-linked	-	-	-	-	-	-	-	-	-
7	Index-linked to index-linked	-	-	-	-	-	-	-	-	-
8	Total	225.000	624.013	204.532	2,127.160	3,180.705	613.742	353.762	-	-
	Foreign Exchange									
9	Cross currency swap USD	-	-	-	-	-	-	-	-	-
10	Cross currency swap EUR	-	-	-	-	-	-	-	-	-
11	Cross currency swap YEN	-	-	-	-	-	-	-	-	-
12	Cross currency swap Other	-	-	-	-	-	-	-	-	-
13	Total	-	-	-	-	-	-	-	-	-
	Currency interest rate									

14	Currency interest rate swaps USD	-	-	169.792	-	169.792	-14.350	-	-	-
15	Currency interest rate swaps EUR	-	-	-	-	-	-	-	-	-
16	Currency interest rate swaps YEN	-	-	-	145.754	145.754	30.450	-	-	-
17	Currency interest rate swaps Other	-	-	-	224.820	224.820	10.127	-	-	-
18	Total	-	-	169.792	370.574	540.366	26.227	-	-	-
	Forward currency contracts									
19	Forward currency contracts USD	-	-	-	-	-	-	-	-	-
20	Forward currency contracts EUR	-	-	-	-	-	-	-	-	-
21	Forward currency contracts YEN	-	-	-	-	-	-	-	-	-
22	Forward currency contracts CAD	-	-	-	-	-	-	-	-	-
23	Forward currency contracts AUD	-	-	-	-	-	-	-	-	-
24	Forward currency contracts HKD	-	-	-	-	-	-	-	-	-
25	Forward currency contracts Other	-	-	-	-	-	-	-	-	-
26	Total	-	-	-	-	-	-	-	-	-
	Other financial derivatives									
27	Other financial derivatives	41.159	12.072	324.388	515.100	892.719	15.273	-	-	-
28	Total financial derivatives	266.159	636.085	698.712	3,012.834	4,613.790	655.242	353.762	-	-

Line description	Financial derivatives – (A) Super-senior swaps with breaks or accretion paydowns								
	Nominal value by maturity (net) at 31 March				Total value at 31 March		Total accretion at 31 March	Interest rate (weighted average for 12 months to 31 March 2021)	
	0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market		Payable	Receivable
Units	£m	£m	£m	£m	£m	£m	£m	%	%

	Interest rate swap (sterling)									
29	Floating to fixed rate	-	74.013	-	66.667	140.680	4.632	-	3.018%	5.309%
30	Floating from fixed rate	-	-	-	-	-	-	-	-	-
31	Floating to index linked	150.000	-	-	566.303	716.303	387.543	188.407	3.905%	6.458%
32	Floating from index linked	-	-	-	-	-	-	-	-	-
33	Fixed to index-linked	-	-	-	350.857	350.857	83.266	84.823	0.826%	3.548%
34	Fixed from index-linked	-	-	-	-	-	-	-	-	-
35	Index-linked to index-linked	-	-	-	-	-	-	-	-	-
36	Total	150.000	74.013	-	983.827	1,207.840	475.441	273.230	-	-

	Foreign Exchange									
37	Cross currency swap USD	-	-	-	-	-	-	-	-	-
38	Cross currency swap EUR	-	-	-	-	-	-	-	-	-
39	Cross currency swap YEN	-	-	-	-	-	-	-	-	-
40	Cross currency swap Other	-	-	-	-	-	-	-	-	-
41	Total	-	-	-	-	-	-	-	-	-

	Currency interest rate									
42	Currency interest rate swaps USD	-	-	-	-	-	-	-	-	-
43	Currency interest rate swaps EUR	-	-	-	-	-	-	-	-	-
44	Currency interest rate swaps YEN	-	-	-	-	-	-	-	-	-
45	Currency interest rate swaps Other	-	-	-	-	-	-	-	-	-
46	Total	-	-	-	-	-	-	-	-	-

	Forward currency contracts

47	Forward currency contracts USD	-	-	-	-	-	-	-	-	-
48	Forward currency contracts EUR	-	-	-	-	-	-	-	-	-
49	Forward currency contracts YEN	-	-	-	-	-	-	-	-	-
50	Forward currency contracts CAD	-	-	-	-	-	-	-	-	-
51	Forward currency contracts AUD	-	-	-	-	-	-	-	-	-
52	Forward currency contracts HKD	-	-	-	-	-	-	-	-	-
53	Forward currency contracts Other	-	-	-	-	-	-	-	-	-
54	Total	-	-	-	-	-	-	-	-	-

	Other financial derivatives									
55	Other financial derivatives	-	-	-	-	-	-	-	-	-

56	Total financial derivatives	150.000	74.013	-	983.827	1,207.840	475.441	273.230	-	-

Line description	Financial derivatives – (B) Pari-passu swaps with breaks or accretion paydowns								
	Nominal value by maturity (net) at 31 March				Total value at 31 March		Total accretion at 31 March	Interest rate (weighted average for 12 months to 31 March 2021)	
	0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market		Payable	Receivable
Units	£m	£m	£m	£m	£m	£m	£m	%	%

	Interest rate swap (sterling)									
57	Floating to fixed rate	-	-	-	-	-	-	-	-	-
58	Floating from fixed rate	-	-	-	-	-	-	-	-	-
59	Floating to index linked	-	-	-	-	-	-	-	-	-
60	Floating from index linked	-	-	-	-	-	-	-	-	-
61	Fixed to index-linked	-	-	-	-	-	-	-	-	-

62	Fixed from index-linked	-	-	-	-	-	-	-	-	-
63	Index-linked to index-linked	-	-	-	-	-	-	-	-	-
64	Total	-	-	-	-	-	-	-	-	-

	Foreign Exchange									
65	Cross currency swap USD	-	-	-	-	-	-	-	-	-
66	Cross currency swap EUR	-	-	-	-	-	-	-	-	-
67	Cross currency swap YEN	-	-	-	-	-	-	-	-	-
68	Cross currency swap Other	-	-	-	-	-	-	-	-	-
69	Total	-	-	-	-	-	-	-	-	-

	Currency interest rate									
70	Currency interest rate swaps USD	-	-	-	-	-	-	-	-	-
71	Currency interest rate swaps EUR	-	-	-	-	-	-	-	-	-
72	Currency interest rate swaps YEN	-	-	-	-	-	-	-	-	-
73	Currency interest rate swaps Other	-	-	-	-	-	-	-	-	-
74	Total	-	-	-	-	-	-	-	-	-

	Forward currency contracts									
75	Forward currency contracts USD	-	-	-	-	-	-	-	-	-
76	Forward currency contracts EUR	-	-	-	-	-	-	-	-	-
77	Forward currency contracts YEN	-	-	-	-	-	-	-	-	-
78	Forward currency contracts CAD	-	-	-	-	-	-	-	-	-
79	Forward currency contracts AUD	-	-	-	-	-	-	-	-	-
80	Forward currency contracts HKD	-	-	-	-	-	-	-	-	-
81	Forward currency contracts Other	-	-	-	-	-	-	-	-	-

82	Total	-	-	-	-	-	-	-	-	-

	Other financial derivatives									
83	Other financial derivatives	-	-	-	-	-	-	-	-	-

84	Total financial derivatives	-	-	-	-	-	-	-	-	-

Line description	Financial derivatives – (C) Super-senior swaps without breaks or accretion paydowns								
	Nominal value by maturity (net) at 31 March				Total value at 31 March		Total accretion at 31 March	Interest rate (weighted average for 12 months to 31 March 2021)	
	0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market		Payable	Receivable
Units	£m	£m	£m	£m	£m	£m	£m	%	%
Interest rate swap (sterling)									
85 Floating to fixed rate	-	25.000	-	183.333	208.333	17.634	-	4.942%	5.741%
86 Floating from fixed rate	75.000	525.000	204.532	645.000	1,449.532	46.453	-	6.176%	3.369%
87 Floating to index linked	-	-	-	-	-	-	-	-	-
88 Floating from index linked	-	-	-	-	-	-	-	-	-
89 Fixed to index-linked	-	-	-	315.000	315.000	74.212	80.532	1.130%	3.632%
90 Fixed from index-linked	-	-	-	-	-	-	-	-	-
91 Index-linked to index-linked	-	-	-	-	-	-	-	-	-
92 Total	75.000	550.000	204.532	1,143.333	1,972.865	138.299	80.532	-	-
Foreign Exchange									
93 Cross currency swap USD	-	-	-	-	-	-	-	-	-
94 Cross currency swap EUR	-	-	-	-	-	-	-	-	-

95	Cross currency swap YEN	-	-	-	-	-	-	-	-	-
96	Cross currency swap Other	-	-	-	-	-	-	-	-	-
97	Total	-	-	-	-	-	-	-	-	-

	Currency interest rate									
98	Currency interest rate swaps USD	-	-	-	-	-	-	-	-	-
99	Currency interest rate swaps EUR	-	-	-	-	-	-	-	-	-
100	Currency interest rate swaps YEN	-	-	-	-	-	-	-	-	-
101	Currency interest rate swaps Other	-	-	-	-	-	-	-	-	-
102	Total	-	-	-	-	-	-	-	-	-

	Forward currency contracts									
103	Forward currency contracts USD	-	-	-	-	-	-	-	-	-
104	Forward currency contracts EUR	-	-	-	-	-	-	-	-	-
105	Forward currency contracts YEN	-	-	-	-	-	-	-	-	-
106	Forward currency contracts CAD	-	-	-	-	-	-	-	-	-
107	Forward currency contracts AUD	-	-	-	-	-	-	-	-	-
108	Forward currency contracts HKD	-	-	-	-	-	-	-	-	-
109	Forward currency contracts Other	-	-	-	-	-	-	-	-	-
110	Total	-	-	-	-	-	-	-	-	-

	Other financial derivatives									
111	Other financial derivatives	-	-	316.200	515.100	831.300	-6.171	-	-	-

112	Total financial derivatives	75.000	550.000	520.732	1658.433	2804.165	132.128	80.532	-	-

	Line description	Financial derivatives – (D) Other swaps								
		Nominal value by maturity (net) at 31 March				Total value at 31 March		Total accretion at 31 March	Interest rate (weighted average for 12 months to 31 March 2021)	
		0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market		Payable	Receivable
	Units	£m	£m	£m	£m	£m	£m	£m	%	%
	Interest rate swap (sterling)									
113	Floating to fixed rate	-	-	-	-	-	-	-	-	-
114	Floating from fixed rate	-	-	-	-	-	-	-	-	-
115	Floating to index linked	-	-	-	-	-	-	-	-	-
116	Floating from index linked	-	-	-	-	-	-	-	-	-
117	Fixed to index-linked	-	-	-	-	-	-	-	-	-
118	Fixed from index-linked	-	-	-	-	-	-	-	-	-
119	Index-linked to index-linked	-	-	-	-	-	-	-	-	-
120	Total	-	-	-	-	-	-	-	-	-
	Foreign Exchange									
121	Cross currency swap USD	-	-	-	-	-	-	-	-	-
122	Cross currency swap EUR	-	-	-	-	-	-	-	-	-
123	Cross currency swap YEN	-	-	-	-	-	-	-	-	-
124	Cross currency swap Other	-	-	-	-	-	-	-	-	-
125	Total	-	-	-	-	-	-	-	-	-
	Currency interest rate									
126	Currency interest rate swaps USD	-	-	169.792	-	169.792	-	-	-	-
127	Currency interest rate swaps EUR	-	-	-	-	-	-	-	-	-

128	Currency interest rate swaps YEN	-	-	-	145.754	145.754	-	-	-	-
129	Currency interest rate swaps Other	-	-	-	224.820	224.820	-	-	-	-
130	Total	-	-	169.792	370.574	540.366	-	-	-	-
	Forward currency contracts									
131	Forward currency contracts USD	-	-	-	-	-	-	-	-	-
132	Forward currency contracts EUR	-	-	-	-	-	-	-	-	-
133	Forward currency contracts YEN	-	-	-	-	-	-	-	-	-
134	Forward currency contracts CAD	-	-	-	-	-	-	-	-	-
135	Forward currency contracts AUD	-	-	-	-	-	-	-	-	-
136	Forward currency contracts HKD	-	-	-	-	-	-	-	-	-
137	Forward currency contracts Other	-	-	-	-	-	-	-	-	-
138	Total	-	-	-	-	-	-	-	-	-
	Other financial derivatives									
139	Other financial derivatives	41.159	12.072	8.188	-	61.419	21.444	-	-	-
140	Total financial derivatives	41.159	12.072	177.980	370.574	601.785	21.444	-	-	-

1 The nominal value is the face value of the financial instruments. These instruments are marked to market at the end of each reporting period and reported in the balance sheet at their fair value. The total fair value of financial instruments in Table 1C of £655.2 million agrees to the table. The power positions have been included based on the RAG guidance document which stipulates power as an example of other financial derivatives.

Floating to fixed rate (4I.1)

2 During the year, the following changes occurred in the floating to fixed rate category:

1. £50 million of new swaps entered during the year

2. £250 million of swaps were recategorized as fixed to fixed.

3 Changes in bucketing relate to the natural passage of time. Interest rates are higher than last year reflecting higher market rates.

Floating from fixed rate (4I.2)

4 During the year, the following changes occurred in the floating from fixed rate category:

5 £570 million of new swaps entered during the year

6 Changes in bucketing relate to the natural passage of time. Interest rate here are higher than last year reflecting higher market rates.

Floating to index linked (4I.3)

7 There is no change in net notional, though there has been a change to the bucketing in respect of the maturities of £150 million of swaps.

8 Weighted average interest rates payable for index linked debt have decreased during the year due to lower inflation. Weighted average interest rates receivable has increased reflecting the upward movement in Sonia rates within the year.

Fixed to index linked (4I.5)

9 No movements in this category as no new swaps have been executed.

Currency interest rate swaps USD/YEN/CAD (4I.14 - 4I.17)

10 Couple of movement on the cross currency swaps line relates to:

- New swaps in respect of a ¥8.5 billion (£44.5 million) bonds
- Swaps of US$110.5 million matured during the year.

Other financial derivatives (4I.23)

11 Other financial derivatives consists of power hedges and fixed to fixed interest rate swaps.

- £250 million of swaps were recategorized from floating to fixed
- £46 million decrease in commodity hedges due to contract expiry in the year.

12 Weighted average interest rate is no longer required, so not compared.

Assumptions:

13 For floating rate derivatives the Sonia rate as of 31 March 2024 has been used for calculations (5.1911 per cent). Similarly, for inflation linked derivatives, we have used RPI rate of 4.3 per cent and CPI rate of 3.2 per cent based on March inflation figures.

14 The Anglian Water Services Financing Group holds some derivative financial instruments which contain more than two legs (i.e. multiple pay and receive legs). In legal terms these form a single contract but these have been split (where applicable) to reflect the relevant risks implied on an individual leg basis.

15 The Mark to Market position is the full fair value of the positions with the total accretion column representing the accretion component of this full amount. Positive numbers are liability and negative numbers are asset as per RAG.

Table 4J - Base expenditure analysis for the 12 months ended 31 March 2024 - water resources and water network+

	Line description	Units	Water resources	Water network+				Total
				Raw water distribution	Raw water storage	Water treatment	Treated water distribution	
	Operating expenditure							
1	Power	£m	15.657	8.052	0.501	16.212	30.195	70.618
2	Income treated as negative expenditure	£m	-0.596	-0.021	-0.012	-0.378	-0.691	-1.698
3	Bulk Supply/Bulk discharge	£m	-	-	-	2.535	0.163	2.698
4	Renewals expensed in year (infrastructure)	£m	-	-	-	-	35.394	35.394
5	Renewals expensed in year (non-infrastructure)	£m	-	-	-	-	-	-
6	Other operating expenditure	£m	18.044	4.139	0.187	38.057	64.119	124.546
7	Local authority and Cumulo rates	£m	2.583	0.402	-0.000	5.291	28.387	36.664
	Service Charges							
8	Canal & River Trust abstraction charges/ discharge consents	£m	-	-	-	-	-	-
9	Environment Agency / NRW abstraction charges/ discharge consents	£m	9.146	-	-	0.483	-	9.629
10	Other abstraction charges/ discharge consents	£m	-	-	-	-	-	-
	Location specific costs & obligations							
11	Costs associated with Traffic Management Act	£m	-	-	-	-	0.733	0.733
12	Costs associated with lane rental schemes	£m	-	-	-	-	-	-
13	Statutory water softening	£m	-	-	-	-	-	-
14	Total base operating expenditure	£m	44.834	12.572	0.676	62.200	158.300	278.583
	Capital expenditure							
15	Maintaining the long term capability of the assets - infra	£m	2.531	0.256	-	-	23.035	25.822
16	Maintaining the long term capability of the assets - non-infra	£m	7.955	0.555	0.124	18.315	75.789	102.738
17	Total base capital expenditure	£m	10.486	0.811	0.124	18.315	98.824	128.560
	Traffic Management Act							
18	Projects incurring costs associated with Traffic Management Act	nr	-	-	-	-	12,342	12,342

Power

1 The power cost in 2023/24 has faced a significant increase. This is due to our strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. This in effect fixes our wholesale cost at an average price of all the forward contracts for the relevant year. In volatile market conditions, forecasting the direction of future prices is a risk decision, and we spread the risk by building up our purchase of future energy use over time, and we do so to ensure financial certainty, not to outperform the market. A hedging strategy of this nature, by its design, avoids the highs, but also the lows in markets through the multiple purchase of small volumes of energy over time. This strategy protected us in 2022/23 from the significant spikes in the wholesale energy market but means in 2023/24 we have faced increased costs as contracts purchased during the peak are included in the cost base for the current year. Expectation is that energy costs will remain high in 2024/25 compared with a base year of 2019/20 regardless of open market movements, regardless of what the volatile market price actually does, because of the strategy of buying forward contracts.

Water resources capital expenditure

Infra

2 The year-on-year increase in capital maintenance on infra water resources assets was driven by a higher volume of refurbishments to critical water resources pumps and motors compared to 2022/23.

Non-infra

3 The year-on-year increase in capital maintenance on non-infra water resources assets is driven by works carried out on the concrete bank of Cadney reservoir, which increased capital maintenance spend by £1.5 million versus 2022/23.

Raw Water Distribution capital expenditure

4 The increase in Raw Water Distribution maintenance expenditure is driven by higher Energy Optimisation and Reservoir Management expenditure vs prior year.

Raw Water Storage capital expenditure

5 The increase in Raw Water Storage maintenance expenditure is driven by Reservoir Act spend.

Water treatment capital expenditure

6 The decrease in maintenance expenditure on water treatment is driven by lower expenditure on the replacement of activated carbon filters, which are used as part of the treatment process to remove chemicals and odours from water. This was the biggest driver of the decrease in spend compared to 2022/23, alongside a number of smaller schemes where equivalent expenditure was higher in the previous financial year.

Treated water distribution capital expenditure

Infra

7 The year-on-year increase in capital maintenance spend within treated water distribution networks was primarily driven an increase in and reprioritisation of the mains renewal programmes in response to burst mains, reducing I2S risk and maintenance of the assets.

Non-infra

8 The year-on-year increase in Maintenance within Treated Water Distribution is predominantly due to spend on Storage Units where we have increased the number of units that were inspected, with higher costs driven by the complexity of the remedial work.

9 We have restated the cumulative figure, within table 4L, to ensure the allocation of smart meters between maintenance and enhancement for 2022/23 is accurately stated, the corresponding entry is within capital maintenance in this table.

Table 4K - Base expenditure analysis for the 12 months ended 31 March 2024 - wastewater network + and bioresources

	Line description	Units	Expenditure in report year								
			Wastewater network+					Bioresources			Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge Transport	Sludge Treatment	Sludge Disposal	
	Operating expenditure										
1	Power	£m	19.103	5.851	2.906	54.137	1.938	0.003	0.218	0.001	84.155
2	Income treated as negative expenditure	£m	-0.085	-0.026	-0.013	-1.031	-	-	-8.369	-2.581	-12.107
3	Bulk Supply/Bulk discharge	£m	-	-	-	-	-	-	-	-	-
4	Renewals expensed in year (infrastructure)	£m	14.354	4.397	2.184	0.004	0.000	0.001	0.001	0.000	20.941
5	Renewals expensed in year (non-infrastructure)	£m	-	-	-	-	-	-	-	-	-
6	Other operating expenditure	£m	43.750	13.706	6.894	84.930	3.463	34.500	38.568	15.381	241.192
7	Local authority and Cumulo rates	£m	0.094	0.026	0.010	24.218	0.815	0.098	3.762	0.011	29.034
	Service Charges										
8	Canal & River Trust abstraction charges/ discharge consents	£m	0.114	0.031	0.012	-	-	-	-	-	0.158
9	EA / NRW abstraction charges/ discharge consents	£m	1.242	0.384	0.194	6.273	-	-	0.119	-	8.213
10	Other abstraction charges/ discharge consents	£m	-	-	-	-	-	-	-	-	-
	Location specific costs & obligations										
11	Costs associated with Traffic Management Act	£m	0.059	-	-	-	-	-	-	-	0.059
12	Costs associated with lane rental schemes	£m	-	-	-	-	-	-	-	-	-
13	Costs associated with Industrial emissions directive	£m	-	-	-	-	-	-	-	-	-
14	Total base operating expenditure	£m	78.631	24.368	12.187	168.532	6.215	34.602	34.299	12.812	371.645
	Capital expenditure										
15	Maintaining the long term capability of the assets - infra	£m	23.177	7.114	3.526	-	-	-	-	-	33.817
16	Maintaining the long term capability of the assets - non-infra	£m	13.012	3.985	1.980	116.822	-	4.088	19.895	1.965	161.747
17	Total base capital expenditure	£m	36.189	11.099	5.506	116.822	-	4.088	19.895	1.965	195.564
	Traffic Management Act										
18	Projects incurring costs associated with Traffic Management Act	nr	701	-	-	-	-	-	-	-	701
	Operating expenditure (AMP 7 shadow reported values)										
19	Power	£m	-	-	-	11.993	-	-	13.812	-	25.805

20	Income treated as negative expenditure	£m	-	-	-	-	-	-	-20.487	-	-20.487

Power

1 The power cost in 2023/24 has faced a significant increase, as forecasted. This is due to our strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. This in effect fixes our wholesale cost at an average price of all the forward contracts for the relevant year. In volatile market conditions, forecasting the direction of future prices is a risk decision, and we spread the risk by building up our purchase of future energy use over time, and we do so to ensure financial certainty, not to outperform the market. A hedging strategy of this nature, by its design, avoids the highs, but also the lows in markets through the multiple purchase of small volumes of energy over time. This strategy protected us in 2022/23 from the significant spikes in the wholesale energy market but means in 2023/24 we have faced increased costs as contracts purchased during the peak are included in the cost base for the current year. Expectation is that energy costs will remain high in 2024/25 compared with a base year of 2019/20 regardless of what the volatile market price actually does, because of the strategy of buying forward contracts.

Maintenance infra

2 The decrease seen in Sewage Collection was driven principally by Capital maintenance spend returning to normal levels after significant additional investment in the previous year.

Maintenance non-infra

3 Maintenance non-infra spend decreased by £5.9 million in real terms due to the additional reactive work at Southend Water Recycling Centre not repeating in year.

Shadow Reporting Line 19 & 20

4 We have adjusted the values for Power and Income treated as negative operating expenditure to reflect the required shadow reporting position.

Table 4L - Enhancement Expenditure - Wholesale Water

	Line description		Units	Expenditure in report year (AMP7 only)					
				Water resources	Water network+				Total
					Raw water transport	Raw water storage	Water treatment	Treated water distribution	
	EA/NRW environmental programme (WINEP/NEP)								
1	Ecological improvements at abstractions	Capex	£m	-0.104	-	-	-	-	-0.104
2	Ecological improvements at abstractions	Opex	£m	-	-	-	-	-	-
3	Ecological improvements at abstractions	Totex	£m	-0.104	-	-	-	-	-0.104
4	Eels Regulations (measures at intakes)	Capex	£m	-0.072	-	-	-	-	-0.072
5	Eels Regulations (measures at intakes)	Opex	£m	0.021	-	-	-	-	0.021
6	Eels Regulations (measures at intakes)	Totex	£m	-0.051	-	-	-	-	-0.051
7	Invasive Non Native Species	Capex	£m	-	-	-	-	-	-
8	Invasive Non Native Species	Opex	£m	0.147	-	-	-	-	0.147
9	Invasive Non Native Species	Totex	£m	0.147	-	-	-	-	0.147
10	Drinking Water Protected Areas (schemes)	Capex	£m	-	-	-	-	-	-
11	Drinking Water Protected Areas (schemes)	Opex	£m	3.321	-	-	-	-	3.321
12	Drinking Water Protected Areas (schemes)	Totex	£m	3.321	-	-	-	-	3.321
13	Water Framework Directive measures	Capex	£m	3.403	1.558	-	-	-	4.961
14	Water Framework Directive measures	Opex	£m	-	-	-	-	-	-
15	Water Framework Directive measures	Totex	£m	3.403	1.558	-	-	-	4.961
16	Investigations	Capex	£m	-	-	-	-	-	-
17	Investigations	Opex	£m	-	-	-	0.028	0.825	0.853
18	Investigations	Totex	£m	-	-	-	0.028	0.825	0.853
19	Total environmental programme expenditure	Totex	£m	6.716	1.558	-	0.028	0.825	9.127

	Supply-demand balance								
20	Supply-side improvements delivering benefits in 2020-2025	Capex	£m	0.011	-	-	11.903	0.001	11.915
21	Supply-side improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	-	-	-
22	Supply-side improvements delivering benefits in 2020-2025	Totex	£m	0.011	-	-	11.903	0.001	11.915
23	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Capex	£m	-	-	-	-	-	-
24	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Opex	£m	-	-	-	-	1.051	1.051
25	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Totex	£m	-	-	-	-	1.051	1.051
26	Leakage improvements delivering benefits in 2020-2025	Capex	£m	-	-	-	-	26.091	26.091
27	Leakage improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	-	1.271	1.271
28	Leakage improvements delivering benefits in 2020-2025	Totex	£m	-	-	-	-	27.362	27.362
29	Internal interconnectors delivering benefits in 2020-2025	Capex	£m	-	-	-	0.100	316.820	316.920
30	Internal interconnectors delivering benefits in 2020-2025	Opex	£m	0.130	-	-	-	-	0.130
31	Internal interconnectors delivering benefits in 2020-2025	Totex	£m	0.130	-	-	0.100	316.820	317.050
32	Supply demand balance improvements delivering benefits starting from 2026	Capex	£m	-	-	-	0.317	-	0.317
33	Supply demand balance improvements delivering benefits starting from 2026	Opex	£m	-	-	-	-	-	-
34	Supply demand balance improvements delivering benefits starting from 2026	Totex	£m	-	-	-	0.317	-	0.317
35	Strategic regional water resources	Capex	£m	25.124	-	-	-	-	25.124
36	Strategic regional water resources	Opex	£m	1.006	-	-	-	-	1.006
37	Strategic regional water resources	Totex	£m	26.130	-	-	-	-	26.130
38	Total supply demand expenditure	Totex	£m	26.271	-	-	12.320	345.234	383.825

	Metering								
39	New meters requested by existing customers (optants)	Capex	£m	-	-	-	-	1.890	1.890
40	New meters requested by existing customers (optants)	Opex	£m	-	-	-	-	-	-
41	New meters requested by existing customers (optants)	Totex	£m	-	-	-	-	1.890	1.890
42	New meters introduced by companies for existing customers	Capex	£m	-	-	-	-	0.169	0.169

43	New meters introduced by companies for existing customers	Opex	£m	-	-	-	-	-	-
44	New meters introduced by companies for existing customers	Totex	£m	-	-	-	-	0.169	0.169
45	New meters for existing customers - business	Capex	£m	-	-	-	-	-	-
46	New meters for existing customers - business	Opex	£m	-	-	-	-	-	-
47	New meters for existing customers - business	Totex	£m	-	-	-	-	-	-
48	Replacement of existing basic meters with AMR or AMI meters for household customers	Capex	£m	-	-	-	-	13.167	13.167
49	Replacement of existing basic meters with AMR or AMI meters for household customers	Opex	£m	-	-	-	-	-	-
50	Replacement of existing basic meters with AMR or AMI meters for household customers	Totex	£m	-	-	-	-	13.167	13.167
51	Replacement of existing AMR meters with AMI meters for household customers	Capex	£m	-	-	-	-	-	-
52	Replacement of existing AMR meters with AMI meters for household customers	Opex	£m	-	-	-	-	-	-
53	Replacement of existing AMR meters with AMI meters for household customers	Totex	£m	-	-	-	-	-	-
54	Replacement of existing basic meters with AMR or AMI meters for business customers	Capex	£m	-	-	-	-	-	-
55	Replacement of existing basic meters with AMR or AMI meters for business customers	Opex	£m	-	-	-	-	-	-
56	Replacement of existing basic meters with AMR or AMI meters for business customers	Totex	£m	-	-	-	-	-	-
57	Replacement of existing AMR meters with AMI meters for business customers	Capex	£m	-	-	-	-	-	-
58	Replacement of existing AMR meters with AMI meters for business customers	Opex	£m	-	-	-	-	-	-
59	Replacement of existing AMR meters with AMI meters for business customers	Totex	£m	-	-	-	-	-	-
60	Smart meter infrastructure	Capex	£m	-	-	-	-	5.495	5.495
61	Smart meter infrastructure	Opex	£m	-	-	-	-	2.410	2.410
62	Smart meter infrastructure	Totex	£m	-	-	-	-	7.905	7.905
63	Total metering expenditure	Totex	£m	-	-	-	-	23.131	23.131

	Other enhancement								
64	Improvements to taste, odour and colour	Capex	£m	-	-	-	-	-	-
65	Improvements to taste, odour and colour	Opex	£m	-	-	-	-	-	-
66	Improvements to taste, odour and colour	Totex	£m	-	-	-	-	-	-

67	Addressing raw water deterioration (grey solutions)	Capex	£m	-	-	-	1.926	-	1.926
68	Addressing raw water deterioration (grey solutions)	Opex	£m	-	-	-	0.359	-	0.359
69	Addressing raw water deterioration (grey solutions)	Totex	£m	-	-	-	2.285	-	2.285
70	Addressing raw water deterioration (green solutions)	Capex	£m	-	-	-	-	-	-
71	Addressing raw water deterioration (green solutions)	Opex	£m	-	-	-	-	-	-
72	Addressing raw water deterioration (green solutions)	Totex	£m	-	-	-	-	-	-
73	Addressing raw water deterioration (total)	Capex	£m	-	-	-	1.926	-	1.926
74	Addressing raw water deterioration (total)	Opex	£m	-	-	-	0.359	-	0.359
75	Addressing raw water deterioration (total)	Totex	£m	-	-	-	2.285	-	2.285
76	Improvements to river flow	Capex	£m	-	-	-	-	-	-
77	Improvements to river flow	Opex	£m	0.345	-	-	-	-	0.345
78	Improvements to river flow	Totex	£m	0.345	-	-	-	-	0.345
79	Enhancing resilience to low probability high consequence events	Capex	£m	0.002	-	-	-0.361	1.386	1.027
80	Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-	-0.015	-0.015
81	Enhancing resilience to low probability high consequence events	Totex	£m	0.002	-	-	-0.361	1.371	1.012
82	Conditioning water to reduce plumbosolvency	Capex	£m	-	-	-	-0.131	-	-0.131
83	Conditioning water to reduce plumbosolvency	Opex	£m	-	-	-	-	-	-
84	Conditioning water to reduce plumbosolvency	Totex	£m	-	-	-	-0.131	-	-0.131
85	Lead communication pipes replaced or relined for water quality	Capex	£m	-	-	-	-	1.735	1.735
86	Lead communication pipes replaced or relined for water quality	Opex	£m	-	-	-	-	0.167	0.167
87	Lead communication pipes replaced or relined for water quality	Totex	£m	-	-	-	-	1.902	1.902
88	Other lead reduction related activity	Capex	£m	-	-	-	-	-	-
89	Other lead reduction related activity	Opex	£m	-	-	-	-	-	-
90	Other lead reduction related activity	Totex	£m	-	-	-	-	-	-
91	Meeting lead standards (total)	Capex	£m	-	-	-	-0.131	1.735	1.604
92	Meeting lead standards (total)	Opex	£m	-	-	-	-	0.167	0.167

93	Meeting lead standards (total)	Totex	£m	-	-	-	-0.131	1.902	1.771
94	Security - SEMD	Capex	£m	-	-	-	-	-	-
95	Security - SEMD	Opex	£m	-	-	-	-	-	-
96	Security - SEMD	Totex	£m	-	-	-	-	-	-
97	Security - Non-SEMD	Capex	£m	-	-	-	2.550	-	2.550
98	Security - Non-SEMD	Opex	£m	-	-	-	-	-	-
99	Security - Non-SEMD	Totex	£m	-	-	-	2.550	-	2.550
100	Additional line 1 - Low Pressure (DG2)	Capex	£m	-	-	-	-	1.666	1.666
101	Additional line 1 - Low Pressure (DG2)	Opex	£m	-	-	-	-	-	-
102	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Capex	£m	-	-	-	-	-	-
103	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Opex	£m	-	-	-	-	-	-
104	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Capex	£m	-	-	-	-	-	-
105	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Opex	£m	-	-	-	-	-	-
106	Additional line 4 - Innovation fund projects	Capex	£m	-	-	-	-	-	-
107	Additional line 4 - Innovation fund projects	Opex	£m	-	0.102	0.005	0.610	1.750	2.467
108	Additional line 5	Capex	£m	-	-	-	-	-	-
109	Additional line 5	Opex	£m	-	-	-	-	-	-
110	Additional line 6	Capex	£m	-	-	-	-	-	-
111	Additional line 6	Opex	£m	-	-	-	-	-	-
112	Additional line 7	Capex	£m	-	-	-	-	-	-
113	Additional line 7	Opex	£m	-	-	-	-	-	-
114	Additional line 8	Capex	£m	-	-	-	-	-	-
115	Additional line 8	Opex	£m	-	-	-	-	-	-
116	Additional line 9	Capex	£m	-	-	-	-	-	-
117	Additional line 9	Opex	£m	-	-	-	-	-	-
118	Additional line 10	Capex	£m	-	-	-	-	-	-

119	Additional line 10	Opex	£m	-	-	-	-	-	-
120	Total other enhancement expenditure	Totex	£m	0.347	0.102	0.005	4.953	6.689	12.096

	Total enhancement								
121	Total enhancement expenditure	Capex	£m	28.364	1.558	-	16.304	368.420	414.646
122	Total enhancement expenditure	Opex	£m	4.970	0.102	0.005	0.997	7.459	13.534
123	Total enhancement expenditure	Totex	£m	33.334	1.660	0.005	17.301	375.879	428.180

	Line description		Units	Expenditure in report year (AMP8 only)			Total (AMP7 & AMP8)
				Accelerated scheme costs	Transition costs	Total	
	EA/NRW environmental programme (WINEP/NEP)						
1	Ecological improvements at abstractions	Capex	£m	-	-	-	-0.104
2	Ecological improvements at abstractions	Opex	£m	-	-	-	-
3	Ecological improvements at abstractions	Totex	£m	-	-	-	-0.104
4	Eels Regulations (measures at intakes)	Capex	£m	-	-	-	-0.072
5	Eels Regulations (measures at intakes)	Opex	£m	-	-	-	0.021
6	Eels Regulations (measures at intakes)	Totex	£m	-	-	-	-0.051
7	Invasive Non Native Species	Capex	£m	-	-	-	-
8	Invasive Non Native Species	Opex	£m	-	-	-	0.147
9	Invasive Non Native Species	Totex	£m	-	-	-	0.147
10	Drinking Water Protected Areas (schemes)	Capex	£m	-	-	-	-
11	Drinking Water Protected Areas (schemes)	Opex	£m	-	-	-	3.321
12	Drinking Water Protected Areas (schemes)	Totex	£m	-	-	-	3.321
13	Water Framework Directive measures	Capex	£m	-	-	-	4.961
14	Water Framework Directive measures	Opex	£m	-	-	-	-
15	Water Framework Directive measures	Totex	£m	-	-	-	4.961
16	Investigations	Capex	£m	-	0.194	0.194	0.194
17	Investigations	Opex	£m	-	-	-	0.853
18	Investigations	Totex	£m	-	0.194	0.194	1.047
19	Total environmental programme expenditure	Totex	£m	-	0.194	0.194	9.321
	Supply-demand balance						
20	Supply-side improvements delivering benefits in 2020-2025	Capex	£m	-	-	-	11.915

21	Supply-side improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	-
22	Supply-side improvements delivering benefits in 2020-2025	Totex	£m	-	-	-	11.915
23	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Capex	£m	-	-	-	-
24	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Opex	£m	-	-	-	1.051
25	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Totex	£m	-	-	-	1.051
26	Leakage improvements delivering benefits in 2020-2025	Capex	£m	-	-	-	26.091
27	Leakage improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	1.271
28	Leakage improvements delivering benefits in 2020-2025	Totex	£m	-	-	-	27.362
29	Internal interconnectors delivering benefits in 2020-2025	Capex	£m	-	-	-	316.920
30	Internal interconnectors delivering benefits in 2020-2025	Opex	£m	-	-	-	0.130
31	Internal interconnectors delivering benefits in 2020-2025	Totex	£m	-	-	-	317.050
32	Supply demand balance improvements delivering benefits starting from 2026	Capex	£m	-	0.166	0.166	0.483
33	Supply demand balance improvements delivering benefits starting from 2026	Opex	£m	-	-	-	-
34	Supply demand balance improvements delivering benefits starting from 2026	Totex	£m	-	0.166	0.166	0.483
35	Strategic regional water resources	Capex	£m	-	-	-	25.124
36	Strategic regional water resources	Opex	£m	-	-	-	1.006
37	Strategic regional water resources	Totex	£m	-	-	-	26.130
38	Total supply demand expenditure	Totex	£m	-	0.166	0.166	383.991

	Metering						
39	New meters requested by existing customers (optants)	Capex	£m	-	-	-	1.890
40	New meters requested by existing customers (optants)	Opex	£m	-	-	-	-
41	New meters requested by existing customers (optants)	Totex	£m	-	-	-	1.890
42	New meters introduced by companies for existing customers	Capex	£m	-	-	-	0.169
43	New meters introduced by companies for existing customers	Opex	£m	-	-	-	-
44	New meters introduced by companies for existing customers	Totex	£m	-	-	-	0.169

45	New meters for existing customers - business	Capex	£m	-	-	-	-
46	New meters for existing customers - business	Opex	£m	-	-	-	-
47	New meters for existing customers - business	Totex	£m	-	-	-	-
48	Replacement of existing basic meters with AMR or AMI meters for household customers	Capex	£m	-	-	-	13.167
49	Replacement of existing basic meters with AMR or AMI meters for household customers	Opex	£m	-	-	-	-
50	Replacement of existing basic meters with AMR or AMI meters for household customers	Totex	£m	-	-	-	13.167
51	Replacement of existing AMR meters with AMI meters for household customers	Capex	£m	-	-	-	-
52	Replacement of existing AMR meters with AMI meters for household customers	Opex	£m	-	-	-	-
53	Replacement of existing AMR meters with AMI meters for household customers	Totex	£m	-	-	-	-
54	Replacement of existing basic meters with AMR or AMI meters for business customers	Capex	£m	-	-	-	-
55	Replacement of existing basic meters with AMR or AMI meters for business customers	Opex	£m	-	-	-	-
56	Replacement of existing basic meters with AMR or AMI meters for business customers	Totex	£m	-	-	-	-
57	Replacement of existing AMR meters with AMI meters for business customers	Capex	£m	-	-	-	-
58	Replacement of existing AMR meters with AMI meters for business customers	Opex	£m	-	-	-	-
59	Replacement of existing AMR meters with AMI meters for business customers	Totex	£m	-	-	-	-
60	Smart meter infrastructure	Capex	£m	-	-	-	5.495
61	Smart meter infrastructure	Opex	£m	-	-	-	2.410
62	Smart meter infrastructure	Totex	£m	-	-	-	7.905
63	Total metering expenditure	Totex	£m	-	-	-	23.131

	Other enhancement						
64	Improvements to taste, odour and colour	Capex	£m	-	-	-	-
65	Improvements to taste, odour and colour	Opex	£m	-	-	-	-
66	Improvements to taste, odour and colour	Totex	£m	-	-	-	-
67	Addressing raw water deterioration (grey solutions)	Capex	£m	-	-	-	1.926
68	Addressing raw water deterioration (grey solutions)	Opex	£m	-	-	-	0.359

69	Addressing raw water deterioration (grey solutions)	Totex	£m	-	-	-	2.285
70	Addressing raw water deterioration (green solutions)	Capex	£m	-	-	-	-
71	Addressing raw water deterioration (green solutions)	Opex	£m	-	-	-	-
72	Addressing raw water deterioration (green solutions)	Totex	£m	-	-	-	-
73	Addressing raw water deterioration (total)	Capex	£m	-	-	-	1.926
74	Addressing raw water deterioration (total)	Opex	£m	-	-	-	0.359
75	Addressing raw water deterioration (total)	Totex	£m	-	-	-	2.285
76	Improvements to river flow	Capex	£m	-	-	-	-
77	Improvements to river flow	Opex	£m	0.004	-	0.004	0.349
78	Improvements to river flow	Totex	£m	0.004	-	0.004	0.349
79	Enhancing resilience to low probability high consequence events	Capex	£m	-	-	-	1.027
80	Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-0.015
81	Enhancing resilience to low probability high consequence events	Totex	£m	-	-	-	1.012
82	Conditioning water to reduce plumbosolvency	Capex	£m	-	-	-	-0.131
83	Conditioning water to reduce plumbosolvency	Opex	£m	-	-	-	-
84	Conditioning water to reduce plumbosolvency	Totex	£m	-	-	-	-0.131
85	Lead communication pipes replaced or relined for water quality	Capex	£m	-	-	-	1.735
86	Lead communication pipes replaced or relined for water quality	Opex	£m	-	-	-	0.167
87	Lead communication pipes replaced or relined for water quality	Totex	£m	-	-	-	1.902
88	Other lead reduction related activity	Capex	£m	-	-	-	-
89	Other lead reduction related activity	Opex	£m	-	-	-	-
90	Other lead reduction related activity	Totex	£m	-	-	-	-
91	Meeting lead standards (total)	Capex	£m	-	-	-	1.604
92	Meeting lead standards (total)	Opex	£m	-	-	-	0.167
93	Meeting lead standards (total)	Totex	£m	-	-	-	1.771
94	Security - SEMD	Capex	£m	-	-	-	-

95	Security - SEMD	Opex	£m	-	-	-	-
96	Security - SEMD	Totex	£m	-	-	-	-
97	Security - Non-SEMD	Capex	£m	-	-	-	2.550
98	Security - Non-SEMD	Opex	£m	-	-	-	-
99	Security - Non-SEMD	Totex	£m	-	-	-	2.550
100	Additional line 1 - Low Pressure (DG2)	Capex	£m	-	-	-	1.666
101	Additional line 1 - Low Pressure (DG2)	Opex	£m	-	-	-	-
102	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Capex	£m	0.914	-	0.914	0.914
103	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Opex	£m	-	-	-	-
104	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Capex	£m	-	0.902	0.902	0.902
105	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Opex	£m	-	-	-	-
106	Additional line 4 - Innovation fund projects	Capex	£m	-	-	-	-
107	Additional line 4 - Innovation fund projects	Opex	£m	-	-	-	2.467
108	Additional line 5	Capex	£m	-	-	-	-
109	Additional line 5	Opex	£m	-	-	-	-
110	Additional line 6	Capex	£m	-	-	-	-
111	Additional line 6	Opex	£m	-	-	-	-
112	Additional line 7	Capex	£m	-	-	-	-
113	Additional line 7	Opex	£m	-	-	-	-
114	Additional line 8	Capex	£m	-	-	-	-
115	Additional line 8	Opex	£m	-	-	-	-
116	Additional line 9	Capex	£m	-	-	-	-
117	Additional line 9	Opex	£m	-	-	-	-
118	Additional line 10	Capex	£m	-	-	-	-
119	Additional line 10	Opex	£m	-	-	-	-
120	Total other enhancement expenditure	Totex	£m	0.918	0.902	1.820	13.916

	Total enhancement						
121	Total enhancement expenditure	Capex	£m	0.914	1.262	2.176	416.822
122	Total enhancement expenditure	Opex	£m	0.004	-	0.004	13.538
123	Total enhancement expenditure	Totex	£m	0.918	1.262	2.180	430.360

	Line description		Units	Cumulative expenditure on schemes completed in the report year (AMP7 only)						Cumulative expenditure on all schemes to reporting year end (AMP7 only)	Cumulative allowed expenditure on all schemes to reporting year end (AMP7 only)	Cumulative allowed expenditure on all schemes 2020-25 (AMP7 only)
				Water resources	Water network+				Total			
					Raw water transport	Raw water storage	Water treatment	Treated water distribution		Total	Total	Total
	EA/NRW environmental programme (WINEP/NEP)											
1	Ecological improvements at abstractions	Capex	£m	-	-	-	-	-	-	-	-	-
2	Ecological improvements at abstractions	Opex	£m	-	-	-	-	-	-	-	-	-
3	Ecological improvements at abstractions	Totex	£m	-	-	-	-	-	-	0.776	-	-
4	Eels Regulations (measures at intakes)	Capex	£m	-	-	-	-	-	-	-	-	-
5	Eels Regulations (measures at intakes)	Opex	£m	-	-	-	-	-	-	-	-	-
6	Eels Regulations (measures at intakes)	Totex	£m	-	-	-	-	-	-	5.045	8.626	9.177
7	Invasive Non Native Species	Capex	£m	-	-	-	-	-	-	-	-	-
8	Invasive Non Native Species	Opex	£m	-	-	-	-	-	-	-	-	-
9	Invasive Non Native Species	Totex	£m	-	-	-	-	-	-	1.126	5.126	5.454
10	Drinking Water Protected Areas (schemes)	Capex	£m	-	-	-	-	-	-	-	-	-
11	Drinking Water Protected Areas (schemes)	Opex	£m	-	-	-	-	-	-	-	-	-
12	Drinking Water Protected Areas (schemes)	Totex	£m	-	-	-	-	-	-	4.892	33.055	36.472
13	Water Framework Directive measures	Capex	£m	-	-	-	-	-	-	-	-	-
14	Water Framework Directive measures	Opex	£m	-	-	-	-	-	-	-	-	-
15	Water Framework Directive measures	Totex	£m	-	-	-	-	-	-	9.107	26.815	30.868
16	Investigations	Capex	£m	-	-	-	-	-	-	-	-	-
17	Investigations	Opex	£m	-	-	-	-	-	-	-	-	-
18	Investigations	Totex	£m	-	-	-	-	-	-	0.784	1.130	1.202
19	Total environmental programme expenditure	Totex	£m	-	-	-	-	-	-	21.730	74.753	83.173

	Supply-demand balance											
20	Supply-side improvements delivering benefits in 2020-2025	Capex	£m	-	-	-	-	-	-	-	-	-
21	Supply-side improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	-	-	-	-	-	-
22	Supply-side improvements delivering benefits in 2020-2025	Totex	£m	-	-	-	-	-	-	20.250	75.159	87.335
23	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Capex	£m	-	-	-	-	-	-	-	-	-
24	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Opex	£m	-	-	-	-	-	-	-	-	-
25	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	Totex	£m	-	-	-	-	-	-	2.875	-	-
26	Leakage improvements delivering benefits in 2020-2025	Capex	£m	-	-	-	-	9.109	9.109	-	-	-
27	Leakage improvements delivering benefits in 2020-2025	Opex	£m	-	-	-	-	-	-	-	-	-
28	Leakage improvements delivering benefits in 2020-2025	Totex	£m	-	-	-	-	9.109	9.109	112.469	68.715	79.858
29	Internal interconnectors delivering benefits in 2020-2025	Capex	£m	-	-	-	-	-	-	-	-	-
30	Internal interconnectors delivering benefits in 2020-2025	Opex	£m	-	-	-	-	-	-	-	-	-
31	Internal interconnectors delivering benefits in 2020-2025	Totex	£m	-	-	-	-	-	-	596.238	430.759	502.579
32	Supply demand balance improvements delivering benefits starting from 2026	Capex	£m	-	-	-	-	-	-	-	-	-
33	Supply demand balance improvements delivering benefits starting from 2026	Opex	£m	-	-	-	-	-	-	-	-	-
34	Supply demand balance improvements delivering benefits starting from 2026	Totex	£m	-	-	-	-	-	-	2.611	4.484	5.177
35	Strategic regional water resources	Capex	£m	-	-	-	-	-	-	-	-	-
36	Strategic regional water resources	Opex	£m	-	-	-	-	-	-	-	-	-
37	Strategic regional water resources	Totex	£m	-	-	-	-	-	-	35.277	26.403	30.896
38	Total supply demand expenditure	Totex	£m	-	-	-	-	-	-	769.720	605.520	705.845

	Metering											
39	New meters requested by existing customers (optants)	Capex	£m	-	-	-	-	-	-	-	-	-
40	New meters requested by existing customers (optants)	Opex	£m	-	-	-	-	-	-	-	-	-
41	New meters requested by existing customers (optants)	Totex	£m	-	-	-	-	-	-	-	-	-
42	New meters introduced by companies for existing customers	Capex	£m	-	-	-	-	-	-	-	-	-

43	New meters introduced by companies for existing customers	Opex	£m	-	-	-	-	-	-	-	-	-
44	New meters introduced by companies for existing customers	Totex	£m	-	-	-	-	-	-	-	-	-
45	New meters for existing customers - business	Capex	£m	-	-	-	-	-	-	-	-	-
46	New meters for existing customers - business	Opex	£m	-	-	-	-	-	-	-	-	-
47	New meters for existing customers - business	Totex	£m	-	-	-	-	-	-	-	-	-
48	Replacement of existing basic meters with AMR or AMI meters for household customers	Capex	£m	-	-	-	-	-	-	-	-	-
49	Replacement of existing basic meters with AMR or AMI meters for household customers	Opex	£m	-	-	-	-	-	-	-	-	-
50	Replacement of existing basic meters with AMR or AMI meters for household customers	Totex	£m	-	-	-	-	-	-	-	-	-
51	Replacement of existing AMR meters with AMI meters for household customers	Capex	£m	-	-	-	-	-	-	-	-	-
52	Replacement of existing AMR meters with AMI meters for household customers	Opex	£m	-	-	-	-	-	-	-	-	-
53	Replacement of existing AMR meters with AMI meters for household customers	Totex	£m	-	-	-	-	-	-	-	-	-
54	Replacement of existing basic meters with AMR or AMI meters for business customers	Capex	£m	-	-	-	-	-	-	-	-	-
55	Replacement of existing basic meters with AMR or AMI meters for business customers	Opex	£m	-	-	-	-	-	-	-	-	-
56	Replacement of existing basic meters with AMR or AMI meters for business customers	Totex	£m	-	-	-	-	-	-	-	-	-
57	Replacement of existing AMR meters with AMI meters for business customers	Capex	£m	-	-	-	-	-	-	-	-	-
58	Replacement of existing AMR meters with AMI meters for business customers	Opex	£m	-	-	-	-	-	-	-	-	-
59	Replacement of existing AMR meters with AMI meters for business customers	Totex	£m	-	-	-	-	-	-	-	-	-
60	Smart meter infrastructure	Capex	£m	-	-	-	-	-	-	-	-	-
61	Smart meter infrastructure	Opex	£m	-	-	-	-	-	-	-	-	-
62	Smart meter infrastructure	Totex	£m	-	-	-	-	-	-	-	-	-
63	Total metering expenditure	Totex	£m	-	-	-	-	-	-	87.409	138.309	160.737

	Other enhancement											
64	Improvements to taste, odour and colour	Capex	£m	-	-	-	-	-	-	-	-	-
65	Improvements to taste, odour and colour	Opex	£m	-	-	-	-	-	-	-	-	-
66	Improvements to taste, odour and colour	Totex	£m	-	-	-	-	-	-	-	-	-

67	Addressing raw water deterioration (grey solutions)	Capex	£m	-	-	-	5.862	-	5.862	-	-	-
68	Addressing raw water deterioration (grey solutions)	Opex	£m	-	-	-	-	-	-	-	-	-
69	Addressing raw water deterioration (grey solutions)	Totex	£m	-	-	-	5.862	-	5.862	24.527	-	-
70	Addressing raw water deterioration (green solutions)	Capex	£m	-	-	-	-	-	-	-	-	-
71	Addressing raw water deterioration (green solutions)	Opex	£m	-	-	-	-	-	-	-	-	-
72	Addressing raw water deterioration (green solutions)	Totex	£m	-	-	-	-	-	-	0.025	-	-
73	Addressing raw water deterioration (total)	Capex	£m	-	-	-	5.862	-	5.862	-	-	-
74	Addressing raw water deterioration (total)	Opex	£m	-	-	-	-	-	-	-	-	-
75	Addressing raw water deterioration (total)	Totex	£m	-	-	-	5.862	-	5.862	23.759	21.460	24.940
76	Improvements to river flow	Capex	£m	-	-	-	-	-	-	-	-	-
77	Improvements to river flow	Opex	£m	-	-	-	-	-	-	-	-	-
78	Improvements to river flow	Totex	£m	-	-	-	-	-	-	0.982	-	-
79	Enhancing resilience to low probability high consequence events	Capex	£m	-	-	-	-	-	-	-	-	-
80	Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-	-	-	-	-	-
81	Enhancing resilience to low probability high consequence events	Totex	£m	-	-	-	-	-	-	16.440	19.912	23.141
82	Conditioning water to reduce plumbosolvency	Capex	£m	-	-	-	-	-	-	-	-	-
83	Conditioning water to reduce plumbosolvency	Opex	£m	-	-	-	-	-	-	-	-	-
84	Conditioning water to reduce plumbosolvency	Totex	£m	-	-	-	-	-	-	3.785	-	-
85	Lead communication pipes replaced or relined for water quality	Capex	£m	-	-	-	-	-	-	-	-	-
86	Lead communication pipes replaced or relined for water quality	Opex	£m	-	-	-	-	-	-	-	-	-
87	Lead communication pipes replaced or relined for water quality	Totex	£m	-	-	-	-	-	-	5.018	-	-
88	Other lead reduction related activity	Capex	£m	-	-	-	-	-	-	-	-	-
89	Other lead reduction related activity	Opex	£m	-	-	-	-	-	-	-	-	-
90	Other lead reduction related activity	Totex	£m	-	-	-	-	-	-	-	-	-
91	Meeting lead standards (total)	Capex	£m	-	-	-	-	-	-	-	-	-
92	Meeting lead standards (total)	Opex	£m	-	-	-	-	-	-	-	-	-

93	Meeting lead standards (total)	Totex	£m	-	-	-	-	-	-	8.192	13.049	15.165
94	Security - SEMD	Capex	£m	-	-	-	-	-	-	-	-	-
95	Security - SEMD	Opex	£m	-	-	-	-	-	-	-	-	-
96	Security - SEMD	Totex	£m	-	-	-	-	-	-	-	15.201	17.393
97	Security - Non-SEMD	Capex	£m	-	-	-	-	-	-	-	-	-
98	Security - Non-SEMD	Opex	£m	-	-	-	-	-	-	-	-	-
99	Security - Non-SEMD	Totex	£m	-	-	-	-	-	-	7.406	-	-
100	Additional line 1 - Low Pressure (DG2)	Capex	£m	-	-	-	-	-	-	10.190	-	-
101	Additional line 1 - Low Pressure (DG2)	Opex	£m	-	-	-	-	-	-	-	-	-
102	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Capex	£m	-	-	-	-	-	-	-	-	-
103	Additional line 2 - Supply demand balance improvements delivering benefits starting from 2031	Opex	£m	-	-	-	-	-	-	-	-	-
104	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Capex	£m	-	-	-	-	-	-	-	-	-
105	Additional line 3 - Internal interconnectors delivering benefits in 2025-2030	Opex	£m	-	-	-	-	-	-	-	-	-
106	Additional line 4 - Innovation fund projects	Capex	£m	-	-	-	-	-	-	-	-	-
107	Additional line 4 - Innovation fund projects	Opex	£m	-	-	-	-	-	-	-	-	-
108	Additional line 5	Capex	£m	-	-	-	-	-	-	-	-	-
109	Additional line 5	Opex	£m	-	-	-	-	-	-	-	-	-
110	Additional line 6	Capex	£m	-	-	-	-	-	-	-	-	-
111	Additional line 6	Opex	£m	-	-	-	-	-	-	-	-	-
112	Additional line 7	Capex	£m	-	-	-	-	-	-	-	-	-
113	Additional line 7	Opex	£m	-	-	-	-	-	-	-	-	-
114	Additional line 8	Capex	£m	-	-	-	-	-	-	-	-	-
115	Additional line 8	Opex	£m	-	-	-	-	-	-	-	-	-
116	Additional line 9	Capex	£m	-	-	-	-	-	-	-	-	-
117	Additional line 9	Opex	£m	-	-	-	-	-	-	-	-	-
118	Additional line 10	Capex	£m	-	-	-	-	-	-	-	-	-

119	Additional line 10	Opex	£m	-	-	-	-	-	-	-	-	-
120	Total other enhancement expenditure	Totex	£m	-	-	-	-	-	-	66.969	69.622	80.639

	Total enhancement											
121	Total enhancement expenditure	Capex	£m	-	-	-	-	-	-	-	-	-
122	Total enhancement expenditure	Opex	£m	-	-	-	-	-	-	-	-	-
123	Total enhancement expenditure	Totex	£m	-	-	-	-	-	-	945.828	888.203	1030.393

Enhancement expenditure by purpose

1 The above table excludes £25,000 enhancement capital expenditure in relation to third-party agreements at the Wing and Grafham water treatment works for resilience. This spend is included within the third party services capex of £3.2 million in table 4D.

2 The source of the data is the project systems module of our SAP business management system. Each project holds as part of its master data Business Investment Category (BIC) codes which indicate the Ofwat categories of enhancement and maintenance, infrastructure and non infrastructure, and also align with accounting separation categories. The codes are mapped to their relevant lines in the table.

3 It is expected that capital expenditure profiles vary year on year significantly due to the strategic prioritisation of the investment programme. Large projects and stakeholder required investments can lead to variances in year on year comparisons of the same data point.

4 Some credits have occurred due to movements and payments to contractors for pain and gain share which are only confirmed when a project is final accounted.

5 Schemes addressing low pressure have been separately reported in 4L.100 and 4L.101 Additional line 1 - Low Pressure (DG2).

6 We record expenditure in the year in which it is incurred, which means that for many schemes expenditure is spread over a number of years. In contrast, we record outputs in the year that schemes are commissioned. This means that in some years we may show expenditure without any apparent output.

Variance against allowance

7 The below commentary compares our actual and allowed positions. Not all lines have been commented on as we have focused on those with the larger variances.

4L.6 Eels Regulations (Measures at intakes)

8 The AMP to date cumulative total is offset by the large negative figure reported in 2020/21.

9 Under the collaborative supply chain frameworks we have across our 15 year alliances, we predominantly adopt 'NEC Option C' Target Cost Contracts. These are standard contractual arrangements whereby the supply chain partner and the client are jointly incentivised to deliver work efficiently, and gains made below the agreed target cost are shared between the alliance partners and the client, as are the cost of any overspends. This arrangement ensures collaborative behaviour between all parties and a focus on driving out carbon from solutions. These projects are part of an overall investment portfolio consisting of several thousand projects, with some projects over and some under.

10 The negative spend reported in 2020/21 reflects receipt of the partner's share of the overspend on AMP6 Eels projects that were being commercially settled during 2020/21. The impact of the negative figure in 4L.6 also flows through to the total line 4L.19.

11 We promoted early and have delivered ahead of the original plan. We have one scheme to finish in this portfolio this year.

4L.9 Invasive Non Native Species

12 We worked hard to find more efficient ways of achieving the outcome for the environment. For example, for one scheme, the lower costs associated with having significantly reduced the distribution of Floating Pennywort. All schemes are on track for completion and sign off by EA.

4L.12 Drinking Water Protected Areas (schemes)

13 The FD allowance for this line was predominantly enhancement opex for catchment management activities, much of which was required to mitigate metaldehyde in raw water sources. Since the ban was reintroduced by the Environment Agency we have scaled back activity in this area to deal with other raw water contaminants.

14 In addition, in 2020/21 and 2021/22 we were constrained by the opex-capex ratios in the PR19 FD, which were subsequently adjusted by the CMA FD. The CMA decisions were effective from 2022/23. In years one and two we therefore sought to defer any non-essential enhancement opex into later years where possible.

15 Opex spend within the current year relates largely to Helpston land remediation to mitigate the risk of contamination of our water source from a third-party site.

4L.15 Water framework directives measures

16 In our WRMP19 and PR19 business plan we included £4 million (2017/18 price time basis) against WINEP obligation 7AW100089 as a mitigation of the effects of abstraction on river flow at the River Lark at Bury St. Edmunds. Subsequent to the Final Determination, a change in requirements at this location from the Environment Agency meant that the WRMP and business plan option, of installing equipment to recirculate river flows from downstream, was no longer viable. We therefore changed our option to resolve the need, instead choosing to upsize three strategic interconnectors (ELY9, BHV5 and NWM6). This is a higher cost option, and because the solution is part of the Strategic Interconnectors programme, the spend is now reported on APR line 4L.29 'Internal interconnectors delivering benefits in 2020-2025'.

4L.22 Supply-side improvements delivering benefits in 2020-2025

17 The FD allowance on this line was for four main items: Pyewipe (SHB2a), the treatment components of two interconnectors (ELY9 & RTS), and Elsham DPC. The Pyewipe scheme has now been stopped and is being replaced by the North Lincs Alternative Schemes which are in the process of being promoted for delivery in years three to five (see table 6F commentary for more information). The spend profile will therefore be different from that in the business plan. As the ELY9&RTS interconnectors progress through detailed design the balance of costs between treatment spend and pipelines will vary, and the spend will now be incurred on line 4L.31 for interconnectors.

18 The Elsham interconnector schemes CLN15&CLN16 have been reprofiled following their de-scoping from the DPC process, and are now progressing through our delivery process to be delivered within the AMP.

4L.28 Leakage improvements delivering benefits in 2020-2025

19 We are continuing to invest more in leakage improvement to mitigate the level of leakage in year to ensure the leakage management demand side reductions can be met to enable supply demand balance to be maintained. Our continued investment also supports mitigating the issues of the summer of 2022 which saw record temperatures and soil moisture deficit, as well as freeze thaw events in the subsequent winter, which lead to an increase in leakage requiring additional investment.

4L.31 Internal interconnectors delivering benefits in 2020-2025

20 We have written to Ofwat in February 2024 outlining the challenges in delivering this programme of works and stating that the current (as of February 2024) estimate to deliver the programme is £1.1 billion which is far in excess of the PR19 allowances. The submission contains more detail in the reasons for this and our suggested approach for dealing with it.

4L.34 Supply demand balance improvements delivering benefits starting from 2026

21 This investment comprises our Adaptive Planning work to look at future water resources. In our PR19 business plan this programme included the Fens Reservoir which has subsequently been removed from this programme and is being developed separately under the RAPID programme and reported in line 4L.37.

4L.37 Strategic regional water resources

22 Financial year 23/24 has seen the SRO projects move predominantly into RAPID Gateway three with a substantial uplift in scope deliverables and spend. The allowance at PR19 did not include anything for the Fens Reservoir and from Gate three we will have sole responsibility for the South Lincolnshire Reservoir rather than a shared arrangement with Affinity.

23 The projects are currently within RAPID Allowance for Gate three including the underspend carried froward from Gate three and we are working within the available cash funding allocated by the Anglian business.

24 Key scope that has contributed to the upturn in spend includes (but is not limited to) the following:

- Site selection and option selection has been completed during this time period however, several iterations were progressed through to come to the optimal selection which also contributed to increased spend
- Ground Investigation and Site surveys phase one was carried out during this time period
- Considerable scope delivered in relation to reservoir and associated transfer design and Environmental Impact Assessment (EIA)
- We have also acquired a number of properties throughout the property support scheme that have been identified within the redline boundary of the site which has also contributed to spend during this time period.

4L.63 Total metering expenditure

25 We have put contractual arrangements in place for the delivery of our smart metering and basic metering programmes during AMP7 and as such, the key variable on totex costs is the volume installed. Covid restrictions in 2020/21 and disruption to supply of Smart meters in 2021/22 due to the worldwide shortage of microchips has been reflected as a reduction in renewals of domestic meters AMP to date.

26 We have restated the cumulative figure to ensure the allocation of smart meters between maintenance and enhancement for 2022/23 is accurately stated.

4L.75 Addressing raw water deterioration (total)

27 Due to timing of schemes being promoted early, we are further ahead in delivery compared to the cumulative allowance.

4L.93 Meeting lead standards (total)

28 This programme is progressing, with communication pipe replacement and customer supply pipe replacement continuing in 2024/25.

4L.99 Security - Non-SEMD

29 Spend is related to SEMD Compliance assessments conducted by external authorised auditors. The current underspend is expected to be spent in year 5.

Table 4M – Enhancement Expenditure – Wholesale Wastewater

	Line description		Units	Expenditure in report year (AMP7 only)									Expenditure in report year (AMP8 only)			Total (AMP7 & AMP8)
				Wastewater network+					Bioresources			Total	Accelerated scheme costs	Transition costs	Total	
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal					
	EA/NRW environmental programme (WINEP/NEP)															
1	Conservation drivers	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Conservation drivers	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Conservation drivers	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Event Duration Monitoring at intermittent discharges	Capex	£m	0.088	0.027	0.013	-	-	-	-	-	0.128	-	0.004	0.004	0.132
5	Event Duration Monitoring at intermittent discharges	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Event Duration Monitoring at intermittent discharges	Totex	£m	0.088	0.027	0.013	-	-	-	-	-	0.128	-	0.004	0.004	0.132
7	Flow monitoring at sewage treatment works	Capex	£m	-	-	-	9.503	-	-	-	-	9.503	-	0.773	0.773	10.276
8	Flow monitoring at sewage treatment works	Opex	£m	-	-	-	0.010	-	-	-	-	0.010	-	-	-	0.010
9	Flow monitoring at sewage treatment works	Totex	£m	-	-	-	9.513	-	-	-	-	9.513	-	0.773	0.773	10.286
10	Schemes to increase flow to full treatment	Capex	£m	-	-	-	15.489	-	-	-	-	15.489	-	-	-	15.489
11	Schemes to increase flow to full treatment	Opex	£m	-	-	-	0.250	-	-	-	-	0.250	-	-	-	0.250
12	Schemes to increase flow to full treatment	Totex	£m	-	-	-	15.739	-	-	-	-	15.739	-	-	-	15.739
13	Schemes to increase storm tank capacity	Capex	£m	-	-	-	10.026	-	-	-	-	10.026	0.038	-	0.038	10.064
14	Schemes to increase storm tank capacity	Opex	£m	-	-	-	0.409	-	-	-	-	0.409	-	-	-	0.409
15	Schemes to increase storm tank capacity	Totex	£m	-	-	-	10.435	-	-	-	-	10.435	0.038	-	0.038	10.473
16	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Capex	£m	-	-	-	-	-	-	-	-	-	0.047	-	0.047	0.047
17	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Totex	£m	-	-	-	-	-	-	-	-	-	0.047	-	0.047	0.047
19	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Capex	£m	-	0.558	-	3.650	-	-	-	-	4.208	0.028	-	0.028	4.236

20	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Totex	£m	-	0.558	-	3.650	-	-	-	-	4.208	0.028	-	0.028	4.236
22	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Capex	£m	-	-	-	-	-	-	-	-	-	0.002	-	0.002	0.002
23	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
24	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Totex	£m	-	-	-	-	-	-	-	-	-	0.002	-	0.002	0.002
25	Total for storage schemes in the network to reduce spill frequency at CSOs etc (grey + green)	Totex	£m	-	0.558	-	3.650	-	-	-	-	4.208	0.030	-	0.030	4.238
26	Chemical removals schemes	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
27	Chemical removals schemes	Opex	£m	-	-	-	0.018	-	-	-	-	0.018	-	-	-	0.018
28	Chemical removals schemes	Totex	£m	-	-	-	0.018	-	-	-	-	0.018	-	-	-	0.018
29	Chemicals monitoring/ investigations/ options appraisals	Capex	£m	-	-	-	0.006	-	-	-	-	0.006	-	-	-	0.006
30	Chemicals monitoring/ investigations/ options appraisals	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
31	Chemicals monitoring/ investigations/ options appraisals	Totex	£m	-	-	-	0.006	-	-	-	-	0.006	-	-	-	0.006
32	Nitrogen removal	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
33	Nitrogen removal	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
34	Nitrogen removal	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
35	Phosphorus removal	Capex	£m	-	-	-	60.334	-	-	-	-	60.334	0.764	0.027	0.791	61.125
36	Phosphorus removal	Opex	£m	-	-	-	2.452	-	-	-	-	2.452	-	-	-	2.452
37	Phosphorus removal	Totex	£m	-	-	-	62.786	-	-	-	-	62.786	0.764	0.027	0.791	63.577
38	Reduction of sanitary parameters	Capex	£m	-	-	-	0.515	-	-	-	-	0.515	-	0.028	0.028	0.543
39	Reduction of sanitary parameters	Opex	£m	-	-	-	0.292	-	-	-	-	0.292	-	-	-	0.292
40	Reduction of sanitary parameters	Totex	£m	-	-	-	0.807	-	-	-	-	0.807	-	0.028	0.028	0.835
41	UV disinfection (or similar)	Capex	£m	0.346	0.106	0.053	0.007	-	-	-	-	0.512	0.030	0.003	0.033	0.545
42	UV disinfection (or similar)	Opex	£m	0.001	-	-	-	-	-	-	-	0.001	-	-	-	0.001
43	UV disinfection (or similar)	Totex	£m	0.347	0.106	0.053	0.007	-	-	-	-	0.513	0.030	0.003	0.033	0.546
44	Investigations	Capex	£m	0.685	0.210	0.104	0.026	-	-	-	-	1.025	-	0.009	0.009	1.034

45	Investigations	Opex	£m	-	-	-	0.021	-	-	-	-	0.021	-	-	-	0.021
46	Investigations	Totex	£m	0.885	0.210	0.104	0.047	-	-	-	-	1.046	-	0.009	0.009	1.055
47	Total environmental programme expenditure	Totex	£m	1.120	0.901	0.170	103.009	-	-	-	-	105.200	0.909	0.844	1.753	106.953
	Other enhancement															
48	Growth at sewage treatment works (excluding sludge treatment)	Capex	£m	-	-	-	5.912	-	-	-	-	5.912	-	-	-	5.912
49	Growth at sewage treatment works (excluding sludge treatment)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
50	Growth at sewage treatment works (excluding sludge treatment)	Totex	£m	-	-	-	5.912	-	-	-	-	5.912	-	-	-	5.912
51	Reduce flooding risk for properties	Capex	£m	12.928	4.350	1.815	-	-	-	-	-	18.093	-	-	-	18.093
52	Reduce flooding risk for properties	Opex	£m	0.848	0.259	0.129	-	-	-	-	-	1.236	-	-	-	1.236
53	Reduce flooding risk for properties	Totex	£m	13.776	4.609	1.944	-	-	-	-	-	19.329	-	-	-	19.329
54	First time sewerage	Capex	£m	5.199	1.592	0.791	-	-	-	-	-	7.582	-	-	-	7.582
55	First time sewerage	Opex	£m	0.048	0.015	0.007	-	-	-	-	-	0.070	-	-	-	0.070
56	First time sewerage	Totex	£m	5.247	1.607	0.798	-	-	-	-	-	7.652	-	-	-	7.652
57	Sludge enhancement (quality)	Capex	£m	-	-	-	-	-	-	0.593	-	0.593	-	-	-	0.593
58	Sludge enhancement (quality)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
59	Sludge enhancement (quality)	Totex	£m	-	-	-	-	-	-	0.593	-	0.593	-	-	-	0.593
60	Sludge enhancement (growth)	Capex	£m	-	-	-	-	-	-	2.373	-	2.373	-	-	-	2.373
61	Sludge enhancement (growth)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Sludge enhancement (growth)	Totex	£m	-	-	-	-	-	-	2.373	-	2.373	-	-	-	2.373
63	Odour	Capex	£m	0.137	0.042	0.021	0.176	-	-	-	-	0.376	-	-	-	0.376
64	Odour	Opex	£m	-	-	-	0.031	-	-	-	-	0.031	-	-	-	0.031
65	Odour	Totex	£m	0.137	0.042	0.021	0.207	-	-	-	-	0.407	-	-	-	0.407
66	Enhancing resilience to low probability high consequence events	Capex	£m	-	-	-	0.168	-	-	-	-	0.168	-	-	-	0.168
67	Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
68	Enhancing resilience to low probability high consequence events	Totex	£m	-	-	-	0.168	-	-	-	-	0.168	-	-	-	0.168
69	Security - SEMD	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-

70	Security - SEMD	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
71	Security - SEMD	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
72	Security - Non-SEMD	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
73	Security - Non-SEMD	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
74	Security - Non-SEMD	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
75	Additional line 1 - NEP Groundwater	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
76	Additional line 1 - NEP Groundwater	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
77	Additional line 2 - MCERTs monitoring at emergency sewage pumping station overflows	Capex	£m	-	-	-	-	-	-	-	-	-	-	0.001	0.001	0.001
78	Additional line 2 - MCERTs monitoring at emergency sewage pumping station overflows	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
79	Additional line 3 - Storm overflow - sewer flow management and control	Capex	£m	-	-	-	-	-	-	-	-	-	0.037	-	0.037	0.037
80	Additional line 3 - Storm overflow - sewer flow management and control	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
81	Additional line 4 - innovation fund projects	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
82	Additional line 4 - innovation fund projects	Opex	£m	1.017	0.288	0.122	2.211	0.066	-	-	-	3.704	-	-	-	3.704
83	Additional line 5	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
84	Additional line 5	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
85	Additional line 6	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
86	Additional line 6	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
87	Additional line 7	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
88	Additional line 7	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
89	Additional line 8	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
90	Additional line 8	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
91	Additional line 9	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
92	Additional line 9	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
93	Additional line 10	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
94	Additional line 10	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-	-
95	Total other enhancement expenditure	Totex	£m	1.017	6.546	2.885	8.498	0.066	-	2.966	-	40.138	0.037	0.001	0.038	40.176

	Total enhancement														
96	Total enhancement expenditure	Capex	£m	18.8	6.885	2.797	105.812	-	-	2.966	-	136.843	0.946	0.845	1.791	138.634
97	Total enhancement expenditure	Opex	£m	19.4	0.562	0.258	5.695	0.066	-	-	-	8.495	-	-	-	8.495
98	Total enhancement expenditure	Totex	£m	20.7	7.447	3.055	111.507	0.066	-	2.966	-	145.338	0.946	0.845	1.791	147.129

	Line description		Units	Cumulative expenditure on schemes completed in the report year (AMP7 only)									Cumulative expenditure on all schemes to reporting year end (AMP7 only)	Cumulative allowed expenditure on all schemes to reporting year end (AMP7 only)	Cumulative allowed expenditure on all schemes 2020-25 (AMP7 only)
				Wastewater network+					Bioresources			Total			
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal		Total	Total	Total
	EA/NRW environmental programme (WINEP/NEP)														
1	Conservation drivers	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
2	Conservation drivers	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
3	Conservation drivers	Totex	£m	-	-	-	-	-	-	-	-	-	-	0.121	0.147
4	Event Duration Monitoring at intermittent discharges	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
5	Event Duration Monitoring at intermittent discharges	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
6	Event Duration Monitoring at intermittent discharges	Totex	£m	-	-	-	-	-	-	-	-	-	8.693	9.090	11.079
7	Flow monitoring at sewage treatment works	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
8	Flow monitoring at sewage treatment works	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
9	Flow monitoring at sewage treatment works	Totex	£m	-	-	-	-	-	-	-	-	-	16.148	13.616	16.595
10	Schemes to increase flow to full treatment	Capex	£m	-	-	-	10.021	-	-	-	-	10.021	-	-	-
11	Schemes to increase flow to full treatment	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
12	Schemes to increase flow to full treatment	Totex	£m	-	-	-	10.021	-	-	-	-	10.021	39.566	78.706	95.929
13	Schemes to increase storm tank capacity	Capex	£m	-	-	-	10.774	-	-	-	-	10.774	-	-	-
14	Schemes to increase storm tank capacity	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
15	Schemes to increase storm tank capacity	Totex	£m	-	-	-	10.774	-	-	-	-	10.774	90.598	120.510	146.880
16	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
17	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
18	Schemes to provide additional effective storage at sewage treatment works through green infrastructure.	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
19	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Capex	£m	-	-	-	2.503	-	-	-	-	2.503	-	-	-

20	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
21	Storage in the network to reduce spill frequency at CSOs etc (grey solutions)	Totex	£m	-	-	-	2.503	-	-	-	-	2.503	-	-	-
22	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
23	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
24	Effective storage in the network to reduce spill frequency at CSOs etc (green solutions)	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
25	Total for storage schemes in the network to reduce spill frequency at CSOs etc (grey + green)	Totex	£m	-	-	-	2.503	-	-	-	-	2.503	5.024	7.982	9.728
26	Chemical removals schemes	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
27	Chemical removals schemes	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
28	Chemical removals schemes	Totex	£m	-	-	-	-	-	-	-	-	-	0.018	14.235	17.350
29	Chemicals monitoring/ investigations/ options appraisals	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
30	Chemicals monitoring/ investigations/ options appraisals	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
31	Chemicals monitoring/ investigations/ options appraisals	Totex	£m	-	-	-	-	-	-	-	-	-	2.051	3.837	4.676
32	Nitrogen removal	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
33	Nitrogen removal	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
34	Nitrogen removal	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
35	Phosphorus removal	Capex	£m	-	-	-	30.570	-	-	-	-	30.570	-	-	-
36	Phosphorus removal	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
37	Phosphorus removal	Totex	£m	-	-	-	30.570	-	-	-	-	30.570	195.537	400.747	488.441
38	Reduction of sanitary parameters	Capex	£m	-	-	-	9.997	-	-	-	-	9.997	-	-	-
39	Reduction of sanitary parameters	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
40	Reduction of sanitary parameters	Totex	£m	-	-	-	9.997	-	-	-	-	9.997	24.652	33.086	40.326
41	UV disinfection (or similar)	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
42	UV disinfection (or similar)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
43	UV disinfection (or similar)	Totex	£m	-	-	-	-	-	-	-	-	-	2.444	24.626	30.015

44	Investigations	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
45	Investigations	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
46	Investigations	Totex	£m	-	-	-	-	-	-	-	-	-	6.156	0.277	0.337
47	Total environmental programme expenditure	Totex	£m	-	-	-	-	-	-	-	-	-	390.887	706.832	861.504
	Other enhancement														
48	Growth at sewage treatment works (excluding sludge treatment)	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
49	Growth at sewage treatment works (excluding sludge treatment)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
50	Growth at sewage treatment works (excluding sludge treatment)	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
51	Reduce flooding risk for properties	Capex	£m	6086	2.321	0.926	-	-	-	-	-	9.333	-	-	-
52	Reduce flooding risk for properties	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
53	Reduce flooding risk for properties	Totex	£m	6086	2.321	0.926	-	-	-	-	-	9.333	-	-	-
54	First time sewerage	Capex	£m	7018	2.149	1.067	-	-	-	-	-	10.234	-	-	-
55	First time sewerage	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
56	First time sewerage	Totex	£m	7018	2.149	1.067	-	-	-	-	-	10.234	21.913	19.183	23.381
57	Sludge enhancement (quality)	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
58	Sludge enhancement (quality)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
59	Sludge enhancement (quality)	Totex	£m	-	-	-	-	-	-	-	-	-	0.042	-	-
60	Sludge enhancement (growth)	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
61	Sludge enhancement (growth)	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
62	Sludge enhancement (growth)	Totex	£m	-	-	-	-	-	-	-	-	-	2.580	12.169	12.937
63	Odour	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
64	Odour	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
65	Odour	Totex	£m	-	-	-	-	-	-	-	-	-	2.567	12.923	15.353
66	Enhancing resilience to low probability high consequence events	Capex	£m	-	-	-	0.727	-	-	-	-	0.727	-	-	-
67	Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-

68	Enhancing resilience to low probability high consequence events	Totex	£m	-	-	-	0.727	-	-	-	-	0.727	0.749	13.151	16.029
69	Security - SEMD	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
70	Security - SEMD	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
71	Security - SEMD	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
72	Security - Non-SEMD	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
73	Security - Non-SEMD	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
74	Security - Non-SEMD	Totex	£m	-	-	-	-	-	-	-	-	-	-	1.192	1.453
75	Additional line 1 - NEP Groundwater	Capex	£m	-	-	-	-	-	-	-	-	-	0.020	-	-
76	Additional line 1 - NEP Groundwater	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
77	Additional line 2 - MCERTs monitoring at emergency sewage pumping station overflows	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
78	Additional line 2 - MCERTs monitoring at emergency sewage pumping station overflows	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
79	Additional line 3 - Storm overflow - sewer flow management and control	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
80	Additional line 3 - Storm overflow - sewer flow management and control	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
81	Additional line 4 - innovation fund projects	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
82	Additional line 4 - innovation fund projects	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
83	Additional line 5	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
84	Additional line 5	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
85	Additional line 6	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
86	Additional line 6	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
87	Additional line 7	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
88	Additional line 7	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
89	Additional line 8	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
90	Additional line 8	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
91	Additional line 9	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
92	Additional line 9	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-

93	Additional line 10	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
94	Additional line 10	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
95	Total other enhancement expenditure	Totex	£m	-	-	-	-	-	-	-	-	-	27.871	58.619	69.152

	Total enhancement														
96	Total enhancement expenditure	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
97	Total enhancement expenditure	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
98	Total enhancement expenditure	Totex	£m	-	-	-	-	-	-	-	-	-	418.759	765.451	930.656

Enhancement capital expenditure by purpose

1 £72,000 of enhancement expenditure was incurred on schemes fulfilling third-party agreements in the current year.

2 The source of the data is the project systems module of our SAP business management system. Each project holds as part of its master data Business Investment Category (BIC) codes which indicate the Ofwat categories of enhancement and maintenance, infrastructure and non-infrastructure, and also align with accounting separation categories. The codes are mapped to their relevant lines in the table.

3 It is expected that capital expenditure profiles vary year on year significantly due to the strategic priortisation of the investment programme. Large projects and stakeholder required investments can lead to variances in year on year comparisons of the same data point.

4 We record expenditure in the year in which it is incurred, which means that for many schemes expenditure is spread over a number of years. In contrast, we record outputs in the year that schemes are commissioned. This means that in some years we may show expenditure without any apparent output.

5 Some credits have occurred due to movements and payments to contractors for pain and gain share, insurance claims and accrual movements which are only confirmed when a project is final accounted.

6 An allocation was required for the foul, surface water drainage and highway drainage split. The allocation was based on flow estimate models provided by our modelling team.

7 We previously allocated cost to between sewage treatment and imported sludge liquor treatment, this is now changed and now follows the principle use asset rule and these costs are now 100 per cent to sewage treatment & disposal.

8 As per Ofwat guidance, we only report cumulative expenditure on selected output types.

Enhancement opex expenditure by purpose

9 The majority of enhancement opex is coming from three key areas of the plan: Phosphorus removal, schemes to increase storm tank capacity and schemes to reduce flooding risk for properties.

10 Partnership funding which was originally in enhancement opex has met the criteria of an intangible asset and is therefore reported in enhancement capex.

11 Enhancement opex and capex can be affected by accounting rules, delays in the plan, alternative solutions etc. so may differ from proposed costs splits in our original plans.

12 Schemes addressing NEP Groundwater have been separately reported in 4M.75 and 4M.76 Additional line 1 - NEP Groundwater. Schemes addressing Current Quality Obligations – Other have been separately reported in 4M.77 and 4M.78 Additional line 2 - Current Quality Obligations – Other.

Variance against allowance

13 The below commentary compares our actual and allowed positions. Not all lines have been commented on as we have focused on those with the larger variances.

4M.6 Event Duration Monitoring at intermittent discharges

14 While we are underspent for our EDMs compared to our PR19 allowance, we have found more efficient ways of working, as a result have overdelivered against our output profile.

4M.9 Flow monitoring at sewage treatment works

15 A collaborative working group between all WASCs and the EA to clarify the scope of schemes to monitor flows at sewage treatment works led to final confirmation of scope being published in December 2021. This led to a reduced expenditure for 2021/22 (this was partially mitigated by bringing forward our expenditure programme for line 4M.6). Water companies have agreed an approach with the EA and the delayed programme will be delivered by the end of AMP7. We have also agreed with the EA that obligations at sites with liquor and storm returns can be counted as delivered before all work is completed, due to the expanding scope of works required at these sites. We expect to incur additional expenditure at these sites after the confirmed delivery.

4M.12 Schemes to increase flow to full treatment

16 A lot of these schemes are coming to the end of the construction phase on site, with the programme set to be completed in 2025. A small number of sites are included for early delivery in AMP8.

4M.15 Schemes to increase storm tank capacity

17 Across the portfolio the majority of these schemes have been delivered. The programme has been delivered efficiently and during the AMP it was confirmed that our volume requirements to meet the permit were reduced. This has previously been discussed during the query process.

4M.25 Total for storage schemes in the network to reduce spill frequency at CSOs etc (grey + green)

18 In 2021/22 we reported that due to Covid-19 the obligation dates for U_INV Assessment of High Spilling Overflows were moved back by one year by the EA (to March 2022 and March 2023 respectively). These investigations required completion to allow us to collaboratively agree with the EA which overflows would be put forward for named storage schemes to reduce spill frequency. All investigations have now been completed and we have agreed the named storage schemes with the EA. These agreed schemes have now been promoted for delivery and we expect to deliver the agreed programme within AMP7.

4M.37 Phosphorus removal

19 A large amount of phosphorus schemes have obligation dates in December 2024 and the delivery route are currently on site at a lot of the projects. Through conversations with the EA we have seen some schemes move into AMP8 with a new obligation date of March 2027. Overall there have been efficiencies within the programme. Table 7F outlines in detail the additional Capex forecasts for year 5 for the phosphorus programme.

4M.40 Reduction of sanitary parameters

20 All of these schemes are with delivery and are on track to achieve the obligation date of March 2025.

4M.43 UV disinfection (or similar)

21 We had an allowance for investigations in this line, some of which are being reported on 4M.46 Investigations. There has been a delay to spend on some Bathing Water improvement schemes due to the initial investigations taking longer than anticipated

4M.46 Investigations

22 With the changing format of data tables between PR19 and APR24 some work has been allocated by internal teams to lines matching that definition, but which don't match the allocation of the equivalent FD allowance. Line 4M.39 is particularly affected by this with investigations for other drivers such as coastal and nutrient reduction being allocated to this line whereas at PR19 the line was only used for WFD No Deterioration investigations.

4M.56 First time sewerage

23 We were slightly behind our expenditure plans in 2021/22, due to delays in planning applications being granted and movement of construction to summer periods to reduce the risk of increased costs as a result of high water tables in the working area. We have now recovered this position. To the end of 2023/24, we have spent more than the allowed expenditure shown in the table. We expect the costs for this area of enhancement expenditure to remain above the allowance for the rest of the AMP. This is due to the unit rates allowed by Ofwat being lower than those experienced by our business.

4M.59 Sludge enhancement (quality)

24 In the Ofwat FD (December 2019) there was no allowance for this project to construct a new digester, instead Ofwat provided an allowance for use of markets to resolve the capacity issue. In March 2021 the CMA redetermination altered the allowance, providing funding to construct the new digester and profiled it into 2022-2025 revenues. The project is currently in construction. The project remains on track to complete by March 2025 in line with the performance commitment to provide an additional 6.4ttds of additional sludge treatment capacity by the end of the AMP.

4M.62 Sludge enhancement (growth)

25 Please see above as this forms part of the additional digestion capacity scheme.

4M.65 Odour

26 Initially the business made a decision to delay its expenditure against this driver to allow the EA time to issue new permits for its Sludge Treatment Centres under the Industrial Emissions Directive (IED). This decision was taken to allow the business to align its IED obligations with its odour enhancement investment, and deliver value for money for its customers. The business is now in receipt of a couple of IED permits and has a plan to undertake Odour Control works at a number of its Sludge Treatment Centres (STCs) over the course of year 2024/25 in readiness for the new permits being put in place at its STCs.

4M.68 Enhancing resilience to low probability high consequence events

27 Re-assessment of the pluvial fluvial risk led to a reallocation of enhancement funding to other risks.

Table 4N - Developer services expenditure for the 12 months ended 31 March 2024 - water network+

	Line description	Units	Water network+		
			Treated water distribution		
			Capex	Opex	Totex
1	New connections	£m	24.314	0.372	24.686
2	Requisition mains	£m	12.223	0.403	12.626
3	Infrastructure network reinforcement	£m	4.059	0.161	4.220
4	s185 diversions	£m	2.856	0.061	2.917
5	Other price controlled activities	£m	-	-	-
6	Total developer services expenditure	£m	43.452	0.997	44.449

1 The number of new connections reduced slightly compared in 2023/24, which has led to a reduction in expenditure of £3.7 million compared to the prior year.

2 Across mains requisition delivery, we saw a downturn in commissioned onsite mains. In 2023/24, we commissioned 35km of onsite mains delivered by our Partners and a further 42km delivered and commissioned by Self-lay Providers. This represents a reduction of 44 per cent and 42 per cent respectively.

3 S185 Diversions – these schemes can be driven by local authority spend as well as developer activity with total costs increasing by £0.6 million compared to the prior year.

4 Infrastructure network reinforcement - The difference between 2023/24 and the start of AMP7 is due to our changing methodology for determining the most efficient time to complete network reinforcement. This was first seen in the results from 2021/22. We continue to use hydraulic modelling and include additional data on development progress along with intelligence gathered from other stakeholders. Our modelling specifications are now in line with the latest guidance on minimum pressures and this has delayed the need for some network reinforcement work.

Table 4O - Developer services expenditure for the 12 months ended 31 March 2024 - wastewater network+ and bioresources

	Line description	Units	Wastewater network+					Total
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	
	Capex							
1	New connections	£m	0.822	-	-	-	-	0.822
2	Requisition sewers	£m	10.974	-	-	-	-	10.974
3	Infrastructure network reinforcement	£m	6.666	-	-	-	-	6.666
4	s185 diversions	£m	0.071	-	-	-	-	0.071
5	Other price controlled activities	£m	-	-	-	-	-	-
6	Total total developer services capex	£m	18.533	-	-	-	-	18.533
	Opex							
7	New connections	£m	0.014	0.006	0.002	-	-	0.022
8	Requisition sewers	£m	0.055	0.021	0.007	-	-	0.083
9	Infrastructure network reinforcement	£m	0.071	0.027	0.009	-	-	0.107
10	s185 diversions	£m	0.003	0.001	0.001	-	-	0.005
11	Other price controlled activities	£m	-	-	-	-	-	-
12	Total developer services opex	£m	0.143	0.055	0.019	-	-	0.217
	Totex							
13	Total developer services expenditure	£m	18.676	0.055	0.019	-	-	18.750

1 New wastewater connections increased in line with new water connections; 25,933 for 2023/24, down from 29,874 in 2022/23. This reduction compared to the prior year was expected as house building slowed due to the wider economic outlook. However, growth in the region remains consistent and is expected to return to higher levels in coming years.

2 Spend on Infrastructure Network Reinforcement in 2023/24 increased compared to the prior year. However, this remains at lower levels than seen historically. Delivery of infrastructure network reinforcement is largely dependent on developers' plans, therefore, depending on activity, it can result in irregular and uneven expenditure patterns.

Table 4P - Expenditure on non-price control diversions for the 12 months ended 31 March 2024

	Line description	Units	Water resources	Water network+	Wastewater network+	Total
	Capex					
1	Capex associated with NSWRA diversions	£m	-	9.634	1.556	11.190
2	Capex associated with other non-price control diversions	£m	0.064	1.054	0.325	1.443
3	Other developer services non-price control capex	£m	-	-	-	-
4	Developer services non-price control capex	£m	0.064	10.688	1.881	12.633
	Opex					
5	Opex associated with NSWRA diversions	£m	-	-	-	-
6	Opex associated with other non-price control diversions	£m	-	-	-	-
7	Other developer services non-price control opex	£m	-	-	-	-
8	Developer services non-price control opex	£m	-	-	-	-
	Totex					
9	Costs associated with NSWRA diversions	£m	-	9.634	1.556	11.190
10	Costs associated with other non-price control diversions	£m	0.064	1.054	0.325	1.443
11	Other developer services non-price control totex	£m	-	-	-	-
12	Developer services non-price control totex	£m	0.064	10.688	1.881	12.633

1 Reported expenditure reflects the size of the infrastructure programme and varies year to year. We expect the size of the overall programme in AMP7 to be larger than AMP6.

Table 4Q - Developer services - New connections, properties and mains

	Line description	Units	Water	Wastewater	Total
	Connections volume data				
1	New connections (residential – excluding NAVs)	nr	15,457	18,399	33,856
2	New connections (business – excluding NAVs)	nr	1,073	1,202	2,275
3	Total new connections served by incumbent	nr	16,530	19,601	36,131
4	New connections – SLPs	nr	8,419	-	-
	Properties volume data				
5	New properties (residential - excluding NAVs)	nr	16,615	19,606	36,221
6	New properties (business - excluding NAVs)	nr	958	1,130	2,088
7	Total new properties served by incumbent	nr	17,573	20,736	38,309
8	New residential properties served by NAVs	nr	6,961	5,196	12,157
9	New business properties served by NAVs	nr	1	1	2
10	Total new properties served by NAVs	nr	6,962	5,197	12,159
11	Total new properties	nr	24,535	25,933	50,468
12	New properties – SLP connections	nr	8,388	-	-
	New water mains data				
13	Length of new mains (km) - requisitions	nr	35	-	-
14	Length of new mains (km) - SLPs	nr	42	-	-

New connections, properties and length of Mains (4Q.1 - 4Q.14)

1 Despite a bright start to 2023/24, we saw a quiet and subdued end to the year.

2 A suppressed market from the increase in interest rates, which have since stabilised, and the impacts of rising inflation affected market confidence with all developer customers effectively managing existing sites and new projects whilst balancing economic conditions.

3 Despite this, we saw 24,535 properties connect to our water network. The number includes properties connected by Self-lay Providers and properties served by New Appointment and Variation companies (NAVs).

4 Self-lay Providers were down 15 per cent on Year 3 with NAV property connections up 43 per cent**.** SLP and NAV delivery routes accounted for 62 per cent of the total properties connected, a five per cent increase on 2022/23.

5 Our third-party planning data suggests that we will see a gradual recovery in new project starts as we progress through 2024, with consumer confidence returning and housing affordability improving, to increase developer activity across all market sectors.

Table 4R - Connected properties, customers and population

	Line description	Units	Unmeasured	Measured	Total	Voids
	Customer numbers - average during the year					
1	Residential water only customers	000s	82.445	162.350	244.795	6.779
2	Residential wastewater only customers	000s	221.680	643.365	865.045	23.568
3	Residential water and wastewater customers	000s	200.354	1667.139	1867.493	38.546
4	Total residential customers	000s	504.479	2472.854	2977.333	68.893
5	Business water only customers	000s	0.545	34.476	35.021	7.257
6	Business wastewater only customers	000s	1.650	32.843	34.493	5.802
7	Business water & wastewater customers	000s	0.862	71.881	72.743	14.928
8	Total business customers	000s	3.057	139.200	142.257	27.987
9	Total customers	000s	507.536	2612.054	3119.590	96.880

	Line description	Units	Water			Wastewater		
			Unmeasured	Measured	Total	Unmeasured	Measured	Total
	Property numbers - average during the year							
10	Residential properties billed	000s	282.799	1,829.489	2,112.288	422.034	2,310.504	2,732.538
11	Residential void properties	000s	-	-	45.325	-	-	62.114
12	Total connected residential properties	000s	-	-	2,157.613	-	-	2,794.652
13	Business properties billed	000s	1.407	106.357	107.764	2.512	104.724	107.236
14	Business void properties	000s	-	-	22.185	-	-	20.730
15	Total connected business properties	000s	-	-	129.949	-	-	127.966
16	Total connected properties	000s	-	-	2,287.562	-	-	2,922.618

	Line description	Units	Water															
			Unmeasured						Measured						Unbilled			Total
			No meter	Basic meter	AMR meter	AMI meter (capable)	AMI meter (active)	Total	No meter	Basic meter	AMR meter	AMI meter (capable)	AMI meter (active)	Total	Uneconomic to bill	Other	Total	
28	**Property and meter numbers - at end of year (31 March)**																	
29	Total new residential properties connected in year	000s	-	-	-	-	-	-	2.625	5.856	0.025	8.115	-	16.621	-	-	-	16.621
30	Total number of new business properties connections	000s	-	-	-	-	-	-	0.248	0.509	-	0.195	-	0.952	-	-	-	0.952
31	Residential properties billed at year end	000s	179.484	62.330	2.040	1.257	31.420	276.531	-	957.849	151.354	30.409	705.143	1,844.755	-	-	-	2,121.286
32	Residential properties unbilled at year end	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	16.223	16.223	16.223
33	Residential void properties at year end	000s	-	-	-	-	-	6.906	-	-	-	-	-	39.060	-	-	-	45.966
34	Total connected residential properties at year end	000s	-	-	-	-	-	283.437	-	-	-	-	-	1,883.815	-	-	-	2,183.475
35	Business properties billed at year end	000s	1.426	-	-	-	-	1.426	-	66.157	9.711	2.527	28.214	106.609	-	-	-	108.035
36	Business properties unbilled at year end	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	Business void properties at year end	000s	-	-	-	-	-	0.980	-	-	-	-	-	20.866	-	-	-	21.846
38	Total connected business properties at year end	000s	-	-	-	-	-	2.406	-	-	-	-	-	127.475	-	-	-	129.881
39	Total connected properties at year end	000s	-	-	-	-	-	285.843	-	-	-	-	-	2,011.290	-	-	-	2,313.356

	Line description	Units	Water	Wastewater
	Population data			
40	Resident population	000s	5064.108	6605.276
41	Non-resident population (wastewater)	000s	-	219.249

			Water		
	Household population data	Units	Resident population	Non-resident population	Total
42	Household population	000s	4,985.509	168.093	5,153.602
43	Household measured population (water only)	000s	4,212.881	142.043	4,354.924
44	Household unmeasured population (water only)	000s	772.628	26.050	798.678

Customer numbers - average during the year - unmeasured, measured and total columns (4R.1-9)

1 The movement in the average number of residential customers reflects the switching from unmeasured to measured along with new connections that have become billable in the year. The level of switching and new connections is in line with historical levels.

2 In lines five to eight we report the number of business properties for which we have reported revenue. We did not bill these. We exited the non-household retail market at the start of 2017/18 so all our connected non-household properties are now billed by licensed retailers. The average number of business properties billed in the current year is slightly higher than the previous year. During the current year more properties have come back into charge (there has been a reduction of just over 800 in the number of void properties in the year).

Property numbers - average during the year - unmeasured, measured and total columns (4R.10 and 4R.13)

3 The movement in the average number of residential customers reflects the switching from unmeasured to measured along with new connections that have become billable in the year. For business properties the average number of properties billed in the current year has increased over the report year 2022/23.

Residential void properties (4R.11)

4 The reduction in residential voids may be caused by a genuine reduction in empty properties, as well as a year-on-year reduction of false voids due to improved processes and systems. Business void properties (4R.14).

5 The Non-Household (NHH) void premises figures have been calculated using data taken from the Central Market Operating System (CMOS) which is managed by the market operator (MOSL) for the business retail market. We are responsible for maintaining data associated with a business premise such as address, services provided and meter details and retailers are responsible for maintaining data associated with the occupancy of the premise and this includes any vacant period.

6 Data have been taken from standard reports published by the central market. These reports, known as Market Data Set reports, are available from the central market on any day in a calendar year. This report includes details of all the market data on a specific day and includes if the premise was reported as occupied or vacant and if the supply was measured or unmeasured. Data from these reports have been used to derive the NHH void figures for 2023/24 in accordance with our methodology.

7 The occupancy status of a business property registered in the central market system is controlled by the appointed retailer through market transactions carried out in CMOS. As the wholesaler, we do not have access to alter this data.

The table below presents the 12 specific published Market Data Set reports used to calculate the average business customer premises and supplies void figures for the financial year 2023/24 and the figure reported on 03 April 2024.

MDS Published Date	Number of Void Premises	Number of Void Water Supplies	Number of Void Sewerage Supplies
28/04/2023	28,178	22,344	20,906
31/05/2023	28,138	22,320	20,877
30/06/2023	28,154	22,315	20,889
31/07/2023	28,209	22,381	20,933
31/08/2023	28,068	22,218	20,843
29/09/2023	28,108	22,247	20,846
31/10/2023	28,010	22,197	20,746
30/11/2023	28,024	22,224	20,762
29/12/2023	27,888	22,131	20,634
31/01/2024	27,817	22,056	20,565
29/02/2024	27,694	21,943	20,441
03/04/2024	27,568	21,846	20,324
Average	27,988	22,185	20,731

8 Calculating the year-end number of void premises: The Market Data Set reports for WSPID and SSPID published on 3 April 2024 are used to identify if a business premise has a status of 'vacant' (as opposed to occupied) in the central market system. These supplies are then mapped to other Market Data Sets reports WSSCO and SSSCO to identify if the supply is measured or unmeasured. The final part of the methodology is to calculate the figures for void business premises. The WSPID and SSPID are mapped to identify unique core SPID references to provide the premise figures.

9 Calculating the year-average number of void premises: To calculate the average figures the above is repeated for each of the other 11 calendar months using the same Market Data Set reports.

10 Identification of unbilled business premises: All premises included in CMOS at the time of producing the monthly market settlement charges are included in the published settlement reports which are used to produce retailer invoices. Where a premise is not registered in the central market but is subject to a review of its billing status these premises are marked in SAP as Account Class 6 and are included in the household APR tables figures either as unbilled or void.

11 The number of vacant business premises in the Anglian Water region on 3 April 2024 was 27,568 (16.21 per cent), a reduction of 630 premises compared to twelve months previously, when the vacancy rate was 16.69 per cent. The average number of vacant business premises across the year was 27,987, a reduction of 831.

12 The MOSL-reported market vacancy rate in March 2024 was 15.61 per cent. This is a reduction on the rate reported in March 2023 of 16.35 per cent, a reduction of around 0.75 per cent. Our improvement over the year is therefore lower than that achieved by the overall market.

13 Since April 2023 we have not charged for consumption recorded from actual meter readings taken from vacant premises. MOSL reporting includes a measure of vacant premises recording consumption above the minimum level that can accurately be measured for a meter size. In April 2023 the number of vacant premises recording consumption was circa 5,500. In March 2024 this number was a little under 6,000.

14 The number of premises recording consumption shows the 'vacant' premises which could be occupied and require further investigation by the retailer. We monitor premises which show significant consumption when marked vacant, providing retailers with information where this is available on review of the information.

15 We will continue the focus in this area with the aim of reducing the number of premises incorrectly classified as void.

New properties connected in year (4R.17 and 4R.18)

16 We saw a 91 per cent increase in new properties being connected with a smart meter with a reduction of 42 per cent for properties being fitted with a standard visual meter.

17 We note an increase in new properties being connected without a meter. Our data shows that there is a lag of up to six months between a connection being delivered and the meter being installed.

18 This is an area we will be focusing on in 2024/25 and to be more proactive in fitting meters on completed new connections for household properties.

Residential and business properties billed at year end (4R.19 and 4R.23)

19 Meters have been split by the type of meter installed at the property and include meters at unmeasured properties which are not currently used for billing. The table also shows the number of smart meters installed and includes those installed as part of the AMP7 programme along with those that were there at the start of the AMP. The smart meters are split into AMR and AMI capable and active. There has been an increase in AMI meters (up 227,000 on last year) as the AMP7 installation programme continued.

Unbilled properties (4R.20, 4R.24)

20 We include in line 20 (residential unbilled) properties that we classify as 'Non-chargeable' on the basis that either:

- although the property is furnished, there is no consumption and the occupier is deceased, or the property is long term vacant (over three months) due to hospitalisation, admittance to a care home, imprisonment with HMPs, or the property is uninhabitable due to fire/flood; or
- the property is demolished and/or pending disconnection and removal of the meter.

21 No charge is calculated for these premises and no bill issued. This is based on a "fairness" principle given that, whilst the property is connected, no service is provided.

- We do not recognise properties as uneconomic to bill. As stated above, our unbilling of properties is based on fairness rather than economics.

22 There has been an increase in the number of non-chargeable properties when compared with 2022/23. Due to a one per cent increase in premises supplied water; together with better processes and systems, we have identified more instances where the customer is deceased and there is no consumption at the meter. This has resulted in a year-on-year increase of 2,829 unbilled water premises, representing 0.13 per cent of all premises supplied water.

Residential void properties at year end (4R.21)

23 The reduction in unmeasured residential water voids may be caused by a genuine reduction in empty properties, as well as a year-on-year reduction in unmetered premises supplied with water services (a reduction of 4.41 per cent or 12,175). This was caused by customers switching to a meter, and a year-on-year reduction of false voids due to improved processes and systems (directly billed long term unmeasured and measured false voids fell by an estimated 453 premises or 0.02 per cent based on false void audits performed in August and September each year).

Resident population (4R.28)

24 Population is calculated based upon our SAP customer information, our assessment of the number of households and Office of National Statistics (ONS) population and local authority household data.

25 Population is derived using the in-year assessment of households we serve as a percentage of the ONS dwelling totals, as derived from the ONS Local Authority and Unitary Authority (LAUA) property tables.

26 The total population is then derived by applying ONS occupancy rates, which are produced by combining ONS LAUA (Local Authority, Unitary Authority) property totals and ONS sub-national population projection figures for the LAUA for the appropriate year.

27 Additional account is taken of non-household communal population, which is derived using census data and demographic data from our demographic consultants.

28 In detail, the estimate of household population is based on the updated 2018 (2023 issued) sub-national population projections (snpp) and the 2018 (June 2023 Issue) household projections from the ONS, which are used to derive LAUA occupancy rates which are then applied to the relevant AWS generated property total for that LAUA for that year.

- Baseline population and property figures are derived for each LAUA, utilising ONS population and household data
- Actual recorded properties in our 'billing' system for the base-year are then compared to the LAUA household official totals, initially directly though GIS and then by attributed postcode to each LAUA. We apportion our property count data for the districts we serve to derive an estimate of both the water and the waste-water properties and populations in the Anglian Water region
- This allows the percentage of households we serve to be determined for our statutory water and sewerage areas
- These property totals for the our statutory water and wastewater geographies, once derived, are confirmed with the 'billing data' and 'Water balance' teams and are then used to provide the in year value for the reporting year
- Base-line population totals are then be derived using the known household percentages derived from the comparison of ours and ONS household totals and applying these to the ONS snpp population figures (per LAUA). In effect by applying ONS derived occupancy rates
- Note that the ONS snpp population projections have been amended to reflect the current ONS mid-year population estimates.

29 The estimate of non-household population is based on the latest census data published by the ONS. This 'communal' population covers prisons, care homes and military bases among many categories. These projections have been revised in line with the paper 'Updating the Department for Communities and Local Government's Household Projections', specifically annex two 'Improving Institutional Population Estimates and Projections'. In addition we have added an estimate of people resident in mixed properties. This value is now based upon new estimates derived by our demographic consultants.

30 Note that for this years derivation of the total number of households served we have slightly revised our assessment based upon additional analysis of property totals. Property totals have been extracted from our SAP system, and reconciled with 'billing data' total numbers of billed properties. However a discrepancy has been identified with regard to properties which have a single meter/billing point, but include multiple dwellings (and, consequently multiple numbers of households with a population). This population has previously been under-represented in our previous assessments. The analysis has identified this number to be an additional 19,265 dwellings/households, giving an overall total of 2,089,393 households served (as opposed to 2,070,128 from the 'billing data' systems).

31 Previously, as part of WRMP24 Edge Analytics have produced a number of forecasts for Anglian Water (at PZ level for WRMP24), which in their raw, un-reconciled form all tend to indicate significantly more household dwellings in the Anglian Water Region than currently accounted for in the 'billing data'/'water balance' total. There are a number of properties that are considered unoccupied (approx. 100,000) and we would expect that a number of properties will be self-serve. This gives confidence that the overall total for households/dwellings is not an over estimate of the current position.

32 Edge VICUS Property counts total by PZ (WRMP 2024 forecasts)

Scenario	2023/24
Housing-Plan-P	2326247
Housing-Plan-r-P	2326248
ONS-18-Rebase-P	2287214
OxCam-1b-r-P	2326248

33 To reiterate:

- Our 'billing data estimate of properties/dwellings has been reported at 2,070,128
- Our revised 'billed' household/dwelling total has been assessed to be 2,089,393.

34 This estimation of the number of household properties, 2,089,393 is;

- 236,845 less than the Housing-Plan-P total (note this difference will include unoccupied and self-serve customers)
- 236,846 less than Housing-Plan-r-P (as above)
- 197,821 less than ONS-18-Rebase-P (as above)
- 236,846 less than OxCam1b-r-P – WRMP24 preferred trajectory (as above).

35 Note that the Edge Analytics totals, will included void properties that we internally assess to be over 100,000 and properties who are not reliant on us for their supply (self-serve properties) and NAV properties.

36 This will account for the approximate 200,000 variance we see between our assessed 'billed' property total and external estimation.

37 We would, consequently, suggest that the review of our household/dwelling total realigns with our view with external assessment.

38 Edge also generated a number of scenarios for population growth for the Anglian Water region (at PZ scale). Similarly, these all give higher forecasts for the 2023/24 household population total. Again these theoretical forecasts all indicate that population could be higher than that currently assessed using our internal methodology (tying population back to known property 'billed' totals)

39 Edge VICUS Population variants - total by PZ (WRMP 2024 forecasts)

Scenario	2023/24

Housing-Plan-P	5115395
Housing-Plan-r-P	5090176
ONS-18-Rebase-P	5020739
OxCam-1b-r-P	5090176

40 The current estimation of the number of the household population is, therefore, 4,985,509.

- 129,886 less than the Housing-Plan-P forecast
- 104,667 less than the Housing-Plan-r-P forecast
- 35,230 less than ONS-18-Rebased-P
- 104,667 less than the OxCam-1b-r-P forecast (the WRMP24 preferred plan trajectory).

These figures give confidence that we are not overestimating either properties or population and the current reassessment, is realigning our overall totals with externally assessed demographic data.

We, therefore expect our total population to be 5,064,108 (including communal populations)

Our Water customers population has increased by 91,311 from 4,972,797 to 5,064,108 (Household and communal Non-Household).

Note that this would have been a 45,479 increase from 4,972,797 to 5, 018,276 (without the reassessment of single meter-multiple dwelling properties).

For wastewater we have reassessed property totals in line with the readjustment for water households/dwellings, taking into account the single meter, multiple dwelling analysis. Without additional intelligence which would allow us to scale this figure, we have applied the known water value of 19,265 uplift to the wastewater household/dwelling total.

This has led to our Water recycling population increasing by 111,075 from 6,494,201 to 6,605,276 (Household and Communal/Non-Household).

Note that this would have been an increase of 65,177 from 6,494,201 to 6,559,378 (without the reassessment of single meter-multiple dwelling properties).

Note that this value also accounts for our 'WOC' customers in addition to those on our billing system.

The water customer population has increased by 91,311 (Household and Non-Household) in line with:

- additional connected properties
- year-on-year changes in occupancy rates for the LAUAs in the Anglian Water region (impacted the whole population)
- the reassessment of single meter (multiple dwelling properties)
- reassessment of non-household population.

The water recycling population has increased by 111,075 (Household and Non-Household) in line with:

- additional connected properties
- year-on-year changes in occupancy rates for the LAUAs in the Anglian Water region (impacted the whole population)
- the reassessment of single meter (multiple dwelling properties)
- reassessment of non-household population.

The total population for 2023/24 can be split and shown as follows, based upon 'Billing' information and occupancy rates derived using external demographic intelligence (Edge Analytics) to determine measured/unmeasured populations.

Description	Unit	2021/22	2022/23	2023/24
Population (water only)	0	509.816	487.025	509.426
Population (sewerage only)	0	1997.309	2008.429	2050.594
Population (water and sewerage)	0	4399.724	4485.773	4554.682
Total population (water)	0	4909.539	4972.797	5064.108
Total population (sewerage)	0	6397.033	6494.202	6605.276
Total population (water or sewerage)	0	6906.849	6981.226	7114.702

41 For our water customers population can be shown:

Description	Unit	2021/22	2022/23	2023/24
Population households billed unmeasured water	0	817.028	775.608	772.628
Population - households billed measured water	0	4021.13	4119.4	4212.881
Population non-households billed unmeasured water	0	0	0	0
Population - non-households billed measured water	0	71.381	77.79	78.559
Population - Total	0	4909.539	4972.797	5064.108

42 For our water recycling customers population can be shown:

Description	Unit	2021/22	2022/23	2023/24
Population households billed unmeasured sewerage	0	1065.689	1014.08	1099.381
Population - households billed measured sewerage	0	5244.953	5385.974	5410.77
Population - non-households billed unmeasured sewerage	0	0	0	0
Population - non-households billed measured sewerage	0	86.391	94.148	95.126
Population - Total Resident	0	6397.033	6494.202	6605.276

Non resident population (4R.29)

43 The numbers of non-resident population for 2023/24 was recorded as 219,249, similar to last year's number of 221,866.

Measured household population (4R.31)

44 The total measured population has been derived using internal assessments of occupancy rates for both measured and unmeasured cohorts of customer (based upon AWS billing data and per property occupancy data provided by Edge analytics (utilising 'Sagacity' data intelligence), with an understanding that the measured customer cohort will tend to have a lower occupancy rate on average than the unmeasured cohort. These occupancy rates have been derived at the property level and aggregated to AWS Planning Zone geographies for use in Water Balance and Per Capita Consumption (PCC) derivation.

45 This has given a Measured Occupancy rate of 2.278.

46 This split has then been apportioned to the overall regional population figure derived as above. The total population of measured water customers for 2023/24 is 4,212,881, as opposed to 4,119,400 for 2022/23.

Unmeasured household population (4R.32)

47 The total unmeasured population has been derived using internal assessments of occupancy rates for both measured and unmeasured cohorts of customer (based upon our billing data and per property occupancy data provided by Edge analytics (utilising 'Sagacity' data intelligence)), with an understanding that the measured customer cohort will tend to have a higher occupancy rate on average than the unmeasured cohort. We expect this occupancy rate to increase over time as lower occupancy customers tend to opt to becoming measured, leaving the higher occupancy customers in the unmeasured cohort.

48 These occupancy rates have been derived at the property level and aggregated to Anglian Water Planning Zone geographies for use in Water Balance and Per Capita Consumption (PCC) derivation.

49 This has given a Measured Occupancy rate of 2.732.

50 This split has then been apportioned to the overall regional population figure derived as above. The total population of unmeasured water customers for 2023/24 is 772,628 as opposed to 775,608 for 2022/23.

51 Overall occupancy for our customers for 2023/24 has been derived from ONS local authority datasets to be 2.342.

Table 4S, 4T and 4U - Green recovery expenditure and RCV

Table 4S, 4T and 4U

1 We do not report any figures for these tables as we did not propose projects under the Green Recovery scheme.

Table 4V - Mark-to-market of financial derivatives analysed based on payment dates

	Line description	Units	Derivatives - Analysed by earliest payment date			
			Net settled	Gross Settled outflows	Gross Settled inflows	Total
1	Due within one year	£m	97.269	-	-	97.269
2	Between one and two years	£m	21.957	-	-	21.957
3	Between two and three years	£m	15.930	131.685	(142.457)	5.158
4	Between three and four years	£m	14.805	-	-	14.805
5	Between four and five years	£m	14.666	38.381	(41.960)	11.087
6	After five years	£m	464.388	350.129	(309.552)	504.965
7	Total	£m	629.015	520.195	(493.969)	655.241

	Line description	Units	Derivatives - Analysed by expected maturity date			
			Net settled	Gross Settled outflows	Gross Settled inflows	Total
1	Due within one year	£m	97.269	-	-	97.269
2	Between one and two years	£m	21.957	-	-	21.957
3	Between two and three years	£m	7.691	131.685	(142.457)	(3.081)
4	Between three and four years	£m	14.805	-	-	14.805
5	Between four and five years	£m	14.666	38.381	(41.960)	11.087
6	After five years	£m	472.626	350.129	(309.552)	513.203
7	Total	£m	629.014	520.195	(493.969)	655.240

Financial derivatives analysed based on payment dates (4V.1 - 4V.7)

1 Derivatives analysed by earliest payment date and derivatives analysed by expected maturity date have the same classification for all but one interest rate swap which has a mutual break clause and has a fair value of £8.239 million. The overall mark-to-market ties back to Table 4I.

Table 4W - Defined Benefit Pension Scheme – Additional Information

	Line description	Units	Defined benefit pension schemes		
			Pension scheme 1	Pension scheme 2	Pension scheme 3
	Scheme details				
1	Scheme name	Text	Anglian Water Group Pension Scheme	-	-
2	Scheme status	Text	Closed to new members (2002) and future accruals (2018)	-	-
	Scheme valuation under IAS/IFRS/FRS				
3	Scheme assets	£m	1,062.547	-	-
4	Scheme liabilities	£m	999.007	-	-
5	Scheme surplus / (deficit) Total	£m	63.540	-	-
6	Scheme surplus / (deficit) Appointed business	£m	61.457	-	-
7	Pension deficit recovery payments	£m	-	-	-
	Scheme valuation under part 3 of Pensions Act 2004				
8	Scheme funding valuation date	Date	03-31-2020	-	-
9	Assets	£m	1,539.000	-	-
10	Technical Provisions	£m	1,753.000	-	-
11	Scheme surplus / (deficit)	£m	-214.000	-	-
12	Discount rate assumptions	Text	Gilts plus 0.60%	-	-
	Recovery plan (where applicable)				
13	Recovery Plan Structure	Text	Recovery plan agreed on 29 June 2021. The company will pay the following deficit contributions arising from the latest triennial valuation carried out as at 31 March 2020: £14.6m each year from 01 April 2022 to 31 October 2026 inclusive increasing in line with RPI at each 1 November. Additionally fixed £5m pa (non indexed) from 01 April 2023 to 31 March 2025	-	-
14	Recovery plan end date	Date	10-31-2026	-	-
15	Asset Backed Funding (ABF) arrangements	Text	n/a	-	-
16	Responsibility for ABF arrangements	Text	n/a	-	-

Scheme Details (4W.1-4W.2)

1 The defined benefit arrangements closed to new pension accrual with effect from 31 March 2018 and employees who were members of these arrangements are eligible for entry to the Group's defined contribution schemes.

Scheme valuations under IAS/IFRS/FRS (4W.3-4W.6)

2 The IAS scheme surplus has deteriorated over the past 12 months. This decrease in surplus reflects a decrease in the scheme's liabilities resulting from an increase in the corporate bond rate used to discount those liabilities on an accounting basis compared to a greater decrease in our assets which are hedging gilt based liabilities

Pension deficit recovery payments (4W.7)

3 No deficit repair payments were made in 2023/24. The deficit repair payment due in October 2023 of £21.764m under the schedule of contributions was prepaid in the year to 31-March-2023.

Scheme valuations under part 3 of Pensions Act 2004 (4W.8-4W.12)

4 At 31 March 2024 the 2020 triennial valuation (agreed on 29 June 2021) was still in force. The next triennial valuation based on the 31 April 2023 deficit position remained under negotiation with the Scheme Trustees.

Recovery plan (4W.13-4W.14)

5 The deficit recovery plan between the company and scheme expects to close the technical provisions deficit by October 2026

Table 4X - Accelerated Infrastructure delivery project expenditure for the 12 months ended 31 March 2024

	Line description		Units	Expenditure in report year						Cumulative expenditure on schemes completed in the report year					
				Water resources	Water network+				Total	Water resources	Water network+				Total
					Raw water transport	Raw water storage	Water treatment	Treated water distribution			Raw water transport	Raw water storage	Water treatment	Treated water distribution	
	Accelerated infrastructure delivery project														
1	Colchester Re-use	Capex	£m	0.914	-	-	-	-	0.914	-	-	-	-	-	-
2	Colchester Re-use	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
3	Colchester Re-use	Totex	£m	0.914	-	-	-	-	0.914	-	-	-	-	-	-
4	Accelerated scheme 2	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
5	Accelerated scheme 2	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
6	Accelerated scheme 2	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
7	Accelerated scheme 3	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
8	Accelerated scheme 3	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
9	Accelerated scheme 3	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
10	Accelerated scheme 4	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
11	Accelerated scheme 4	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
12	Accelerated scheme 4	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
13	Accelerated scheme 5	Capex	£m	-	-	-	-	-	-	-	-	-	-	-	-
14	Accelerated scheme 5	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-
15	Accelerated scheme 5	Totex	£m	-	-	-	-	-	-	-	-	-	-	-	-
16	Total accelerated programme capex	Capex	£m	0.914	-	-	-	-	0.914	-	-	-	-	-	-
17	Total accelerated programme opex	Opex	£m	-	-	-	-	-	-	-	-	-	-	-	-

18	Total accelerated programme expenditure	Totex	£m	0.914	-	-	-	-	0.914	-	-	-	-	-	-

1 Work is progressing on the Accelerated Infrastructure Delivery project for Colchester re-use.

Table 4Y - Accelerated Infrastructure delivery project expenditure for the 12 months ended 31 March 2024 - wastewater network+ and bioresources

	Line description		Units	Expenditure in report year								
				Wastewater network+					Bioresources			Total
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
	Accelerated infrastructure delivery project											
1	Nutrient Neutrality	Capex	£m	-	-	-	0.764	-	-	-	-	0.764
2	Nutrient Neutrality	Opex	£m	-	-	-	-	-	-	-	-	-
3	Nutrient Neutrality	Totex	£m	-	-	-	0.764	-	-	-	-	0.764
4	Regional Overflow Reduction	Capex	£m	0.086	0.026	0.013	0.057	-	-	-	-	0.182
5	Regional Overflow Reduction	Opex	£m	-	-	-	-	-	-	-	-	-
6	Regional Overflow Reduction	Totex	£m	0.086	0.026	0.013	0.057	-	-	-	-	0.182
16	Total accelerated programme capex	Capex	£m	0.086	0.026	0.013	0.821	-	-	-	-	0.946
17	Total accelerated programme opex	Opex	£m	-	-	-	-	-	-	-	-	-
18	Total accelerated programme expenditure	Totex	£m	0.086	0.026	0.013	0.821	-	-	-	-	0.946

	Line description		Units	Cumulative expenditure on schemes completed in the report year								
				Wastewater network+					Bioresources			Total
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	
	Accelerated infrastructure delivery project											
1	Nutrient Neutrality	Capex	£m	-	-	-	-	-	-	-	-	-
2	Nutrient Neutrality	Opex	£m	-	-	-	-	-	-	-	-	-
3	Nutrient Neutrality	Totex	£m	-	-	-	-	-	-	-	-	-
4	Regional Overflow Reduction	Capex	£m	-	-	-	-	-	-	-	-	-
5	Regional Overflow Reduction	Opex	£m	-	-	-	-	-	-	-	-	-
6	Regional Overflow Reduction	Totex	£m	-	-	-	-	-	-	-	-	-
16	Total accelerated programme capex	Capex	£m	-	-	-	-	-	-	-	-	-
17	Total accelerated programme opex	Opex	£m	-	-	-	-	-	-	-	-	-
18	Total accelerated programme expenditure	Totex	£m	-	-	-	-	-	-	-	-	-

1 Work is proceeding on the Accelerated Infrastructure Delivery project for regional overflow reduction.

Table 5A - Water resources asset and volumes data for the 12 months ended 31 March 2024

	Line description	Units	Input
	Water resources		
1	Water from impounding reservoirs	Ml/d	28.25
2	Water from pumped storage reservoirs	Ml/d	579.98
3	Water from river abstractions	Ml/d	575.85
4	Water from groundwater works,excluding managed aquifer recharge (MAR) water supply schemes	Ml/d	632.21
5	Water from artificial recharge (AR) water supply schemes	Ml/d	-
6	Water from aquifer storage and recovery (ASR) water supply schemes	Ml/d	-
7	Water from saline abstractions	Ml/d	-
8	Water from water reuse schemes	Ml/d	-
9	Number of impounding reservoirs	nr	2
10	Number of pumped storage reservoirs	nr	8
11	Number of river abstractions	nr	17
12	Number of groundwater works excluding managed aquifer recharge (MAR) water supply schemes	nr	196
13	Number of artificial recharge (AR) water supply schemes	nr	-
14	Number of aquifer storage and recovery (ASR) water supply schemes	nr	-
15	Number of saline abstraction schemes	nr	-
16	Number of reuse schemes	nr	-
17	Total number of sources	nr	223
18	Total number of water reservoirs	nr	10
19	Total volumetric capacity of water reservoirs	Ml	227,252.70
20	Total number of intake and source pumping stations	nr	216
21	Total installed power capacity of intake and source pumping stations	kW	40,841
22	Total length of raw water abstraction mains and other conveyors	km	118.35
23	Average pumping head – raw water abstraction	m.hd	30.03
24	Energy consumption - water resources (MWh)	MWh	78,177.191
25	Total number of raw water abstraction imports	nr	-
26	Water imported from 3rd parties to raw water abstraction systems	Ml/d	-
27	Total number of raw water abstraction exports	nr	-
28	Water exported to 3rd parties from raw water abstraction systems	Ml/d	-
29	Water resources capacity (measured using water resources yield)	Ml/d	1,741.00
30	Total number of completed investigations (WINEP/NEP), cumulative for AMP	nr	134.00

Water from impounding reservoirs (5A.1)

1 The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable, water treatment works losses and excludes the MLE adjustment to Distribution Input.

Water from pumped storage reservoirs (5A.2)

2 The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable water treatment works losses and excludes the MLE adjustment to Distribution Input. For some of our larger river abstraction works (such as Wing & Grafham) we have only included in this line the volume of water delivered from the pumped storage into the works.

Water from river abstractions (5A.3)

3 The sum of the water abstracted cannot be directly compared to distribution input as it includes imports/exports, non potable, water treatment works losses and excludes the MLE adjustment to Distribution Input. The total volume of water from lines 5A.1-5A.8 is more that the total volume of water abstracted as we have included water that is firstly abstracted from the rivers and then again abstracted from the pumped storage.

Water from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes (5A.4)

4 The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable, water treatment works losses and excludes the MLE adjustment to Distribution Input.

Water from artificial recharge (AR) water supply schemes (5A.5)

5 No such schemes are operated by the company.

Water from aquifer storage and recovery (ASR) water supply schemes (5A.6)

6 No such schemes are operated by the company.

Water from saline abstractions (5A.7)

7 No such schemes are operated by the company.

Water from water reuse schemes (5A.8)

8 There are no sites that abstract water using this method. As a result, we have reported the volume of water for this line is zero.

Number of impounding reservoirs and pumped storage reservoirs (5A.9 and 5A.10)

9 The reported numbers reflect the number of reservoirs classified as raw water abstraction.

10 Impounding Reservoirs

- Ravensthorpe reservoir (Ruthamford North RZ): 100 per cent inflow
- Hollowell reservoir (Ruthamford North RZ): 100 per cent inflow.

11 Pumped Storage Reservoirs

- Alton Water (East Suffolk RZ): 69 per cent pumped
- Ardleigh reservoir (South Essex RZ): 82 per cent pumped
- Covenham reservoir (East Lincolnshire RZ): 100 per cent pumped
- Grafham Water (Ruthamford South RZ): 99 per cent pumped
- Pitsford reservoir (Ruthamford North RZ): 56 per cent pumped

- Rutland Water (Ruthamford North RZ): 88 per cent pumped
- Cadney Carrs (East Lincolnshire RZ): 100 per cent pumped
- Costessey Pits (Norwich & the Broads RZ): 100 per cent pumped.

12 The RAG 4.12 guidance means we also class Cadney Carrs and Costessey Pits as raw water reservoirs. Cadney has storage >15 days and Costessey Pits has an abstraction licence.

13 The definition for line nine specifies that the reservoirs should be classified as either pumped or impounding, on the basis of the majority of the type of flow that they receive.

Number of river abstractions (5A.11)

14 We are reporting seventeen river abstractions for the reporting period 2023/24.This is one more than in 2022/23 as Clapham (Bedford) abstraction has now returned to supply.

15 This consists of direct river intakes and also ten indirect supporting river abstractions. This reflects the full complement of our surface water intake assets.

- Cadney (River Ancholme)
- Clapham (Bedford Ouse)
- Hall (River Trent)
- Heigham (River Wensum)
- Costessey (River Wensum)
- Marham (River Nar)
- Stoke Ferry (River Wissey)
- Tinwell (River Welland for Rutland Water)
- Wansford (River Nene for Rutland Water)
- Offord (River Great Ouse for Grafham Water)
- Duston Mill (River Nene for Pitsford reservoir)
- Sproughton (River Gipping for Alton Water)
- Bucklesham (Mill River for Alton Water)
- East Mills (River Colne for Ardleigh)
- Covenham intake (Louth Canal for Covenham reservoir)
- Cloves Bridge (River Great Eau for support to Covenham)
- Cut-off-Channel (for support to Stoke Ferry)

16 Bath Springs and Cringle Brook intake at Saltersford, and Foxcote reservoir, do not enter supply so are not included in the reported list.

Number of groundwater works, excluding managed aquifer recharge (MAR) water supply schemes (5A.12)

17 We report 196 groundwater sources for 2023/24 which is different to the 198 that was reported for 2022/23. A source is defined as an independent raw water supply that directly supplies a treatment works. Standby or mothballed sources from which no water has been obtained in the year should not be included. The total number of sources included the re-introduction of Pulloxhill into supply in 2023/24.

18 The following sources were also removed from the operational source list based on the above source definition:

- Ulceby (not operated into supply in 2023/24 due to raw water quality)
- Battlesden (not operated into supply in 2023/24, due to capital investment works at the WTW)
- Rippingale (not operated into supply in 2023/24 due to maintenance work on the borehole)

Number of artificial recharge (AR) water supply schemes (5A.13)

19 No such schemes are operated by the company.

Number of aquifer storage and recovery schemes (ASR) water supply schemes (5A.14)

20 No such schemes are operated by the company.

Number of saline abstraction schemes (5A.15)

21 No such schemes are operated by the company.

Number of reuse schemes (5A.16)

22 No such schemes are currently operated by the company.

Total number sources (5A.17)

23 The reported number is summed from lines nine to 16.

Total number of water reservoirs (5A.18)

24 For 2023/24 the reported number has not changed.

25 Line 18 includes the impounding and pumped storage reservoirs reported in lines nine and 10.

Total capacity of water reservoirs (5A.19)

26 The value for 2023/24 has not changed from 2022/2023.

Total number of intake and source pumping stations (5A.20)

27 Following guidance in the Ofwat RAG Guidelines & Appendices we have identified raw water transport pumps within surface water systems and groundwater sources. Surface water transport has been split between abstraction to reservoir and abstraction from reservoir to treatment. Groundwater sources have been split based on the proportion of pumping head that that goes to treatment (considered to be raw water abstraction) and the proportion that goes to supply (considered to be water distribution).

28 In line with the disaggregation of raw water transport pumps, for 2023/24 we are reporting:

- 20 intake and source pumping stations including one gravity intake system at Ravensthorpe Reservoir
- 196 groundwater sources.

29 This is a decrease of one source from the 2022/23 reporting year.

Total installed power capacity of intake and source pumping stations (5A.21)

30 The number of pumps, rated power for each pump, location and asset status have been used where this information was held in corporate databases. Where the rated power was not available in the corporate databases historical records held by the Water Resources team were used. The qualifying assets were determined by the Water Resources team. For those borehole pumps that both abstract and boost into the network only the proportion of

the rated power relating to abstraction has been included. The reduction in rated power, when compared to the previous year, is a result of taking eighteen borehole pumps out of service.

Total length of raw water abstraction mains and other conveyors (5A.22)

31 This data has been reviewed and refined for PR24. This line has been calculated using the latest raw water mains data out of our corporate mapping system (G/water). The lengths have also been calculated using the guidance provided in RAG 4.12. There is a small decrease of 2km for 2023/24 compared to 2022/23 this is due to constant improvements to on-site pipe classifications.

Average Pumping Head - Raw Water Abstraction (5A.23)

Overview

32 Average pumping head (APH) reporting has been a continued area of focus and improvement in 2023/24. The new process established in recent years has enabled a smooth and efficient delivery of the reported figures for the report year and has also provided the opportunity to test business processes and validate the outcomes from automated systems and processes that have been developed.

33 Due to recent updates in the calculation of LARS and SWORPS data and the recovery of previously missing measured data, we have been able to improve the accuracy of the calculation and, as a result, we have greater confidence in the overall validity of the reported data and transparency of the level of measurement versus estimation in each of the price controls.

Measured and Estimated Values

34 Discovery of and investment in additional sensing equipment in the Raw Water Abstraction price control has allowed us to drive up the level of measured data overall. Whilst the level of measured data for Raw Water Abstraction is lower than we would like, the significant improvement shows the value that is gained by visualising the availability of measured data at an asset level. This allows us to prioritise where we install monitoring to ensure we get maximum uplift for any investment we make.

35 The APH visualisation tool that has been developed has helped to identify missing measured data through our continuous improvement processes. It has been possible to recover this data and this has been included in the calculation to improve confidence and accuracy.

36 We have also undertaken work during 2023/24 to test the validity of estimated values against up to date pump test reports as they are conducted and have built this into our continuous improvement processes going forwards.

Validation

37 Over and above the validation testing that is built into the automated calculation and the work conducted to validate estimated values, further validation has been undertaken on our tools and systems through the form of manual testing of data streams. This gives additional confidence both in the efficacy of the measured data and also in the automatic validation process.

Improvement Areas For Further Review

38 The processes to capture opportunities for additional measured data are currently highly manual and are dependent upon team members learning about new or refurbished plant or equipment offline through conversations with operational teams or by interrogating Anglian Water's internal systems.

39 Whilst this is carried out with diligence, it is recognised that as key strategies such as Strategic Pipeline and data driven decision making are delivered, we will need a more robust process to ensure new pumping assets are captured and that we have better visibility of existing plant availability to improve the accuracy of the calculation. This will be a focus in 2024/25 in preparation for AMP8 and beyond.

Future Planning: APH as a key measure

40 As part of continuous improvement activities and preparation for AMP8, the Water Optimisation team are developing a systems thinking approach to reviewing, analysing and optimising hydraulic sub systems within our existing organisational hierarchies.

41 When considering performance at a system level, APH becomes a key performance measure and, due to the updated approach we are taking to the calculation, we are now in a strong position to build this into situational awareness and system performance reporting platforms going forwards. This will enable the business to use APH to help drive operational decision making and process optimisation opportunities for the first time. This will be central to data driven operations and optimisation strategies for AMP8.

Outcome

42 Raw water abstraction APH: 30.03.

43 Percentage of APH derived from measured data: 44.3 per cent.

44 Key pressure and flow monitoring has been identified significantly raising the proportion of measured data for this price control. The APH has dropped marginally compared to last year, due to discovery of additional sensors improving the accuracy of measurement. This is potentially also due to fewer extremes of temperature compared to 2022/23, with more pumps operating in efficient flow ranges for longer periods. The longer term trend for APH within the price control is decreasing, but relatively stable.

Energy Consumption – Raw Water Abstraction (5A.24)

45 The energy consumption was 78,177 MWh. The equivalent number for 2022/23 was 90,098 MWh so there was an decrease of 11,921 MWh or 13.23 per cent.

46 The main component of this change has been the electricity usage for raw water abstraction which decreased by 11,677 MWh or 13.98 per cent. Abstraction from rivers into impounding reservoirs was much lower than in 2022/23 as the exceptionally hot and dry conditions of 2022/23 were replaced with cooler and much wetter ones. River levels recovered in the wet weather, alleviating previous abstraction concerns, although there were high demands in the hot weather of June and September.

47 A number of assumptions have been made in calculating the raw water abstraction energy consumption data.

- For the whole of the water function, we have applied a financial split from regulatory accounts between abstraction, raw water transport, water treatment and treated water distribution for electricity consumption. This financial split is based upon assessments of proportional use by different business units made by the finance team and operational managers. Because of the more significant volumes of solar electricity being generated on sites at a lower price than grid electricity, the solar costs were deducted from this calculation. Solar consumption was added back to complete the consumption picture
- Grid electricity and fuel (oil and natural gas) used in offices has been included and split equally between the water and water recycling functions
- Fuel oil is not recorded on our corporate systems against Ofwat's business units and therefore the same split used for electricity has been assumed for each fuel type with the exception of gas oil and diesel delivered to water recycling sites
- We have assumed a 35 per cent thermal efficiency for natural gas consumption in converting to energy output (boilers and CHP)

- Transport (claimed mileage and fleet fuel purchased on fuel cards) is not recorded in our corporate systems against Ofwat's business units and therefore we have split the total 50/50 between water and water recycling and then assumed that they split in the same proportions as electricity between the business units
- Transport for company cars is collected as mileage. We have converted mileage into kWh through using DESNZ's greenhouse gas reporting conversion factors for 2023
- For electric vehicles, a small but growing volume of energy is collected via fuel cards or is metered at employees' homes. For the remaining, larger volume we have made the assumption that the mileage claimed relates to charging at home or on public charging points, rather than using the charging points at our offices. Many people are still working from home a lot of the time and we don't have a reliable source to tell us how many miles are being claimed from charging on our sites. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption from claimed mileage totals just 344,900 kWh across the whole business and (ii) wherever cars are charged, the driver may be charging for domestic and commuting miles (which cannot be claimed) as well as for business. While there may be an overlap with the electricity consumption data, we consider that this will be de-minimis. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and our infrastructure.

Total number of raw water abstraction imports (5A.25)

48 There are currently no raw water abstraction imports so this figure is zero.

Water imported from 3rd parties' raw water abstraction systems (5A.26)

49 The volume of raw water imported from 3rd party systems is zero.

Total number of raw water abstraction exports (5A.27)

50 There are currently no raw water abstraction exports so this figure is zero.

Water exported to third parties from raw water abstraction systems (5A.28)

51 The volume of raw water exported to third party systems is zero.

Water resources capacity (measured using water resources yield) (5A.29)

52 The reporting year value has been provided for the company water resources capacity, based on the hydrological yields for all sources contributing to the WRMP19 deployable output supply forecast.

53 The total annual average water resources capacity is 1,741.0Ml/d, which is made up of groundwater and direct surface water intakes (1,014.6Ml/d) and surface water reservoirs, including their surface water intakes (726.4Ml/d). This is a 0.9 Ml/d reduction on the previous year, due to a licence change on a groundwater source. This also could be compared to the WRMP company deployable output of 1,542.4Ml/d. There are important differences between the two values to be aware of, such as water resources capacity does not account for water treatment works constraints or raw water network constraints. Additionally, deployable output can be constrained by the relative proximity of the population in respect to sources and assets. As a result, deployable output will always be less than water resources capacity.

Total number of completed investigations (WINEP/NEP), cumulative for AMP (5A.30)

54 There were no additional investigations delivered under the WINEP in 2023/24 classified under Water Resources.

Table 5B - Water resources operating cost analysis for the 12 months ended 31 March 2024

	Line description	Units	Impounding Reservoir	Pumped Storage	River Abstractions	Groundwater, excluding MAR water supply schemes	Artificial Recharge (AR) water supply schemes	Aquifer Storage and Recovery (ASR) water supply schemes	Other	Total
1	Power	£m	0.018	0.206	7.635	7.798	-	-	-	15.657
2	Income treated as negative expenditure	£m	-	-	-0.469	-0.128	-	-	-	-0.596
3	Abstraction charges/ discharge consents	£m	0.366	3.292	1.646	3.841	-	-	-	9.146
4	Bulk supply	£m	-	-	-	-	-	-	-	-
	Other operating expenditure									
5	Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-	-	-
6	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-	-	-
7	Other operating expenditure excluding renewals	£m	0.670	1.764	2.715	12.895	-	-	-	18.044
8	Local authority and Cumulo rates	£m	0.041	0.160	-0.000	2.383	-	-	-	2.583
9	Total operating expenditure (excluding 3rd party)	£m	1.094	5.422	11.528	26.790	-	-	-	44.834

Power

1 The power cost in 2023/24 has faced a significant increase. This is due to our strategy of buying multiple forward contracts for future years usage, over time in incremental blocks. These are purchased on the forward wholesale market and via market reflective power purchase agreements. This in effect fixes our wholesale cost at an average price of all the forward contracts for the relevant year. In volatile market conditions, forecasting the direction of future prices is a risk decision, and we spread the risk by building up our purchase of future energy use over time, and we do so to ensure financial certainty, not to outperform the market. A hedging strategy of this nature, by its design, avoids the highs, but also the lows in markets through the multiple purchase of small volumes of energy over time. This strategy protected us in 2022/23 from the significant spikes in the wholesale energy market but means in 2023/24 we have faced increased costs as contracts purchased during the peak are included in the cost base for the current year. Expectation is that energy costs will remain high in 2024/25 compared with base year of 2019/20, regardless of what the volatile market price actually does in those years, because of the strategy of buying forward contracts.

Table 6A - Raw water transport, raw water storage and water treatment data for the 12 months ended 31 March 2024

	Line description	Units	Input	
	Raw water transport and storage			
1	Total number of balancing reservoirs	nr	4.000	-
2	Total volumetric capacity of balancing reservoirs	Ml	414.000	-
3	Total number of raw water transport stations	nr	10.000	-
4	Total installed power capacity of raw water transport pumping stations	kW	12869.500	-
5	Total length of raw water transport mains and other conveyors	km	545.422	-
6	Average pumping head ~ raw water transport	m.hd	45.950	-
7	Energy consumption – raw water transport (MWh)	MWh	42216.812	-
8	Total number of raw water transport imports	nr	-	-
9	Water imported from 3rd parties to raw water transport systems	Ml/d	-	-
10	Total number of raw water transport exports	nr	-	-
11	Water exported to 3rd parties from raw water transport systems	Ml/d	-	-
12	Total length of raw and pre-treated (non-potable) water transport mains for supplying customers	km	62.260	-

	Water treatment - treatment type analysis	Surface water		Ground water	
		Water treated	Number of works	Water treated	Number of works
	Units	Ml/d	nr	Ml/d	nr
13	All simple disinfection works	-	-	3.710	3.000
14	W1 works	-	-	-	-
15	W2 works	-	-	151.050	40.000
16	W3 works	-	-	136.050	33.000
17	W4 works	3.680	1.000	178.680	26.000
18	W5 works	568.090	12.000	103.770	12.000
19	W6 works	6.730	1.000	-	-

	Water treatment - works size	% of total DI	Number of works		
	Units	DI	nr		
20	WTWs in size band 1	0.800	11.000	-	-
21	WTWs in size band 2	4.000	28.000	-	-

22	WTWs in size band 3	11.300	38.000	-	-
23	WTWs in size band 4	15.100	27.000	-	-
24	WTWs in size band 5	15.400	13.000	-	-
25	WTWs in size band 6	18.300	8.000	-	-
26	WTWs in size band 7	5.900	1.000	-	-
27	WTWs in size band 8	29.200	2.000	-	-

	Water treatment - other information	Units	Input	
28	Peak week production capacity (PWPC)	Ml/d	1797.001	-
29	Total peak week production capacity (PWPC) having enhancement expenditure for grey solution improvements to address raw water quality deterioration	Ml/d	3.700	-
30	Total peak week production capacity (PWPC) having enhancement expenditure for green solutions improvements to address raw water quality deterioration	Ml/d	-	-
31	Total water treated at more than one type of works	Ml/d	-	-
32	Number of treatment works requiring remedial action because of raw water deterioration	nr	1.000	-
33	Zonal population receiving water treated with orthophosphate	000's	5,064.108	-
34	Average pumping head – water treatment	m.hd	11.450	-
35	Energy consumption - water treatment (MWh)	MWh	90,549.343	-
36	Total number of water treatment imports	nr	-	-
37	Water imported from 3rd parties to water treatment works	Ml/d	-	-
38	Total number of water treatment exports	nr	-	-
39	Water exported to 3rd parties from water treatment works	Ml/d	-	-

Total number of balancing reservoirs (6A.1)

1 The reported numbers reflect the number of reservoirs classified as Network + Raw water storage as set out in RAG 4.12 guidance (Figure 1). We only include reservoirs which have one or more days storage. For 2023/24 reporting year Clapham (Bedford) reservoir has been re-added as it has returned to supply.

- Heigham Large Deposit Reservoir – for Heigham WTW
- Bedford – for Clapham WTW
- South Clifton – for Hall WTW
- Saltersford Raw Water Reservoir – for Saltersford WTW .

2 The purpose of these reservoirs is to provide resilience rather than storage and as such they do not have an abstraction licence or a natural catchment. Saltersford was a new addition to the list for 2020/21 following review of the guidance.

Total volumetric capacity of balancing reservoirs (6A.2)

3 The capacity of balancing reservoirs reflects the design/construction capacity of the reservoir where possible and is clarified by our Reservoir Safety Manager. This value has changed this reporting year due to the re-addition of Clapham (Bedford) reservoir.

Total number of raw water transport stations (6A.3)

4 In line with guidance as described above, reporting for 2022/23 has not changed since 2021/22. The figure remains ten transfer pumping stations including one gravity intake system at Ravensthorpe Reservoir.

Total installed power capacity of raw water transport pumping stations (6A.4)

5 The number of pumps, rated power for each pump, location and asset status have been used where this information was held in corporate databases. The assets qualifying for inclusion were determined by the Water Resources team.

Total length of raw water transport mains and other conveyors (6A.5)

6 This data was reviewed and refined for PR19. The lengths have been calculated using the guidance provided in RAG 4.12.

7 Constant improvement to on-site pipe classification has led to a 7km increase from the figure quoted in the 2022/23 length.

Average pumping head ~ raw water transport (6A.6)

8 For an overview on how we have reported average pumping head please see the commentary for 5A.23.

9 Raw water transport APH: 45.95

10 Percentage of APH derived from measured data: 72.9 per cent.

11 APH has risen marginally for this price control, however, the quantity of measured data has decreased markedly from last year. This has been driven by a reduction in mass transfer between Grafham Dam and Grafham WTW. Because the measured mass transfer of this particular pump set is considerably higher than all other pump sets, changes in delivery have a significant influence both on the APH figure and the percentage of measured

data for raw water transport. Improvements in LARS & SWORPS calculation and recovery of missing data has raised the confidence in this measure. The longer term trend for APH within the price control is relatively stable.

Energy Consumption – Raw Water Transport and Water Treatment (6A.7 and 6A.35)

12 The total energy consumption across both lines was 132,766 MWh. The equivalent number for 2022/23 was 131,463 MWh so there has been an increase of 1,303 MWh or 0.99 per cent. For Raw Water Transport there has been a decrease of 3,941 MWh (8.54 per cent) and for Water Treatment there was an increase of 5,245 MWh (6.15 per cent).

13 The main drivers of this change have been (i) the decreased abstraction in 2023/24 compared to 2022/23 as exceptionally hot and dry conditions were replaced by cooler and exceptionally wet ones, and (ii) increased electricity usage at water treatment works. Electricity accounted for just 142 MWh (0.12 per cent) of the increase, with the two drivers mentioned above offsetting each other. There has also been an increase in fuel usage of 331 MWh or 12.58 per cent and an increase in consumption for transport purposes of 830 MWh, or 11.9 per cent, due to an increase in mileage claimed versus the previous year.

14 A number of assumptions have been made in calculating the Raw Water Transport and Water Treatment energy consumption data. We have applied the same assumptions as we did in calculating Raw Water Abstraction (see commentary for 5A.24). In addition, we have included energy from solar sources generated and used on site.

Total number of raw water transport imports (6A.8)

15 There have been no raw water transport imports.

Water imported from third parties' raw water transport systems (6A.9)

16 There is no water imported from third parties' raw water transport systems.

Total number of raw water transport exports (6A.10)

17 There has been no water transported.

Water exported to third parties' raw water transport systems (6A.11)

18 There has been no water transported to third parties.

Total length of raw and pre-treated (non-potable) water transport mains for supplying customers (6A.12)

19 The pipes for this line mainly consist of the system that supplies the Humber Bank industrial area with non-potable water. The length quoted of 62km has remained stable when compared to 2022/23.

Water treatment - treatment type analysis (6A.13 - 6A.19)

20 The number of sites in each specified Water Treatment Works (WTW) category (based upon Ml/d DI) is defined based upon our Source Works Output Reporting System (SWORPS) data.

21 Volumes per WTW have been calculated using 2023/24 year values. WTWs have then been grouped by category, as described, giving total numbers of WTWs per category and the volume of water in Ml/d by either ground or surface water.

22 Significant changes to categories are explained below:

- W4 - Hallowell and Ravensthorpe reservoirs are now included under Ravensthorpe WTW where they are both situated.

WTWs by category (6A.20 - 6A.27)

23 We have spoken to production operatives in each region to discuss the Peak Week production capacity for each works irrespective of the licences that are in place. The production capacity was calculated over a three-day period and then reproportioned over 24 hours.

24 Volumes per WTW have been calculated using 2023/24 year values. WTWs have then been grouped by size band, as described, giving total numbers of WTWs per band and the percentage of DI associated with each band calculated.

25 A summary of changes to bandings from 2022/23 to 2023/24 are summarised below:

- 43 sites moved within bandings following the changed guidance from max production to peak week production capacity in RAG4.11. We did not pick up on this change in the 2022/23 APR and our submission last year provided bandings based on max production. In summary one site moves down two bands, 38 sites move down one band and four sites move up one band
- The following WTWs have been removed from the total:
    - Barnoldby WTW - no longer in service
    - Mundesley WTW - no longer in service
    - Colney WTW - Used for abstraction only

Peak week production capacity (PWPC) (6A.28)

26 PWPC numbers are calculated using validated data from our Telemetry system via our Integrated Leakage & Pressure Management system reporting platform. These numbers are taken from Surface Works output (SWORPS) data. We have responded to recent feedback from Ofwat (in its Final determinations of in-period outcome delivery incentives for 2022/23) surrounding PWPC calculations, in place of using the most recent five year period, the PWPC number is now generated by taking the maximum seven day rolling average output using SWORPS data since April 2016, when Ofwat first introduced this measure. The PWPC is reduced if there has been a process or asset change which results in the Water Treatment Works (WTW) being unable to achieve the historic PWPC. Our external assurance provider, Jacobs, questioned whether sites that have been offline or with reduced output for an extended period of time could be counted as transient changes in water quality due to pollution. We have a small number of groundwater sources where third party pollution of the groundwater has caused an unplanned outage, which could be considered both transient and long-term due to the slow flow rate in the aquifers (creating a grey area about whether it should be excluded or not). Jacobs recommended that we remove the works from the company total PWPC in line with the EA guidance for SDBI outages. Through further discussions we decided not to take this approach as it was felt it was not be representative of the true total company PWPC and our intentions to return works to full capacity once the pollution event has passed. The impact of removing long term excludable outages from last year was calculated and was found only to impact performance by 0.02 per cent.

27 PWPC Numbers are reviewed on an annual basis by the Asset Health team and then a further review of the number is undertaken in conjunction with the Local Supply Manager to confirm accuracy.

28 In further response to the Ofwat feedback the requirement for testing individual WTW capacity will be reviewed annually. This will be part of a wider procedure on how annual flow reviews are conducted. Where it is deemed too operationally risky to increase total site output in order to test capacity of a site, individual processes through the works will be tested. This is only predicted to be a small proportion of sites.

29 Overall Company PWPC saw a 16.97 Ml/d increase from 1,780.093 Ml/d in 2022/23 to 1,797.001 Ml/d in 2023/24. The was an increase at 25 WTWs due to the change in how our PWPC is calculated as a result from feedback from Ofwat. At 18 WTWs a higher PWPC was due to an increase in proven telemetry output and one WTW had a decreased PWPC due to a process change.

Total peak week production capacity (PWPC) having enhancement expenditure for grey solution improvements to address raw water quality deterioration (6A.29)

30 For the financial year 2023/24 there is one scheme (an ion exchange plant extension at Gayton WTW for nitrate treatment) which had investment and falls into the grey category of improvements.

Total peak week production capacity (PWPC) having enhancement expenditure for green solutions improvements to address raw water quality deterioration (6A.30)

31 For the financial year 2023/24 there were no schemes which had investment and fall into the green category of improvements.

Total water treated at more than one type of works (6A.31)

32 We do not operate any schemes where water is treated at more than one type of works.

Number of treatment works requiring remedial action because of raw water deterioration (6A.32)

33 One water treatment works required remedial action due to raw water deterioration and this is Gayton WTW nitrate scheme which involved upgrading the treatment capacity of the existing ion exchange plant.

Zonal population receiving water treated with orthophosphate (6A.33)

34 The zonal population receiving water treated with orthophosphate is calculated from the information reported to the DWI in the Details Tables provided annually in accordance with the Information Direction. All Public Water Supply Zones (PWSZ) receiving orthophosphate dosed water are identified in the Details Tables which also document the population of each PWSZ.

35 There has been a steady increase in the population receiving orthophosphate dosed water, which is partly due to the increase in the number of WTWs with orthophosphate dosing plant in operation, as well as the general increase in total population we serve. This now stands at 100 per cent for 2023/24 as in 2022/23, up from 98.58 per cent for 2021/22, meaning that the population served is 5,064,108.

Average pumping head – water treatment (6A.34)

36 For an overview on how we have reported average pumping head please see the commentary for 5A.23.

37 Water treatment APH: 11.45

38 Percentage of APH derived from measured data: 11 per cent.

39 There has been very little change in the calculation or the proportion of measured data for Water treatment and the longer term trend for APH within the price control is very stable.

Total number of water treatment imports (6A.36)

40 There are no water treatment imports.

Water imported from third parties' to water treatment works (6A.37)

41 There is no raw water imported from third parties to water treatment works.

Total number of water treatment exports (6A.38)

42 There are no water treatment exports.

Water exported to third parties' water treatment works (6A.39)

43 There is no raw water exported to third parties' water treatment works.

Table 6B - Treated water distribution - assets and operations for the 12 months ended 31 March 2024

	Line description	Units	Input
	Assets and operations		
1	Total installed power capacity of potable water pumping stations	kW	79,397
2	Total volumetric capacity of service reservoirs	Ml	1,775.7
3	Total volumetric capacity of water towers	Ml	119.0
4	Water delivered (non-potable)	Ml/d	50.22
5	Water delivered (potable)	Ml/d	1,000.41
6	Water delivered (billed measured residential properties)	Ml/d	531.36
7	Water delivered (billed measured businesses)	Ml/d	305.12
8	Proportion of distribution input derived from impounding reservoirs	Propn 0 to 1	0.020
9	Proportion of distribution input derived from pumped storage reservoirs	Propn 0 to 1	0.411
10	Proportion of distribution input derived from river abstractions	Propn 0 to 1	0.072
11	Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes	Propn 0 to 1	0.498
12	Proportion of distribution input derived from artificial recharge (AR) water supply schemes	Propn 0 to 1	-
13	Proportion of distribution input derived from aquifer storage and recovery (ASR) water supply schemes	Propn 0 to 1	-
14	Proportion of distribution input derived from saline abstractions	Propn 0 to 1	-
15	Proportion of distribution input derived from water reuse schemes	Propn 0 to 1	-
16	Total number of potable water pumping stations that pump into and within the treated water distribution system	nr	467
17	Number of potable water pumping stations delivering treated groundwater into the treated water distribution system	nr	137
18	Number of potable water pumping stations delivering surface water into the treated water distribution system	nr	11
19	Number of potable water pumping stations that re-pump water already within the treated water distribution system	nr	316
20	Number of potable water pumping stations that pump water imported from a 3rd party supply into the treated water distribution system	nr	3
21	Total number of service reservoirs	nr	252
22	Number of water towers	nr	126
23	Energy consumption – treated water distribution (MWh)	MWh	150,107.993
24	Average pumping head – treated water distribution	m.hd	66.32
25	Total number of treated water distribution imports	nr	19
26	Water imported from 3rd parties to treated water distribution systems	Ml/d	3.68
27	Total number of treated water distribution exports	nr	193
28	Water exported to 3rd parties from treated water distribution systems	Ml/d	70.66
29	Peak 7 day rolling average distribution input	Ml/d	1,376.85
30	Peak 7 day rolling average distribution input / annual average distribution input	%	1.18

Water balance - company level	

31	Measured household consumption (excluding supply pipe leakage)	Ml/d	508.18
32	Unmeasured household consumption (excluding supply pipe leakage)	Ml/d	127.79
33	Measured non-household consumption (excluding supply pipe leakage)	Ml/d	304.11
34	Unmeasured non-household consumption (excluding supply pipe leakage)	Ml/d	1.92
35	Total annual leakage	Ml/d	182.07
36	Distribution system operational use	Ml/d	8.34
37	Water taken unbilled	Ml/d	19.34
38	Distribution input	Ml/d	1151.76
39	Distribution input (pre-MLE)	Ml/d	1162.55

	Water balance - region 1		
40	Measured household consumption (excluding supply pipe leakage)	Ml/d	-
41	Unmeasured household consumption (excluding supply pipe leakage)	Ml/d	-
42	Measured non-household consumption (excluding supply pipe leakage)	Ml/d	-
43	Unmeasured non-household consumption (excluding supply pipe leakage)	Ml/d	-
44	Total annual leakage	Ml/d	-
45	Distribution system operational use	Ml/d	-
46	Water taken unbilled	Ml/d	-
47	Distribution input	Ml/d	-
48	Distribution input (pre-MLE)	Ml/d	-

	Water balance - region 2		
49	Measured household consumption (excluding supply pipe leakage)	Ml/d	-
50	Unmeasured household consumption (excluding supply pipe leakage)	Ml/d	-
51	Measured non-household consumption (excluding supply pipe leakage)	Ml/d	-
52	Unmeasured non-household consumption (excluding supply pipe leakage)	Ml/d	-
53	Total annual leakage	Ml/d	-
54	Distribution system operational use	Ml/d	-
55	Water taken unbilled	Ml/d	-
56	Distribution input	Ml/d	-
57	Distribution input (pre-MLE)	Ml/d	-

	Components of total leakage (post MLE) - company level		
58	Leakage upstream of DMA	Ml/day	7.46
59	~~87~~ Distribution main losses	Ml/day	135.55
60	Customer supply pipe losses – measured households excluding void properties	Ml/day	23.18
61	Customer supply pipe losses – unmeasured households excluding void properties	Ml/day	11.98
62	Customer supply pipe losses – measured non-households excluding void properties	Ml/day	1.01
63	Customer supply pipe losses – unmeasured non-households excluding void properties	Ml/day	0.06
64	Customer supply pipe losses – void measured households	Ml/day	1.60

65	Customer supply pipe losses – void unmeasured households	Ml/day	0.28
66	Customer supply pipe losses – void measured non-households	Ml/day	0.92
67	Customer supply pipe losses – void unmeasured non-households	Ml/day	0.04

	Components of total leakage (post MLE) - region 1		
68	Leakage upstream of DMA	Ml/day	-
69	Distribution main losses	Ml/day	-
70	Customer supply pipe losses – measured households excluding void properties	Ml/day	-
71	Customer supply pipe losses – unmeasured households excluding void properties	Ml/day	-
72	Customer supply pipe losses – measured non-households excluding void properties	Ml/day	-
73	Customer supply pipe losses – unmeasured non-households excluding void properties	Ml/day	-
74	Customer supply pipe losses – void measured households	Ml/day	-
75	Customer supply pipe losses – void unmeasured households	Ml/day	-
76	Customer supply pipe losses – void measured non-households	Ml/day	-
77	Customer supply pipe losses – void unmeasured non-households	Ml/day	-

	Components of total leakage (post MLE) - region 2		
78	Leakage upstream of DMA	Ml/day	-
79	Distribution main losses	Ml/day	-
80	Customer supply pipe losses – measured households excluding void properties	Ml/day	-
81	Customer supply pipe losses – unmeasured households excluding void properties	Ml/day	-
82	Customer supply pipe losses – measured non-households excluding void properties	Ml/day	-
83	Customer supply pipe losses – unmeasured non-households excluding void properties	Ml/day	-
84	Customer supply pipe losses – void measured households	Ml/day	-
85	Customer supply pipe losses – void unmeasured households	Ml/day	-
86	Customer supply pipe losses – void measured non-households	Ml/day	-
87	Customer supply pipe losses – void unmeasured non-households	Ml/day	-

Power capacity and number of potable water pumping stations (6B.1 and 6B.16-20)

1 The number of pumps, rated power for each pump, location and asset status have been used where this information was held in corporate databases. This includes those borehole pumps that both abstract and boost into the network and apportions a percentage split of the borehole rated power to distribution

2 The number of sites was calculated based on this more granular pump specific asset data and applying a "co-located" logic to align with the Ofwat definition of a "site". A categorisation of each site has been applied so to allow for the total number of booster stations to be split into the four categories of ground water, surface water, relift and import.

Number and capacity of service reservoirs (6B.2 and 6B.21)

3 For 2023/24 there are 252 Service Reservoirs. The count of reservoirs has decreased by two due to one site being abandoned and the other site being taken out of service and classified as private.

4 For 2023/24 we are reporting capacity of 1,775.663 Ml, which rounds to 1,775.7 Ml as reported in the table. There is a decrease compared to 2022/23 which was 1,818.123 Ml. This is due to Sundon Reservoir (SUNDWR) being taken out of service and classified as private in May 2023 and Strumpshaw Reservoir (STRUWR) being abandoned in March 2024

Site	Capacity	Comments
SUNDON WR - SUNDWR	39.600	Out of service and private May 2023
STRUMPSHAW WR = STRUWR	3.860	Abandonded March 2024

Total volumetric capacity of water towers (6B.3 and 6B.22).

5 Neither the number nor capacity of water towers has changed from 2022/23.

6 For reference - Feature state definitions

Feature State	Definition
Abandoned	Assets that have been disconnected from the network but remain in situ.
Operational Abandoned	An asset that has been removed from service with the intention to decommission it but is still connected to the network

Water delivered non-potable (6B.4)

7 The amount of water delivered to our non-potable customers is similar to 2022/23. This water is used to supply large industrial customers on the Humber bank and in Hartlepool.

Water delivered billed measured potable (6B.5-7)

8 Water delivered to measured residential properties decreased this year as a result of our smart metering and water efficiency programmes and the impact of a colder summer compared to the previous year. This is partially offset as customers switch from unmeasured to measured billing and by new domestic connections to the network.

9 Water delivered to measured business customers is stable. We continue to find that data held in the CMOS (Central Market Operating System) is not reliable enough to calculate consumption for the water balance in time for the APR due to lack of readings and delays in settlements being updated with the latest meter reading data. As in previous years we have used data from loggers and additional meter reads to improve our understanding of non household consumption.

Proportion of distribution input derived from impounding reservoirs (6B.8)

10 Data is derived from post MLE DI and is similar to last year. The proportions don't add exactly to one due to rounding.

Proportion of distribution input derived from pumped storage reservoirs (6B.9)

11 Data is derived from post MLE DI and is similar to last year. The proportions don't add exactly to one due to rounding.

Proportion of distribution input derived from river abstractions (6B.10)

12 Data is derived from post MLE DI and is similar to last year. The proportions don't add exactly to one due to rounding.

Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes (6B.11)

13 Data is derived from post MLE DI and is similar to last year. The proportions don't add exactly to one due to rounding.

Proportion of distribution input derived from artificial recharge (AR) and aquifer storage and recovery water supply schemes (6B.12 and 6B.13)

14 No such schemes are operated by the company.

Proportion of distribution input derived from saline abstractions and water reuse schemes (6B.14 and 6B.15)

15 No such schemes are operated by the company.

Energy Consumption – Treated Water Distribution (6B.23)

16 The total energy consumption was 150,108 MWh. The equivalent number for 2022/23 was 154,135MWh so there has been a decrease of 4,027 MWh or 2.61 per cent.

17 The main component of this change has been the decreased electricity usage compared to 2022/23 as exceptionally hot and dry conditions in that year were replaced by cooler and exceptionally wet ones in 2023/24. Electricity accounted for 4,939 MWh (3.46 per cent) of the decrease. Countering this has been an increase in consumption for transport purposes of 647 MWh, or 7.90 per cent, due to an increase in mileage claimed versus the previous year, and an increase in fuel consumption of 264 MWh or 8.57 per cent.

18 A number of assumptions have been made in calculating the Treated Water Distribution energy consumption data. Please refer to the commentary for Table 5A, line 24.

Average pumping head: treated water distribution (6B.24)

19 For an overview on how we have reported average pumping head please see the commentary for 5A.23.

20 Treated water distribution APH: 66.32

21 Percentage of APH derived from measured data: 84 per cent.

22 There has been very little change in the calculation or the proportion of measured data for Treated water distribution and the longer term trend for APH within this price control is very stable. Confidence is high that we are achieving an accurate calculation due to the very high coverage of measured data in this area.

Total number of treated water distribution imports (6B.25)

23 The total number of treated water distribution imports for 2023/24 is 19. No change from prior year

Water imported from third parties' treated water distribution systems (6B.26)

24 The total volume of imported water has reduced slightly this year in line with overall DI reduction.

Total number of treated water distribution exports (6B.27)

25 The total number of treated water distribution exports for 2023/24 is 193 (up from 101 in prior year). This is due to continued increase in the number of exports to NAVs.

Water exported to third parties' treated water distribution systems (6B.28)

26 The total volume of exported water for 2023/24 is lower than the prior year but in line with the overall reduction in DI.

Peak seven day rolling average distribution input (6B.29)

27 The peak seven day rolling average distribution input for 2023/24 is lower that 2022/23 which is expected as we didn't have the same extreme summer weather.

Peak seven day rolling average distribution input / annual average distribution input (6B.30)

28 The peak seven day rolling figure as a percentage of the annual average distribution input is lower than 2022/23 which is expected as we didn't have the same extreme summer weather.

Total annual leakage (6B.35)

29 Leakage for 2023/24 is assessed at 182.1 Ml/d. In April 2024 we wrote to Ofwat to explain that we uncovered an issue with the figure reported in 2022-2023 for NHH demand due to a bug in a new system. This issue has now been corrected resulting in a restatement of the Year 3 leakage figure to 190.5 Ml/d, an increase of 7.9 Ml/d. Performance in 2023-24 represents a 8.4 Ml/d decrease from the restated 2022/23 figure.

30 Leakage at 182.1 Ml/d is above our business plan target and our WRMP profile. The severe winter in 2022-23 caused leakage to increase meaning that the starting point for reducing leakage in 2023-24 was significantly higher than our plans assumed. Leakage has reduced in year during 2023/24 but it has not been possible yet to recover to the level required in the WRMP or business plan.

Common methodology compliance

31 We have assessed our compliance against the 76 sub components and 16 high level components defined in the PR19 Leakage reporting methodology document. At the high level we are reporting 15 as green and one red. At the sub-components level there is one component where we do not meet requirements set out in the document:

16e - Water balance discrepancy -

- Our water balance gap is 3.18 per cent this year which means this component is marginally red (>3 per cent being classed as red).

32 The exact reasons for the gap being above three per cent are uncertain. We now have a significant number of smart meters returning data which we have used to date to provide daily average consumption data for the water balance. We would like to further extend the use of this data to inform the leakage calculation, either as a way of assessing customer night use or maybe by moving to daily DMA level water balances. This should lead to a more robust water balance and a different imbalance but the exact methodology needs to be agreed with Ofwat and the industry. As discussed in the letter sent to David Black to explain the Year 3 restatement during April 2024 we would welcome the opportunity to work with Ofwat during Tear 5 to develop this further.

33 We discuss our leakage reduction strategies in 3A.3.

Distribution system operational use (6B.36)

34 This number is similar to previous year.

Water taken unbilled (6B.37)

35 This number has slightly reduced this year due to lower firefighting use (driven by a reduction in fires this year compared to a peak seen in the summer of 2022) and a reassessment of water used in sewer flushing.

36 The data excludes supply pipe leakage from void properties as per the latest RAG guidance.

Distribution input (6B.38)

37 DI has decreased this year in line with reduced demand and leakage.

Distribution input (pre-MLE) (6B.39)

38 DI has decreased this year in line with reduced demand and leakage.

Components of total leakage (post MLE) - company level (6B.58-67)

39 Our approach remains consistent with previous years. We have reviewed our approach to calculating leakage upstream of DMAs and discussed it with our assurance provider. As we report leakage zonally we have a low proportion of leakage upstream of DMAs. We track the number of trunk main bursts and the speed of our response and the number of bursts has been stable over 20 years and our response time has improved.

Table 6C - Water network+ - Mains, communication pipes and other data for the 12 months ended 31 March 2024

	Line description	Units	Input
	Treated water distribution - mains analysis		
1	Total length of potable mains as at 31 March	km	39,397.0
2	Total length of potable mains relined	km	-
3	Total length of potable mains renewed	km	37.5
4	Total length of new potable mains	km	111.9
5	Total length of potable water mains (≤320mm)	km	36,334.5
6	Total length of potable water mains (>320mm and ≤ 450mm)	km	1,763.2
7	Total length of potable water mains (>450mm and ≤610mm)	km	674.7
8	Total length of potable water mains (> 610mm)	km	624.5
	Treated water distribution - mains age profile		
9	Total length of potable mains laid or structurally refurbished pre-1880	km	19.0
10	Total length of potable mains laid or structurally refurbished between 1881 and 1900	km	8,661.6
11	Total length of potable mains laid or structurally refurbished between 1901 and 1920	km	902.1
12	Total length of potable mains laid or structurally refurbished between 1921 and 1940	km	710.2
13	Total length of potable mains laid or structurally refurbished between 1941 and 1960	km	6,967.8
14	Total length of potable mains laid or structurally refurbished between 1961 and 1980	km	3,215.7
15	Total length of potable mains laid or structurally refurbished between 1981 and 2000	km	13,277.6
16	Total length of potable mains laid or structurally refurbished between 2001 and 2020	km	5,155.0
17	Total length of potable mains laid or structurally refurbished ~~post~~ during and after 2021	km	487.9
	Communication pipes		
18	Number of lead communication pipes	nr	514,526
19	Number of galvanised iron communication pipes	nr	184,510
20	Number of other communication pipes	nr	1,614,320
21	Number of lead communication pipes replaced or relined for water quality	nr	521
	Other		
22	Company area	km^2	22,747
23	Compliance Risk Index	nr	3.57
24	Event Risk Index	nr	109
25	Properties below reference level at end of year	nr	65

Total length of potable mains as at 31 March (6C.1)

1 The length from the previous year has increased by approximately 149km to 39397.0 km for 2023/24. This is due to a combination of factors, including clearing a backlog of schemes that were not captured in our corporate system during the pandemic as we priorities essential activities.

Total length of potable mains relined and renewed (6C.2 and 6C.3)

2 For 2023/24 we are reporting 37.5km of mains renewal. We continue to target mains which frequently fail as well as efforts to target and removed leakage from our network. We are unable to separate out lengths of mains relined and renewed, and so lines two and three are combined.

3 This 37.5km is a reduction on the 45.2km delivered in 2022/23 and takes us to 132km renewed against a business plan forecast of 284km.

4 As with all construction projects, in the early years of AMP7 the Covid-19 pandemic had a significant impact on our ability to progress mains laying activities, either through the closure of design offices and inability to easily access key documents and records, the ability to access third party land to carry out survey activities or the requirement to implement Covid-19 restrictions on construction sites. This effect has been felt through all the early years in AMP7 as the duration of mains laying schemes can span a number of years due to the design and enabling requirements, particularly ecological surveys which can only be carried out at certain times of the year therefore delays in year 1 and 2 has continued to impact later years.

5 We have also developed our analytic capabilities to better target investment on the sections of main which burst more frequently and cause the greatest customer impact. This has resulted in smaller schemes which are shorter lengths but still result in the same reduction in burst frequency and consequential reduction in customer impact along with a reduction in scheme duration and customer disruption through activities in the highway. This has impacted on the length of mains replaced reported but not the benefit of the schemes chosen.

6 Further to this and to ensure we are delivering the key outcomes that our customers value, such as maintaining our frontier levels of leakage, reducing burst mains (and consequentially supply interruptions) and developing our smart network capabilities, we have heavily invested in pressure management as our principal AMP7 strategy for the delivery of customer service and our key performance commitments. This links to our strategy of development of safe, smart water systems across our region. In previous AMPs we have developed simple pressure management systems, during this AMP we are rolling out advanced pressure management systems with smart controllers achieving more stable pressures in the area. We have so far installed 144 new pressure management systems and uprated a further 201 to advanced pressure management systems. This is against an original plan for the full AMP of 75.

7 Pressure management is more cost beneficial than mains replacement and delivers wider benefit. The installation of pressure management systems utilises the same resources as mains laying. Our pressure management programme has been concentrated in years 2 and 3 of AMP7 to achieve early benefits. By year 5 we will see a return to increased levels of mains laying as resources previously being used for pressure management schemes become available. As we have now exhausted all cost beneficial pressure management opportunities, we anticipate that we will return to and maintain our targeted mains renewal rate in AMP8.

Total length of new potable mains (6C.4)

8 We report 111.9km of new mains laid in 2023/24. This is predominantly from housing estate mains work and self-lay, undertaken in the year (84.6km). There were also several standalone projects where new mains were laid in order to ensure water supply security/resilience following developer driven growth. This line is predominantly driven by growth rates.

Potable mains by diameter band (6C.5- 6C.8)

9 These lines have been calculated using the latest in-service company-owned potable water mains data out of G/water (our corporate mapping system). All bands have experienced a small increase, the largest being the smallest diameter band with a 119km increase, which is due to the clearing of the pandemic scheme capture backlog.

Total length of mains laid or structurally refurbished (6C.9 - 6C.17)

10 All age band lengths have remained stable when compared to 2022/23. These changes have all been small with the exception of total length of potable mains post 2021. This has increased by 173km which is mainly due to the clearing of pandemic scheme capture backlog.

Number of lead, galvanised iron and other communication pipes (6C.18 - 6C.20)

11 Our communication pipe stock was last modelled in 2012 for the 2014 Price Review. That report has been used as a starting point and the number of replaced lead and galvanized iron communication pipe has been subtracted from the 2012 modelled totals.

12 Lines 6C.18 and 6C.19 have experienced a small decrease, which falls in line with previous years, whereas line 6C.20 has experienced a small increase, which again falls in line with previous years as we replace our lead and galvanised iron stock.

Number of lead communication pipes replaced for water quality (6C.21)

13 In 2023/24 we have replaced 521 lead communication pipes. Over 320 of these replacements were proactive replacements of our planned programme of work, targeting streets in Norwich with known lead communication pipes. The remaining have been replaced following compliance failures of the lead standard, notification from a customer that they intend to replace or have replaced their lead pipe or opportunistic replacement during planned work on the network. There has been an increase in the opportunistic replacements of lead communication pipes whist carrying out other work on the network.

14 As part of our 2021 IDoK we committed to increasing our investment in lead pipe replacement in AMP7 by £1.4m and replace pipes at a further 280 properties. Further to this commitment, we have offered customers in Norwich the opportunity to have their external supply pipe replaced to the point where it enters the property. 158 of these pipe replacements were completed in 2023/24, in addition to the eight that we completed in 2022/23. These pipes are included within the total replacements for the year of 521.

Number of lead communication pipes replaced or relined for water quality	396
Number of lead communication pipes replaced for other reasons	1
Number of external lead supply pipes replaced or relined	17
Number of internal lead supply pipes replaced or relined	9

Company area (6C.22)

15 The figure reported as the area served for water is our appointed area. For the avoidance of doubt, this includes Hartlepool. No adjustment has been made for areas served by NAVs.

Compliance Risk Index (6C.23)

16 Please see the commentary for 3A.1.

Event Risk Index (6C.24)

17 Please see the commentary for 3E.11.

Properties below reference level at end of year (6C.25)

18 Please see the commentary for 3A.8.

Table 6D - Demand management - Metering and leakage activities for the 12 months ended 31 March 2024

	Line description	Units	Basic meter	AMR meter	AMI meter
	Metering activities - Totex expenditure				
1	New optant meter installation for existing customers	£m	0.629	0.524	0.835
2	New selective meter installation for existing customers	£m	0.016	0.026	0.041
3	New business meter installation for existing customers	£m	0.019	0.005	0.020
4	Residential meters renewed	£m	1.190	1.184	30.336
5	Business meters renewed	£m	0.857	0.118	2.215
	Metering activities - Explanatory variables				
6	New optant meters installed for existing customers	000s	1.859	1.693	2.786
7	New selective meters installed for existing customers	000s	0.067	0.067	0.153
8	New business meters installed for existing customers	000s	0.065	0.012	0.077
9	Residential meters renewed	000s	8.437	5.297	236.678
10	Business meters renewed	000s	2.528	0.464	13.642
11	Replacement of basic meters with smart meters for residential customers	000s	-	4.863	239.675
12	Replacement of AMR meter with AMI meters for residential customers	000s	-	-	3.411
13	Replacement of basic meters with smart meters for business customers	000s	-	0.426	13.413
14	Replacement of AMR meter with AMI meters for business customers	000s	-	-	0.108
15	New residential meters installed for existing customers – supply-demand balance benefit	Ml/d	0.07	0.06	0.60
16	New business meters install ed for existing customers – supply-demand balance benefit	Ml/d	-	-	0.13
17	Replacement of basic meter with smart meters for residential customers – supply-demand balance benefit	Ml/d	-	-	-
18	Replacement of AMR meter with AMI meter for residential customers– supply-demand balance benefit	Ml/d	-	-	1.82
19	Replacement of basic meter with smart meters for business customers – supply-demand balance benefit	Ml/d	-	-	0.09
20	Replacement of AMR meter with AMI meter for business customers– supply-demand balance benefit	Ml/d	-	-	0.06
21	Residential properties - meter penetration	%	45.2	7.1	34.7

	Leakage activities	Units	Maintaining leakage	Reducing leakage	Total
22					
23	Total leakage activity	£m	80.029	26.059	106.088
24	Leakage improvements delivering benefits in 2020-25	Ml/d	-	-	8.40
	Per capita consumption (excluding supply pipe leakage)				
25	Per capita consumption (measured)	l/h/d	120.63	-	-
26	Per capita consumption (unmeasured)	l/h/d	165.39	-	-

Metering activities - totex expenditure (6D.1 - 6D.5)

1 We have put contractual arrangements in place for the delivery of our smart metering and basic metering programmes during AMP7 and as such, the key variable on totex costs is the volume installed. The commentary below explains the delivery of our metering programme in the forth year of the AMP.

Meters installed and renewed (6D.6 - 6D.14)

2 The number of new optants has increased from the prior year at 6,338 (2022/23: 5,711), of which 44 per cent were fitted as AMI meters and 27 per cent were AMR. Whether we fit a AMI, visual read or AMR meter depends on whether the customer property is in an area where we can receive remote readings via the installed masts.

3 The number of selective meters (installed at our behest) has dropped from 2022/23. We have seen an increased percentage that were AMI installed at 53 per cent.

4 Half of new non-household meters were AMI meters which has grown from 2022/23.

5 We have installed 501 Pulse Radio Frequency (PRF) devices to our meters (30mm or above) across the domestic and business customers. A PRF device is a unit that converts pulse units from visual meters into meter readings and communicates them via a smart point through the smart meter AMI network (converting a visual read meter into a smart meter).

6 It is currently our solution to turn meters that are larger than 30mm into a meter that can transmit data to our AMI network as we have no out of the box AMI meters that are 30mm or above.

7 These devices are included in our numbers for 6D.9 and 6D.10

8 95 per cent of residential meters renewed were AMI meters. Of these, 94 per cent involved replacing basic meters.

9 We saw a slightly lower volume of business meters renewed this year, but an increase in the proportion of AMI meters at 82 per cent (2022/23: 57 per cent). Of these, 94 per cent were replacements for basic meters.

10 6D.9 and 10 will not match to 6D.11 to 14, as 6D.9 and 10 includes visual meters renewed, and 6D.11 to 14 is only AMI and AMR meters. 6D.11 to 14 will include all like to like meter renewals i.e. AMI to AMI and AMR to AMR.

11 The number of AMI meters in 6D.6-8 and 6D.11-14 total 250,623, of which 501 were PRF devices. In addition, we fitted 9,285 meters to new connections, giving a total number of AMI meters fitted in the year of 259,908.

12 Through a PR24 Ofwat query Ofwat has clarified that progress towards our SMART metering performance commitment level should be assessed via figures reported on lines 6D.6 through 6D8, 6D.11 through 6D.14 and new AMI connections. Ofwat has supported our consistent view that AMR meters do not constitute a SMART meter and therefore replacing an AMR meter with an AMI meter counts towards our PCL. The lines 6D.11 through to 6D.14 were not requested in the first two years of AMP 7, but we have managed to retrospectively provide these lines for these years.

13 Since our initial publication of APR 24, we have introduced a SMART meter monitoring platform which increases our reporting accuracy on meter types. We have taken the opportunity of the APR revision to make use of this new platform. Firstly, we have removed from all reported figures all cases where we replaced an AMI meter with a new AMI meter. Across all reported years of this AMP to date, that accounted for 5,860 reported cases. Secondly, we have amended the values in lines 6D.11 to 6D.14, which cover cases of replacements with SMART meters, by reducing our 22/23 cases by 1,827 and increasing our 23/24 cases by 36. Finally, following a review of our original logic we have found that

some basic meters were mistakenly identified as AMR meters, resulting in an overstatement of our AMR-to-AMI replacement figures and an understatement of our basic-to-smart replacement figures.

14 Considering these amendments, we have restated some of our AMI meter figures for 2023/24 and 2023/24. These amendments in no way affect our forecast in achieving our performance commitment of installing 1,096,397 by the 31st of March 2025.

15 A revised set of data for all relevant lines from Table 6D is set out below. Figures in red represent revisions to figures reported previously. Figures in italics represent numbers reported for the first time. Cumulative delivery of smart meters against our PR19 performance commitment level at the end of year 4 stands at 800,245.

	APR table reference	20-21	21-22	22-23	23-24
New optant meters installed for existing customers	6D.6*	0.728	1.506	1.942	2.786
New selective meters installed for existing customers	6D.7*	0.03	0.128	0.204	0.153
New business meters installed for existing customers	6D.8*	0.006	0.014	0.049	0.077
Residential meters renewed	6D.9	158.426	133.158	216.009	236.678
Business meters renewed	6D.10	0.873	5.468	9.884	13.642
Replacement of basic meters with smart meters for residential customers	6D.11*	*158.41*	*131.378*	213.035	230.675
Replacement of AMR meters with smart meters for residential customers	6D.12*	*0.016*	*0.325*	1.353	3.411
Replacement of basic meters with smart meters for business customers	6D.13*	*0.873*	*5.452*	9.809	13.413
Replacement of AMR meters with smart meters for business customers	6D.14*	*0*	*0.003*	0.017	0.108
New connections AMI meters	-	4.337	5.647	5.075	9.285
Total towards PCL	**-**	**164.4**	**144.453**	**231.484**	**259.908**

New residential meters installed – supply-demand balance benefit (6D.15)

16 As part of our meter replacement and smart meter installation program we have installed 259,908 smart meters to household customers, along with non-smart traditional meter replacement.

17 We have assumed that the installation of smart meters will enable a 2.5 per cent change in customer behaviour. Additionally this year we have aligned our assumptions for savings from plumbing loss and customer supply pipe leakage with our WRMP24 assumptions which are now available and informed by our latest smart meter data outputs. This gives a saving of 9.4 l/prop/day. This is equivalent to approximately 4 per cent of additional saving per property. These savings should be calculated as applying to each meter for an average of six months (for example, half a year), to account for the overall installation rate.

18 WRMP24 plumbing loss/cspl savings assumption

10 year profile	2022	2023	2024	2025
cspl saving profile (l/prop/d)	2.68	3.015	3.35	3.685
plumbing loss profile (l/prop/d)	4.84	5.445	6.05	6.655
total saving (ex. Behaviour) (l/prop/d)	7.52	8.46	9.4	10.34

19 For customers who have opted to have a visual read meter we have assumed a saving of 15 per cent as a change from being unmeasured to measured (in line with WRMP19/WRMP24 assumptions). Note that we automatically switch customers from unmeasured to measured status upon 'move in' of a new occupier.

20 Savings have been calculated based upon 2023/24 per capita consumption and occupancy rates.

21 Note that Measured and Unmeasured occupancy rates are now derived using additional per property occupancy rate intelligence provided by Edge Analytics (Demographic consultants). This has provided more detail regarding the sub-regional occupancy rates (Occupancies have ultimately been re-aligned with those garnered from ONS data at the LAUA level). The assessment for this years occupancy split between measured and unmeasured properties has widened slightly from last years values of 2.32 (measured) and 2.65 (unmeasured).

22 2024 Values

- Measured PCC – 120.63 l/h/d
- Unmeasured PCC – 165.39 l/h/d:
- Measured Occupancy Rate 2023/24- 2.28 persons/property
- Unmeasured Occupancy rate 2023/24 - 2.73 persons/property

23 For residential meter installations we have, consequently, calculated savings of 0.13 Ml/d (0.07 Ml/d + 0.06 Ml/d) for optants who have switched from being unmeasured to being billed on a visual read meter or AMR meter (15 per cent saving from being unmeasured) and an additional 0.13 Ml/d or those switching from being unmeasured to being billed using a smart meter (a 17.5 per cent saving (plus PL/cspl) from being unmeasured. i.e. visual read (15 per cent) + smart meter savings (2.5 per cent + PL/cspl)) combined)).

24 The combined saving for optants (both to smart and visual read meters) would be 0.26 Ml/d.

25 Note that these savings will be cumulative on top of the savings already made due to previous smart meter installations for the previous year. The cumulative AMP7 savings that can be attributed to the introduction of smart meters is 6.92 Ml/d for meters replaced and 0.85 Ml/d for customers who have opted to have a smart meter from previously being unmeasured.

26 A straightforward and conservative approach has been adopted which applies assumed savings to the number of installed meters. As additional smart meter data becomes available we will look to use this directly observed data, (potentially using meter readings to determine the actual savings which could then be aggregated and reported). This approach is an aspiration, but will currently require significant effort to understand other impacts within those numbers (for example, the potential impact of weather on savings recorded each year). Additionally, considerable thought will be needed to assess base-lines from which savings can be assessed. We are currently designing assessment protocols in order to assess statistically significant variations and demand management option impacts.

New business meters installed – supply-demand balance benefit (6D.16)

27 As part of our meter installation and smart meter installation programme we have installed 77 smart meters to our business customers and 77 visual read (and AMR) meters.

28 We currently have not attributed water efficiency savings to the installation of non-household meters, however, we are now conducting leakage reduction measures based upon smart meters to identify continuous flow (plumbing loss and cspl) through our Customer Leakage Tool (customer journey).

29 We are still assessing savings, but have assumed that for smaller business customers, where smart meters are currently being installed PL/cspl savings will be in line with the 9.4l/prop/d assumed for domestic households.

30 For new business smart meters installed this would imply a saving of 0.0004 Ml/d

Replacement of basic meter with smart meters for household customers – supply-demand balance benefit (6D.17)

31 As part of our meter replacement and smart meter installation program we have installed 236,678 smart meters to household customers (with an additional 13,642 smart meters to business customers), along with non-smart traditional meter replacement.

32 We have assumed that the installation of smart meters will enable a 2.5 per cent change in customer behaviour (in alignment with WRMP24 assumptions) and a further saving for plumbing losses and customer supply pipe leaks of 9.4l/prop/day (in alignment with WRMP24) and that these savings should be calculated as applying to each meter for an average of six months (i.e. half a year), to account for the overall installation rate.

33 This is in effect an additional 6.5 per cent saving over and above the 15 per cent saving expected from those customers who are measured as opposed to unmeasured.

34 Note that these savings will be cumulative on top of the savings already made due to previous smart meter installations.

35 Savings have been calculated based upon 2023/24 per capita consumption and occupancy rates.

36 Note that Measured and Unmeasured occupancy rates are now derived using additional per property occupancy rate intelligence provided by Edge Analytics (Demographic consultants). This has provided more detail regarding the sub-regional occupancy rates (Occupancies have ultimately been re-aligned with those garnered from ONS data at the LAUA level). The assessment for this year's occupancy split between measured and unmeasured properties has widened slightly from last year's values of 2.32 (measured) and 2.65 (unmeasured).

37 2024 Values

- Measured PCC – 120.63 l/h/d
- Unmeasured PCC – 165.39 l/h/d:
- Measured Occupancy Rate 2023/24- 2.28 persons/property
- Unmeasured Occupancy rate 2023/24 - 2.73 persons/property

38 Consequently, for residential meter renewals, we have calculated savings of 1.82 Ml/d.

Replacement of AMR meter with AMI meter for household customers– supply-demand balance benefit (6D.18)

39 As part of our meter replacement and smart meter installation program we have replaced 11,004 AMR residential meters with AMI smart meters for household customers.

40 We have assumed that the installation of AMI smart meters as opposed to AMR meters will enable a 2.5 per cent change in customer behaviour and a further saving for plumbing losses and customer supply pipe leaks (in alignment with WRMP24) of 9.4l/prop/d, and that these savings should be calculated as applying to each meter for an average of six months (i.e. half a year), to account for the overall installation rate. This is in effect an additional 6.5 per cent saving over and above the 15 per cent saving expected from those customers who are measured with an AMR meter, as opposed to unmeasured.

41 Consequently, for residential AMR meter replacement, we have calculated savings of 0.09 Ml/d.

Replacement of basic meter with smart meters for business customers – supply-demand balance benefit (6D.19)

42 As part of our meter renewal and smart meter installation programme we have installed 12,859 smart meters to our business customers (along with 2,528 visual read meters and 464 AMR meters).

43 We currently have not attributed water efficiency savings to the installation of non-household meters, however, we are now conducting leakage reduction measures based upon smart meters to identify continuous flow (plumbing loss and cspl) through our Customer Leakage Tool (customer journey).

44 We are still assessing savings, but have assumed that for smaller business customers, where smart meters are currently being installed PL/cspl savings will be in line with the 9.4l/prop/d assumed for domestic households, and that these savings should be calculated as applying to each meter for an average of six months (i.e. half a year), to account for the overall installation rate.

45 For new business smart meters installed this would imply a saving of 0.06 Ml/d

Replacement of AMR meter with AMI meter for business customers– supply-demand balance benefit (6D.20)

46 As part of our meter replacement and smart meter installation program we have replaced 603 AMR meters with AMI smart meters for business customers.

47 We currently have not attributed water efficiency savings to the installation of non-household meters, however, we are now conducting leakage reduction measures based upon smart meters to identify continuous flow (plumbing loss and cspl) through our Customer Leakage Tool (customer journey).

48 We are still assessing savings, but have assumed that for smaller business customers, where smart meters are currently being installed PL/cspl savings will be in line with the 9.4l/prop/d assumed for domestic households, and that these savings should be calculated as applying to each meter for an average of 6 months (i.e. half a year), to account for the overall installation rate..

49 For new business smart meres installed this would imply a saving of 0.003 Ml/d. Note due to the number of decimal places in the table this figure appears as a zero.

Residential properties - meter penetration (6D.21)

50 Overall meter penetration increased from 83.8 per cent to 84.5 per cent at the end of 2023/24. The proportion of residential water customers paying on a basic meter fell from 52.2 per cent to 43.9 per cent as we continued to exchange them for smart meters. A third of our water customers are now paying bills based on an AMI smart meter.

Total leakage activity - totex expenditure (6D.22)

51 We have reported costs to maintain leakage and costs to reduce leakage. Overall costs are circa £4 million down on the prior year.

52 Costs to maintain leakage have decreased this year as we have not had to respond to the same severe weather events as we did in the previous year resulting in fewer leak repairs.

53 Costs to reduce leakage have marginally increased as a result of increased spend on pressure monitoring and on proactive stop tap replacement

Leakage improvements delivering benefits in 2020-25 (6D.23)

54 The definition for this line requires us to report the difference between 2022/23 and 2023/24 leakage which we have done. However we do not feel that this is the best way to reflect the outputs from leakage improvement initiatives. The definition assumes that the total of any change in leakage is as a result of direct activity where as in reality the weather plays a large part in determining how many leaks break out and the level of leakage from year to year.

Per capita consumption (measured customers) (6D.24) and (unmeasured customers) (6D.25)

55 Per capita consumption is derived from the water balance and follows the reporting guidelines as set out during the PR19 process. We have assessed our compliance with the guidance against each of the 24 components and are reporting all as green.

56 For further details about activities we have undertaken to drive PCC down please refer to the commentary in table 3A.4.

Table 6F - WRMP annual reporting on delivery - non-leakage activities

1 Table 6F has not been published in this document. The published version of the Ofwat tables can be viewed through the Our reports section on our website.

Internal Interconnector Programme Update

2 Cost pressures continue to materially affect this programme and we are currently forecasting an overspend of around £539 million against the £595 million enhancement totex allowance (adjusted to 2023/24 price time basis).

3 As reported in previous APRs, an unprecedented set of events has impacted the project: a global pandemic, which led to extensive 'lockdowns', delaying the early programme, and a war in Ukraine, which has impacted steel supplies. This has been compounded by planning delays: potable mains do not qualify for (Development Consent Order) DCO status and so we have had to seek planning permission from 14 separate local authorities; responses exceeded the statutory times and we had to wait 90 weeks in some cases.

4 The route of the pipeline, especially within the South, goes through high value cropland. Considerable damage can occur to the soil structure during waterlogged periods and therefore prolonged wet periods can cause delays to mains laying activities. Our original delivery plan allowed for weather events however other factors have eroded our headroom to accommodate delays. Mains laying was suspended in October 2023 due to the ground conditions and was initially hoped to resume at the end of February 2024.

5 In February 2024 we wrote to Ofwat to detail the additional challenges faced from ground conditions to delivering the programme by the end of AMP7 and that despite our best endeavours to continue pipelaying we had been forced to suspend pipelaying until the ground conditions improved. At this time we noted that we were reprofiling the programme with new dates for commissioning and set out which projects we still hoped to complete in AMP7.

6 Following this submission we have continued to experience difficult, waterlogged ground conditions with the period April 2023 to March 2024 being confirmed as the wettest 12 months on record in our region with 922mm of rainfall. This, coupled with further ecology constraints of working in the spring months, means that while pipelaying has now resumed in many sections, further delays were incurred, and some sites could not restart until June. As a result, we are currently in the process of resetting our construction programmes taking into account the lessons we have learned from the last winter, and we now anticipate that some of the schemes we had previously forecast to complete in AMP7 will now be completed in AMP8. The entire programme will still be completed within the timescale that we stated in the February submission. This latest position has been reflected in table 6F in the delivery year and benefits columns.

7 We continue to work closely with the Environment Agency to assess the impacts of these delays and are developing a package of environmental mitigation options to be delivered to protect the environment until the Strategic Interconnector programme is completed.

8 When we wrote to Ofwat in February regarding the PR19 interconnectors performance commitment we also detailed our proposal for how the continuation of costs into AMP8 is reflected in regulatory approach at PR24 and await confirmation via the Draft Determination on this important issue.

Delivery of Outcomes

9 We are progressing with the delivery of the outcomes of our WRMP19 through the delivery of the schemes included in our PR19 business plan. As we have sought to optimise these schemes, we have taken forward some changes to the capacity of the individual

schemes compared to the WRMP which we detailed in our commentary at APR22 and APR23. We expect our overall total additional capacity delivered to exceed the 469.4 Mld target, once adjustments for the removal of the Pyewipe schemes are considered.

Changes to WRMP19 Capacities

10 We remain committed and on track to deliver the overall increase in capacity as reflected in the Performance Commitment, and to deliver our WRMP customer outcomes. As reported in APR22 and APR23, our optimisation process has enabled us to make some changes to individual schemes which mean we are delivering the outcomes in a cost-efficient manner and protecting our customers interests. During the reporting year there have been no further changes to the planned capacity to be delivered for any of the schemes.

Schemes completed and benefits realised to date

11 All the WRMP schemes continue to progress through delivery by our strategic alliances.

12 In 2023/24 we have completed the pipeline for the East Ruston scheme (Norwich & the Broads to Happisburgh WRZ 5Mld in the Performance Commitment Appendix) which went into supply under gravity in October 2023, delivering 2.4 Mld of capacity. The pumping station for the East Ruston scheme will go into supply in 2024/25 increasing the capacity delivered by this scheme from 2.4 Mld to the full five Mld.

13 The total capacity benefit delivered in AMP7 to date is 8.9 Mld as reported in table 3A. This total excludes the benefits reported for the demand side improvements – water efficiency measures which are reported in table 6F but are not part of the Performance Commitment, so the sum at the bottom of the 2023/24 benefits does not align with the figure reported in table 3A line 13.

Construction Progress

14 The cumulative pipe laid to the end of the reporting year is 162km which is 43 per cent of the total for the programme. Alongside the pipelaying, we are delivering a significant non-infrastructure programme which is continuing to progress with sites established and civils work under construction on a number of sites. The table below shows the current construction status for each scheme.

Scheme	WRMP Reference	Current Construction Status
South Fenland WRZ to North Fenland WRZ	NFN4	Scheme in design/ enabling stage
Bury Haverhill WRZ to East Suffolk WRZ	ESU8	Pipelaying in progress, non-infrastructure enabling works commenced
East Suffolk WRZ to South Essex WRZ	SEX4	Pipelaying in progress, non-infrastructure in design stage
Norwich & the Broads WRZ to Norfolk Rural North WRZ	NNR8	Scheme complete
Ruthamford South WRZ – Meppershall	RTS Intra2	Pipelaying substantially complete
Bury Haverhill – Haverhill PZ	BHV Intra1	Pipelaying in progress, non-infrastructure enabling works commenced
Norwich & the Broads WRZ to Happisburgh WRZ (Ludham)	HPB1	Scheme complete
Bury Haverhill WRZ to Ixworth WRZ to Thetford WRZ	THT1a	Scheme in design/ enabling stage
Norwich & the Broads WRZ to Happisburgh WRZ (East Ruston)	E Ruston	Pipelaying in progress, non-infrastructure in construction stage
Central Lincolnshire WRZ to Nottinghamshire WRZ	NTM1	In construction stage

North Fenland WRZ to Ely WRZ	ELY9	Pipelaying in progress, non-infrastructure in construction stage
Ely WRZ to Newmarket WRZ	NWM6	Pipelaying in progress, non-infrastructure in construction stage
Newmarket WRZ to Bury Haverhill WRZ	BHV5	Pipelaying in progress, non-infrastructure in construction stage
North Fenland WRZ to Ely WRZ treatment	ELY9 T	In construction stage
Ruthamford South WRZ to Ruthamford Central WRZ	RTC2	Pipelaying complete, non-infrastructure in design stage
North Ruthamford WRZ to South Fenland WRZ	SFN4	Pipelaying in progress, non-infrastructure in construction stage
Ruthamford South WRZ – Woburn PZ	RTS Intra1	Pipelaying in progress, non-infrastructure enabling works commenced
Ruthamford South WRZ – Meppershall Treatment	RTS Intra 2 T	Scheme in design/ enabling stage
CLN15 – treatment for ELN transfer	CLN15	Pipelaying in progress
Newmarket to Chevely WRZ	CVY1	Scheme in design/ enabling stage
North Norfolk Rural WRZ – Diddlington	NNR Intra1	Scheme in design/ enabling stage
CLN16 – New Elsham WTW to new North Lincoln SR	CLN16	In construction stage
Central Lincolnshire WRZ to South Lincolnshire WRZ	SLN6	Pipelaying in progress
South Lincolnshire WRZ to North Ruthamford WRZ (incl Covenham)	RTN27	Pipelaying in progress
South Humber Bank WRZ – transfer from Pyewipe to non-potable network	SHB2b	Stopped and replaced by N Lincs Alternative
South Humber Bank WRZ – Pyewipe	SHB2a	Stopped and replaced by N Lincs Alternative
Central Lincolnshire (N Lincs Alternative)	CLN18	Scheme in design/ enabling stage
Central Lincolnshire (N Lincs Alternative)	CLN19	In construction stage

Scheme status	**No. of schemes**	**Associated capacity benefit**
Completed	2	6.5
In construction (at least partly)	18	445.17
In design/ onsite enabling	6	43.21
Stopped	2	0
Total	28	494.88

Digital Twin (DT)

15 As previously reported in APR22 and APR23, the digital twin is continuing to progress as an integrated part of our delivery programme and includes an industry leading regional SCADA to control and operate the strategic pipeline.

Sustainability / carbon

16 The Strategic Pipeline Alliance (SPA) successfully challenged carbon in the design stage of the programme, identifying carbon reductions of 200,000 TCO2e as well as direct cost savings. The programme has since entered the construction stage where carbon reductions remain a focus.

17 Over the last year, SPA has trialled and implemented new products and techniques to help further reduce the programme's capital carbon footprint. This includes crushing and recycling aggregate stone to be used for pipe bedding material. These carbon saving measures are being reported on as the pipeline is being laid and will be quantified at the end of the project. The work of SPA was audited as part of Anglian Water's most recent PAS2080 verification and remains on track for an industry leading capital carbon reduction.

Demand-side Improvements (excluding leakage and Smart Metering)

18 We understand that the purpose of Ofwat collecting the information in table 6F is to provide an updated view on the forecast costs of investment that was funded within the PR19 Final Determination under the enhancement model 'Supply Demand Balance' (SDB). For some companies this cost assessment model covered both strategic supply side water resource schemes such as interconnectors as well as demand side options. Our model only covered strategic supply side options and made no allowance for demand side options as these were covered by the smart metering cost assessment model. We have provided costs here for the demand side options as requested but would like to flag to Ofwat that these costs are not comparable with the SDB allowance in the adjusted Final Determination.

Supply demand balance improvements delivering benefits starting from 2026

19 Costs exclude those associated with the Fens Reservoir and associated transfers which have been moved into the RAPID process. The costs included here in table 6F include the early development of desalination, water re-use and aquifer recharge schemes through the adaptive planning process.

Table Comments

20 Actual costs are included for the years 2020/21 to 2023/24. Costs incurred prior to 2020/21 have been included in the 2020/21 column. All costs are presented in 2023/24 price time base in accordance with the reporting requirements.

21 The nature of this programme means that the schemes are at different stages in our investment process with some more advanced than others. We therefore expect continued movements in the forward-looking costs as the schemes progress. Forecast opex costs have been adjusted to reflect the latest power unit rates which are in some cases lower than those previously forecast.

22 As reported last year, the methodology for completing this table was updated to ensure alignment with table 4L.20 and 4L.29 as per the RAG. There are two projects (THT1a and CVY1) where some expenditure is coded to additional lines in various tables as we have aligned needs to deliver a single solution to meet multiple needs. The full cost of the solution is included in 6F to align with the scope data but the costs have been split between multiple lines in table 4J, 4L and 4N.

23 The AMP8 schemes that form part of the North Lincs Alternative Strategy were included in our PR24 business plan submission and are not reported in this table. All North Lincs Alternative Strategy costs in the 'After 2024-25' column in row 6F.26 are those associated with the reprogrammed AMP7 schemes which are separate to the AMP8 schemes.

24 Benefits are forecast in the year where construction is complete. There are no benefits reported against the Adaptive Planning line as this is development work for future AMP benefits.

25 Data in the scope section has been updated where relevant to reflect the latest designs; these will be finally confirmed for each scheme as construction is completed. As a result of this exercise, the storage that was previously reported in row 6F.20 is now reported in row 6F.9, and the pumping station that was previously reported on row 6F.7 is now in row 6F.4.

26 For schemes where there are multiple pipeline diameters and materials the predominant diameter and material has been included in the table. In the current reporting year, to align with our PR24 table CW08 submission, all polyethylene (PE) pipe diameters reported in

Table 6F have been converted from external diameter to internal (stated as DN or nominal bore). This has resulted in the reported diameter for all PE pipelines being smaller than reported last year but there is no change to the physical pipeline being installed or the capacity of the pipelines. Steel pipeline diameters continue to be reported as internal.

27 Pumping station power reported (kW) is the total for each interconnector scheme: in some cases this is the sum of several pumping stations. This has been calculated on the same basis as table 6B.

28 There are no green recovery schemes included in this table.

29 Strategic regional solutions schemes have not been included in this table as they were separately funded under the Strategic Regional Solutions enhancement allowance.

30 Our target remains at 469.4 Mld as per the Ofwat published Consolidated PR19 final determinations: Anglian Water – Outcomes performance commitment appendix published 28 February 2023.

31 While completing this table for 2023/24, two capex figures in the 2022/23 data have been corrected (Column H Rows 6F.26 and 6F.27) to correct a combined under report of £0.216 million (in 2022/23 prices).

Programme Assurance

32 We continue to work with Aqua Consultants Ltd to provide third party independent assurance of the programme. An initial report was submitted to Ofwat in January 2023 and a further review was carried out in early 2024. We continue to work with our assurance provider to maintain external oversight of the programme.

Table 7A - Wastewater network+ - Functional expenditure for the 12 months ended 31 March 2024

	Line description	Units	£'000
	Costs of STWs in size bands 1 to 5		
1	Direct costs of STWs in size band 1	000s	4,628.000
2	Direct costs of STWs in size band 2	000s	3,895.000
3	Direct costs of STWs in size band 3	000s	12,892.000
4	Direct costs of STWs in size band 4	000s	26,930.000
5	Direct costs of STWs in size band 5	000s	18,119.000
6	General & support costs of STWs in size bands 1 to 5	000s	9,112.000
7	Functional expenditure of STWs in size bands 1 to 5 (excluding 3rd party services)	000s	75,576.000
	Costs of large STWs (size band 6)		
8	Service charges for STWs in size band 6	000s	1,325.000
9	Estimated terminal pumping costs size band 6 works	000s	6,303.000
10	Other direct costs of STWs in size band 6	000s	56,085.000
11	Direct costs of STWs in size band 6	000s	63,713.000
12	General & support costs of STWs in size band 6	000s	9,415.000
13	Functional expenditure of STWs in size band 6 (excluding 3rd party services)	000s	73,128.000
	Costs of STWs - all sizes		
14	Total operating functional expenditure (excluding 3rd party services)	000s	148,704.000

Table 7B - Wastewater network+ - Large sewage treatment works for the 12 months ended 31 March 2024

			Large STW1	Large STW2	Large STW3	Large STW4	Large STW5	Large STW6	Large STW7	Large STW8	Large STW9	Large STW10	Large STW11	Large STW12	Large STW13
	Sewage treatment works - Explanatory variables														
1	Works name (existing works)	text	ANWICK STW	BASILDON STW	BEDFORD STW	BENFLEET STW	BOSTON STW	BOURNE STW	BRACKLEY STW (NEW)	BRAINTREE STW	BROADHOLME STW	CAISTER - PUMP LANE STW	CAMBRIDGE STW	CANVEY ISLAND STW	CANWICK STW
2	Works name (new works)	text	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Works name	text	ANWICK STW	BASILDON STW	BEDFORD STW	BENFLEET STW	BOSTON STW	BOURNE STW	BRACKLEY STW (NEW)	BRAINTREE STW	BROADHOLME STW	CAISTER - PUMP LANE STW	CAMBRIDGE STW	CANVEY ISLAND STW	CANWICK STW
4	Classification of treatment works	text	TA2	SAS	TA2	SB	SB	TA2	TA2	TA2	TA2	SAS	SAS	SAS	TB2
5	Population equivalent of total load received	000s	32.86	122.77	202.40	27.96	60.31	29.55	38.87	32.31	233.66	109.74	215.35	39.31	130.22
6	Suspended solids consent	mg/l	26.00	45.00	30.00	80.00	70.00	22.00	25.00	16.00	30.00	-	20.00	-	30.00
7	BOD_3 consent	mg/l	13.00	25.00	20.00	25.00	25.00	11.00	11.00	8.00	17.00	25.00	15.00	25.00	10.00
8	Ammonia consent	mg/l	6.00	10.00	7.00	20.00	-	3.00	3.00	3.00	3.00	-	5.00	-	3.00
9	Phosphorus consent	mg/l	2.00	-	1.00	-	-	2.00	2.00	2.00	1.00	-	1.00	-	1.00
10	UV consent	mW/cm^2	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Load received by STW	kgBOD/d	1,972	7,366	12,144	1,678	3,619	1,773	2,332	1,939	14,020	6,584	12,921	2,359	7,813
12	Flow passed to full treatment	m^3/d	5,301	32,990	58,019	7,484	14,313	9,076	6,690	8,463	67,861	32,007	65,675	10,550	41,747
	Sewage treatment works - Functional expenditure														
13	Service charges	£000s	17	33	33	19	17	21	19	20	33	25	34	19	33
14	Estimated terminal pumping expenditure	£000s	2	233	398	0	0	0	0	0	45	0	522	0	500
15	Other direct expenditure	£000s	556	1,536	1,863	290	376	604	724	1,228	1,905	1,095	1,828	625	576
16	Total direct expenditure	£000s	575	1,802	2,294	309	393	625	743	1,248	1,983	1,120	2,384	644	1,109
17	General and support expenditure	£000s	77	263	328	41	55	83	99	164	296	160	379	86	173

18	Functional expenditure	£000s	652	2,065	2,622	350	448	708	842	1,412	2,279	1,280	2,763	730	1,282

	Line description	Units	Large STW14	Large STW15	Large STW16	Large STW17	Large STW18	Large STW19	Large STW20	Large STW21	Large STW22	Large STW23	Large STW24	Large STW25	Large STW26
	Sewage treatment works - Explanatory variables														
1	Works name (existing works)	text	CHELMSFORD STW	CLACTON-HOLLAND HAVEN STW	COLCHESTER STW	CORBY STW	COTTON VALLEY STW	DEEPDALE FARM MEADOW RD STW	DUNSTABLE STW	FELIXSTOWE STW	FLITWICK STW	FORNHAM ALL SAINTS STW	GREAT BILLING STW	GRIMSBY-PYEWIPE STW	HAVERHILL STW
2	Works name (new works)	text	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Works name	text	CHELMSFORD STW	CLACTON-HOLLAND HAVEN STW	COLCHESTER STW	CORBY STW	COTTON VALLEY STW	DEEPDALE FARM MEADOW RD STW	DUNSTABLE STW	FELIXSTOWE STW	FLITWICK STW	FORNHAM ALL SAINTS STW	GREAT BILLING STW	GRIMSBY-PYEWIPE STW	HAVERHILL STW
4	Classification of treatment works	text	SAS	SAS	SAS	TA2	TA2	TB2	TA2	SAS	TA2	TB2	TA2	SAS	TB2
5	Population equivalent of total load received	000s	154.39	53.84	141.70	82.05	344.32	26.09	63.44	31.02	33.36	110.08	364.41	139.19	30.98
6	Suspended solids consent	mg/l	40.00	-	60.00	20.00	25.00	20.00	20.00	120.00	25.00	16.00	25.00	-	20.00
7	BOD_5 consent	mg/l	20.00	25.00	25.00	10.00	12.00	10.00	12.00	25.00	15.00	8.00	13.00	25.00	10.00
8	Ammonia consent	mg/l	10.00	-	15.00	1.00	5.00	4.00	3.00	50.00	5.00	2.00	5.00	-	4.00
9	Phosphorus consent	mg/l	-	-	-	1.00	1.00	1.00	0.60	-	2.00	2.00	0.90	-	2.00
10	UV consent	mWs/cm^2	-	-	30.00	-	-	-	-	-	-	-	-	-	-
11	Load received by STW	kgBOD_5/d	9,263	3,230	8,502	4,923	20,659	1,565	3,806	1,861	2,002	6,605	21,865	8,351	1,859
12	Flow passed to full treatment	m^3/d	45,121	16,762	46,850	19,290	94,508	5,432	13,573	7,955	6,652	13,270	92,047	52,672	8,273
	Sewage treatment works - Functional expenditure														
13	Service charges	£000s	34	20	36	19	59	9	19	17	19	19	57	35	19
14	Estimated terminal pumping expenditure	£000s	86	26	665	2	415	0	0	0	0	9	782	428	140
15	Other direct expenditure	£000s	1,194	601	1,753	1,627	3,673	387	791	331	468	820	3,470	1,377	238
16	Total direct expenditure	£000s	1,314	647	2,454	1,648	4,147	396	810	348	487	848	4,309	1,840	397
17	General and support expenditure	£000s	180	91	367	220	614	53	112	46	65	113	667	318	54
18	Functional expenditure	£000s	1,494	738	2,821	1,868	4,761	449	922	394	552	961	4,976	2,158	451

	Line description	Units	Large STW27	Large STW28	Large STW29	Large STW30	Large STW31	Large STW32	Large STW33	Large STW34	Large STW35	Large STW36	Large STW37	Large STW38	Large STW39
	Sewage treatment works - Explanatory variables														
1	Works name (existing works)	text	HITCHIN STW	HUNTINGDON (GODMANCHESTER) STW	INGOLDMELLS STW	IPSWICH-CLIFF QUAY RAEBURN ST	KINGS LYNN STW	LEIGHTON LINSLADE STW	LETCHWORTH STW	LOWESTOFT STW	Other (Specify Below)	MARSTON STW (LINCS)	NEWMARKET STW	PETERBOROUGH (FLAG FEN) STW	ROCHFORD STW
2	Works name (new works)	text	-	-	-	-	-	-	-	-	MARKET HARBOROUGH STW	-	-	-	-
3	Works name	text	HITCHIN STW	HUNTINGDON (GODMANCHESTER) STW	INGOLDMELLS STW	IPSWICH-CLIFF QUAY RAEBURN ST	KINGS LYNN STW	LEIGHTON LINSLADE STW	LETCHWORTH STW	LOWESTOFT STW	MARKET HARBOROUGH STW	MARSTON STW (LINCS)	NEWMARKET STW	PETERBOROUGH (FLAG FEN) STW	ROCHFORD STW
4	Classification of treatment works	text	TA2	TA2	SAS	SAS	TA2	TB2	TA2	SAS	TA2	TB2	TA2	TA1	TA1
5	Population equivalent of total load received	000s	39.96	45.16	51.05	147.67	66.86	44.17	50.22	80.64	28.25	61.50	28.60	266.59	33.30
6	Suspended solids consent	mg/l	30.00	30.00	-	200.00	100.00	35.00	25.00	-	20.00	15.00	20.00	24.00	60.00
7	BOD_5 consent	mg/l	15.00	20.00	25.00	25.00	25.00	25.00	13.00	25.00	10.00	10.00	12.00	9.00	25.00
8	Ammonia consent	mg/l	4.00	7.00	-	50.00	-	8.00	3.00	-	5.00	3.00	4.00	3.00	-
9	Phosphorus consent	mg/l	1.00	1.00	-	-	-	2.00	1.00	-	2.00	2.00	2.00	-	-
10	UV consent	mWs/cm^2	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Load received by STW	kgBOD/d	2,398	2,710	3,063	8,860	4,012	2,650	3,013	4,838	1,695	3,690	1,716	15,995	1,998
12	Flow passed to full treatment	m^3/d	10,192	16,990	16,362	37,653	24,867	7,684	7,652	19,938	10,787	21,232	6,604	70,215	11,187
	Sewage treatment works - Functional expenditure														
13	Service charges	£000s	20	19	20	36	33	20	19	32	19	19	20	36	17
14	Estimated terminal pumping expenditure	£000s	80	-	114	340	-	19	31	33	-	6	-	348	-
15	Other direct expenditure	£000s	949	705	624	1,980	1,610	488	1,022	1,905	610	379	371	2,564	306
16	Total direct expenditure	£000s	1,049	724	758	2,356	1,643	527	1,072	1,970	629	404	391	2,948	323
17	General and support expenditure	£000s	114	96	85	338	313	70	126	272	87	57	52	500	51
18	Functional expenditure	£000s	1,163	820	843	2,694	1,956	597	1,198	2,242	716	461	443	3,448	374

	Line description	Units	Large STW40	Large STW41	Large STW42	Large STW43	Large STW44	Large STW45	Large STW46	Large STW47	Large STW48	Large STW49	Large STW50	Large STW51	Large STW52	Total
	Sewage treatment works - Explanatory variables															
1	Works name (existing works)	text	SHENFIELD AND HUTTON STW	SOUTHEND STW	SPALDING STW	ST NEOTS STW	STOWMARKET STW	TETNEY-NEWTON MARSH STW	THETFORD STW	TILBURY STW	WEST WALTON STW	WHILTON STW	WHITLINGHAM TROWSE STW	WICKFORD STW	WITHAM STW	-
2	Works name (new works)	text	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Works name	text	SHENFIELD AND HUTTON STW	SOUTHEND STW	SPALDING STW	ST NEOTS STW	STOWMARKET STW	TETNEY-NEWTON MARSH STW	THETFORD STW	TILBURY STW	WEST WALTON STW	WHILTON STW	WHITLINGHAM TROWSE STW	WICKFORD STW	WITHAM STW	-
4	Classification of treatment works	text	TA2	SAS	SB	TB2	TB2	TA2	TA2	SAS	SAS	TB2	TA2	TA1	SAS	-
5	Population equivalent of total load received	000s	46.79	202.05	80.34	40.25	26.49	55.17	34.34	153.06	165.70	30.78	350.10	41.97	35.12	-
6	Suspended solids consent	mg/l	20.00	150.00	120.00	90.00	30.00	45.00	50.00	-	80.00	24.00	40.00	45.00	40.00	-
7	BOD_5 consent	mg/l	10.00	25.00	25.00	25.00	13.00	25.00	25.00	25.00	25.00	12.00	20.00	22.00	20.00	-
8	Ammonia consent	mg/l	3.00	-	-	-	6.00	-	16.00	65.00	20.00	3.00	7.00	10.00	10.00	-
9	Phosphorus consent	mg/l	2.00	-	-	1.00	2.00	-	2.00	-	-	2.00	1.00	-	-	-
10	UV consent	mWs/cm^2	-	-	-	-	-	30.00	-	-	-	-	-	30.00	-	-
11	Load received by STW	$kgBOD_5/d$	2,807	12,123	4,820	2,415	1,589	3,310	2,060	9,184	9,942	1,847	21,006	2,518	2,107	-
12	Flow passed to full treatment	m^3/d	14,477	62,999	13,541	14,061	6,256	22,547	6,889	33,263	19,469	7,097	86,892	14,318	10,909	-
	Sewage treatment works - Functional expenditure															
13	Service charges	£000s	21	33	19	19	19	33	20	33	19	19	57	19	19	-
14	Estimated terminal pumping expenditure	£000s	-	599	34	-	-	3	-	288	102	-	-	-	53	-
15	Other direct expenditure	£000s	983	1,899	236	320	305	713	465	1,680	1,539	348	2,915	695	538	0
16	Total direct expenditure	£000s	1,004	2,531	289	339	324	749	485	2,001	1,660	367	2,972	714	610	0
17	General and support expenditure	£000s	134	372	39	45	43	100	89	433	227	49	443	95	81	0
18	Functional expenditure	£000s	1,138	2,903	328	384	367	849	574	2,434	1,887	416	3,415	809	691	0

Works name, classification of treatment works and population equivalent of total load received (7B.1- 7B.3)

1 We have calculated the population equivalent (PE) and the loads consistent with guidance provided by Ofwat in response to our query on the PR24 Large STW cost assessment data set in October 2022. As such, the assessment of size banding excludes imported effluents (tankered loads from septic tanks and cesspools) as they are considered non-appointed business. The PE and loads reported in lines three and nine also include an assessment of non-resident (holiday) population loads.

2 The number of WRCs has increased by one since 2022/23. Market Harborough WRC has been added to the list again having fallen off of the list in 2022/23. It is a works which is very close to the 25,000 PE threshold for being classified as a large works and so is very sensitive to changes in population numbers.

Large STW Consents (7B.4-8)

3 We maintain an internal system (PACE) which summarises details of the permit limits relating to our WRC discharges. These are the limits which are detailed in the Environmental Permits issued to us by the Environment Agency.

4 A tightened Phosphorus consent of 0.9 Mg/l came into force at Great Billing WRC during the reporting period.

BOD5 Consent (7B.5)

5 For a number of water recycling centres the UWWTD BOD limit of 25 Mg/l is tighter than the normal BOD limit specified in the Environmental Permit. In these situations, we have therefore reported the UWWTD BOD limit as we believe this is more appropriate to use for comparative efficiency purposes. This approach is consistent with that taken when the data used to be provided as part of the June Return.

Load received by STW (7B.9)

6 The total load received at large WRCs has risen by c.56,000 kg/BOD5/d in 2023/24 compared to the prior year. This is predominantly due to Market Harborough WRC being added to the list and equates to approximately one per cent increase in our treated load.

Flow passed to full treatment (7B.10)

7 The numbers reported for many of our WRCs have changed noticeably when compared with those reported in 2022/23. This is mainly due to the variance in rainfall from year to year. In our region 2023/24 was much wetter than 2022/23.

8 At Basildon WRC the flow data is based upon the sum of values from three flow meters. A telemetry fault was identified which meant that the data from one of these meters was being recorded correctly on site, but not on our flow data system. The error has now been corrected and has resulted in a reduction in the flow value being reported this year.

9 At Corby WRC an historical error was identified with the measured flows (they were overreading). Having resolved this issue, we are reporting a drop in flows this year.

10 For Spalding WRC a scaling issue was identified which resulted in a difference between the value shown on the flow meter on site and the figure recorded on our telemetry system. The flows shown on telemetry were higher than those observed on site. Once we became aware of this, we acted quickly to get the necessary changes made.

11 An issue was noted in 2022/23 at Witham WRC whereby reported measured flow data did not include values from a third flow meter (located off site). Having resolved this issue, we are now reporting a significant increase in the measured flow values for 2023/24 when compared with 2022/23.

Service charges (7B.11)

12 Service charges in total for large works agrees to table 7A sewage treatment (line 7A.8).

Table 7C - Wastewater network+ - Sewer and volume data for the 12 months ended 31 March 2024

	Line description	Units	Input
	Wastewater network (as at 31 March)		
1	Connectable properties served by s101A schemes completed in the report year	nr	216
2	Number of s101A schemes delivered in the report year	nr	4
3	Total pumping station capacity	kW	121988
4	Number of network pumping stations	nr	6284
5	Total number of sewer blockages	nr	36171
6	Total number of gravity sewer collapses	nr	308
7	Total number of sewer rising main bursts	nr	114
8	Number of combined sewer overflows	nr	1117
9	Number of emergency overflows - sewage pumping stations	nr	886
10	Number of settled storm overflows	nr	359
11	Sewer age profile (constructed post 2001)	km	2298
12	Volume of trade effluent	Ml/yr	20381.02
13	Volume of wastewater receiving treatment at sewage treatment works	Ml/yr	725258.27
14	Length of gravity sewers rehabilitated	km	18
15	Length of rising mains replaced or structurally refurbished	km	23
16	Length of foul (only) public sewers	km	19444
17	Length of surface water (only) public sewers	km	11917
18	Length of combined public sewers	km	10323
19	Length of rising mains	km	4890
20	Length of other wastewater network pipework	km	6
21	Total length of "legacy" public sewers as at 31 March	km	46580
22	Length of formerly private sewers and lateral drains (s105A sewers)	km	31200
	Storm overflows - additional reporting (as at 1 January)		
23	Number of combined sewer overflows (as at 1 January)	nr	1203
24	Number of settled storm overflows (as at 1 January)	nr	363
25	Number of storm overflows - other (as at 1 January)	nr	0
26	Number of storm overflows - pending investigation (as at 1 January)	nr	0
27	Number of permitted storm overflows closed in the previous reporting year (as at 1 January)	nr	101
28	Number of storm overflows - consistent with PR24 performance commitment definition	nr	1667
29	Number of storm overflows closed in the previous reporting year - (as at 1 January)	nr	0
30	Number of storm overflows with event duration monitors installed (as at 1 January)	nr	1552

31	Proportion of the time that event duration monitors on storm overflows were operational (from 1 January to 31 December)	%	96.86%
32	Number of spills from storm overflows (from 1 January to 31 December)	nr	31623

	Emergency overflows - additional reporting (as at 1 January)		
33	Number of emergency overflows - sewage pumping stations (as at 1 January)	nr	889
34	Number of emergency overflows - network (as at 1 January)	nr	-
35	Number of emergency overflows - other (as at 1 January)	nr	-
36	Number of emergency overflows - all (as at 1 January)	nr	889
37	Number of emergency overflows with event duration monitors installed (as at 1 January)	nr	9
38	Number of emergency overflows with an MCERTS certified event duration monitors installed (as at 1 January)	nr	-
39	Proportion of the time that event duration monitors on emergency overflows were operational (from 1 January to 31 December)	%	99.14%
40	Number of spills from emergency overflows (from 1 January to 31 December)	nr	48

s101A Schemes completed in the report year (7C.1 and 7C.2)

1 Four s101A schemes were delivered within the reporting year for 216 connected properties:

- Buckworth, 38 connected properties.
- Rockland, 75 connected properties.
- Morley, 69 connected properties.
- Billockby, 34 connected properties.

Capacity and number of network pumping stations (7C.3 and 7C.4)

2 The number of pumps, rated power for each pump, location and asset status have been used where this information was held in corporate databases. The rated power of the remaining pumps, where data was not currently centrally held, was estimated through extrapolation based on site annual energy consumption (and pump hours run where available). Where there is no data available on a pump an estimated 2.5kW has been applied.

3 The number of sites was calculated based on this more granular pump specific asset data. As in previous years inlet pumping stations sited on WRCs have been excluded because they have been considered to be inter-stage pumping stations.

Total number of sewer blockages (7C.5)

4 In 2023/24 we had 36,171 blockages, which was 10.4 per cent lower than the 40,395 in 2022/23. We have been strongly focused on reducing blockages through better understanding of our network and public initiatives such as our Keep it Clear campaign and Environmental Compliance and Services engagement with food serving establishments, as well as installing flow level monitors at key points on our network.

5 We continue to focus on proactive measures to prevent blockages through planned preventative maintenance, with better analytical techniques being used to more effectively identify blockage hotspots and ensuring sewers that are more likely to have blockages are jetted more frequently.

Total number of sewer rising main bursts / collapses (7C.6 and 7C.7)

6 Data recorded in this table include the total number of gravity sewer collapses on the current network including public and transferred assets.

7 There were 308 reactive sewer collapses reported in 2023/24. This is an increase compared to 2022/23 when we reported 259. The 308 reactive sewer collapses reported in 2023/24 includes 20 open sewer collapses that were not closed on our systems at 31 March 2024.

8 Data recorded in this table include the total number of rising mains bursts on the current network, including public and transferred assets.

9 There were 114 reactive burst rising mains reported in 2023/24 in comparison to 2022/23 when we reported 142. This includes two open burst rising main that were not closed on out systems at 31 March 2024. We attribute the reduction in burst rising mains in 2023/24 to our pressure monitors which alert us to the risk of a burst.

Numbers of overflows (7C.8 - 7C.10)

10 To ensure consistency we have changed our methodology for the number of storm overflows we report. We have aligned the figures reported with those which are included within our annual storm overflow Event Duration Monitoring (EDM) report that we provide to the Environment Agency. We are mindful, however, of the need to subtract those permits for storm overflows that were surrendered during 2023. In our return this year we are therefore reporting 1,117 storm overflows, which includes the 14 Unpermitted Combined Sewer Overflows (UCSOs) referred to below. We are also reporting 359 storm tank discharges.

11 There has been a significant reduction in the number of storm overflows we are reporting this year. Investigations carried out in delivering our programme of providing 100 per cent EDM coverage of our CSOs by the end of 2023 identified that a number of CSOs did not exist and the Environmental Permits were therefore surrendered.

12 We have continuously collaborated with the Environment Agency on developing an appropriate process for screening, assessing and permitting proactively identified UCSOs. These 14 live applications have been confirmed as UCOs and accepted by the EA National Permitting Service team where they are currently being processed.

13 There has been no change in the methodology used for reporting the number of emergency overflows.

Sewer age profile (constructed post 2001) (7C.11)

14 The best estimated year laid of every mapped sewer has been maintained. Our approach is iterative based on our corporate systems, historical development polygons, deed dates (for non-infra sites to sub-catchments) and the length weighted median year for each material.

15 These lengths have remained stable with a small increase of 142km in this band age when compared to 2022/23. This is due to a pandemic backlog of uncaptured schemes still existing.

16 We have assumed that the age profile of modelled lengths of section 24 and transferred sewers is spread across the age bands and have used a weighted average method.

Volume of trade effluent (7C.12)

17 The volume of trade effluent varies from year to year. The figure for 2023/24 is in line with historical norms.

Volume of wastewater receiving treatment at sewage treatment works (7C.13)

18 For smaller WRCs (serving less than 250 population equivalent) an estimate has been made of the flow discharged per year. The numbers for this line were then produced by combining the separate values for the measured flows from larger WRCs with this estimated flow from the smaller WRCs.

19 The definition for this line within the RAG 4.12 Guidelines requires us to reflect the flow data reported to the EA in the annual OMA report. Measured flow data is reported to the EA on a calendar year basis consequently data for the 2023 calendar year has been used for this line.

Length of gravity sewers rehabilitated (7C.14)

20 In 2023/24 18 km of sewers were proactively replaced or refurbished. This is a circa 31 per cent reduction compared to the 26km of gravity sewer that was proactively replaced or relined in 2022/23. This reduction is based on the budget allocation rather than a change in overall strategy or prioritisation in the types of schemes delivered.

21 As with 2022/2023 we have continued our focus on large diameter gravity sewers where possible/cost effective and sewers with high levels of infiltration/bursts/blockages. We have also proactively replaced or relined smaller diameter sewers, when they were identified whilst carrying out emergency repairs on adjoining sewers that had already failed.

Length of rising mains replaced or structurally refurbished (7C.15)

22 In 2023/24 approximately 23 km of rising mains were proactive replaced or refurbished. This is a circa 36 per cent reduction compared to the 2022/23 figure of 35km. This reduction is based on the budget allocation rather than a change in overall strategy or prioritisation in the types of schemes delivered.

23 Our approach to rising mains includes actions to extend asset life rather than a strategy based solely on rising main replacement. A pressure monitor is installed on a rising main to track the changes in pressure experienced by the rising main during the pump start/stops cycle and this information is analysed alongside site survey data to produce a transient pressure report. This report will then make recommendations about what interventions can be made to increase the life of the asset.

24 Capital interventions include (but are not limited to) installation of air valves along the rising main length and VSDs (variable speed drives) at the pumping station to reduce pressure spikes. Seven rising mains (totalling approximately 20km length) benefitted from these types of interventions in 2023/2024. These rising mains reflect our interpretation of the term 'structurally refurbished'.

25 Rising main replacement schemes are completed when mitigation is not possible or cost effective, or if further bursts occur post mitigation. Five rising mains were fully or partially relined or replaced in 2023/24 (totalling approx. 3km in length).

Length of wastewater network pipework (7C.16 - 7C.21)

26 Our modelled estimate of ex-Section 24 sewer lengths have been included in our reported sewer lengths since 2002/03 and are included in these lines. Our modelled length includes an assessment of the surface water sewers and we have assumed, given the typical sewer practice at the time, the remainder are combined sewers.

27 Compared to 2022/23 we report increases of 207km for Line 16 and 240km for line 17. These increases are due to a backlog of uncaptured schemes still existing.

28 Lines 18 to 20 have all remained stable for 2023/24.

Length of formerly private sewers and lateral drains (s.105A sewers) (7C.22)

29 We are reporting our total estimated length of modelled transferred sewers. These are 26,700km of laterals and 4,500km of private drains. This estimate is based on the findings of a number of studies we undertook prior to 2011.

30 Our estimate of our length of formerly private sewers is based on initial assessments made before the transfer for PR09. We are aware that our approach is consistent with most of the industry in that we continue to use the modelled lengths calculated at that time. However, we believe that new technologies and approaches can be used to improve upon the modelling carried out for PR09. As a result we continue to explore ways to improve our modelled estimates for transferred sewer and section 24 sewer lengths.

Number of Combined Sewer Overflows (as at 1 January) (7C.23)

31 The number we are reporting for this line aligns with the figure submitted for table 7C line 8 in APR2023. This is because for APR 2023 we based our number of CSOs on the number of EDM's that we reported in our 2022 EDM data submission to the Environment Agency - i.e. the number of CSO permits that we had in place 31 December 2022 (essentially the same as on 01 January 2023). In response to a query that was raised with Ofwat we have also included the 14 applications for unpermitted CSOs which are currently outstanding with the Environment Agency in this line.

Number of Settled Storm Overflows (as at 1 January) (7C.24)

32 The number we are reporting for this line aligns with the figure submitted for Table 7C line 10 in APR2023. This is because for APR2023 we based our number of storm tanks on the number of EDMs that we reported in our 2022 data submission to the Environment Agency - i.e. the number of storm tank permits that we had on 31 December 2022 (essentially the same as 01 January 2023).

Number of permitted overflows closed in the previous reporting year (as at 1 January) (7C.27)

33 The number we are reporting for this line reflects those CSO permits which were surrendered during the period 01 January 2023 to 31 December 2023 and which were still included in our 2023 EDM data submission to the EA.

Number of storm overflows closed in the previous reporting year (as at 1 January) (7C.29)

34 All of the CSOs that were closed were permitted and were surrendered after providing evidence to the EA that they were no longer required. These have been included in Line 7C.27 and we have no others to report under this line.

Number of emergency overflows – sewage pumping stations (as at 1 January) (7C.33)

35 This number that we are reporting for this line equates to the number of EOs that we reported for table 7C.9 in our APR2023 return. There were no EO permits surrendered between 01 January 2023 and 31 March 2023 that need to be added.

Number of emergency overflows – network (as at 1 January) (7C.34)

36 All of our EOs are associated with pumping stations.

Number of emergency overflows – other (as at 1 January) (7C.35)

37 There are no EOs which fall into this category.

Table 7D - Wastewater network+ - Sewage treatment works data for the 12 months ended 31 March 2024

	Line description	Units	Treatment categories							
			Primary	Secondary		Tertiary				Total
				Activated Sludge	Biological	A1	A2	B1	B2	
	Load received at sewage treatment works									
1	Load received by STWs in size band 1	kg BOD_3/day	22	365	1618	223	9	360	-	2597
2	Load received by STWs in size band 2	kg BOD_3/day	-	433	1242	259	23	757	48	2762
3	Load received by STWs in size band 3	kg BOD_3/day	-	1884	6280	1516	358	6682	786	17506
4	Load received by STWs in size band 4	kg BOD_3/day	-	9059	18841	4671	2835	15168	9753	60327
5	Load received by STWs in size band 5	kg BOD_3/day	-	11804	7235	5810	13999	3958	25603	68409
6	Load received by STWs above size band 5	kg BOD_3/day	-	110558	10117	20512	132159	-	30034	303380
7	Total load received	kg BOD_3/day	22	134103	45333	32991	149383	26925	66224	454981
8	Load received from trade effluent customers at treatment works	kg BOD_3/day	-	-	-	-	-	-	-	45511
	Number of sewage treatment works									
9	STWs in size band 1	nr	6	49	296	27	1	44	-	423
10	STWs in size band 2	nr	-	18	54	11	1	34	2	120
11	STWs in size band 3	nr	-	26	97	24	4	100	10	261
12	STWs in size band 4	nr	-	27	71	15	7	58	30	208
13	STWs in size band 5	nr	-	11	8	5	13	4	26	67
14	STWs above size band 5	nr	-	16	3	3	21	-	9	52
15	Total number of works	nr	6	147	529	85	47	240	77	1131

	Population equivalent									
16	Current population equivalent served by STWs	000s	7392.843	-	-	-	-	-	-	-
17	Current population equivalent served by STWs with tightened/new P consents	000s	-	-	-	-	-	-	-	-
18	Current population equivalent served by STWs with tightened/new N consents	000s	-	-	-	-	-	-	-	-
19	Current population equivalent served by STWs with tightened/new sanitary parameter consents	000s	-	-	-	-	-	-	-	-
20	Current population equivalent served by STWs with tightened/new microbiological treatment consents (for example UV, ozone etc)	000s	-	-	-	-	-	-	-	-
21	Population equivalent treatment capacity enhancement	000s	-	-	-	-	-	-	-	-
22	Current population equivalent served by STWs with tightened/new consents for chemicals or other hazardous substances.	000s	-	-	-	-	-	-	-	-

	Line description	Units	Treatment works consents																	
			Phosphorus					BOD_5						Ammonia						
			<=0.5mg/l	>0.5 to <=1mg/l	>1mg/l	No permit	Total	<=7mg/l	>7 to <=10mg/l	>10 to <=20mg/l	>20mg/l	No permit	Total	<=1mg/l	>1 to <=3mg/l	>3 to <=10mg/l	>10mg/l	No permit	Total
	Load received at sewage treatment works																			
1	Load received by STWs in size band 1	kg BOD_5/day	-	-	-	2,595	2,595	-	-	159	199	2,237	2,595	-	-	77	188	2,330	2,595
2	Load received by STWs in size band 2	kg BOD_5/day	-	99	89	2,559	2,747	-	23	828	1,443	453	2,747	-	23	238	595	1,890	2,746
3	Load received by STWs in size band 3	kg BOD_5/day	122	2250	843	14,081	17,296	80	527	8,361	8,222	107	17,297	-	617	5,004	5,114	6,560	17,295
4	Load received by STWs in size band 4	kg BOD_5/day	827	11241	6967	40,421	59,456	199	10,192	28,695	20,104	267	59,457	1,121	7,185	27,623	11,138	12,390	59,457
5	Load received by STWs in size band 5	kg BOD_5/day	2206	9689	32318	24,195	68,408	-	8,788	31,878	27,742	-	68,408	2,849	9,077	31,936	12,450	12,097	68,409
6	Load received by STWs above size band 5	kg BOD_5/day	-	131258	36535	135,587	303,380	-	48,892	139,141	115,347	-	303,380	4,923	65,640	130,005	42,088	60,724	303,380
7	Total load received	kg BOD_5/day	3155	154537	76752	219,438	453,882	279	68,422	209,062	173,057	3064	453,884	8,893	82,542	194,883	71,573	95,991	453,882
8	Load received from trade effluent customers at treatment works	kg BOD_5/day	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Number of sewage treatment works																			
9	STWs in size band 1	nr	-	-	-	421	421	-	-	13	21	387	421	-	-	6	19	396	421
10	STWs in size band 2	nr	-	4	4	111	119	-	1	36	59	23	119	-	1	11	26	81	119
11	STWs in size band 3	nr	2	27	11	218	258	1	8	121	125	3	258	-	8	65	77	108	258
12	STWs in size band 4	nr	2	37	18	148	205	1	30	103	70	1	205	3	23	92	40	47	205
13	STWs in size band 5	nr	2	10	34	21	67	-	9	31	27	-	67	3	9	32	13	10	67
14	STWs above size band 5	nr	-	14	15	23	52	-	10	19	23	-	52	1	12	19	7	13	52
15	Total number of works	nr	6	92	82	942	1,122	2	58	323	325	414	1,122	7	53	225	182	655	1,122

	Population equivalent																		
16	Current population equivalent served by STWs	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Current population equivalent served by STWs with tightened/new P consents	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Current population equivalent served by STWs with tightened/new N consents	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Current population equivalent served by STWs with tightened/new sanitary parameter consents	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Current population equivalent served by STWs with tightened/new microbiological treatment consents (for example UV, ozone etc)	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Population equivalent treatment capacity enhancement	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Current population equivalent served by STWs with tightened/new consents for chemicals or other hazardous substances.	000s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Line description	Units	Treatment categories
			Primary
	Population equivalent		
16	Current population equivalent served by STWs	000s	7,301.821
17	Current population equivalent served by STWs with tightened/new P consents	000s	359.603
18	Current population equivalent served by STWs with tightened/new N consents	000s	-
19	Current population equivalent served by STWs with tightened/new sanitary parameter consents	000s	6.442
20	Current population equivalent served by STWs with tightened/new microbiological treatment consents (for example UV, ozone etc)	000s	-
21	Population equivalent treatment capacity enhancement	000s	-
22	Current population equivalent served by STWs with tightened/new consents for chemicals or other hazardous substances.	000s	106.464

Loads received (7D.1-7D.7)

1 The loads reported in this table provide a consistent record which aligns with how we historically reported tables 17C and 17D in the June Return.

2 The size banding of the individual Water Recycling Centres (WRCs) has been determined using the total resident population, which is comprised of domestic population and trade effluent loads. Historically, we used to include septic tank and cesspool imports (tankered loads) to determine size bands, but following confirmation from Ofwat that they should be excluded, we can confirm the numbers do not include tankered loads.

3 Non-resident population has not been included when determining the size banding of the works, in line with the guidance.

4 The treatment types at our WRCs are assumed to be the same as prior years, unless evidence from operations has been provided. There have been no changes to treatment types in 2023/24.

5 The loads received volumes in lines 7D.1-7D.7 include non-resident population. The numbers in these lines include loads from nine additional WRCs, which belong to other water companies but to which our customers drain and we receive a charge for the treatment of this load. These WRCs are summarised below:

WRC Name	Shortcode	Population Equivalent	Owner	Treatment Type	Load Kg/BOD/day
ALKBOROUGH STW	ALKBST	603	Severn Trent	SCB	36.18
BRENTWOOD NAG HEAD LN STW THAM	BRWDST	6703	Thames	TB1	402.18
CHEVELEY PARK STW	CHEVST	22	Private	PRM	1.32
STANSTED MOUNTFICHET STW	STMFST	2321	Thames	TB1	139.29
STEVENAGE STW	STEVST	1609	Thames	TA2	96.56
GT WHELNETHAM-STANFLD RD STW	GWESST	8	Private	SCB	0.46

HALSE STW	HATWST	1267	Thames	SCB	76.01
SEVERN TRENT STW	SWTWST	288	Severn Trent	SCB	17.25
WINGRAVE STW	WITWST	5516	Thames	SCB	330.95

Load received from trade effluent customers at treatment works (7D.8)

6 In 2023/24, the population equivalent (PE) emanating from trade effluent customers has increased by 664PE compared to 2022/23. This is a marginal increase of less than one per cent.

Number of works (7D.9-7D.15)

7 Consent information is provided by an extract from our PACE database, which is a live document and holds all the consent limits for the WRCs the company operate. Some parameters have multiple consent values, and where this occurs we use the tightest consent limit the works is constrained to. As we do not have the consent information for the nine WRCs which are not in our control, we have not assigned these loads to any consent banding, and so they are excluded from the consents tables.

Current population equivalent served by filter bed or activated sludge STWs with tightened/new P consents (7D.17)

8 No schemes of this description were delivered in 2023/24.

Current population equivalent served by STWs with tightened/new N consents (7D.18)

9 No schemes of this description were delivered in 2023/24.

Current population equivalent served by STWs with tightened/new sanitary parameter consents (7D.19)

10 No schemes of this description were delivered in 2023/24.

Current population equivalent served by STWs with tightened/new microbiological treatment consents (for example UV, ozone etc) (7D.20).

11 There were no schemes delivered during the reporting year which involved the tightening, or introduction, of new or tightened consent conditions for microbiological parameters to meet the requirements of the EU Shellfish Waters or revised Bathing Water Directives.

Population equivalent treatment capacity enhancement (7D.21)

12 In 2023/2024 there was no additional population equivalent capacity added. Schemes and progressing through design and construction however, no growth schemes have been completed within the first four years of the AMP.

Current population equivalent served by STW with tightened / new consents for chemicals or other hazardous substances (7D.22)

13 No schemes of this description were delivered in 2023/24. Due to the complexity of work required under the relevant WINEP drivers which is reflected in our AMP delivery profiling, and alterations to delivery dates agreed with the EA, there will be an increase in delivery against this line in 2024/25.

Table 7E - Wastewater network+ - Energy consumption and other data for the 12 months ended 31 March 2024

	Line description	Units	Input
	Other		
1	Total sewerage catchment area	km^2	4,221
2	Designated bathing waters (inland and coastal)	nr	51
3	Number of intermittent discharge event duration monitorsing	nr	4
4	Number of monitors for flow monitoring at STWs	nr	106
5	Number of odour related complaints	nr	3,157
	Energy consumption		
6	Energy consumption - sewage collection	MWh	124,496.965
7	Energy consumption - sewage treatment	MWh	232,825.886
8	Energy consumption - wastewater network +	MWh	357,322.851
	Scheme delivery		
9	Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity	l/s	157.810
10	Number of sites with an increase in sewage treatment works capacity delivered to address a shortfall in FFT	nr	9
11	Additional storm tank capacity provided at sewage treatment works (grey infrastructure)	m3	4,343.000
12	Additional effective storm storage capacity at sewage treatment works (green infrastructure)	m3	-
13	Additional volume of network storage at CSOs etc to reduce spill frequency (grey infrastructure)	m3	20.000
14	Additional effective storage in the network delivered through green infrastructure	m3	-
15	Total number of sewage treatment works sites where additional storage has been delivered (grey infrastructure)	nr	8
16	Number of sewage treatment works sites where additional storage has been delivered with pumping (grey infrastructure)	nr	2
17	Number of sewage treatment works benefitting from green infrastructure replacing the need for storm tank storage	nr	-
18	Number of sites delivering additional network storage (grey infrastructure)	nr	1
19	Number of sites delivering additional network storage including pumping (grey infrastructure)	nr	-
20	Number of sites delivering additional network storage through green infrastructure	nr	-
21	Surface water separation drainage area removed	m2	4,915
22	Number of schemes delivered to meet tightened or new sanitary consents	nr	-
23	Number of installations requiring civils for flow monitoring at sewage treatment works	nr	66
24	Number of installations requiring civils for event duration monitoring at intermittent discharges	nr	-
25	Number of storm overflows where improvements have been made to reduce harm or reduce spill frequencies	nr	2

Total sewerage catchment area (7E.1)

The aggregate sewer catchment area is unchanged on the number reported in 2023. It is the total of all the catchment areas of the circa 1,100 Water Recycling Centres across the Anglian Water region.

Designated bathing waters (7E.2)

1 At the end of the 2023 bathing water season, there were 51 bathing waters. This included the three new bathing waters since were designated at the start of the 2023 bathing water season at inland locations – Rutland Water Sykes Lane, Rutland Water Whitwell Creek – and estuarine locations - the River Deben.

2 A further three inland and estuarine bathing waters have been designated for the start of the 2024 bathing water season – River Stour at Sudbury, River Stour at Manningtree and River Cam at Sheeps Green.

3 The designation of new bathing waters are generally undertaken by the Local Authority and Anglian Water have no control over designations. It is plausible that further applications will be received in 2025 which result in further designated bathing waters in AMP8.

Number of intermittent discharge sites with event duration monitoring (EDM) (7E.3)

4 Event Duration Monitors (EDM) were installed at four locations to meet obligations in the Environment Agency's Water Industry National Environment Programme (WINEP).

Number of monitors for flow monitoring at STWs (7E.4)

5 We have delivered 106 obligations for flow monitoring in 2023/24, all under the WINEP U_MON4 driver.

Number of odour related complaints (7E.5)

6 We have recorded the lowest number of written complaints since 2011 following a consistent downward trend over the past four years. The number of phone complaints has also reduced from previous years and is the lowest its been in five years. Overall there has been a steady reduction of all Odour complaints in recent years despite the fact that general quantities of other work types have been on the rise.

Energy consumption - sewage collection, sewage treatment and wastewater network plus (7E.6-8)

7 The total energy consumption across both lines was 357,322 MWh. The equivalent number for 2022/23 was 332,370 MWh so there has been an increase of 24,952 MWh or 7.51 per cent. For Sewage Collection there has been an increase of 25,451 MWh (24.76 per cent) and for Sewage Treatment there has been a small decrease of 498 MWh (0.21 per cent).

8 The overall increase was driven mainly by the exceptionally high rainfall during the year, especially compared to the extreme hot and dry weather of 2022/23, so more electricity was required in collecting wastewater and pumping it to water recycling centres.

9 There was also a decrease in fuel consumption of 1,846 MWh (53.13 per cent) and an increase in consumption from transport of 1,282 MWh (7.83 per cent), reflecting higher mileage claimed compared to 2022/23.

10 A number of assumptions have been made in calculating the water recycling energy consumption data.

- For the whole of the water recycling function, we have applied a financial split from regulatory accounts between bioresources and wastewater network plus for electricity

consumption. This financial split is based upon assessments of proportional use by different Ofwat business units made by operational experts.

- We have included energy from renewable sources generated and used on site including CHP (combined heat and power), wind and solar.
- Grid electricity and fuel (oil and natural gas) used in offices has been included and split equally between water and water recycling.
- Fuel oil is not recorded on our corporate systems against Ofwat's business units and therefore the same split used for electricity has been assumed for each fuel type with the exception of gas oil delivered to water recycling sites;
- We have assumed a 35 per cent thermal efficiency for natural gas consumption in converting to energy output (boilers and CHP).
- As in 2022/23, we have been able to allocate accurately the split in consumption of diesel and gas oil between sludge and wastewater network plus through developments in our SAP reporting system. Note that due to changes in fuel taxation, we can no longer purchase gas oil, but must purchase diesel instead, however, we have also purchased 220 thousand litres of 'Therma 35' – an alternative to gas-oil – for a trial at Cliff Quay sludge treatment centre.
- Transport (claimed mileage and fleet fuel purchased on fuel cards) is not recorded in our corporate systems against Ofwat's business units and therefore we have split the total 50/50 between water and water recycling and then assumed that they split in the same proportions as electricity between the business units. This is with the exception of RES fleet Biosolids haulage which has been allocated entirely to bioresources.
- Sub contracted transport (bioresources and cake) has not been included, only fleet (directly operated) vehicles.
- Transport for company cars is collected as mileage. We have converted mileage into kWh through using DESNZ's greenhouse gas reporting conversion factors for 2023.
- For electric vehicles, a small but growing volume of energy is collected via fuel cards or is metered at employees' homes. For the remaining, larger volume we have made the assumption that the mileage claimed relates to charging at home or on public charging points, rather than using the charging points at our offices. Many people are still working from home a lot of the time and we don't have a reliable source to tell us how many miles are being claimed from charging at our sites. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption from claimed mileage totals just 344,900 kWh across the whole of Anglian Water and (ii) wherever cars are charged, the driver may be charging for domestic and commuting miles (which cannot be claimed) as well as for business. While there may be an overlap with the electricity consumption data, we consider that this will be de-minimis. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and our infrastructure.

Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity (7E.9)

11 Nine Full Flow to Treatment (FFT) shortfall schemes were delivered in 2023/24, all under the U_IMP5 WINEP driver. This figure was calculated by subtracting the original FFT from the required FFT of the sites (3 x DWF) as stated in the permit details, and adding to the figure provided for 2022/23. This totals 157.81 l/s.

Number of sites with an increase in sewage treatment works capacity delivered to address a shortfall in FFT (7E.10)

12 The nine sites we delivered FFT increases to account for shortfall under the U_IMP5 driver in 2023/24 are:

- Doddinghurst WRC
- Sisland WRC
- Soham WRC
- Stibbington WRC
- White Notley WRC

- Towcester WRC
- Marston Moretaine WRC
- Woodhall Spa WRC
- Allington WRC.

Additional storm tank capacity provided at sewage treatment works (grey infrastructure) (7E.11)

13 Eight storm storage capacity schemes were delivered in 2023/24, all under the U_IMP6 WINEP driver. This figure was calculated from the as-built sizes of storm storage provided to the EA as part sign-off evidence requirements. This figure does not include Eye-Hoxne STW, as this was claimed previously in 2022/23. It does include Ulceby STW, as this was a missed obligation in 2022/23 which was not claimed in that year's APR reporting. This totals 4,343 cubic metres of storage.

Additional effective storm storage capacity at sewage treatment works (green infrastructure) (7E.12)

14 No schemes of this description were delivered in 2023/24.

Additional volume of network storage at CSOs etc to reduce spill frequency (grey infrastructure) (7E.13)

15 The number provided in this line for 2023/24 corresponds solely to Lowestoft Outer Harbour Bathing Water improvements made. This totals an additional 20 cubic metres of additional storm storage.

Additional effective storage in the network delivered through green infrastructure (7E.14)

16 No schemes of this description were delivered in 2023/24.

Total number of sewage treatment works sites where additional storage has been delivered (grey infrastructure) (7E.15)

17 The eight sites we delivered storm storage increases to under the U_IMP6 driver in 2023/24 are Ivinghoe, Ulceby, Burnham-on-Crouch, Towcester, Marston Moretaine, Woodhall Spa, Wittering and Waterbeach.

Number of sewage treatment works sites where additional storage has been delivered with pumping (grey infrastructure) (7E.16)

18 The U_IMP6 schemes with pumping included as part of the delivery in 2023/24 were Ivinghoe WRC and Marston Moretaine WRC.

Number of sewage treatment works benefitting from green infrastructure replacing the need for storm tank storage (7E.17)

19 No schemes of this description were delivered in 2023/24.

Number of sites delivering additional network storage (grey infrastructure) (7E.18)

20 The number provided in this line for 2023/24 corresponds solely to Lowestoft Outer Harbour Bathing Water improvements. This improvement was the installation of 20 cubic metres of additional storm storage (as reported under line 7E.13).

Number of sites delivering additional network storage including pumping (grey infrastructure) (7E.19)

21 All schemes included in this line are a subset of the number provided under APR line 7E.18. For 2023/24 there were no schemes that included pumping.

Number of sites delivering additional network storage through green infrastructure (7E.20)

22 No schemes of this description were delivered in 2023/24.

Surface water separation drainage area removed (7E.21)

These schemes are delivered outside of our WINEP programme, delivering 4,915 square metres of drainage area removed. In addition, contributions have been made to a number of partnership schemes which will help deliver the removal of 124,878 square metres of drainage area.

Number of schemes delivered to meet tightened or new sanitary consents (7E.22)

23 No schemes of this description were delivered in 2023/24. Due to the complexity of work required under the relevant WINEP drivers which is reflected in our AMP7 delivery profiling, and alterations to delivery dates agreed with the EA, there will be an increase in delivery against this line in 2024/25.

Number of installations requiring civils for flow monitoring at sewage treatment works (7E.23)

24 All schemes included in this line are a subset of the number provided under APR line 7E.4

Number of installations requiring civils for event duration monitoring at intermittent discharges (7E.24)

25 All schemes included in this line are a subset of the number provided under APR line 7E.3. For 2023/24, there were no schemes that required civils.

Number of storm overflows where improvements have been made to reduce harm or reduce spill frequencies (7E.25)

26 Improvements were made to reduce harm to Lowestoft outer harbour bathing water in 2023/24. The improvement delivered, specified in line 7E.13, made improvements to performance of four storm overflows but we have only counted the two directly linked to WINEP obligations.

Table 7F - Wastewater network+ - WINEP phosphorus removal scheme costs and cost drivers

1 Table 7F has not been published in this document. The published version of the Ofwat tables can be viewed through the Our reports section on our website.

2 Actual capital expenditure costs are included for the years 2019/20, 2020/21, 2021/22, 2022/23 and 2023/24. Cost data for 2019/20, 2020/21 and 2021/22 has been inflated to 2022/23 prices using CPIH as per Ofwat's guidance. Similarly, cost data for 2023/24 has been deflated to 2022/23 prices using CPIH. Schemes already released to our supply chain forecast costs are based on our delivery plans and status of design work as of April 2024. This includes some projects where we are adopting a least regrets approach involving a phased delivery strategy, delivering the chemical dosing first before monitoring performance and using the observed sample data to inform a later decision on the need for tertiary solids removal. The forecast costs are based on costs from our corporate systems and have been adjusted using CPIH to the common 2022/23 price time basis for APR24.

3 Actual operational expenditure costs for schemes released to our supply chain are based on estimates calculated at design stage.

4 The nature of the programme means that the schemes are at different stages in our investment process with some more advanced than others, we therefore expect movements in the forward looking costs as the schemes progress. As schemes have progressed through the process, the values used in the table have changed from estimates based on models within our planning tool C55 to planned actual expenditure costs. As the design progresses for each site, these costs will become more refined.

Scheme development / optimisation

5 The AMP7 Phosphorous removal programme is significantly larger than previous AMP programmes and seeks in many places to achieve levels of phosphorus removal never before seen at scale in the UK. Following the AMP6 UKWIR National P Trials a new Technically Achievable Limit (TAL) was agreed at 0.25 Mg/l. Cost data from the National P Trials were used to inform the PR19 totex forecasts for schemes with the tightest consents. For schemes above the previous TAL (1 Mg/l) were inputted into the business plan using cost models built up of cost data from schemes previously completed.

6 This programme's objective is to improve the Ecological Status of waterbodies in our region under the Water Framework Directive classification by reducing levels of Phosphorus in treated water discharged into those waterbodies. By the end of AMP7 approximately 1,650km of watercourses will have been protected or improved along with 4,100 hectares of Designated Site (HD/RAMSAR/SSSI).

7 During PR19 business planning, given the limited time available for detailed feasibility work at a site level, a matrix was developed to determine high level solutions for each of the 182 WINEP phosphorous obligations.

Activated Sludge / Oxidation Ditch

<table>
<tr><th colspan="2">Existing P permit</th><th colspan="2">New P permit</th><th></th></tr>
<tr><td>No tertiary</td><td>Existing tertiary (solids removal)</td><td>Existing tertiary (solids removal)</td><td>No tertiary solids removal</td><td>New Permit limit</td></tr>
<tr><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>0.25</td></tr>
<tr><td>New technology - Dynasand</td><td rowspan="2">Optimise, consider use of stretch targets</td><td rowspan="2">Install chemical removal - optimise tertiary process and dosing, consider use of stretch targets</td><td>New technology - Dynasand</td><td>0.35</td></tr>
<tr><td rowspan="5">Optimise, consider use of stretch targets</td><td rowspan="5">Chemical dosing, optimise - no tertiary</td><td>0.50</td></tr>
<tr><td></td><td>0.75</td></tr>
<tr><td></td><td>1.00</td></tr>
<tr><td></td><td>1.25</td></tr>
<tr><td></td><td>1.50</td></tr>
</table>

Tracking Filters

<table>
<tr><th colspan="3">Existing P permit</th><th colspan="3">New P permit</th><th></th></tr>
<tr><td>Existing Tertiary (solids removal)</td><td>Less than 30mg/l TSS current performance or permit limit</td><td>Greater than 30mg/l TSS current performance or permit limit</td><td>Existing Tertiary</td><td>Less than 30mg/l TSS current performance or permit limit</td><td>Greater than 30mg/l TSS current performance or permit limit</td><td>New Permit limit</td></tr>
<tr><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>New technology - Mecana</td><td>0.25</td></tr>
<tr><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>0.35</td></tr>
<tr><td rowspan="4">Optimise existing tertiary and chemical dosing. Consider use of stretch targets</td><td>New technology - Dynasand</td><td rowspan="2">New technology - Dynasand</td><td rowspan="4">Install chemical dosing and optimise</td><td>New technology - Dynasand</td><td>New technology - Dynasand</td><td>0.50</td></tr>
<tr><td rowspan="3">Optimise existing tertiary and chemical dosing. Consider use of stretch targets</td><td rowspan="3">Install checmical dosing</td><td></td><td>0.75</td></tr>
<tr><td rowspan="3">Optimise existing. Consider use of stretch targets</td><td rowspan="3">Install chemical dosing</td><td>1.00</td></tr>
<tr><td></td><td></td><td>1.25</td></tr>
<tr><td></td><td></td><td></td><td>1.50</td></tr>
</table>

8 As an additional level of challenge prior to business plan submission, each project was discussed with the site manager to ensure assets that already existed on site and were serviceable were not included in the requested totex. For sites with the tightest consents, a check was also carried out to determine whether any existing assets had a process guarantee for the new limit. Where the assets did not, technology with a process guarantee identified from the UKWIR National P Trials was included in the cost build up.

9 Once in the delivery phase in AMP7 the schemes are taken through an initial investigation phase which includes site visits and increased sampling and then a Risk, Opportunity and Value (ROV) process to ensure the best value solution is selected for each site.

10 ROV provides a framework to collaboratively make best value totex investment decisions through:

- Fully understanding problems at a service/risk level
- Establishing root causes
- Creatively coming up with lots of options

- Making best value choices, balancing costs and benefits
- Challenging for greater value across the Six Capitals
- Identifying Lessons Learned during and after project completion, and
- Reviewing the benefits achieved.

11 Solution capital and operational expenditure are refined after the best value solution has been selected and agreed with all stakeholders.

12 Nine schemes were originally raised as transition schemes, however as they were coded as Amber in WINEP, they were paused until their requirement had been confirmed by Defra in December 2020. There was a small amount of costs on these schemes, which was not accounted for in APR23. These schemes have now been re-promoted for delivery and the previous costs added to the new schemes. This will show an increase in the previously reported costs.

Scheme design

13 Scheme design population equivalent, included under Cost Driver 1 - We typically use a 2025 time horizon when designing the phosphorus removal schemes. The design of the scheme is not generally based on the total PE served, but is based on a combination of flow and load data and anticipated increase in PE. The design PE quoted is used for reference, but not in detailed design and this is taken at the point of scheme design and our forecasts may subsequently be updated.

14 For some sites a permit change only option is being explored, included under Cost Driver 4. Following the investigations in 2023/24 we do not have any sites that meet this criteria.

15 In our AMP7 programme, where transferred flow is being considered, included under Cost Driver 6, we previously considered six locations. Fornham All Saints, previously reported in APR23, is the only site where transferred flows have been completed.

Delivery strategy

16 Through collaborative planning sessions with key stakeholders a number of efficiency strategies were developed and agreed.

#	Efficiency Reason	Comment	Applicability
Developed best practice from AMP6:			
A	Phased minimal build approach to solutions delivery	Implementation of chemical dosing solution where performance data supports, with subsequent monitoring to inform whether tertiary solids removal is necessary.	Schemes >0.5 mg/l P limit
B	Adoption of Standard Products and application of Minimum Asset Standards	Working to Minimum Asset Standards and adoption of standard product based solutions enables bulk purchase savings and minimal design effort.	All P Schemes
C	Optimised Team Structure	Team structured to deliver a standard product based portfolio by using a production line approach to scheme delivery.	All P Schemes
D	Offsite build and testing	Reduced time on site and reduced rework costs.	All P Schemes

E	Pump Away solution	Divert flows from smaller Water Recycling Centres to larger ones via new pipelines. Unable to be considered during PR19 due to time required to negotiate consent changes.	All P Schemes
AMP7 Initiatives:			
F	Delivery Optimisation	Improved delivery management process.	All P Schemes
G	Programme Optimisation	Delivery of schemes concurrently with other works on site to minimise resource requirements. Note at Draft Determination our requested totex was reduced by £37.6m in anticipation of programme synergies across large programmes.	Linked P Schemes
H	Streamlined Governance	Optimised governance process with reduced deliverables for standard schemes.	Non-linked P Schemes
I	Least regret/ Phased approach to solutions delivery	Implementation of chemical dosing solution where performance data supports, with subsequent monitoring to inform whether tertiary solids removal is necessary and if necessary optimise type of tertiary treatment required.	Schemes <0.5 mg/l P limit
J	Alternative Technologies and Nature Based Solutions	Alternative Technologies such as Algae and Wetlands may offer totex efficiencies.	All P schemes

Schemes completed and benefits realised to date

17 Currently 19 schemes have been completed and signed off by the EA. Of those 11 are in advance of the original obligation date set out in WINEP. These schemes provide improvement or protection to 166km of river length including chalk streams like the River Thet, and 201 hectares of SSSI. In 2023/24, further progress has been made towards the wider delivery of phosphorus removal programme, with >150 obligations expected to be formally signed-off with our regulators in 2024/25. This will deliver an addition benefit to >1300km of rivers across the region, and to 2650 hectares of protected sites (e.g. SSSIs).

Wetland schemes and Nature Based Solutions

18 After the successes of our new wetland at Ingoldisthorpe, at business planning a further 34 schemes were identified for wetland investigations. Through enhanced analysis of the portfolio, three additional sites were identified for wetland feasibility studies, with seven sites identified for delivery in 2025.

Table 7F and Table 4M (line 35) Reconciliation

19 We recognise the total expenditure between Table 7F and Table 4M (line 35) do not align as required by the APR validation rules, this is due to:

- WINEP investigations expenditure reported in 7F, but reported in 4M.44 "Investigations" rather than 4M.35 "Phosphorus removal" - this includes funding for wetland investigations that were within the PR19 P Removal cost assessment model and we have therefore included in table 7F.

- AMP6 carryover expenditure reported in Table 4M - we have excluded these projects from table 7F as they were not funded within the PR19 P Removal cost assessment model.

Transition Schemes

20 In preparation for the delivery of AMP8, we have released several schemes as part of our transition programme. The following phosphorus removal schemes have been released and are listed under a single line "AMP8 Transition" in table 7F. These schemes total £791,000 for 2023/24. The forecasted spend for future years has also been included in this line.

- Fakenham WRC Nutrient Neutrality P
- Potton WRC WFD ND_P
- Copford WRC WFD ND_P
- Gosfield WRC WFD_ND Ammonia
- Shenfield WRC WFD ND_P
- Wymondham WRC WFD ND_P
- Gamlingay WRC WFD ND_P
- Whitlingham WRC Nutrient Neutrality P
- Dereham WRC Nutrient Neutrality P.

WINEP Programme Updates

21 Following a collaboration review of the remaining AMP7 projects, a number of schemes were re-scheduled for delivery. The review undertaken categorised schemes into Design AMP7 Construct AMP8, Swap schemes or move schemes into AMP8. In table 7F there are 22 phosphorus removal schemes that are fall into the Design AMP7 and Construct AMP8 category. These projects have small amount of capex in AMP7 and do not have capex showing after 2024/25. These projects do also not have any Opex associated to them in AMP7. Olney and Old Buckenham schemes have been moved into AMP8, the costs in table 7F are the actual costs incurred in AMP7. Further spend will occur in AMP8 via PR24 determination.

Table 8A - Bioresources sludge data for the 12 months ended 31 March 2024

	Line description	Units	Total
1	Total sewage sludge produced, treated by incumbents	ttds/ year	149.6
2	Total sewage sludge produced, treated by 3rd party sludge service provider	ttds/ year	1.1
3	Total sewage sludge produced	ttds/ year	150.7
4	Total sewage sludge produced from non-appointed liquid waste treatment	ttds/ year	1.9
5	Percentage of sludge produced and treated at a site of STW and STC co-location	%	28.97
6	Total sewage sludge disposed by incumbents	ttds/ year	85.4
7	Total sewage sludge disposed by 3rd party sludge service provider	ttds/ year	1.4
8	Total sewage sludge disposed	ttds/ year	86.8
9	Total measure of intersiting 'work' done by pipeline	ttds*km/year	-
10	Total measure of intersiting 'work' done by tanker	ttds*km/year	2,557
11	Total measure of intersiting 'work' done by truck	ttds*km/year	5,510
12	Total measure of intersiting 'work' done (all forms of transportation)	ttds*km/year	8,067
13	Total measure of intersiting 'work' done by tanker (by volume transported)	m^3*km/yr	89,702,142
14	Total measure of 'work' done in sludge disposal operations by pipeline	ttds*km/year	-
15	Total measure of 'work' done in sludge disposal operations by tanker	ttds*km/year	-
16	Total measure of 'work' done in sludge disposal operations by truck	ttds*km/year	4,044
17	Total measure of 'work' done in sludge disposal operations (all forms of transportation)	ttds*km/year	4,044
18	Total measure of 'work' done by tanker in sludge disposal operations (by volume transported)	m^3*km/yr	-
19	Chemical P sludge as % of sludge produced at STWs	%	49.18

Farming Rules for Water: Backlog of biosolids effecting disposals.

1 In the autumn of 2021, the Environment Agency placed additional restrictions on the use of biosolids (treated sewage sludge) under the Farming Rules for Water, particularly in relation to its application to land in the autumn. This resulted in the creation of significant stockpiles of material at Anglian Water's sites and other sites within our region, under a Regulatory Position Statement issued by the EA (RPS253). The industry responded by developing and implementing a package of additional measures to ensure full compliance with the EA's interpretation of the Farming Rules for Water. The industry's package of measures prompted the Environment Agency to relax restrictions around biosolids use,

allowing the industry to spread the stockpiled backlog of material in the autumn of 2022. Therefore, in 2022/23 our disposals to agriculture were high, as we cleared these stored stocks in addition to recycling the normal period's production.

2 In 2023/24 our disposals returned to normal levels, as the aforementioned backlog was cleared in 2022/23.

Total sludge produced, treated by incumbents (8A.1)

3 The number reported was calculated in the same way as in 2022/23. This is at the point of treatment (e.g. thickened blended sludge entering sludge treatment such as the advanced digestion (AD) process, conventional digester feed or liming), rather than the exact defined boundary of network plus and bioresources. Cross-boundary raw cake or liquid sludge imports are excluded in line with the line definition, although in 2023/24 there were none; in previous years we have imported sludge from Yorkshire Water Services (YWS) and Severn Trent Water (STW). We have also included a small amount of sludge that was transferred to a land reclamation scheme (0.63 ttds) during 2023/24.

4 The amount of sludge treated by us was slightly higher (1.5 ttds) than the prior year, reflecting our continual efforts to incrementally improve throughputs at our STCs.

5 At two water recycling centres (WRCs) we receive wastewater flows from customers of another water company. In common with previous practice, we have included the sludge arising from these flows in this line.

Total sewage sludge produced, treated by 3rd party sludge service provider (8A.2)

6 We had 4.3 ttds of raw sludge limed at Boston and Whitlingham WRCs by a managed liming contractor. As these are managed contracts, where we deliver raw cake and manage the transfer to land and recycling, this does not count as a third-party sludge service under the RAG and is therefore included in 8A.1. We have, however, included raw sludge cake that was exported to YWS (0.17 ttds) and STW (0.96ttds) during 2023/24. As a business we do not have sufficient treatment capacity to cope with peak periods of sludge production, which typically occurs between November and March each year. During this period it is necessary to either lime treat via a third-party managed contractor and/or export surplus sludge to other WaSCs and/or land reclamation schemes.

Total sewage sludge produced from non-appointed liquid waste treatment (8A.4)

7 The only non-appointed liquid waste we have received in the reporting period is domestic (cess and septic tank) waste. We have calculated the sludge produced from this by taking the total wet tonnage recorded (403.95 thousand wet tonnes) and applying the average Total Suspended Solids (TSS) of randomly sampled loads at the receiving WRCs (4,615.22 mg/l, n=276) in a similar manner to 2022/23. We believe the decrease in the thickness of the received loads (2022/23 was 6,450.63 mg/l, n=217) is due to the unusually wet weather in the 18 months to the end of March 2024. This has resulted in a fall in the overall load received.

Percentage of sludge produced and treated at a site of WRC and STC co-location (8A.5)

8 We have included the percentage of sludge produced on a co-located WRC and STC only when sludge treatment is permanently present (i.e. not raw dewatering sites). We have therefore counted our nine advanced AD sites and one conventional AD site (Chelmsford). The two operational lime plants (at Boston and Whitlingham WRCs - operated for liming by a managed contractor) have not been included: Boston WRC has indigenous dewatering and Whitlingham WRC had hired dewatering but the contractor-operated lime plant only operated for a short duration in each case and processed a mixture of indigenous raw cake and imported raw cake; disaggregation of this ad hoc operation is challenging and so has not been included to aid consistency.

9 The 2023/24 value of 28.97 per cent is virtually unchanged from 2022/23.

10 As in previous submissions, we have adhered to the updated definition following clarification from Ofwat in 2019, namely:

11 "The percentage of the sludge quantity reported in 8A.5 (previously 4R.25) that is produced at co-located sites. For the purposes of this definition: i) "co-located" includes sites where the STC is physically separate but the sludge is transferred from a wastewater treatment site by pipeline; and ii) STC means any site where sludge is treated to a standard such that it can be recycled to the environment or disposed of without any further treatment. Note that sludge that is dewatered but disposed of without being treated should not be included in this line."

Total sewage sludge, disposed by incumbents (8A.6)

12 The number reported was calculated in the same way as in prior years in line with the definition, based on treated material hauled to agricultural land (but not necessarily spread), into our own composting (zero this year) and into our own land reclamation (zero this year, by Anglian Water) as now defined. This number would include the treated equivalent of the raw sludge received from third parties; however, we did not receive any such imports in the reporting year.

13 In 2022/23 the amount of sludge disposed was 46 per cent higher than the prior year (33.7 ttds increase). As explained in the opening paragraph, this was due to a return to treatment normality after the Great Billing temporary closure, and the clearance of large quantities of treated material that had been stored as a result of the issues with Farming Rules for Water in 2021/22. A significant quantity of the material that had been stored was lime treated which has a further additive effect on the amount of material to be recycled. This is because of the lack of solids destruction (compared with digestion) and addition of lime mass. These effects were in addition to a normal year's production.

14 2023/24 saw a return to a more normal disposal levels (85.4 ttds), which was consistent with 2019/20 and 2020/21 when the disposals were 84.1 and 85.6 ttds respectively.

Total sludge disposed by third party sludge service provider (8A.7)

15 In 2023/24 we exported 0.63 ttds of raw sludge to an out-of-area third party land reclamation scheme and 0.23 ttds of non-compliant cake to a third-party composting facility. We also exported raw sludge to other WaSCs for treatment by anaerobic digestion: namely YWS (0.17 ttds) and STW (0.96 ttds). For the purposes of reporting in accordance with the RAG a 50 per cent solids reduction has been assumed prior to disposal to agriculture and therefore this has been included in the line as 0.56 ttds. This gives the total reported in 2023/24 as 1.4 ttds.

16 We would also include here any amounts of sludge transferred to third parties for activated sludge or digester plant seeding if material. In 2023/24 there were no such movements.

Total measure of intersiting 'work' done by pipeline (8A.9)

17 In previous years we have included here sludge transferred by pipeline from Southend WRC to Rochford WRC for dewatering. This had stopped but resumed in 2021/22 due to the opening of a sinkhole at Southend WRC which required the centrifuges to be moved and pumping to resume for part of that year. In 2023/24 and 2022/23 this pumped transfer was not used.

Truck and tanker distances (8A.10, 11, 13, 15 and 16)

18 All our 'trucked' distance is estimated road distance (km), based on straight line distance x 1.35, which we have assessed as the average relationship between straight line and road distance. All tankered lines use measured road distance.

Total measure of intersiting 'work' done by tanker (8A.10)

19 We measure tankering work volumetrically, so to convert cubic metres to ttds we have used an average percentage of dry solids (DS) of 2.84 per cent. This is the average of measured data for the 2023/24 reporting period. Our systems now allow us to update the thickness on an annual basis. Table 8A line 13 is unadjusted for dry solids content equivalent number.

20 In the reporting year 2022/23 tankered sludge had returned to a more normal tankering distance following operational disruption caused by the temporary closure of Great Billing STC in 2021/22. 2023/24 saw a small increase in the reported number, as sludge travelled on average slightly further due to STC requirements. This is consistent with normal operational variation and the slightly increased average dry solids (cf. 2022/23 was 2.79 per cent) which slightly reduced volume.

Total measure of intersiting 'work' done by truck (8A.11)

21 We have included all raw cake transfers between dewatering centres and STCs in this line. We have included raw cake exported to other WaSCs for treatment (YWS and STW) which did not happen in 2022/23 (see 8A.7 commentary above). This explains the small increase in the reported value.

Total measure of 'work' done in sludge disposal operations by tanker and by volume transported (8A.15 and 8A.18)

22 There were no tanker transfers to third parties in the reporting year. We have previously included transfers to other WaSCs, private digesters or for activated sludge process seeding in these lines.

Total measure of 'work' done in sludge disposal operations by truck (8A.16)

23 Treated cake that is transferred to intermediate storage, as well as from STC direct to the landbank, has been included. We have also included transfers to a land reclamation scheme and a small amount of non-compliant cake to a third-party composting facility (see 8A.7 commentary above).

24 In 2022/23 the reported number increased by 7.5 per cent in comparison to 2021/22 because at the beginning of the reporting period we had a significant amount of treated cake in on-site storage due to the Farming Rules for Water situation. All resulting material stored under the Regulatory Position Statement, and additional amounts on normal storage pads, was taken to land and thus had an additive effect to the metric in the period. We also exported 1.9 ttds of raw sludge to two out-of-area third party land reclamation schemes; these were relatively long-distance transfers and therefore affected the total number disproportionality. In 2023/24 the reported number returned to a more normal number, albeit lower than we have seen previously. We believe this is due to our efforts to dewater sludge more efficiently prior to land application.

25 Land-bank restrictions are influencing how far treated sludge cake is having to be hauled for recycling. In 2022/23 we moved treated cake an average of 36 km compared with 29 km in 2021/22; this is a 20 per cent increase in one year. In 2023/24 the average distance was 37 km, showing that this step change has become the new operational normal.

26 In 2022/23 we made an improvement to the calculation of ttds by using product-specific dry solids percentages for each treated cake product transfer rather than a estimated 24 per cent dry solids regional average applied to all. We have continued with this improved approach in 2023/24.

Chemical P sludge as percentage of sludge produced at STWs (8A.19)

27 The number reported was calculated in the same way as in 2022/23 in line with the definition.

28 We have not included sludge arising from phosphorus (P) removal at Whitlingham WRC (Norwich), either now or previously, as this site has a biological nutrient removal plant and we do not dose chemicals there. Similarly, we do not include iron salt dosing at Clacton WRC, which is for enhanced settlement.

29 It should be noted that this line is a measure of 'the total quantity of sludge produced at WRCs which use chemical dosing for phosphorus removal expressed as a percentage of total sludge produced at all in-area WRCs', not a measure of the proportion of additional chemical P sludge which results on those sites. Therefore, additional P removal schemes at WRCs do not necessarily have much of an impact on this line because either a) they are a tightening of the consent on a WRC that already has a P removal consent - no effect, or b) their impact is yet to be seen because schemes will not complete until the last two years of the price control period. Furthermore, the impact on the metric is unlikely to be large as those in a) are often larger WRCs whilst those in b) are typically smaller WRCs.

Table 8B - Bioresources operating expenditure analysis for the 12 months ended 31 March 2024

	Line description	Units	Pipeline	Tanker	Truck	Total
	Sludge transport method					
1	Power	£m	-	0.003	-	0.003
2	Income treated as negative expenditure	£m	-	-	-	-
3	Discharge consents	£m	-	-	-	-
4	Bulk discharge	£m	-	-	-	-
	Other operating expenditure					
5	Renewals expensed in year (Infrastructure)	£m	-	0.001	-	0.001
6	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-
7	Other operating expenditure excluding renewals	£m	-	34.506	-	34.506
8	Total functional expenditure	£m	-	34.510	-	34.510
9	Local authority and Cumulo rates	£m	-	0.098	-	0.098
10	Total operating expenditure (excluding 3rd party)	£m	-	34.608	-	34.608

	Line description	Units	Untreated Sludge	Raw Sludge liming	Conventional AD	Incineration of raw sludge	Photocondoring/ composting	Advanced Anaerobic Digestion	Other	Total
	Sludge treatment type									
11	Power	£m	-	0.149	-0.022	-	-	2.648	-	2.775
12	Income treated as negative expenditure	£m	-	-	-0.039	-	-	-8.330	-	-8.369
13	Discharge consents	£m	-	-	0.004	-	-	0.204	-	0.208
14	Bulk discharge	£m	-	-	-	-	-	-	-	-
	Other operating expenditure									
15	Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-	-	-
16	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-	-	-
17	Other operating expenditure excluding renewals	£m	-	0.344	0.803	-	-	41.719	-	42.866
18	Total functional expenditure	£m	-	0.493	0.746	-	-	36.241	-	37.480
19	Local authority and Cumulo rates	£m	-	0.028	0.095	-	-	4.708	-	4.831
20	Total operating expenditure (excluding 3rd party)	£m	-	0.521	0.841	-	-	40.949	-	42.311

Line description	Units	Landfill, raw	Landfill, partly treated	Land restoration/ redamation	Sludge recycled to farmland	Incineration of digested Sludge	Other	Total
Sludge disposal route								

20	Power	£m	-	-	-	-	-	-	-
21	Income treated as negative expenditure	£m	-	-	-	-2.584	-	-	-2.584
22	Discharge consents	£m	-	-	-	-	-	-	-
23	Bulk discharge	£m	-	-	-	-	-	-	-

	Other operating expenditure								
24	Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-	-
25	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-	-
26	Other operating expenditure excluding renewals	£m	-	-	-	15.386	-	-	15.386
27	Total functional expenditure	£m	-	-	-	12.802	-	-	12.802
28	Local authority and Cumulo rates	£m	-	-	-	0.010	-	-	0.010
29	Total operating expenditure (excluding 3rd party)	£m	-	-	-	12.812	-	-	12.812

1 See Table 4E for commentary on bioresources expenditure.

Table 8C - Bioresources energy and liquors analysis for the 12 months ended 31 March 2024

	Line description	Electricity	Heat	Biomethane	Total	Electricity	Heat	Biomethane	Total
		MWh (0 DPs)	MWh (0 DPs)	MWh (0 DPs)	MWh (0 DPs)	£m (3 DPs)	£m (3 DPs)	£m (3 DPs)	£m (3 DPs)
	Energy								
1	Energy consumption - bioresources	69,589	124,655	-	244,169	17.190	9.553	-	26.743
2	Energy generated by and used in bioresources control	27,231	80,052	-	107,283	6.751	6.188	-	12.939
3	Energy generated by bioresources and used in network plus control	46,680	-	-	46,680	11.573	0.000	-	11.573
4	Energy generated by bioresources and exported to the grid or third party	31,625	-	-	31,625	2.786	0.000	-	2.786
5	Energy generated by bioresources that is unused	-	74,561	-	74,561	-	-	-	-
6	Energy bought from grid or third party and used in bioresources control	42,135	44,603	-	86,738	10.384	3.365	-	13.749

	Income from renewable energy subsidies	Unit	Value
7	Income claimed from Renewable Energy Certificates (ROCs)	£m	5.690
8	Income claimed from Renewable Heat Incentives (RHIs)	£m	-
9	Income claimed from [other renewable energy subsidy (1)]	£m	-
10	Income claimed from [other renewable energy subsidy (2)]	£m	-
11	Income claimed from [other renewable energy subsidy (3)]	£m	-
12	Total income claimed from renewable energy subsidies	£m	5.690
13	% of total number of renewable energy subsidies due to expire in the next 2 financial years	%	5%
14	This year's value of renewable energy subsidies due to expire in the next 2 financial years	£m	0.259

Note: Companies to input specific subsidy which is being referenced in lines 8C.8 - 8C.10.

	Bioresources liquors treated by network plus (shadow reported)	Unit	Value
15	BOD load of liquor or partially treated liquor returned from bioresources to network plus	kg/d	19839
16	Ammonia load of liquor or partially treated liquor returned from bioresources to network plus	kg Amm-N/d	3112
17	Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors	£m	13.228

	Electricity	Heat	Biomethane	Total	Electricity	Heat	Biomethane	Total
	MWh (0 DPs)	MWh (0 DPs)	MWh (0 DPs)	MWh (0 DPs)	£m (3 DPs)	£m (3 DPs)	£m (3 DPs)	£m (3 DPs)

	Energy (AMP 7 shadow reported values)								
18	Energy consumption - bioresources	69,589	124,655	-	244,169	17.190	9.553	-	26.743
19	Energy generated by and used in bioresources control	27,231	80,052	-	107,283	6.751	6.188	-	12.939
20	Energy generated by bioresources and used in network plus control	46,680	-	-	46,680	11.573	-	-	11.573
21	Energy generated by bioresources and exported to the grid or third party	31,625	-	-	31,625	2.786	-	-	2.786
22	Energy generated by bioresources that is unused	-	74,561	-	74,561	-	-	-	-
23	Energy bought from grid or third party and used in bioresources control	42,135	44,603	-	86,738	10.384	3.365	-	13.749

		%
24	Percentage of bioresources energy consumption that is metered	58%

Energy generation and use - bioresources (8C.1-6)

1 The total energy consumption shown in line 1 was 244,655 MWh. This is made up of 69,589 MWh of grid electricity and self-generated electricity, 124,655 MWh of heat generated from biomethane, gas and fuel used in the boilers and 49,925 MWh which is the remaining energy consumed by bioresources including remaining fuel and transport. Because line 8C.1 includes remaining fuel and transport and an allocation of consumption from administrative buildings and head office function, it is, therefore, not the total of lines 8C.2 and 8C.6.

2 The total headers in line 8C.1 are new inputs for 2023/24; the equivalent numbers for 2022/23 were 69,239 MWh for electricity, 124,327 MWh for heat generated from biomethane, gas and fuel and 51,983 MWh from the remaining energy consumed – i.e. fuel and transport – a total of 245,546 MWh. There has therefore been small reduction in energy consumed in 2023/24 of 891 MWh or 0.3 per cent.

3 The total cost associated with the above was £32.451 million, which includes costs for electricity, gas, fuel and transport, including an allocation of costs from the administrative buildings and head office function, and an assessment of the cost of the heating the boilers with biomethane.

4 Electricity usage by bioresources increased slightly by 350 MWh, or 0.51 per cent, with imports of grid electricity growing slightly more than the offsetting reduction in CHP electricity used on site. The main reason for the small decrease in total energy consumption was the reduction of 2,046 MWh (3.94 per cent) in the consumption of energy associated with transport.

5 All energy generated by bioresources is from biomethane, which is;

- Converted into electricity and heat in combined heat and power (CHP) engines, or
- Converted into heat in boilers, or
- Converted into heat via waste gas burner (flared).

6 Electricity generated is used by bioresources and Network Plus first, with any surplus being exported to the grid (line 4). We do not export any biogas or heat energy to Network Plus (line three).

Electricity

7 We saw a reduction in CHP output compared to 2022/23, impacted in part by the downtime associated with having to replace the gas storage bags at Cotton Valley and Pyewipe sludge treatment centres, and this impacts lines 8C.2 to 8C.6. Electricity generated by bioresources through CHP and used in bioresources was 27,231 MWh, which was 7.3 per cent lower than in 2022/23 at 29,373 MWh (line 8C.2). The CHP electricity used by wastewater Network Plus also reduced to 46,680 MWh versus 52,331 MWh in 2022/23 (line 8C.3). There was a slightly reduced export of electricity to the grid – 31,625 MWh in 2023/24 compared to 32,756 MWh in 2022/23 (line 8C.4). None of the generated electricity was unused, as in 2022/23 (line 8C.5). Finally, more electricity was imported from the grid to bioresources in 2023/24 – 42,135 MWh compared to 39,611 MWh in 2022/23 (line 8C.6), slightly offsetting the lower usage of CHP generated electricity already mentioned (line 8C.2).

8 Costs for the electricity consumed were £6.751 million in line 8C.2, £11.573 million in line 8C.3 and £10.384 million in line 8C.6. These sums were calculated using the average unit cost for half-hourly metered electricity for 2023/24 of £247.93/MWh. Prices for imported electricity in 2023/24 were almost double that of the prior year due to wholesale prices being very much higher during 2022/23 when much of it was hedged, although our practice of hedging wholesale energy for years ahead helped to soften the worse effects of the energy price crisis, caused mainly by Russia's invasion of Ukraine. In line with the Ofwat guidance, it is assumed that CHP generated electricity which was used on site has the same unit cost as imported grid electricity. For sales of exported electricity, the sum used is that

received from the export supplier of £2.786 million, compared to £3.910 million in 2022/23. The average price achieved for exported electricity in 2023/24 was lower than in 2022/23, reflecting the market conditions under which it was hedged.

9 A number of assumptions have been made in calculating the water recycling energy consumption data.

- For the whole of the water recycling function, we have applied a financial split from regulatory accounts between bioresources and wastewater network plus for electricity consumption. This financial split is based upon assessments of proportional use by different Ofwat business units made by operational experts
- We have included energy from renewable sources generated and used on site, including CHP, wind and solar
- Grid electricity and fuel (oil and natural gas) used in offices has been included and split equally between water and water recycling
- Fuel oil is not recorded on our corporate systems against Ofwat's business units and therefore the same split used for electricity has been assumed for each fuel type with the exception of gas oil and diesel delivered to water recycling sites
- We have assumed a 35 per cent thermal efficiency for natural gas consumption in converting to energy output (boilers and CHP)
- As in 2022/23, we have been able to allocate accurately the split in consumption of diesel and gas oil between sludge and wastewater Network Plus through developments in our SAP reporting system. Note that due to changes in fuel taxation, we can no longer purchase gas oil, but must purchase diesel instead. However, we have also purchased 220 thousand litres of 'Therma 35' – an alternative to gas-oil – for a trial at Cliff Quay sludge treatment centre
- Transport (claimed mileage and fleet fuel purchased on fuel cards) is not recorded in our corporate systems against Ofwat's business units and therefore we have split the total 50/50 between water and water recycling and then assumed that they split in the same proportions as electricity between the business units. This is with the exception of RES fleet Biosolids haulage which has been allocated entirely to bioresources
- Sub contracted transport (bioresources and cake) has not been included, only fleet (directly operated) vehicles
- Transport for company cars is collected as mileage. We have converted mileage into kWh through using DESNZ's greenhouse gas reporting conversion factors for 2023
- For electric vehicles, a small but growing volume of energy is collected via fuel cards or is metered at employees' homes. For the remaining, larger volume we have made the assumption that the mileage claimed relates to charging at home or on public charging points, rather than using the charging points at our offices. Many people are still working from home a lot of the time and we do not have a reliable source to tell us how many miles are being claimed from charging at our sites. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption from claimed mileage totals just 344,900 kWh across the whole of Anglian Water and (ii) wherever cars are charged, the driver may be charging for domestic and commuting miles (which cannot be claimed) as well as for business. While there may be an overlap with the electricity consumption data, we consider that this will be de-minimis. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and Anglian Water infrastructure.
- Electricity figures used in table 8C.2 to 6 – grid import, CHP generation and export – are all metered so there is a high confidence in them.

Heat and Biomethane

10 Electricity generated is used by bioresources and Network Plus first with any surplus being exported to the grid (line 4). We do not export any biogas or heat energy from Bioresources (line 3); it is either used or wasted.

11 In previous years we have captured the calorific value of biogas in the biomethane column as well as recording the calorific value of the heat and electricity generated from it. Since 2022/23 we have avoided this double-count and show zeroes in the biomethane column for all lines, in common with most other companies.

12 Heat generated and used in Bioresources (line 2) for 2023/24 was down by 2,404 MWhs (2.9 per cent) against 2022/23 across the region. This was largely due to the loss of CHP heat recovery whilst Pyewipe gas holder was offline after the failure and the operation of CHP 3 at Cambridge which does not provide waste heat to the process.

Heat generated and used in bioresources (8C.2)

13 For heat we have used a calculation for the mass balance of our STCs, with assumptions that CHPs are 90 per cent efficient, and 20 per cent of heat energy is lost in transfer through availability of asset, fouling etc. The calculation is based on the maximum available heat from CHP capacity pro rata to actual CHP output and then divided by throughput (measured as tonnes of dry solids, tds) to give a MWh/tDS. This is then multiplied by total tDS to give a total heat generated.

14 In this heat column, line 2, we have also added the MWh of heat generated in bioresources through steam or hot water boilers using biomethane as the fuel. This heat energy is calculated based on a calorific value per m^3 of biogas used in boilers (captured via flowmeters) of 6.7 KWh. An 85 per cent efficiency assumption is then applied for the boilers converting into heat energy.

Energy unused (8C.5)

15 Gas is only flared if CHPs and / or boilers are offline or the biogas supply exceeds the capacity of the CHPs and boilers. Volumes are taken from on-site readings. (There are no readings for Chelmsford waste gas burner with meters to be installed.) Flared gas accounts for 13.7 per cent of total biogas production – this increased from nine per cent in 2022/23 following the failure of gas holder assets at Cotton Valley and Pyewipe STCs. To minimise the impact to the environment, both sites were put on reduced throughput to prevent unnecessary use of the waste gas burner in balance with Water Recycling sludge stocks and WRC compliance.

16 To calculate the MWh value of the heat generated from flared (unused) biogas we have used biogas flowmeter recordings to measure volume (m3) and then multiplied by 6.7KWh / 1000 to convert into heat energy through the waste gas burner. Again, this flare data was previously captured in the biomethane column as well as the heat column.

17 Note that the measurement of biogas through flow meters is difficult due to biogas properties (variance in methane and gas moisture content) causing inaccuracies in flowmeters and is therefore subject to error.

18 References used for biogas energy calculations

19 Biogas | Anaerobic Digestion (biogas-info.co.uk)

20 https://www.valorgas.soton.ac.uk/Pub_docs/JyU%20SS%202011/CB%204.pdf

21 Heat generated by bioresources is used by bioresources and our calculations show that some of our site processes will generate more heat than is required in bioresources. This heat is then unused.

Energy bought from the grid for heat (8C.6)

22 In periods natural gas/gas oil is bought in to top up boilers to provide heat for the process when we are unable to recover enough heat or where instantaneous heat demand is greater than instantaneous heat available from the CHP engines. This is due to inefficiencies in processes, such as low temperature hot water circuits or downtime of assets for events such as maintenance on CHPs or waste heat boilers etc.

23 Overall, the energy brought in from the grid or third party for supplying heat to bioresources processes shows an increase of 6.52 per cent. This can be partially accounted for by the loss of CHP outputs at Pyewipe STC. The site was unable to recover waste heat from the engines to supply the LTHW circuits and resulted in 57.5 per cent increase in natural gas consumption. Other increases were witnessed at Cambridge STC where a 250 per cent increase in fossil fuel usage followed the addition of CHP 3 to the site, replacing duty of CHP 1. The driver behind the increase is CHP 3 not providing the process with waste heat where CHP 1 did. The additional fuel cost for Cambridge is around £5,000 per month. However, the increased MWh potential, if realised, is worth up to £2,000 per day for the 6MWh increase in CHP potential output.

24 Cliff Quay STC saw the other big increase across the bioresources sites where usage went up by 66.5 per cent. This is largely attributed to the heat exchanger reaching its end of life. It was replaced in February 2024. For this year, the calorific value for white diesel/gas oil was adjusted to reflect the changes in the latest greenhouse gas conversion factors from 10.6KWh/litre to 9.962KWh/litre.

25 Despite the overall increase in energy brought in from the grid or third party, costs have decreased, with white diesel prices dropping from an average of £1.38/l in 2022/23 to £1.15/l whilst unit gas prices also reduced, resulting in a 14.5 per cent reduction in support fuel costs. There was also a cost efficiency at Cliff Quay STC from switching to Therma35, which has resulted in a unit cost reduction per litre from £1.15/l for white diesel to an average of 73.6p/l for Therma35.

Income from renewable energy subsidies (8C.7 to 8C.14)

26 The income for the period April 2023 to March 2024 totals £5.690 million, all of which came from ROC's; no other income was claimed or received. This is £0.027 million higher than the equivalent figure calculated for financial year 2022/23. The increase is due to the higher price achieved for the ROCs generated.

27 The number of ROCs generated in 2023/24 was 7,344 lower (7.24 per cent) than in 2022/23; this was from reduced generation at bioresources sites, notably Cotton Valley (Milton Keynes) and Pyewipe (Grimsby) Sludge Treatment Centres which required additional maintenance in 2023/24 due to issues with the gas storage bags.

28 No income was gained from Renewable Heat Incentives (RHI's) as we do not have any facilities at bioresources sites which are registered for RHI. No other renewable energy subsidies were applied for nor obtained. In 2022/23 we took a policy decision to retain all of the REGOs obtained from CHP generation instead of selling those associated with the exported electricity. These are allowed to expire as our carbon accounting rules allow us to use them to offset our emissions.

29 Because Ofgem issues ROCs three months in arrears, the ROCs for February and March 2024 were yet to be issued at the time of reporting. Instead, for those months only, we have used the numbers of ROC's that we have already applied to Ofgem for on the basis of the metered records of electricity generated and exported. Normally, any differences between applied for and issued certificates are only very small and due to rounding.

30 Lines 8C.13 and 8C.14 show the per centage and this year's value of renewable energy subsidies due to expire on bioresources sites in the next two financial years. Line 8C.13 totals 5 per cent and 8C.14 totals £0.259 million. This reflects the 4,285 ROCs generated at:-

- Cambridge Sludge Treatment Centre CHP1 between 1 April 2023 and 31 March 2024, where the ROC accreditation is due to expire on 1 October 2024; and at
- Cotton Valley Sludge Treatment Centre CHP 1 between 1 July 2023 and 31 March2024, where the ROC accreditation is due to expire on 1 July 2025.

BOD and ammonia loads of liquor or partially treated liquor returned from bioresources to network plus (8C.15, 8C.16)

31 The data sources and methodology for this year's calculations have remained very similar to 2022/23, continuing the use of the existing data model held in Power BI which connects established data sources from corporate systems: PACE, IREM, Measuring Points, STC-Mate and WROL.

32 Extra steps have been taken to cleanse the data of errors. It was noticed when updating the values that some negative loading had been produced, which is impossible. After a deeper dive into the data, erroneous entries had been made for dried solids percentages. This has been mitigated by applying filters to those values: sludge dried solids must now be within zero and 10 per cent, cake feed dried solids must be within zero and 10 per cent and cake production dried solids must be within 15 and 40 per cent. What originally highlighted this was a sludge dried solids value of 1,094 per cent having been entered. Furthermore, checks for outliers in the sample data have been introduced. Any results greater or less than 10 times the average for a parameter and liquor type are excluded from the calculations.

33 Following last year's review, guidance from Jacobs has been followed. Calculations now use sample data from a 36 month rolling period. In addition to this, before the average for the entire period is calculated, the sample data is smoothed by averaging per quarter first. The intention here is to reduce the impact of on-site issues, as it can be assumed that in those cases increased sampling would occur and bias the sample data towards a site condition that is not 'business as usual'.

34 We have noted a significant increase in the ammonia returned; Cambridge, Great Billing and Whitlingham STCs were identified as the main contributors to this increase. Discussions were had about these sites with the Biosolids scientist. Cambridge has had a blockage removed from its first digestor and now has improved digestion performance which can lead to increased ammonia production. Great Billing would previously have had a proportion of its raw cake limed, but instead this has all been processed through its digestors, and Whitlingham's STC process continues to not treat for ammonia as the SHARON plant is offline, meaning a higher than usual load of ammonia is received by the WRC. These are all large ammonia treating sites and due to this, their ammonia values are used, unlike the carbonaceous sites which fall out of scope for ammonia. This can contribute to an ammonia-biased increase in load, while the STCs have been worked harder in the reporting year than previous to mitigate sludge stock levels issues across the region.

Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors (8C.17)

35 The data sources and methodology used to calculate the sludge liquors costs has remained the same as in 2022/23. The driver for the sludge liquor recharge increasing by £3.2million (32 per cent) in real terms to £13.2million is predominantly the cost of power, which has increased 90 per cent year on year. This is due to our strategy of buying multiple forward contracts for future years' usage and additional imported power associated with site downtime pending gas bag replacements at Pyewipe and Cotton Valley STCs.

36 The recharge is in accordance with the methodology set out in the Jacobs report ('Setting a standardised methodology for quantifying the cost of sludge liquor treatment in the water industry', Jacobs, December 2020). Under the old methodology, the value of the recharge would have been £10.6 million. The old methodology uses population equivalent data, whereas the new shadow reporting used in table 8C.17 uses sample data from a 36 month rolling period.

Energy Consumption – bioresources (AMP7 Shadow Reported Values, 8C.18-23)

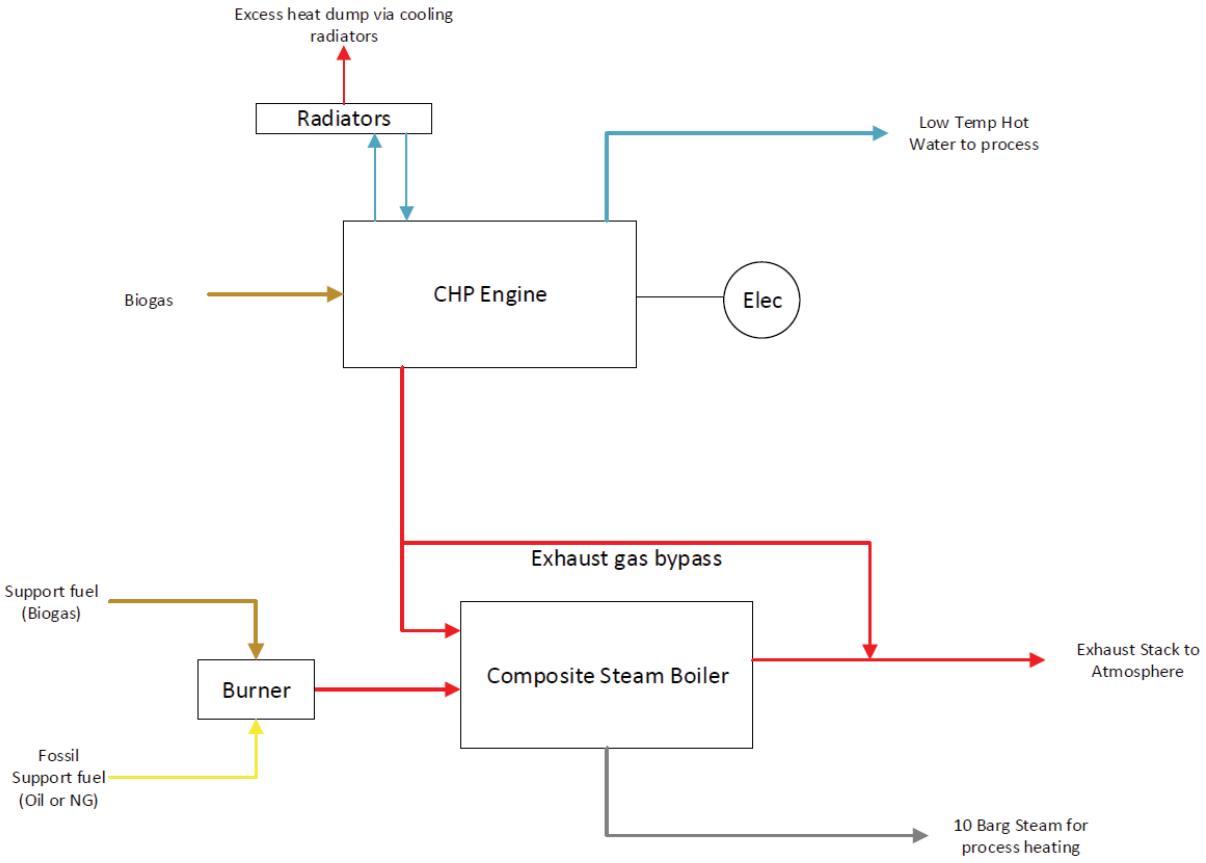
37 These lines were new for 2021/22 and are a shadow reporting requirement for the remainder of AMP7. The definitions supplied by Ofwat in RAG4 for lines 8C.18 to 8C.23 match the definitions for lines 8C.1 to 8C.6, save that the former are to be based upon

improved allocation of revenues and costs between the wastewater Network Plus price control and the bioresources price control. This is to be achieved through improved metering of the bioresources assets on our sites.

38 We already have sub-metering to measure the electricity used on many of the bioresources assets and this has been used as part of the assessment to allocate revenues and costs since 2016/17. However, this is not yet sufficient to meet Ofwat's target of 80 per cent metered consumption. For 2023/24, therefore, the values for lines 8C.18 to 8C.23 are identical to lines 8C.1 to 8C.6. Please refer to the commentary for these lines, including for the assumptions made in calculating the values.

39 We have not provided different figures for the heat and biomethane columns for line 18-23 because the prescribed methodology is not appropriate for our systems.

40 To further explain why we use mass balance for heat produced and used in bioresources instead of taking monthly spot samples it important to understand how the heat recovery systems from our CHP's and boilers operate. The diagram below is a typical arrangement for our STCs.



41 The diagram displays the complexity of the system, with heat recovered from CHP engines through hot water and a separate exhaust gas stream. This is typical of advanced anaerobic digestion which uses steam injection for the pasteurisation process step and has a much greater level of system complexity compared with traditional systems where heat is all recovered into simple hot water circuits. The CHP engines are the prime user of biogas as fuel and the engines typically modulate in a range of 50 to 100 per cent of the rated capacity. For example, depending on the rate of gas production from the digestion process a 1.2MWe engine would automatically modulate its output between 0.6 - 1.2 MWe to balance output versus biogas production. Heat is produced proportionate to engine output as either hot water or exhaust gases. This heat is available for process heating but is only used where there is a heat demand from the advanced anaerobic digestion process. If heat produced is in excess of heat demand then exhaust gases bypass the boiler and/or hot water is diverted to fan radiators to dump heat to protect the CHP engines. As a result, a spot sample

of exhaust gas flow and temperature as an input into the composite steam boiler would not be representative of the heat generated, it would only be relevant for that moment in time. By measuring CHP electrical output, fossil fuel input to boilers and understanding the heat demand from the process we believe it is much more accurate to calculate heat produced and heat used in bioresources than taking monthly spot samples.

42 The methodology prescribed for shadow reporting (lines 18 to 23) may be appropriate for the sludge treatment arrangements of other companies but does not provide meaningful information for our operations. Our inability to shadow report has no bearing on transfer prices between bioresources and network plus or any other party because we do not export heat from bioresources.

Percentage of energy consumption that is metered (8C.24)

43 Line 8C.24 measures the percentage of energy consumption in bioresources that is metered as opposed to being estimated. The value for 2023/24 is 58.0 per cent. In 2022/23 the value was 58.3 per cent. The methodology used was as follows:-

- For electricity, this has been assessed using the percentage of the total electricity cost in the regulated accounts for those sites where the costs have been allocated based upon sub-metered data collected from meters connected to our telemetry system, IRIS, in January 2017. This is considered the most accurate of the assessment methodologies that we currently use to allocate revenues and costs for electricity. While the electricity data used in the 2023/24 allocation of costs and consumption has not been taken from those sub-meters in that period, our interpretation of the line description is that it represents the total from sites that have accurate metering
- For gas, we have used the metered natural gas delivered to bioresources facilities. We have assumed a 35 per cent thermal efficiency for natural gas consumption in converting to energy output (boilers and CHP)
- For diesel fuel, we have used the volumes actually delivered to our bioresources facilities. We have converted the litres delivered to an equivalent energy output using the UK Government's conversion factors
- For diesel transport fuel, we have used the volume of diesel purchased through fuel cards for the bioresources transport vehicles. We have converted the litres consumed to an equivalent energy output using the UK Government's conversion factors
- For heat, we have used the gas volume measured at boiler biogas flow meters. A thermal efficiency factor has been applied to convert to energy output.

44 In future years, the level of submetering will increase and the approach will change to include the actual sub-metered data for the period.

Table 8D - Bioresources sludge treatment and disposal data for the 12 months ended 31 March 2024

	Line description	Units	By incumbent	By 3rd party sludge service providers
	Sludge treatment process			
1	% Sludge - untreated	%	0.4%	-
2	% Sludge treatment process - raw sludge liming	%	2.8%	-
3	% Sludge treatment process - conventional AD	%	1.2%	0.1%
4	% Sludge treatment process - advanced AD	%	94.8%	0.6%
5	% Sludge treatment process - incineration of raw sludge	%	-	-
6	% Sludge treatment process - other (specify)	%	-	-
7	% Sludge treatment process - Total	%	99.2%	0.7%
	(Un-incinerated) sludge disposal and recycling route			
8	% Sludge disposal route - landfill, raw	%	-	-
9	% Sludge disposal route - landfill, partly treated	%	-	-
10	% Sludge disposal route - land restoration/ reclamation	%	-	0.7%
11	% Sludge disposal route - sludge recycled to farmland	%	98.4%	0.6%
12	% Sludge disposal route - other (specify)	%	-	0.3%
13	% Sludge disposal route - Total	%	98.4%	1.6%

Sludge treatment process

1 We confirm that the percentages reported in lines one to seven (inclusive) relate to the sludge production figures reported in table 8A, lines one to three.

Percentage Sludge - untreated (8D.1)

2 We have included here raw sludge that was disposed to a land reclamation scheme without treatment.

Percentage Sludge – raw sludge liming (8D.2)

3 We have used liming for peak lopping of raw sludge cake loads in the last few years. As such, 2.8 per cent was limed in 2023/24, compared with 3.4 per cent, 1.5 per cent and 4.4 per cent in 2022/23, 2020/21 and 2019/20 respectively. As a business we do not have sufficient treatment capacity to cope with peak periods of sludge production, which typically occurs between November and March each year. During this period it is necessary to either lime treat via a third-party managed contractor and/or export surplus sludge to other WaSCs and/or land reclamation schemes. In 2021/22 the temporary closure of Great Billing STC, our biggest STC, required diversion of raw cake imports and export of indigenous sludge as raw cake for treatment elsewhere. We therefore limed substantially more sludge (14.0 per cent) in that year than we had done for a few years.

Percentage Sludge treatment process - conventional AD (8D.3)

4 1.2 per cent of our total sludge production was conventionally digested in 2023/24 - similar to 2022/23 (1.4 per cent). This is the proportion of sludge treated through our pasteurisation and digestion process at Chelmsford STC, which was commissioned in February 2021. The process was designed to upgrade from the previous conventional treatment achieved by raw sludge digestion with secondary batch liquid storage to produce enhanced treated product. However, as there is no significant hydrolysis occurring we do not consider this process to be advanced anaerobic digestion (AD).

5 0.1 per cent of our total sludge production was exported to Yorkshire Water Services (YWS: Hull, Huddersfield and Leeds STCs) for conventional digestion in 2023/24.

% Sludge treatment process - advanced AD (8D.4)

6 Our continued focus on active management of STC performance had reaped benefits in recent years, allowing us to process 96.7 per cent of our sludge production through advanced AD in 2020/21, up from 94.0 per cent in 2019/20, 90.9 per cent in 2018/19 and 82.2 per cent in 2017/18. The temporary closure of Great Billing STC saw this fall to 81.8 per cent in 2020/21. However, as expected, 2022/23 saw a return to more normal throughputs, namely 94.1 per cent. This was despite having a digester offline at Basildon STC for most of the year and clean-outs of the EEH plants at Cambridge and Kings Lynn STCs. At 94.8 per cent in 2023/24 we have continued the return to a high level of performance on this line.

7 0.6 per cent of our total sludge production was exported to Severn Trent Water (STW: Nottingham STC) for advanced digestion in 2023/24.

Percentage Sludge treatment process - incineration of raw sludge (8D.5)

8 We do not incinerate any sludge.

Sludge disposal route

9 We confirm that the percentages reported in lines eight to thirteen (inclusive) relate to the sludge disposal and recycling figures reported in 8A, lines six to eight.

Percentage Sludge disposal route - land restoration/reclamation (8D.10)

10 2023/24 saw a further reduction in sludge recycled to out-of-area land reclamation schemes to 0.7 per cent, compared with some 1.7 per cent in 2022/23 and 4.4 per cent in 2021/22. In 2023/24 this was all raw sludge cake.

Percentage Sludge disposal route - sludge recycled to farmland (8D.11)

11 The majority (98.4 per cent) of our treated sludge was recycled to farmland in 2023/24 by us. An additional 0.7 per cent (assumed 50 per cent solids reduction of raw cake exported) was recycled to farmland after anaerobic digestion (AD) by Yorkshire Water (conventional AD) and Severn Trent Water (advanced AD).

Percentage Sludge disposal route - other (8D.12)

12 A small quantity of digested cake (0.23 ttds) which was deemed by us to be unsuitable for recycling to agriculture was sent for third party composting and this has been reported here.

13 We would also include sludge that went to third parties for activities such as digester seeding or for research projects in the 'by third party sludge service providers' sections. However, no sludge went to third parties for these purposes in the reporting year.

Table 9A - Innovation competition

	Line description	Units	Current year
	Allowed		
1	Allocated innovation competition fund price control revenue	£m	5.122
	Revenue collected for the purposes of the innovation competition		
2	Innovation fund income from customers	£m	5.122
3	Income from customers to fund innovation projects the company is leading on	£m	0.222
4	Income from customers as part of the inflation top-up mechanism	£m	0.098
5	Income from other water companies to fund innovation projects the company is leading on	£m	1.891
6	Income from customers that is transferred to other companies as part of the innovation fund	£m	4.265
7	Non-price control revenue (e.g. royalties)	£m	0.000
	Administration		
8	Administration charge for innovation partner	£m	0.289

	Line description	Total amount of funding awarded to the lead company through the innovation fund	Total amount of inflation top-up funding received	Forecast expenditure on innovation fund projects in year (excl 10% partnership contribution)	Actual expenditure on innovation fund projects in year (excl 10% partnership contribution)	Difference between actual and forecast expenditure	Forecast project lifecycle expenditure on innovation fund projects (excl 10% partnership contribution)	Cumulative actual expenditure on innovation fund projects (excl 10% partnership contribution)	Difference between actual and forecast expenditure	Allowed future expenditure on innovation fund projects (excl 10% partnership contribution)	In year expenditure on innovation projects funded by shareholders of the lead water company	In year expenditure on innovation projects funded by project partner contributions	Cumulative expenditure on innovation projects funded by shareholders of the lead water company	Cumulative expenditure on innovation projects funded by project partner contributions
	Units	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m	£m
9	Whole Life Carbon	0.187	-	0.030	0.029	-0.001	0.187	0.184	-0.003	0.003	0.006	-	0.023	0.023
10	Safe Smart Systems	7.864	0.487	2.187	2.165	-0.022	8.351	2.907	-5.444	5.444	0.241	-	0.327	-
11	Triple Carbon Reduction	3.782	0.447	1.411	1.365	-0.046	4.228	2.962	-1.266	1.266	0.152	-	0.332	-
12	Enabling Water Smart Communities	5.535	-	1.175	1.162	-0.013	5.535	1.494	-4.041	4.041	0.036	-	0.127	-
13	Unlocking Bioresource Market Growth	0.314	-	0.016	0.016	0.000	0.314	0.314	-	-	0.002	-	0.035	-
14	Ecological Digital Twin	1.200	-	0.961	1.036	0.075	1.200	1.036	-0.164	0.185	0.100	-	0.100	0.179
15	Climate Resilience Demonstrator	0.913	-	0.397	0.393	-0.004	0.913	0.393	-0.520	0.520	0.004	-	0.004	-
16	Innovation project 8	-	-	-	-	-	-	-	-	-	-	-	-	-
17	Innovation project 9	-	-	-	-	-	-	-	-	-	-	-	-	-
18	Innovation project 10	-	-	-	-	-	-	-	-	-	-	-	-	-
19	Innovation project 11	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Innovation project 12	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Innovation project 13	-	-	-	-	-	-	-	-	-	-	-	-	-
22	Innovation project 14	-	-	-	-	-	-	-	-	-	-	-	-	-
23	Innovation project 15	-	-	-	-	-	-	-	-	-	-	-	-	-
24	Total	19.795	0.934	6.177	6.166	-0.011	20.728	9.290	-11.438	11.459	0.541	-	0.948	0.202

1 All funding has been recovered through main charges. We do not currently receive or forecast to receive any royalties.

2 In 2023/24 we were awarded:

- £913,029 for the CReDo project via the Water Breakthrough Challenge
- £1,200,000 for the Stiffkey Ecological Digital Twin project via the Water Breakthrough Challenge

3 Delivery of these projects and the previously funded projects is now underway.

4 Our project "Unlocking Bioresource Market Growth" has concluded and the full awarded amount has been invested in the project.

5 Funding transfers not referenced in Table 9A for this year include the MOSL administration costs for each settlement and the funds allocated via the Discovery Challenge. This may mean that there are discrepancies in the anticipated and recorded funding transfers.

6 We comply with the terms of any innovation competition funding decisions, including that innovation competition funding is not being used to fund business as usual activities funded through totex. Where we have recovered revenue from customers for the purposes of the innovation competition this revenue has been paid into the innovation competition fund as requested.

Table 10A, 10B, 10C, 10D and 10E - Green recovery

Table 10A, 10B, 10C, 10D and 10E

1 We report no figures for these tables as we did not propose any projects under the Green Recovery programme.

Table 10F - Additional reporting to account for impacts of the accelerated infrastructure delivery projects for the 12 months ended 31 March 2024

1 We proposed a number of programmes of work under Defra's Accelerated Investment Delivery (AID) scheme. In June 2023 Ofwat granted approval for four of these;

- Colchester re-use; Acceleration of the detailed design and planning of a water re-use scheme which was already in our draft WRMP preferred programme, plus the construction of a re-use pilot plant and transfer main by March 2028
- Smart metering; installation of an additional 60,000 smart meters
- Nutrient neutrality; achievement of tighter phosphorus concentrations in the final effluent from Fakenham, Dereham and Whitlingham WRCs
- Storm overflow reduction; to undertake 21 storm overflow improvements to Storm Overflow Discharge Reduction Plan Act target levels and accelerate 143 investigations to confirm the root cause of high overflow spills.

2 No outputs were completed from any of the AID projects in 2023/24 so there was no impact from them on any performance measure.

Table 10G - Additional reporting to account for impacts of transition expenditure for the 12 months ended 31 March 2024

1 The expenditure we have made under the transition programme is set out in tables 4L and 4M. It is set out by driver in the table below.

	Expenditure 23/24
Water	
Internal interconnectors	0.9
Investigations	0.2
Supply-demand balance improvements	0.2
	0.4
Water Recycling	0
Flow monitoring at WRCs	0.8
Others	0.1
	0.8
Total	1.2

2 No outputs were completed from any of the transition projects in 2023/24 so there was no impact from them on any performance measure. We are therefore reporting a zero for these lines.

Table 10H - Accelerated programme data capture reconciliation model input for the 12 months ended 31 March 2024

1 We proposed a number of programmes of work under Defra's Accelerated Investment Delivery (AID) scheme. In June 2023 Ofwat granted approval for four of these;

- Colchester re-use; Acceleration of the detailed design and planning of a water re-use scheme which was already in our draft WRMP preferred programme, plus the construction of a re-use pilot plant and transfer main by March 2028
- Smart metering; installation of an additional 60,000 smart meters
- Nutrient neutrality; achievement of tighter phosphorus concentrations in the final effluent from Fakenham, Dereham and Whitlingham WRCs
- Storm overflow reduction; to undertake 21 storm overflow improvements to Storm Overflow Discharge Reduction Plan Act target levels and accelerate 143 investigations to confirm the root cause of high overflow spills.

Colchester re-use

2 Progress has been made with solution design. We have reported expenditure of £0.914 million in table 4X. In line with the projected deliverables of the PCD we report two per cent component completion.

Smart metering

3 We report no expenditure nor any outputs. We will deliver the 60,000 smart meters in 2024/25, in line with the expectations of the PCD.

Nutrient neutrality

4 Detailed design has been completed for Fakenham and Dereham WRCs, in line with the expectations of the PCD, while a high level assessment of options has been completed for Whitlingham WRCs. We have reported expenditure of £0.764 million in table 4Y. Although work has started on site, no progress will be made towards the 0.25 Mg/l target until the schemes have finished. In accordance with the guidance issued to us by Ofwat on 14 May we have not completed the 'component level to date' column.

Storm overflow reduction

5 We have carried out extensive hydraulic modelling and reported expenditure of £0.182 million in table 4Y. In line with the projected deliverables of the PCD we report three per cent component completion.

Table 11A - Operational greenhouse gas emissions reporting for the 12 months ended 31 March 2024

	Line description	Operational emissions		
		Water	Wastewater	Total
	Unit	tCO_2e	tCO_2e	tCO_2e
	Scope one emissions			
1	Burning of fossil fuels (location-based)	2,629.243	8,315.463	10,944.706
2	Burning of fossil fuels (market-based)	2,629.243	8,315.463	10,944.706
3	Process and fugitive emissions	6,577.038	78,202.497	84,779.535
4	Vehicle transport	5,024.017	16,735.111	21,759.128
5	Emissions from land	-	-	-
6	Total scope one emissions (location-based)	14,230.298	103,253.071	117,483.369
7	Total scope one emissions (market-based)	14,230.298	103,253.071	117,483.369
8	Scope one emissions; GHG type CO_2	7,560.891	24,727.741	32,288.632
9	Scope one emissions; GHG type CH_4	2.533	41,342.504	41,345.037
10	Scope one emissions; GHG type N_2O	6,578.368	37,094.595	43,672.963
11	Scope one emissions: GHG other types	88.507	88.229	176.736
	Scope two emissions			
12	Purchased electricity (location-based)	66,234.509	68,214.536	134,449.045
13	Purchased electricity (market-based)	109,571.055	100,100.221	209,671.276
14	Purchased heat	-	-	-
15	Electric vehicles	94.858	94.858	189.716
16	Removal of electricity to charge electric vehicles at site	- 21.120	- 21.120	- 42.240
17	Total scope two emissions (location-based)	66,308.247	68,288.274	134,596.521
18	Total scope two emissions (market-based)	109,644.793	100,173.959	209,818.752
19	Scope two emissions; GHG type CO_2	65,631.246	67,591.056	133,222.302
20	Scope two emissions; GHG type CH_4	286.905	295.472	582.377
21	Scope two emissions; GHG type N_2O	390.097	401.746	791.843
22	Scope two emissions: GHG other types	-	-	-
	Scope three emissions			
23	Business travel	369.774	369.774	739.548
24	Outsourced activities	194.224	18,240.172	18,434.396

25	Purchased electricity; extraction, production, transmission and distribution (location-based)	21,681.656	22,329.812	44,011.468
26	Purchased electricity; extraction, production, transmission and distribution (market-based)	21,681.656	22,329.812	44,011.468
27	Purchased heat; extraction, production, transmission and distribution	-	-	-
28	Purchased fuels; extraction, production, transmission and distribution	1,825.687	5,648.634	7,474.321
29	Chemicals	13,732.196	11,610.131	25,342.327
30	Disposal of waste	-	20,854.911	20,854.911
31	Total scope three emissions (location-based)	37,803.537	79,053.434	116,856.971
32	Total scope three emissions (market-based)	37,803.537	79,053.434	116,856.971

33	Scope three emissions; GHG type CO_2	37,740.014	57,538.980	95,278.994
34	Scope three emissions; GHG type CH_4	26.170	3,747.288	3,773.458
35	Scope three emissions; GHG type N_2O	37.353	17,767.166	17,804.519
36	Scope three emissions: GHG other types	-	-	-

	Gross operational emissions (Scopes 1,2 and 3)			
37	Gross operational emissions (location-based)	118,342.082	250,594.779	368,936.861
38	Gross operational emissions (market-based)	161,678.628	282,480.464	444,159.092

	Emissions reductions			
39	Exported renewables	-	6,548.631	6,548.631
40	Exported biomethane	-	-	-
41	Insets	-	-	-
42	Other emissions reductions	-	-	-
43	Total emissions reductions	-	6,548.631	6,548.631

	Emissions reductions			
44	Green tariff electricity	-	-	-

	Net annual emissions			
45	Net annual emissions (location-based)	118,342.082	244,046.148	362,388.230
46	Net annual emissions (market-based)	161,678.628	275,931.833	437,610.461

Line description	Water	Wastewater
Unit	$kgCO_2e/Ml$	$kgCO_2e/Ml$

	GHG intensity ratios			
47	Emissions per Ml of treated water	278.129	-	-
48	Emissions per Ml of sewage treated	-	336.496	-

	Line description	Embedded emissions		
		Water	Wastewater	Total
	Unit	tCO_2e	tCO_2e	tCO_2e
	Capital projects			
49	Capital projects (cradle-to-gate)	-	-	-
50	Capital projects (cradle-to-build)	87,286.379	19,739.967	107,026.346
	Purchased goods and services			
51	Purchased goods and services	10,334.694	10,334.694	20,669.388

Emissions reductions

1 Table 11A presents 2023/24 performance using both location-based and market-based methodologies and was generated using the latest version of the Carbon Accounting Workbook (CAW) version 18, using global warming potential values from IPCC Fifth Assessment Report (AR5) throughout.

2 For electricity purchased from the grid, location-based reporting uses the grid average CO2 emissions factor. Market-based reporting uses the grid CO2 emissions factor for the electricity supplier and the mix of electricity purchased (in our case, SSE). Due to the different electricity generation fuel mixes of the various suppliers, this CO2 emissions factor differs between suppliers and from the grid average. Therefore, location-based reporting and market-based reporting give different total emissions numbers.

3 Electricity consumption is one of the main emissions sources for our company. In 2023/24 we have consumed more grid energy than in the previous year. The location-based emissions have seen an increase owing both to an increase in consumption and an increase in the carbon emissions factors of grid electricity from 193gCO2e/KWh in 2022/23 to 207gCO2e/KWh in 2023/24.

4 From a market-based perspective we have benefited from the purchase of an increased portion of sleeved renewable energy in 2023/24 against 2022/23. However, as the market-based residual emissions factor for our supplier (SSE) increased in 2023/24 to 363gCO2e/KWh from 332gCO2e/KWh in 2022/23 this has resulted in an increase in market-based emissions in 2023/24 over 2022/23.

Scope three emissions (11A.23-36)

5 Scope three emissions from purchased electricity extraction, production and transmission & distribution have changed for 2023/24 over 2022/23 due to these increased grid emissions factors and an increase in consumption.

6 Scope three emissions from chemicals have been reported. This number includes chemicals specified in the CAW with their associated emissions factors.

7 We first reported chemicals emissions in APR 2021/22 in the narrative accompanying table 11A paragraph 32.

8 Lines 11A.33 to 36 present information around the various greenhouse gas types (GHG) types for scope 3 emissions. For emissions where the breakdown of gases is not available then CO2e values have been added into the CO2 category. This is a change from our reporting in 2022/23 where we only input values against specific gases where we had them.

Capital projects (11A.49-50)

9 Emissions for capital projects are provided as cradle-to-build. Our capital carbon approach has been developed over the last decade and, in order to provide the most comprehensive understanding of capital carbon, a cradle-to-build approach was adopted. We view this approach as more effective and comprehensive than a cradle-to-gate approach.

10 In order to calculate emissions for capital projects for 2023/24 we have included all projects where construction started and completed in the year. In addition, we have included on a pro-rata basis those projects underway in 2023/24 but not yet completed. Total tonnage has increased in 2023/24 over 2022/23 due to the inclusion of a number of large schemes under the Strategic Pipeline Alliance (SPA) programme.

Purchased good and services (11A.51)

11 For goods and services we have included emissions under the following categories: PPE/Uniform, catering services, professional fees, laboratory and office consumables and contract services. Chemicals are excluded as they are reported separately.

12 Every year we undertake an ISO14064-1 audit on our emissions for our regulatory boundary and have been undertaking this audit for over 10 years. This audit excludes the emissions from purchased goods and services but our auditor is supportive of the data collection processes employed. The numbers presented for purchased goods and services therefore are not audited but auditor feedback has been used in calculating the numbers.

Traffic light system

13 We assess ourselves to be 'green' against the embedded reporting criteria as we have met six of the reporting criteria as follows:

14 Reporting criteria one - Provision of embedded emissions data as it relates to capital projects (cradle-to-build). We anticipate good practice in this area being for companies to provide cradle-to-gate as well as cradle-to-build based data.

- Cradle-to-build embedded emissions data as it relates to capital projects has been provided.

15 Reporting criteria two – Clear evidence of external verification and accreditation as it relates to the use of standards and frameworks, and quality of data.

- Our capital carbon approach has been verified annually to PAS2080 since 2016. In October 2023 we were verified against the revised PAS2080 standard published in April 2023.

16 Reporting criteria three - Engagement with more than one recognised standard, framework or approach for managing and reporting on embedded emissions

- As above, our capital carbon approach is verified annually to PAS2080. In addition, in 2021 we also completed a maturity matrix Asset Management Maturity Assessment (AMMA) for Ofwat. The results of this exercise showed us as a top performer of water companies against the AMMA criteria. We will be submitting an updated AMMA to Ofwat later in 2024. External accreditation underpins our approach. We are both ISO55001 and PAS55 certified. These standards form part of our Integrated Management System (IMS).

17 Reporting criteria four - Complete and detailed SWOT analysis referring to embedded emissions.

- Our SWOT analysis, combined for embedded and operational carbon is set out below.

18 Reporting criteria five - Purchased goods and services emissions information has been provided

- Purchased goods and services information has been provided.

19 Reporting criteria six - Evidence of clear stakeholder engagement and education on its GHG emissions management and reporting approach.

- The Climate and Carbon Steering Group meets monthly, made up of senior leaders and subject matter experts from around the business, chaired by a Management Board Director. The group monitors carbon performance and progress against our net zero and capital carbon targets and sets the trajectory for ongoing work. The group provides an update to Management Board three times a year. The Terms of Reference for this Steering Group (anonymised for membership) is attached
- A Leaders and Managers event is held quarterly for all staff at the level of manager and above. The update contains presentations on a host of business matters including by the CEO and CFO. The presentation by the CFO always contains an update on carbon performance
- A monthly report is generated detailing performance against a number of energy consumption, energy generation and capital carbon metrics. This is circulated to key stakeholders in the organisation and extracts of the report are included in a dashboard reviewed monthly by the Management Board. The report is made available on the Intranet and is accessible to all staff
- We maintain a Carbon Neutrality intranet site with a host of case studies, reports, information, performance metrics and the contact details of the carbon neutrality team. The intranet site is accessible to all staff
- Totex Delivery Workflow (TDW) is used to monitor capital project performance over time. Approvals are required from a host of stakeholders at each design stage gate around issues such as capital carbon performance, programme, financial performance etc. In this way a wide range of stakeholders understand the relationship between carbon performance and the other aspects influencing overall project delivery. When projects progress between design stage gates presentations on project performance, including capital and operational carbon performance, are made to approvals boards made up of senior leaders in the organisation
- In order to calculate and understand the capital carbon performance of projects we use a host of carbon models and a carbon modelling tool to model overall performance. Access to the modeller is granted to any staff involved in scheme design. Carbon modeller training for new users and masterclass training for more experienced users is provided regularly. Ad hoc queries are addressed through direct enquiries
- We have a group of carbon champions throughout the business who champion carbon reductions on their own projects and provide guidance and assistance to others in delivering carbon reductions. This group meets every six weeks and has over 30 members
- On 23/02/23 we ran a 'Climate for Change' event in London attended by approximately 100 senior leaders, primarily from our external value chain. The event set out our carbon reduction progress, the scale of the challenge and investigated ways through which collaboration in the value chain can better deliver carbon reductions
- On 30/05/24 we ran an internal 'Climate for Change' event attended by around 70 stakeholders from around the business which followed on from the external event we ran in 2023. The event explored the size of the AMP8 challenge, the opportunities and the current barriers and concluded with the development of a number of workstreams to overcome barriers to improved performance
- The event involved a wide range of internal stakeholders from Anglian Water and our Alliances (including @One), senior management board leadership, designers, engineers, contractors, procurement specialists, carbon specialists, climate change specialists and representation from the legal and finance departments. An Anglian Water Management Board Director delivered a speech and participated in a Q&A session. This wide range of attendees was in recognition that many stakeholders must cooperate in order to deliver low carbon solutions. The event was supported by an internal communications campaign with materials available to all staff on our intranet.

SWOT analysis

Our analysis covers both embedded and operational carbon emissions.

Strengths

- Accounting for embedded carbon is well established in our company processes and culture. In 2016 we became the first organisation globally to be externally verified (though LRQA) to PAS2080 Carbon Management in Infrastructure. The carbon framework at the heart of the PAS2080 standard ensures that our approach is aligned with key stakeholders within the value chain - including product suppliers, constructors and designers – in demanding and enabling low carbon solutions. We undertake an annual verification of PAS2080
- We participated in the steering group for the revision of PAS2080 published in April 2023 and in October 2023 were verified by our external auditors (BSI) to this revised standard
- As we have been measuring, managing and reducing capital carbon since 2010, we have access to significant levels of data to support our reporting and strategy for delivering against ambitious targets. Evidence has now been collated over a number of years, illustrating the relationship between reducing carbon and reducing cost
- We have over 1,300 carbon models which not only allow us to be consistent with baselines but also allow our alliances to identify areas of high carbon and to optioneer lower carbon solutions. The scope of these models is cradle to 'as built'. We believe this approach is more comprehensive than cradle to gate and allows for a more accurate understanding of performance and the identification of carbon reduction approaches in the construction phase
- The models contain a consistent data set sourced from the Inventory of Carbon and Energy, CESSM workbook, Defra emission factors and direct data from several product and material suppliers
- As per our Net Zero Carbon Routemap 2030 published in July 2021, we committed to achieving 70 per cent capital carbon reductions by 2030. We will also develop a strategy to further reduce these emissions post 2030
- In our PR24 submission we included a proposal for a bespoke performance commitment concentrating on low carbon carbon concrete. For a host of reasons this is an area which has proved problematic for the construction sector as a whole to reduce. We believe that we can build upon our extensive experience of capital carbon reductions over time to deliver groundbreaking solutions to this challenge which will benefit the wider water, infrastructure and construction sectors
- We have provided emissions data for chemicals. Whilst this reporting was new for APR 2022/23, we have been gathering chemical use data by annual volume for a number of years. We are confident that the data we have provided for chemicals, whilst not currently within scope of our ISO14064-1 audit, is robust
- We have a well-developed carbon culture and processes. We measure our operational carbon emissions using the UK Water Industry Research (UKWIR) Carbon Accounting Methodology through the Carbon Accounting Workbook (CAW). This is an industry standard approach which is updated annually and is reflective of carbon reporting and emissions guidance from Defra. Our annual emissions are verified to ISO-14064-1 through Achilles Carbon Reduce (powered by Toitū) Scheme (formerly CEMARS). We have achieved our carbon reduction targets over the last two AMP periods
- We have two performance commitments for carbon reductions since 2015
- We have well established energy optimisation processes which have proved successful, and we will continue to improve our performance in this area
- We submit an annual response to CDP (formerly Carbon Disclosure Programme). For 2022/23 we achieved a rating of A-, placing us as one of the best performers in the UK water sector
- We report in line with the government's guidance on Streamlined Energy and Carbon Reporting (SECR), which seeks to align with the principles of the greenhouse gas (GHG) protocol corporate standard

- We produce an annual Task Force for Climate Related Disclosures (TCFD) submission contained within our Annual Integrated Report. Whilst climate-related financial disclosures are now mandatory, through the Companies Act, we have completed this disclosure for a number of years on a voluntary basis, illustrating the importance to the organisation of carbon reductions and wider climate related issues
- From the beginning in understanding and delivering operational and embedded carbon reductions, there has been consistent support from our Board which has been vital in achieving the reductions we have seen and the commitments to future reductions we have made
- The importance of operational and embedded carbon emissions reductions are well communicated to and understood by staff. All staff understand that they can play a role in the delivery of carbon reductions. In addition, we have a dedicated Carbon Neutrality Team of committed and talented individuals specialising in investigating, analysing, delivering and communicating carbon reduction approaches.

Weaknesses

- There is currently a fragmented approach within the water sector in terms of approaches to capital carbon, ranging from limited experience through to global leadership. A future consistent methodology and framework across the sector will send strong signals to the supply chain, where innovations and opportunities need support in unlocking low carbon solutions
- Additional carbon savings from the use of new materials, such as low carbon concretes, is progressing slowly. The low carbon concrete group, through BEIS and the Green Construction Board, published a low carbon concrete routemap in April 2022. However, sector demand for this type of material needs to be further enhanced amongst other infrastructure sectors to provide confidence for product suppliers to invest
- We have reported data on scope three (embedded emissions) which sit outside of our regulatory boundary. For much of the data around 'products and services' these are new areas for us to gather and report data. The numbers reported are the best available data. In order to better understand the data we possess we engaged our auditors to assess the data and make recommendations to improve data quality
- A challenging area for achieving reductions is process emissions associated with water and waste treatment. In recognition that the emissions arising from treatment process are not well understood, a review, led through UKWIR, is currently ongoing into the quantification and reduction of this emissions source. As part of this process we are undertaking trials in measurement of these emissions and in the introduction of new technologies. Recommendations from phase one of the review led to a change in accounting for Nitrous Oxide (N2O) [AS1] loading in the CAWv15, increasing emissions from wastewater treatment. This change in N20 loading was carried through to CAWsv16 and v17 and now CAWv18
- Outputs at the end of the review will mean that the way that process emissions are measured and reported will be more robust. However, this may mean that reported outputs rise, increasing the challenge of achieving net zero carbon.

Opportunities

- Through utilising historical information, and based on our experience of reducing capital carbon, we recognise that there are different opportunities in finding carbon reductions between above ground and below ground assets and between water and water recycling schemes. Information such as this can help us identify areas of greater challenge. The table below illustrates this with actual data from 2023/24.

	2023/24 Actual
Water infrastructre	61.9%
Water non-infrastructre	53.1%

Water Recycling infrastructure	62.2%
Water Recycling non-infrastructure	72.4%
Total	65.2%

- Additional use of datasets enables the focus on sustainable materials, by helping us understand carbon/cost tipping points
- Investors are increasing understanding the value of low capital carbon solutions. Being able to demonstrate savings and verification against PAS2080 allows access to green finance options. This was highlighted with us being the first utility to issue a sterling green bond in 2017. This leading position in the finance and investment community has been further reinforced with the issue of sustainably linked bonds, with KPIs on both Net Zero carbon and capital carbon
- Our @One Alliance is a partnership between Anglian Water and a number of construction companies developed to deliver our capital programme. This has proved a very successful model to deliver reduced capital carbon through collaboration across the value chain. We understand that to go even further in capital carbon reductions will require greater collaboration with our entire value chain. Our 'Climate for Change' events (as set out below) are part of this ongoing engagement with our value chain and we will continue to collaborate and innovate with partners to deliver carbon reductions
- Our longer-term aim is to achieve net zero carbon by 2030, a water sector ambition that was set out in a Public Interest Commitment with the other English Water companies in 2019. Consultants Mott McDonald and Ricardo, in collaboration with a steering group representing water companies, published an industry route map in 2020. This was followed by an Anglian Water-specific net zero Routemap in July 2021. This Routemap contains more details on the approaches we will undertake to reach our net zero goal. The Routemap is publicly available through our webpages
- There are a host of initiatives currently under way or in the development phase to further reduce our GHG emissions to achieve our net zero 2030 target. We will continue with our programme of developing renewable energy generation with a particular focus on solar photovoltaics (PV), with a parallel programme of developing energy storage solutions to maximise renewable electricity consumption
- We are currently planning for a number of our water recycling centres (WRC) to export biogas into the gas network. This will result in carbon savings over and above those which could be achieved through energy generation from combined heat and power (CHP)
- Our energy optimisation programme will continue, driving out inefficiencies using increased understanding achieved through improved data quality
- We have commenced a programme to introduce electric vehicles (EV) into our fleet, with a programme for annual replacement of Internal Combustion Engine (ICE) vehicles to EV. This programme currently concentrates on our smaller fleet where EVs with adequate range are available
- We are currently trialling the use of electric heavy vehicles at one of our sites and included a proposal in our PR24 plan to introduce some electric HGVs and associated charging infrastructure
- We are currently developing a Hydrogen strategy to understand how best to engage with the production, storage and use of Hydrogen at our sites and in our vehicles. An important element of this is the availability of water in our region for the generation of Hydrogen; we are already an area of growing population and low rainfall and the availability of water, particularly in the context of climate change, will be a challenge which we need to prepare for as the interest in Hydrogen technologies increases
- We currently operate two sites where greenhouse operators extract heat from our final effluent for use in their facilities. Whilst this does not save Anglian Water any carbon emissions it does, by the displacement of fossil fuels, save carbon emissions for the greenhouse operators and therefore is of positive benefit to the efforts of UK plc to

reduce emissions. This also has the added benefit of reducing the temperature of the final effluent before discharge into the water course

- The water sector has a great deal of 'low grade heat' in many areas – final effluent as discussed but also sewers, boreholes, reservoirs, etc and understanding the quantity, patterns of production and availability is key to understanding if/how this heat could be made available for heat networks. As a consequence, we are undertaking a study to map the heat available to assist in discussions with interested parties
- We have introduced a programme to replace fossil fuels with hydrotreated vegetable oil (HVO) in our back-up generators, boilers and construction plant and equipment, thereby reducing carbon emissions
- We also plan to introduce natural capital solutions for the treatment of water to reduce operational energy, reduce the amount of capital carbon in their construction compared to a traditional solution, as well as deliver the associated biodiversity benefits
- Studies are also underway to understand opportunities for carbon sequestration at a local level. At present these studies involve soil carbon and seagrass (led by Affinity Water through the Ofwat Innovation Fund). It is hoped that large scale carbon sequestration opportunities are identified
- N2O monitoring programmes are underway to better understand the detailed mechanics of N2O generation and release and strategies to reduce these emissions are under development.

Threats

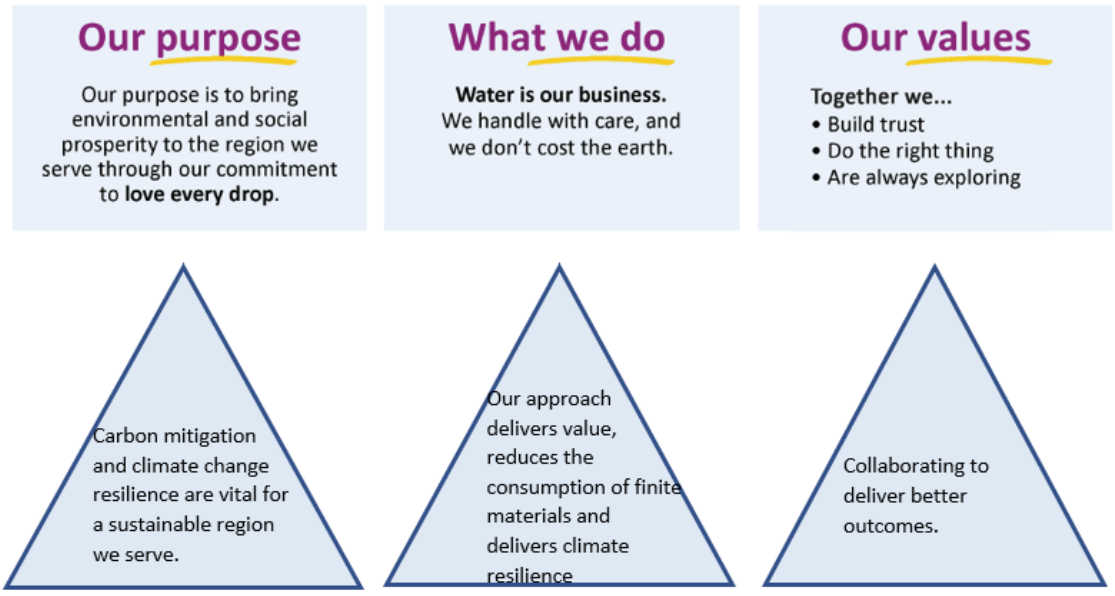
- Lack of modelled carbon data for new products and techniques could provide a blocker to innovation as solutions engineers may be unable to compare the carbon impact against a standard solution
- Through detailed analysis in collaboration with our supply chain, we have identified that reductions approaching or in excess of 72 per cent result in a carbon/cost tipping point, leading to higher cost solutions to achieve lower carbon outcomes
- With the requirement to remove per and polyfluoroalkyl substances (PFAS) compounds there will be an increase in treatment requirements and a likely consequent increase in chemical and therefore carbon usage. Furthermore, it is possible that in the coming years additional PFAS compounds will be identified, increasing chemical requirements further
- As discussed above, process emissions from wastewater treatment are not currently well understood and are subject to further studies. It is possible that, following the conclusion of these studies, emissions factors for process emissions increase further, leading to a requirement for larger carbon reductions
- Population continues to grow in our region, with a forecast of approximately one million new homes to be built in the next 25 years. This will increase water demand and therefore the energy required to supply and recycle water
- There are also threats associated with national policies and regulations. The mandatory introduction of labels on taps, showers, dishwashers and washing machines will assist consumers in selecting low water use appliances but delays in its introduction will delay uptake and therefore the water and associated energy savings. Similarly, delays in changes to building regulations around water usage and planning policies around sustainable drainage for new developments will also reduce the opportunity for energy and carbon savings
- Changes to the green gas levy could undermine the business case for CHP and/or injecting gas into the grid, making these carbon saving opportunities unviable
- Abstraction licence caps being imposed by the EA to protect sensitive environments (under the Water Framework Directive (WFD) no deterioration principle) can result in the construction of more infrastructure and the use of more energy to move water over longer distances
- Designation of inland bathing waters could lead to a need to treat effluent with carbon intensive options such as ozone, UV or carbon filtration at relevant WRCs. This would increase energy requirements
- This year saw an increase in the location-based carbon emissions factor from 193gCO2e/KWh in 2022/23 to 207gCO2e/KWh in 2023/24. This means that for the

most recent year the electricity grid became more carbon intensive than the previous year and is a new trend in location-based carbon emissions; the grid has previously been decarbonising over time. Given our reliance on electricity to power our assets, a slowing/reversal of grid decarbonisation presents a threat to ongoing carbon reductions

- Similarly, 2023/24 saw an increase in our market-based carbon emissions factor to 363gCO2e/KWh from 332gCO2e/KWh in 2022/23 – that is the carbon emissions factor associated with the electricity we procure from our supplier, in our case SSE. Given our reliance on electricity to power our assets, a slowing/reversal of grid decarbonisation presents a threat to ongoing carbon reductions
- 2023/24 was, in our region and across the UK, an extremely wet year with some areas experiencing their wettest 18 month period on record. In 2022 we had an extremely hot summer with temperatures exceeding 40 degrees centigrade in our region. These episodes resulted in higher energy consumption in order to deliver water and waste water services. This weather was likely driven by climate change and as we move forward is likely to increase in frequency, thus possibly driving energy consumption increases over time

Appendix A - Climate and Carbon Steering Group – Terms of Reference

Vision



20 Leading and influencing on actions that will deliver climate change mitigation, adaptation and resilience through our journey to net zero carbon and beyond.

Objectives

- Understand how climate change impacts on our ability to deliver against our purpose
- Understand climate change implications at a system level and the actions we need to take in designing and maintaining assets to deliver resilience
- Lead and collaborate across our business, the water sector and the wider infrastructure sector to deliver Net Zero Carbon and 70 per cent capital carbon reductions by 2030
- Monitor performance and take appropriate action where required, ensuring carbon ODI performance targets are exceeded and Green Bond and Sustainable Linked Bond targets are met
- Horizon scan and review government energy and climate change policy to mitigate impacts and maximise opportunities

- Horizon scan and review innovation approaches so as to maximise carbon saving opportunities
- Support our Alliances and develop multi stakeholder partnerships to deliver carbon reductions and climate change resilient outcomes
- Ensure carbon reduction opportunities and climate resilient investments are an integral part of the PR24 submission including the development of a bespoke carbon related ODI
- Define the Anglian Water carbon position post 2030 to include scopes one, two and three and offsetting.

Scope and Deliverables

21 Scope includes:

- Operational and capital carbon measured within our regulatory activity. Influencing policy through Water UK and industry partnerships including the Green Construction Board, Infrastructure Client Group (ICE) and Corporate Leaders Group.
- Review and challenge performance against carbon ODI's and Net Zero 2030 trajectory. This includes ensuring definition and approach to carbon ODI's deliver value within the PR24 process and are supported by customers.
- With treasury, validate and ensure compliance against the suite of measures including carbon and climate change in accordance with requirements of the issuing of 'green and sustainable linked Bonds' and data provided through investment teams.
- Review forecasting, budgeting and efficiency of electricity, natural gas and other carbon related data across the business and challenge on under/over performance.
- Challenge and support actions and activities across the business, including renewable energy, energy efficiency, sustainable design, energy purchasing, vehicle fleet management, nature-based solutions, offsetting, etc, and aligned to our Net Zero Carbon Routemap.
- Reporting and communicating performance where required through regulation, or our leadership position, including Task Force for Climate Related Financial Disclosures (TCFD), Task Force for Nature Related Financial Disclosure (TNFD), Climate Change Adaptation Reporting (ARP4), Transition Plan, etc
- Challenge and support our strategy and performance in assessing and delivering climate resilient investments.

Workstreams

22 The group will focus on the delivery of a number of workstreams:

- Decarbonising our vehicle fleet
- Maximising the value of our biogas
- Renewable Energy
- Managing our process emissions
- Developing our offsetting strategy
- Opting for alternative fuels
- Energy Efficiency
- Capital Carbon
- Finance Climate Gp/CDP
- Climate Change Adaptation Strategy, Reporting and Transition Plan
- CReDo

23 Workstreams may be amended in response to changing demands.

Membership Format

24 The group will meet monthly. Relevant SME's will be invited to meetings on an ad hoc basis relevant to discussions.

Membership

- Chair – Director, Quality and Environment
- Director, Strategic Delivery and Commercial Assurance
- Head of Carbon Neutrality
- Head of Fleet Services
- Portfolio Lead - Bioresources
- Head of Business Improvement and Optimisation
- Energy Contract and Information Manager
- Head of Quality Transformation
- Climate Change and Carbon Manager
- Natural Catchment and Biodiversity Manager
- Regulatory and Sustainable Reporting Manager
- Head of Strategic Investment Finance
- Head of Corporate Reporting
- LTDS Manager
- Head of Sustainability
- Group Financial Controller
- Head of Innovation and Carbon @One
- Head of Innovation
- SPA Carbon and Sustainability Manager and Project Management

Governance

25 Meetings will be held monthly chaired by the Director of Quality and Environment.

26 The group will provide an update for Management Board three times a year. For the meeting immediately prior to the development of the Management Board update, the Directors of Water and Water Recycling will be invited.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM -

This is to certify that:

Anglian Water Services Limited
Lancaster House
Lancaster Way
Huntingdon
PE29 6XU
United Kingdom

Holds Certificate Number: CAMS 767487

and operates a Quality Management System which complies with the requirements of for the following scope:

Carbon management process implemented as asset manager by Anglian Water Services Limited in accordance with PAS 2080:2023, verified by British Standards Institution (BSI)

For and on behalf of BSI:

[redacted]
Managing Director Assurance - UK & Ireland

Original Registration Date: 2022-12-19
Effective Date: 2024-05-21
Latest Revision Date: 2024-05-21
Expiry Date: 2025-12-18

...making excellence a habit.™

SUMMARY OF CARBON REDUCE CERTIFICATION [i]

FOR Anglian Water Services Limited

Summary for 01 April 2023 to 31 March 2024

CARBON REDUCE ORGANISATION CERTIFIED: ANGLIAN WATER SERVICES LIMITED

Carbon Reduce certified means committing to ongoing reductions while achieving annual measurement for at least the Toitū mandatory[ii] emissions.

Measured emissions to **ISO 14064-1:2018** and Programme requirements

Managing and reducing against Programme requirements

This report provides a summary of the annual greenhouse gas (GHG) emissions inventory and management report for Anglian Water Services Limited as part of the annual work to achieve Carbon Reduce certification. Additional details of the annual achievements, commitments, and verification are available on request from Anglian Water Services Limited.

This is the greenhouse gas inventory for Anglian Water Services Limited for the period April 2023 to March 2024

ACHIEVEMENTS

These achievements have been verified in line with ISO 14064-3:2019 and Carbon Reduce Programme Technical Requirements for the 01 April 2023 to 31 March 2024 measurement period.

EMISSIONS MEASUREMENT

Anglian Water Services Limited's greenhouse gas emissions for this year (01 April 2023 to 31 March 2024) were 282,885.77 tCO_2e. Anglian Water Services Limited has measured the emissions resulting from its operational activities, purchased energy, and selected impacts from its value chain activities, including business travel, freight, and waste sent to landfill.

The annual inventory is detailed in the following table. Emissions and reductions are reported using a location-based methodology.[iii]

Category (ISO 14064-1:2018)	Scopes (GHG Protocol)	GHG emissions (tCO_2e) Base Year 2018/2019	Previous Year 2022/2023	Current Year 2023/2024
Category 1: Direct emissions (tCO_2e)	Scope 1	123,405.23	118,304.66	117,483.38
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	Scope 2	181,076.96	121,994.79	134,596.53
Category 3: Indirect emissions from transportation (tCO_2e)	Scope 3	14,688.11	13,709.92	18,446.46
Category 4: Indirect emissions from products used by organisation (tCO_2e)		15,435.69	11,210.12	12,359.40
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)		0.00	0.00	0.00
Category 6: Indirect emissions from other sources (tCO_2e)		0.00	0.00	0.00
Total gross emissions* (tCO_2e)		**334,605.99**	**265,219.49**	**282,885.77**
Category 1 direct removals (tCO_2e)		0.00	0.00	0.00
Total net emissions (tCO_2e)		**334,605.99**	**265,219.49**	**282,885.77**

*Gross and net emissions are reported using a location-based methodology. Contact Anglian Water Services Limited for full details.

The operational GHG emission sources included in this inventory are shown in Figure 1 below.

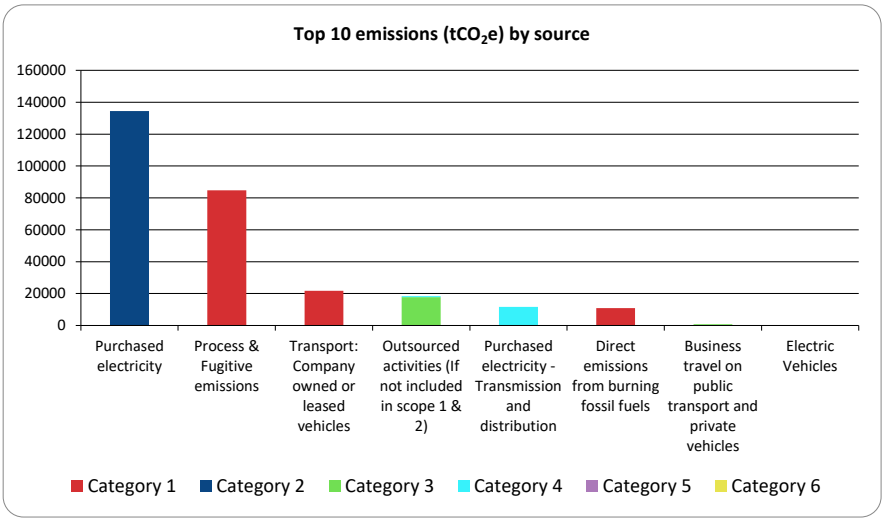


Figure 1: Top 10 GHG emissions (tonnes CO_2e) by source

SCOPE OF MEASURED INVENTORY

CONSOLIDATION APPROACH

An operational control consolidation approach was used to account for emissions. Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards. [iv]

An operational control consolidation approach was used to account for emissions.

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards.

BOUNDARIES

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. The GHG Protocol allows two distinct approaches to be used to consolidate GHG emissions: the equity share and control (financial or operational) approaches. The Programme specifies that the operational control consolidation approach should be used unless otherwise agreed with the Programme. An operational control consolidation approach was used to account for emissions.

Anglian Water Services Ltd

Figure 2: Organisational structure showing business units included and excluded

N/A. Excluded emissions do not exceed 5% of the total footprint within the organisation boundary stated.

Managing and reducing

This is the 15th year of reporting under the Toitū carbonreduce programme and the fifth year since resetting their base year to 2018-19. An absolute reduction in Category 1 and 2 emissions of 55,162.47 tCO_2e has been achieved against base year. A reduction in emissions intensity (for Category 1, 2 and mandatory Category 3 and 4 emissions) of 31.77tCO_2e/£M has been achieved based upon a 5-year rolling average, adjusted for inflation.

There has been a decrease of 51,720 tCO_2e over base year 2018-19 (revised base year in 2022). Emissions over the base year have reduced significantly; this is primarily due to reduction in the grid electricity emission factor. There has been an increase in renewable energy consumed as compared to our baseline year and continued investment in energy efficiency schemes, also assisted in delivering emission reductions.

There has been an increase in scope 1 process emissions, this is associated with a change to the accounting of N20 related to treatment. There has been a decrease in emissions associated with biogas, this is due to a change in emissions factor used. Emissions associated with biogas have also moved from the process emissions category to the fuel category; it remains in scope 1.

Using the location-based methodology we have seen reductions in carbon of around 15% against the base year. For the year 2022-24 total reduction has been impacted by an increased volume of grid electricity consumed which has been influenced by the wet weather events of winter 2023-24. Additionally the grid emissions factor has increased between 2022 and 2023, adding an additional 8,887tCO_2e

Carbon Reduce
Powered by TOITŪ

Our capital carbon programme remains on course to deliver our target of a 65% capital carbon reduction against our 2010 baseline by 2025.

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments
Reduction in gross operational emissions by 10%	2019-20	2024-25	absolute	-4,224	-1%	Medium term reduction, as an ODI for our regulator. This uses a market-based methodology.
Energy optimisation	2019-20	2024-25	absolute	14,152	120%	Reduction in carbon from energy optimisation schemes, represented as full year benefit. This is an internal target that references a 2019-20 emissions factor for reporting

Emissions Reduction - Absolute metric	5-year Rolling Average vs. Base Year
tCO_2e absolute	-18.89
Reduction Performance - Intensity metric	**5-year Rolling Average vs. Base Year**
tCO_2e intensity	-12.62

COMMITMENTS

Reduction targets

Anglian Water Services Limited is committed to managing and reducing its emissions. Anglian Water Services Limited's commitments, including GHG emissions reduction targets and plans, have been reviewed and are in line with Toitū Carbon Reduce programme requirements.

The organisation is committed to managing and reducing its emissions in accordance with the Programme requirements. Table 6 provides details of the emission reduction targets to be implemented. These are 'SMART' targets (specific, measurable, achievable, realistic, and time-constrained).

The long term goal for the organisation is to achieve net zero carbon emissions by 2030.

We have two five year carbon targets:

- Exceed a 10% reduction in real terms in gross operational carbon by 2025 against a 2020 baseline
- Deliver a 65% reduction in capital carbon by 2025 from a 2010 baseline

These targets are backed by a number of commitments including:

- The implementation of 'drop CO_2 drop cost' branding, which is now embedded, building on existing company wide carbon awareness messaging.
- Targeting business mileage and fuel efficiency of company vehicles to reduce carbon emissions and introducing electric vehicles where viable.

- Continue to work with partners in delivering additional renewable solar PV and optimise outputs from our existing CHP units.

- Further work with customers, communities and our value chain to promote understanding of the link between water, carbon and cost.

- Anglian Water played a key role in developing and launching PAS 2080 Carbon Management in Infrastructure.

Looking ahead, Anglian Water Services Limited is currently focused on the following projects.

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Water Optimisation Programme	Capital investment programme in energy efficiency schemes	Shaun Morris, Energy & Supply Programme Manager	Ongoing - completion Mar 2025	N/A	N/A	N/A
Water Recycling Optimisation Programme	Capital investment programme in energy efficiency schemes	Sangeetha Agalakotuwa Optimisation Programme Delivery Manager Dominik Kozminski, Tactical Improvement Manager;	Ongoing - completion Mar 2025	N/A	N/A	N/A
Increase energy consumption through renewable sources	Investment in sourcing renewable electricity	Alex Riley, Renewable Energy Leader	Ongoing	N/A	N/A	N/A

CERTIFICATE DETAILS

Certification status:	Carbon Reduce certified organisation
Certificate number:	2024214J, Year 1 of 3 year certificate period
Valid until:	10 July 2027
Measurement period:	01 April 2023 to 31 March 2024
Base year:	01 April 2018 to 31 March 2019
Audited by:	Achilles Assessment Services (UK)
Level of assurance:	Limited

[i] ©Enviro-Mark Solutions Limited 2020.
Disclaimer: This Certification Summary Statement is a summary of the information (validated and verified for relevant components of the certification) considered for certification and the certification decision. It should not be taken to represent the full submission for certification. Whilst every effort has been made to ensure that the information in this Statement is accurate and complete, Enviro-Mark Solutions Limited (trading as Toitū Envirocare) does not, to the maximum extent permitted by law, give any warranty or guarantee relating to the accuracy or reliability of the information.

[ii] The mandatory sources that must be included in any Carbon Reduce Programme inventory include:
- All direct emissions from the activities of the organisation, or the part of the organisation being certified. Direct emissions come from assets owned or controlled by the organisation, such as emissions from fleet vehicles, boilers, generators and HVAC systems.
- All emissions from imported energy (electricity, heat and steam)
- Emissions from business travel and freight paid for by the organisation
- Emissions associated with waste disposed of by the organisation, as well as the transmission and distribution of electricity, and natural gas

[iii] All purchased and generated energy emissions are dual reported using both the location-based method and market-based method in the certified Inventory Report and appendices. This summary document presents the information using the location-based method. Note that reductions and any required compensation are assessed using that method. Dual reporting illustrates the role of supplier choice, onsite renewable energy generation and contractual instruments in managing indirect emissions from energy alongside any ongoing energy efficiency and reduction efforts. This dual reporting aligns with ISO 14064-1:2018 and the GHG Protocol. Please contact this organisation for the dual reporting details applicable to this inventory.

[iv] Control: the organisation accounts for all GHG emissions and/or removals from facilities over which it has financial or operational control. Equity share: the organisation accounts for its portion of GHG emissions and/or removals from respective facilities.

Accounting, performance and transfer pricing disclosures

1 RAG 3.14 specifies a number of statements, notes and other disclosures which the company should make. Some of these disclosures are also required by law or by conditions in Anglian Water's licence. In this section we set out those statements or explain where they can be found.

Accounting disclosures

Statement on executive pay and performance

2 Section 35A of the Water Industry Act 1991 contains a requirement for companies to make a statement to Ofwat at the end of each financial year, regarding links between Directors' pay and standards of performance. Details of Directors' pay can be found in the Remuneration Report within the Annual Integrated Report (pages 148 - 174).

Statement on disclosure of information to auditors

3 In the case of each of the persons who are Directors at the time when the Report is approved under Section 418 of the Companies Act 2006 the following applies:

- So far as the Director is aware, there is no relevant audit information of which the Company's auditors are unaware; and
- He/she has taken all the steps that he/she ought to have taken as a Director in order to make himself/herself aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

Statement on dividend policy for the appointed business

4 The Directors proposed an interim dividend calculated with reference to performance for the 2023/24 financial year of £88.6 million, paid in June 2024. This dividend is in line with the Company's dividend policy which can be found here. The base dividend was adjusted for a total of £51.1 million deduction to reflect service delivery for customers and the environment. There are no plans for this dividend to be paid to the ultimate shareholders of Anglian Water Group Limited.

5 A £79.9 million prior year final dividend was paid in the period. The base dividend was adjusted for a total of £26.0 million deduction to reflect service delivery for customers and the environment in 2022/23.

6 These dividends were paid against a backdrop of an equity injection of £1,165.0 million in 2021 and results in a net equity injection for the AMP of £731.4 million. Through these capital injections the company continues to benefit from the strong support of shareholders.

7 The Board has an approved dividend policy, under which dividend payments take account of a range of matters including free cash flow, service delivery for customers and the environment, current and future investment needs and financial resilience over the longer term.

Dividend calculation

Dividend capacity and financial resilience

Distributable free cash flow for 2023/24 would enable a maximum potential 2024 dividend of up to £227 million, which means we have sufficient headroom to pay the proposed £88.6 million dividend.

As part of this analysis, the performance of AWS for the year has been considered as well as forward looking forecasts to ensure we remain compliant with covenant levels in the period to March 2025 (the end of the AMP 7 period), as required by the Common Terms Agreement (CTA) as well has having sufficient liquidity to make the payment.

Non-Appointed Business (NAB)

The NAB, along with the Appointed Business, forms the legal entity Anglian Water Services Limited that pays dividends. Whilst separated out for regulatory reporting purposes these business streams operated within the legal entity. Under our securitised structure we are unable to hold separate bank accounts and therefore, for simplicity we assume any profits generated in the NAB are paid out as dividends. Given the nature of the businesses there are no specific needs to hold reserves.

	2020/21	2021/22	2022/23	2023/24	2024/25
	Year 1	Year 2	Year 3	Year 4	Year 5
Total Statutory dividend paid and proposed	-	96	169	80	87
Less: Non-appointed dividend paid and proposed [1, 2]	-	(13)	(8)	(8)	(7)
Actual appointed dividend paid and proposed	-	83	161	72	80

1 The non-appointed dividend paid in year 2 reflects non-appointed profits carried forward from year 1 that were not distributed

2 The non-appointed dividend in year 4 is an estimate based on the expected profit of the non-appointed business

Consideration of performance and Ofwat licence requirements

8 The base dividend of £132.4 million has been set with reference to 4 percent of regulatory equity as referenced by Ofwat in their PR24 material. This has been adjusted down by £51.1 million for performance in the year to £81.3 million with a non-appointed dividend of £7.3 million also included to bring the in year dividend to £88.6 million. It was agreed that the £75.4 million of brought forward capacity continue to be deferred.

Ability of the Appointee to finance the Appointed Business, taking account of current and future investment needs and financial resilience over the longer term

The final year of AMP7 has a significant investment requirement; however, both the equity and debt requirements to make this investment have already been funded. The AMP7 growth in RCV is forecast to be £1,135 million by March 2025. This should be funded by 30 percent equity to maintain our 70 percent target gearing. This requires £340 million of equity.

As part of project Aquifer £1,165 million was injected as equity into the business which more than covers the above £340 million. In addition, in the current year £1.4 billion of debt has been raised with cash balances held of £1 billion at March 2024. Therefore no dividend restrictions are required for RCV growth in AMP7.

Looking ahead to AMP8 and beyond, our assessment of the PR24 business plan demonstrated that even in severe downside scenarios the business continued to be financially resilient. Whilst there was is expectation of an equity injection of £819 million over the AMP8 period there was also a forecast of £793 million of dividend payments over the same period,

including £40 million of non-appointed dividends. Therefore, were the equity not to be forthcoming, the business would be able to withhold dividends to generate the required equity investment.

Service delivery for customers and the environment over time, including performance levels, and other obligations

In line with the Company's dividend policy, the base dividend is adjusted to reflect the performance using the internal purpose scorecard, which has been developed and framed around the six capitals. This ensures that both relative and absolute performance over time is considered as part of the dividend declaration process. The scorecard considers 57 metrics of which 33 were green, 10 yellow and 14 were scored as red in the year.

Whilst Anglian was classed as "lagging" by Ofwat for the 2022/23 year, the latest comparative period available, this is based on the performance of each company relative to their individual performance targets.

KPMG has undertaken an assessment of absolute performance across the sector that shows that Anglian Water has continued to achieve top quartile performance over the period.

This assessment does not suggest that performance against our specific targets is not an important consideration, but is instead intended to give comfort that a dividend restriction equal to the ODI penalties assessed against those targets remains appropriate rather than requiring a larger restriction were absolute performance measures also seen to be lagging.

In addition to considering the number of serious pollutions which occurred during 2023, management have also given consideration to culpability in respect of those pollutions.

Therefore, in line with the dividend policy, a dividend reduction of circa £51.1 million (2023/24 prices) ODI penalty reflects the red areas of the performance scorecard. This reduces the £132.4 million base dividend to £81.3 million for the appointed business.

Reward efficiency and the effective management of risks to the Appointed Business

In addition to ODI performance which has been considered above, the main areas where companies are able to outperform are around Totex performance and Financing performance.

Financing performance is heavily impacted by macroeconomic movements with the higher inflation seen generating significant outperformance in the period of £58m and forecast to be £447m for the AMP. This is partly offset by Totex underperformance expected across the AMP7 period of £291m (£530m x 55% cost sharing).

However, notwithstanding this overall level of outperformance available, no additional dividend has been considered appropriate at this time and the shareholders have agreed to invest this money to fund the additional costs and schemes to improve operation performance.

Full AMP assessment

The assessment considers the timing of the dividend ensuring that both the base dividend and performance are considered across the AMP. The table below shows the available dividend brought forward from years 1 to 4 is £75.4 million. Adding this to the £88.6 million performance adjusted dividend gives a maximum dividend of £164.0 million available this year. Given the uncertainty remaining in the final year of the AMP and going into AMP 8 it is proposed to restrict this to the £88.6 million.

	2020/21	2021/22	2022/23	2023/24	2024/25	AMP 7 Total
	Year 1	Year 2	Year 3	Year 4	Year 5	
RCV Average	7,913	8,349	9,366	10,330	10,820	
Gearing (avg CTA)	82.50%	69.40%	66.20%	68.40%	69.40%	
Average reg equity	1,385	2,555	3,166	3,264	3,311	2,736
Assumed dividend 4% £m	**55.4**	**102.2**	**126.6**	**130.6**	**132.4**	547.2
Adjustment (outturn) +	-	-	12.2	-	-	12.2
Adjustment (outturn) -	-	-	-9.2	-25.8		
Non-Appointed	5.4	8	8	7		
Adjusted dividend	**60.8**	**110.2**	**130**	**104**		
Deferral brought forward	-	60.8	74	43		
Available dividend	**60.8**	**171.0**	**204**	**147**		
Deferral carried forward	-60.8	-75	-43	-75		
Actual dividend paid and proposed	**-**	**96.0**	**161**	**72**		
Cumulative Dividend yield (actual regulated equity)	0.00%	2.40%	3.40%	3.10%		

The assessment also considers the level of growth in RCV throughout the AMP as the 4 percent yield set by Ofwat was based on a flat RCV. This growth in RCV reflects investment in Capex over the AMP set out in our PR19 plans. This growth should therefore be funded in part by equity. The Company's dividend policy is to therefore restrict the base dividend to fund this growth unless separately injected as equity, which has been discussed above.

Conclusion

Whilst there was sufficient free cash flow and liquidity to pay a greater dividend the Board felt it appropriate to restrict the dividend to 4 percent of regulatory equity less ODI penalties in the period in order to support future investment and resilience.

Accounting policy note for price control units

In order to produce the APR and in addition to the accounting structure used for internal management reporting, we have created a separate regulatory cost structure in our financial system. This means that operating costs relating to water, wastewater and household retail price controls can largely be directly assigned. Where costs are not directly allocated to a specific price control, management has assessed an appropriate allocation in accordance with the regulatory accounting guidelines.

Capital expenditure is also largely directly attributable to price control. Where this is not possible, capital expenditure is assigned to the business unit of principal use with an appropriate recharge of depreciation charges for these shared assets made between price control segments in table 2A.

All cost allocations have been carried out in line with the guidance in RAG 2.09, with no material impact on the allocation of costs between price controls when compared to the previous year. More detail on our cost allocation processes can be found in our accounting methodology statement on our company website: www.anglianwater.co.uk.

Revenue recognition note

The following detailed policy on revenue recognition supplements the turnover accounting policy within the statutory financial statements.

i. Occupied properties are chargeable for water and sewerage, and revenue is recognised based on services supplied. The identity of the occupier is ascertained by either contact initiated from the occupier or other third party, completion of a questionnaire sent out by the Company to the premises, a visit by a customer services representative or searches of available data. Unoccupied and unfurnished properties are vacant properties and deemed void except where water is being consumed. Non-household properties are classified as vacant under the Market Codes, and no billing is raised and no turnover is recognised.

ii. Household charges apply to unoccupied premises in certain circumstances as set out in our Legal Charges Scheme, and revenue is recognised on these properties consistent with occupied properties. Unoccupied premises which attract charges include:

- premises which are left unoccupied for periods of time but are left with bedding, a desk or other furniture so that they may be used as a dwelling or as office or commercial premises
- premises where renovation or building work is being undertaken
- premises which are not normally regarded as being occupied such as cattle troughs and car parks
- all metered premises (furnished and unfurnished) where water is being consumed.

We classify properties as 'non-chargeable' on the basis that either:

- although the property is furnished, there is no consumption and the previous occupant is deceased, or the property is long term vacant (more than three months) due to hospitalisation, admittance to a care home, imprisonment with HMPs, or the property is uninhabitable due to fire/flood; or
- the property is demolished and/or pending disconnection and removal of meter.

No charge is calculated for these premises and no bill issued. This is based on a "fairness" principle given that, whilst the property is connected, no service is provided.

Further, the following provisions are applied in respect of disconnections:

- Premises listed in Schedule 4A of the Water Industry Act 1991 (e.g. any dwelling occupied by a person as his or her only or principal home) cannot be disconnected for non-payment of charges.
- If the water supply to any premises is disconnected for any reason but we continue to provide sewerage services to those premises, the customer will be charged the appropriate sewerage tariff unless it can be demonstrated that the premises will be unoccupied for the period that the premises are disconnected, in which case there is no charge. Revenue is recognised for sewerage services up to the point we are aware the property becomes unoccupied.
- If it is subsequently found that the premises were occupied for any period when we were advised that the premises would be unoccupied, we will apply the appropriate sewerage tariff to that period, raise appropriate retrospective bills and recognise revenue at that point.
- In the event that we suspect that a property is occupied but we have no record of the occupier, we take steps to establish the identity of the occupier in order that billing can commence and revenue be recognised. 'Occupier' is defined to include any person who owns premises as set out in part (i) above, and also any person who has agreed with us to pay water supply and/or sewerage charges in respect of any premises (e.g. a Bulk Meter Agreement).

iii. Charges on income relating to debt recovery costs, which are chargeable to customers, are applied to operating costs and charged to the relevant customer account. Turnover is unaffected by these debt recovery costs. Historically, we have only sought to recover court

and solicitors' fees where we have issued a County Court Claim. From 2009/10 the Legal Charges Scheme was amended to allow debt recovery administration fees to be recharged to customers.

iv. As soon as new properties are occupied and furnished or consumption is recorded, liability for water and sewerage charges commences, and revenue starts to accrue.

Use of social tariffs

Anglian Water offers the LITE tariff to eligible customers. The tariff provides banded discounts of 25 percent and 50 percent to standard rate charges. Eligibility is based on individual financial assessment by our ExtraCare team using charges as a proportion of effective disposal income (net income after housing costs, equivalised for occupancy). The majority of applicants qualify for the discount of 50 percent. The discount is fully funded by the customer cross subsidy, set following consultation in 2020.

To ensure our customers who need extra help receive an accessible and inclusive service, we provide a wide range of practical support through our Priority Service register. The Priority Service register can provide support to our customers should their water stop, and we need to carry out a repair, including proactive contact and bottled water delivered to their door.

Moreover, we provide a range of extra services to help our customers manage their accounts. From bills in alternative formats to translation services, assistance with reading meters, password schemes, and our knock-and-wait service, to ensure our customers have the support they need, when they need it.

In the 2023/24 period, we significantly increased the number of customers benefiting from our Priority Service register, reaching 12.7 percent of households. This nearly doubled the industry target of 7 percent by 2025. This achievement is a direct result of our proactive approach, including our customer-facing teams responding effectively to disclosures of vulnerability, promotional campaigns to raise awareness, and ongoing partnership initiatives.

We've actively engaged with over 150 partners across our region, generating over 9 million emails and more than 11.4 million social media impressions to promote the support available. As a result, 63.5 percent of our customers are now aware of the assistance we provide through our Priority Services.

Furthermore, we expanded our vulnerability training program in 2023/24. Our specialist support team received annual refresher training to ensure they have the confidence and ability to handle sensitive disclosures effectively. We also introduced monthly bitesize learning sessions in collaboration with our partners, drawing insights from the lived experiences of our customers.

We are proud to maintain our certification of the International Standard for Inclusive Service Provision ISO 22458. This high-level certification is only awarded to businesses that meet stringent criteria for protecting customers in vulnerable situations. We were among the first nine companies globally to achieve this prestigious certification.

In addition, we have expanded our network of partners. This year, we launched an innovative partnership with SHOUT, providing our customers with free 24/7 access to mental health support. This initiative highlights our ongoing commitment to providing comprehensive support to all our customers, particularly those in vulnerable situations.

Measured income accrual

We highlight the following comments in respect of turnover for the year:

Appointed turnover for the year ended 31 March 2024 included a measured income accrual of £358.0 million (year ended 31 March 2023: £298.2 million). The value of billing recognised in the year ended 31 March 2024 for the prior year was £289.8 million. This has resulted

in a recognition in the current year's turnover of an estimation difference for the prior year of negative £8.4 million (2023: negative £1.0 million) representing 0.6 percent of turnover (2023: 0.1 percent) and within acceptable tolerances for accounting estimates.

There have been no changes to the methodology used in calculating the measured income accrual from the prior year.

Capitalisation policy note

The capitalisation policy applied to the APR is consistent with that used in the statutory accounts (accounting policy 1(l) of the Annual Integrated Report), with the exception of the capitalisation of interest. This has been excluded from the APR as per the guidance in RAG 1.09, section 4.8.

Bad debt note

The Company assesses impairment of trade receivables on a collective basis and where they possess shared credit risk characteristics they have been grouped; these groups are residential, non-household and developer services, and other customers.

In particular, existing or forecast adverse changes in financial or economic conditions that are expected to cause a significant decrease in the debtor's ability to meet its debt obligations is taken into account when assessing whether credit risk has increased significantly since initial recognition.

Debt is only written off after all available economic options for collecting the debt have been exhausted and the debt has been deemed to be uncollectable or is subject to a settlement agreement or forgiveness scheme. This may be because it is, unrealistic, impractical, inefficient or uneconomic to collect the debt.

Situations where this may arise and where debt may be written off are as follows:

- Where the customer has absconded and attempts to trace the customers whereabouts prove unsuccessful;
- Where the customer has died without leaving an estate or has left an insufficient estate on which to levy execution;
- Where the debt is subject to insolvency proceedings and there are insufficient funds to settle the debt.
- Where the value and/or age of debt make it uneconomic to pursue.
- Where debt becomes statute barred.

We also write off debts following a settlement arrangement on an outstanding balance and for eligible customers on our debt forgiveness scheme (Back on Track) as part of payment matching.

Debt that is still subject to enforcement activity is not written off unless it becomes uneconomic to pursue.

The debt written off in the current year was £84.9 million (2023: £8.6 million). The reason for the decrease is that less debt met the write off criteria during the year. There have been no changes to our debt write off policy during the year.

Sufficiency of non-financial resources

Condition P.14 of Anglian Water's licence requires that the Company must ensure that, as far as reasonably practicable, it has available to it sufficient rights and resources other than financial resources so that if, at any time, a special administration order were to be made in relation to it, the special administrator would be able to manage the affairs, business

and property of the Company in accordance with the purposes of the special administration order. The Company was in compliance with this requirement at the end of the 2023/24 financial year.

Ring-fencing certificate

In accordance with condition P.31 of Anglian Water's licence, the Company has published a Ring-Fencing Certificate as part of its Annual Performance Report.

Tax strategy for the appointed business

We have prepared a statement on tax and transparency which can be found on our website at www.anglianwater.co.uk and is also included within the "Fair charges, fair returns" section of our Annual Integrated Report.

Statement on differences between statutory and RAG definitions

Under the RAGs the classification of certain balances within the regulatory accounts differs from that disclosed in the statutory financial statements. Where differences in values due to differences in statutory and regulatory definitions are material, these have been explained in the commentary to tables 1A, 1B, 1C and 1D.

Long term viability statement

Our long term viability statement is set out on pages 21 - 26 of this report.

Return on regulatory equity (RORE)

Differences between RORE performance in 2023/24 and base RORE set out at the last price review have been explained in the commentary to Table 1F.

Infrastructure charges

The Company has provided narrative on the variance between revenues and costs arising from providing infrastructure network reinforcement for developers in its commentary to table 2K.

Innovation competition

All funding has been recovered through main charges. We do not currently receive or forecast to receive any royalties.

In 2023/24 we were awarded:

- £913,029 for the CReDo project via the Water Breakthrough Challenge
- £1,200,000 for the Stiffkey Ecological Digital Twin project via the Water Breakthrough Challenge

Delivery of these projects and the previously funded projects is now underway.

Our project "Unlocking Bioresource Market Growth" has concluded and the full awarded amount has been invested in the project.

Funding transfers not referenced in Table 9A for this year include the MOSL administration costs for each settlement and the funds allocated via the Discovery Challenge. This may mean that there are discrepancies in the anticipated and recorded funding transfers.

We comply with the terms of any innovation competition funding decisions, including that innovation competition funding is not being used to fund business as usual activities funded through totex. Where we have recovered revenue from customers for the purposes of the innovation competition this revenue has been paid into the innovation competition fund as requested.

Included within the commentary to table 1C is the breakdown of the cash balance which relates to the innovation competition.

Narrative disclosures on performance

Outcomes

We have provided narrative on outcome performance in the commentary to tables in section 3 of this report. The information in section 3 is consistent with the information on outcome performance which we have provided to stakeholder groups such as the Independent Challenge Group (previously the Customer Engagement Forum) during the year and with the information published in our Annual Integrated Report.

Totex

We have provided narrative on our totex performance in the commentary to tables in section four of this report. This narrative includes explanation of:

- the difference between actual and allowed totex values
- costs which we believe to be exceptional or atypical
- links between outcome performance and expenditure
- any costs categorised as disallowable for cost sharing (e.g. fines)
- recharges between business units in respect of the 'principal use' of assets.

Retail

We have provided narrative on any material differences between our total operating costs and retail revenues allowed in price limits in our commentary to table 2C.

Wholesale revenues

We have provided narrative on differences between our actual and allowed revenue under the wholesale control in our commentary to table 2M. In this commentary we explain how we have allocated any penalty related to wholesale water revenue imbalances between the water resources and water networks plus price controls.

Current tax analysis

Our explanation of our current tax payment is set out in the commentary to table 1A, lines 12 and 13 and 4H line 18.

Current tax reconciliation

A reconciliation of the appointed corporation tax (credit) reported in table 1A to that resulting from applying the standard rate of tax to the profit on ordinary activities before tax as shown in table 1A is set out below.

		Notes		£m
Profit per the Annual Performance Report				64.5
Corporation tax charged at 25%				16.1
Depreciation and amortisation				77.6
Capital Allowances		(i)		(189.7)
Items not taxable		(ii)		(12.1)
Items not deductible for tax purposes		(iii)		2.6
Capital grants and contributions		(iv)		(4.8)
Pension payments				(1.3)
Change in general provision movements		(v)		0.7
Fair value losses on financial instruments (not deductible)				(51.2)
Wholesale losses carried forward		(vi)		112.1
Adjustments in respect of previous years		(vii)		(0.4)
Current tax (credit) for the year				(50.4)

The table below sets out the reconciliation between the UK corporation tax (credit) reported in Table 1A to the total current tax charge allowed in price limits.

				£m
Tax charge in price limits at 19% and in 2017/18 prices				
Retail tax allowance				2.2
Wholesale tax allowance				0.0
				2.2
Tax effect at 19% and in 2017/18 prices of:				
Decrease in profit before tax				(28.3)
Decrease in disallowable depreciation and amortisation				(11.9)
Increase in capital allowances		(i)		(49.6)
Increase in items not taxable		(ii)		(7.3)
Decrease in items not deductible for tax purposes		(iii)		-
Increase in pension deductions				(0.8)
Increase in change in general provision movements		(v)		0.4
Increase in wholesale losses carried forward		(vi)		86.1
Other				0.4

Current tax (credit) before adjustments for previous years at 19%				(8.8)
Adjustments in respect of previous years		(vii)		(0.3)
Increase in corporation tax rate to 25%		(viii)		(31.2)

Current tax (credit) in APR at 2017/18 prices				(40.3)
Indexation up to Outturn prices				(10.1)
Current tax (credit) in APR				(50.4)

Notes

i. The 2023 Budget confirmed that increased tax relief for capital expenditure would continue to be available at the rate of 100 percent on general plant additions and machinery and 50 percent on special rate assets additions in the year. Expenditure brought forward would continue to receive allowances at the rate of 18 percent for general pool and 6 percent for special rate pool expenditure. In the calculation of tax in price limits it was assumed that only 18 percent tax relief would be available on expenditure on general plant and machinery and 6 percent on special rate additions.

ii. The items not taxable are income from adopted assets which are included in other income and profits arising on the sale of land.

iii. Items not deductible for tax purposes mainly consists of depreciation on assets not eligible for capital allowances and compliance fines.

iv. The capital grants and contributions are included in other income but are treated as capital grants for tax purposes and deducted from additions to the special rate asset capital allowance pool.

v. The calculation of tax in price limits assumed there would be no changes to general provisions.

vi. The calculation of tax in price limits assumed that all losses would be carried forward. However, due to increased costs and capital allowances, the level of tax losses in the year has increased. We have surrendered some losses to other group companies but carried forward the majority to relieve taxable profits in future periods.

vii. The adjustments in respect of prior years relates to adjustments due to the agreement of prior year tax computations.

viii. The main rate of corporation tax increased from 19 percent to 25 percent on 1 April 2023.

Tax and Transparency

We have prepared a statement on tax and transparency which can be found on our website at www.anglianwater.co.uk, and is also included within the "an open and constructive approach" section of our Annual Integrated Report.

Interest

We have provided analysis of our appointed interest expense and our appointed other interest expense in our commentary to table 1A.

Financial flows

We have provided analysis of our financial flows in our commentary to table 1F.

Narrative on costs

Where we have allocated costs to the 'freeform' lines in tables 4L and 4M we have provided commentary to explain them.

Where we have proportionally allocated costs between expenditure categories in tables 4L and 4M, or between enhancement and base expenditure, we have explained this in the commentary to those chapters.

In table 6A, where we have reported water treatment works that have not been used in the year but have not been decommissioned we have provided commentary to explain them.

We have explained how we have calculated population and household growth, including how we have taken account of the 2011 census, in the commentary to table 4R.

We have explained how we interpret 'structurally refurbished' in our commentary to table 7C. In the same commentary we have explained the methodology and assumptions we have used to estimate the length of rising main that has been replaced or structurally refurbished.

In our commentary to table 8A we have explained:

- the basis of our estimate of all the untreated sewage sludge produced by in-area wastewater treatment processes in the report year and which is produced as a result of treating non-appointed liquid wastes through appointed wastewater treatment assets
- how we have estimated the road distances travelled in reporting sludge inter-siting and biosolids disposal work done
- how we avoid double-counting of sludge quantities where both the incumbent and a third party service provider undertake different stages of sludge treatment, e.g. dewatering followed by lime stabilisation
- the basis of our estimate of total sewage sludge produced from non-appointed liquid waste treatment.

In our commentary to table 7D we have reported the the population equivalents served by sewage treatment works (STWs) at which the required output has been delivered primarily by an opex solution (there are none this year).

In our commentary to table 4R we have explained our methodology to calculate non-resident population.

Supply-demand balance and metering

In our commentary to table 4L we have commented on progress in delivering long term improvements to the supply-demand balance and strategic regional water resource solutions, including explanation of any variances from our business plan and water resources management plan proposals.

In our commentary to 6F we have commented on progress in delivering our internal interconnection programme, including detail of installed pipe material, length, diameter and capacity and explanation of any variances from our business plan and water resources management plan proposals.

In our commentary to table 6B we have explained any variances in reported leakage from our business plan and water resources management plan proposals.

In our commentary to table 6D we have included narrative commentary explaining the smart metering technologies we are utilising and the capabilities and benefits these provide. We also explain how the metering and leakage figures reported in table 6D relate to our business plan and water resources management plan forecasts.

Analysis of debt

In our commentary to table 1E we have provided reconciliations to explain the reason for any differences between comparable lines in tables 1E and 4B. We have also provided an explanation where we have inserted a restated gearing level in line eight.

Common performance measures

There is no shadow reporting of common performance measures in this year's Annual Performance Report. We have commented on our compliance with performance commitment definitions where relevant.

Board statement on accuracy and completeness of data and information

Our statement is set out on pages 12-13 of this report.

Return on regulatory equity

We have explained any exceptional items included in our calculation of RORE in our commentary to table 1F.

Financial derivatives

We have provided information on other derivatives in table 4I and enables a full reconciliation with table 1C.

Transactions between the appointee and associate companies

The Company's activities are regulated by the conditions of the Licence granted to the Company by the Secretary of State for the Environment. With certain exceptions, the regulatory provisions do not apply to business activities which are not connected with the carrying out of the water and sewerage function; these business activities are referred to as non-appointed business.

Non-appointed business activities include legal searches to locate utility infrastructure, plumbing and drainage insurance introduction, recreation services, and billing commission. The RO water supply agreement to a customer not in our area of appointment, has also been treated as non-appointed business.

Approximately 95 per cent of the operating costs relating to these activities is directly incurred and does not require allocation. Other relevant costs have been allocated according to time spent on these activities, volume of water supplied to customers, or in proportion to direct costs.

We also charge costs to other parts of the organisation that sit outside the regulated business. In these cases, the guidance provided by RAG5 is followed, with costs charged on an arms-length basis, either as a cost pass through or via an hourly rate.

To the best of the Directors' knowledge, all appropriate transactions with associated companies have been disclosed in notes (a) to (g) below.

(a) Receivables

Receivables totalling £0.9 million were outstanding from other Group companies at 31 March 2024 (2023: £1.0 million).

(b) Payables

An amount payable of £49.6 million was owed to Anglian Water Services Financing Plc at 31 March 2024 (2023: £43.3 million). Payables totalling £0.7 million were owed to other group companies at 31 March 2024 (2023: £1.0 million).

(c) Borrowings

Sums borrowed, including accrued indexation by the appointee from Anglian Water Services Financing Plc at 31 March 2024, are set out in full in our Annual Integrated Report, note 18, which can be found on the AWS website:

https://www.anglianwater.co.uk/about-us/our-reports/

(d) Guarantees/securities

The Company, as part of the Anglian Water Services Financing Group, guarantees unconditionally and irrevocably all the borrowings and derivatives of Anglian Water Services Financing Plc, which at 31 March 2024 amounted to £8,911.9 million (2023: £8,080.1 million). The borrowings of Anglian Water Services Holdings Limited and Anglian Water Services UK Parent Co Limited are also guaranteed unconditionally and irrevocably by the Company. Anglian Water Services Holdings Limited and Anglian Water Services UK Parent Co Limited had no outstanding indebtedness at 31 March 2024 (2023: £nil).

(e) Supply of services

In order to achieve economies of scale across the Anglian Water Group, some services are provided to associated companies by the appointed business. We ensure that the cost of any services provided to associated businesses are fully recovered including an element of overhead costs. There has been a slight increase in recharges from the prior year as we have moved a number of employees back into the regulated business who spend a small amount of their time on the non-regulated business activities.

Recharges by the appointee to associated companies during 2023/24:

Service Provided	Company	Turnover of Associate £m	Terms of supply	Value £m
HR, Payroll, H&S, Regulation, Q&E	AWG Group Ltd	-	Actual Costs	1.685
Strategic Delivery and Commercial Assurance	AWG Group Ltd	-	Actual Costs	0.050
Strategic Delivery and Commercial Assurance	AWG Land Holdings Ltd	0.362	Actual Costs	0.428
Brand and Communication	AWG Group Ltd	-	Actual Costs	0.037
Finance	AWG Group Ltd	-	Actual Costs	0.570
IT	AWG Group Ltd	-	Actual Costs	0.121
IT	Anglian Venture Holdings Ltd	-	Actual Costs	0.052
Accommodation - Lancaster House	AWG Group Ltd	-	Actual Costs	0.111
Accommodation - Osprey House	Anglian Venture Holdings Ltd	-	Actual Costs	0.216
Land rental	Alpheus Environmental Ltd	10.389	Actual Costs	0.246
Vehicle Costs	AWG Group and Alpheus Environmental Ltd	-	Actual Costs	0.094
Tide recharge	Tide Services Ltd	6.441	Actual Costs	0.000
Total		16.830		3.610
Corporation tax group relief surrendered by the regulated business	AWG Group Limited	-	See note 1 below	47.400

9 Note 1 The losses surrendered to AWG Group Limited are provided for at the corporation tax rate of 25 percent. However, AWS already has a liability to pay for losses surrendered to it in earlier years and there is an agreement that AWS will not have to pay for these losses until it receives the benefit of the capital allowances that were disclaimed in order to generate the taxable profits against which the surrendered losses could be utilised. The losses incurred this year will reduce the liability for prior years and so will give rise to lower payments to other group companies in future years.

Recharges by associated companies to the appointee during 2023/24:

Nature of transaction	Company	**Turnover of associated Co**	**Terms of supply**	**Value £m**
CEO costs	AWG Group	-	Time apportioned	-0.2353
CFO	AWG Group	-	Time apportioned	0.5926
Treasury services	AWG Group	-	Time apportioned	0.8434
Health and Safety services	AWG Group		Time apportioned	0.3210
Legal services	AWG Group	-	Time apportioned	0.3669
HR services	AWG Group	-	Time apportioned	0.3274
Property services	AWG Group	-	Time apportioned	0.0460
Strategy and Risk	AWG Group	-	Time apportioned	0.1895
Internal audit services	AWG Group	-	Direct	0.3648
Insurance administration	AWG Group	-	Negotiated	0.2776
Group Life Assurance	AWG Group	-	Pass through	2.0032
Income Protection costs	AWG Group		Pass through	0.2968
Taxation services	AWG Group	-	Direct	0.1917
External audit services	AWG Group	-	Direct	0.5523
Pension admin, advice and audit	AWG Group	-	Pass through	0.3250
Miscellaneous items	AWG Group	-	Pass through	0.0506
Office accommodation - Lancaster House	OHL Piper Ltd	1.953	Other market testing	0.5125
Bulk purchase of water	Ardleigh reservoir committee	2.201	Actual costs	1.4776
			Total	**8.504**

Services provided by the non-appointed business:

Service provided by the non-appointed business	Basis of recharge made by the appointed business	Value of the recharge made by the appointed business (£m)
Treatment of tankered waste	Recharge to non-appointed is based on full cost including fixed and variable costs, depreciation and financing	3,515
Others	Key activates include mapping and data services, recreation facilities and wind turbines. The recharges made to the non-appointed business have been delivered on a bottom-up basis to include recovery of the fixed and variable costs along with an appropriate share of the depreciation and financing costs. A positive margin is made on this activity. Approximately £1.1 million of the reported costs are related to depreciation and financing recharges.	12,390
Total non-appointed operating costs		15,905

(f) Omissions of rights

No material omissions took place during the year.

(g) Waivers

There were no material waivers during the year.

Conduct of the appointed business

Condition P of Anglian Water's licence requires that the company meets the objectives on Board Leadership, Transparency and Governance (BLTG) which are also set out in Condition P. The company has adopted the BLTG principles into its Corporate Governance Code. Its Corporate Governance report is in its Annual Integrated Report.

Ofwat's Principles on BLTG require that the Board submits an annual statement which sets out how the company has set its aspirations and performed for all those it serves. This statement is included in pages 16-20 of this APR.

Data Assurance Summary

Introduction

1 We understand that customers and other stakeholders want information about our performance and that the information needs to be accessible and understandable. We are committed to providing information that is reliable and can be trusted.

2 Our overall approach to assurance is set out in *Our Assurance Framework* which can be viewed on the Anglian Water website. This submission has been completed within that framework.

General assurance processes

3 We have a company wide Business Management System (BMS) that is certified to the ISO 9001 quality management systems standard, whose scope includes the processes for ensuring the collection and storage of reliable performance data. We have established processes and procedures that we adopt when compiling performance data for publication into the public domain:

- Roles and responsibilities are established, including the allocation of named data providers for each line of data
- Methodologies for compiling data are documented in procedures if necessary
- Draft data and commentaries are reviewed by individuals (including senior managers), who are independent of the processes being reviewed
- Final data and commentaries are signed off by the individuals who are assigned by the risk assessment rating determined for each individual line
- Data may be subject to review by a third party assurance provider (normally Jacobs) or our independent financial auditors, Deloitte. Our use of third parties as part of the assurance process is informed by our assessment of risks to data quality.

Specific assurance processes for 2023/24 performance information

4 As described in *Our Assurance Framework*, central to our assurance process is our assessment of the risk of data error for each piece of reported data. We have continued the approach taken in 2021/22 where, in consultation with our assurance provider, Jacobs, we amended the risk assessment questions and scoring metrics and completed process risk and control (PRC) documents for the higher risk lines. This ensures that our regulatory risk assessment process places a greater focus on where risks sit within the data production and reporting processes.

Annual Performance Report (APR) Non-financial data

5 Our assurance programme for non-financial aspects of our APR comprised of the following stages this year.

Review of the risk assessment scores

6 We refreshed the risk assessment and shared the results with Jacobs in December 2023 to review the ratings we had determined against our revised risk assessment framework and consider whether the answers to the risk assessment questions align with their knowledge of our processes, and whether the potential impact of risks has been appropriately represented in the risk rating score.

Review of PRC documents

7 The PRC framework is a structured approach which requires us to

- Set out each step in the data collection process
- For each step, identify the risks to data quality

- For each risk, identify the controls in place as mitigation and the strength of those controls.

8 The PRC documents allow us to identify the highest areas of risk in the process and target areas of focus for the year-end audits. It also shows us where we may need to strengthen our controls. Where an area had a pre-existing Process Risk and Control document, we asked Jacobs to review the document, ensure this was up to date and audit the controls in place for targeted areas.

In-Year assurance

9 Jacobs were requested to conduct in-year process audits for six audit groups. They used a similar approach and terms of reference as for the year-end audits, focused on suitability of processes and procedures. Our Integrated Management Systems (IMS) and Economic Regulation teams also conducted 11 internal audits on lower risk audit groups following the same approach.

Year-end assurance

10 Internal assurance reviews

11 All data and commentary for the APR were reviewed by a colleague who is independent of the team and process which generates the information. These reviews allow us to sense-check to draft submission, understand the reasons for material variances from prior years and apply cross-checks to information in other parts of the Return.

12 External assurance reviews

13 As described above, external reviews were commissioned for a subset of non-financial APR lines, selected according to their risk ratings. Jacobs conducted our year-end assurance programme for 37 audit groups, though we also used two other specialist auditors in specific areas (see table below). The standard terms of reference of these reviews were to:

- Review the company's methodologies and procedures for identifying, analysing and recording data and, on a sample basis, test the application of those methodologies and procedures
- Refer to the PRC file in the 'Jacobs shared file' to confirm whether there is a Process Risk Control (PRC) document for that group. If there is a PRC document, the auditor is asked to review the identified risks and provide their opinion on whether or not the list is exhaustive and accurate. If there is no Process Risk & Control (PRC) document, the auditor is asked to focus on the suitability of the process for producing consistent data
- If there is one, provide an opinion on the way that risk is described within the PRC document
- Provide an opinion on the adequacy of the methodologies and procedures adopted by the company to provide reliable information
- Alert the company to any material areas of concern or weakness observed
- Review progress against issues raised in the last audit
- Review whether the APR procedures and any associated local procedures / work instructions are current, accurate and appropriate
- Seek understanding of the upstream processes which generate data and the controls in place for ensuring the reliability of those data. Test where possible

- For Common Performance Commitments only. Ensure that commentary contains either a statement that all components of the RAG checklist are green for each PC or that a copy of the RAG compliance checklist for each PC along with assessments of the materiality of the impact of any non-compliant components on reported performance. This should comply with the guidance in the "Common performance measures" section of RAG 3.14, paragraph 4.40

14 The reviews were carried out between April and June 2024. The results of each review were documented in summary audit reports, including information about the tests applied and the results, along with details of recommendations for longer term improvements. Any outstanding data issues were addressed prior to finalising the data.

15 A summary of the findings of Jacobs' reviews is set out in their Technical Assurance Executive Summary. A summary of all the year-end assurance reviews and their key findings is listed in the Appendix.

16 Due to a conflict of interest on the Strategic Pipeline Alliance (SPA), Jacobs did not conduct the audit for 3A.13 - Internal interconnection delivery. This audit was completed by Aqua Consultants in May 2024 and the standard terms of reference were provided.

17 Director sign-off

18 As set out in *Our Assurance Framework*, the sign-off protocols which form part of our assurance process are based on our data quality risk assessment. All APR data lines are approved by the nominated 'line approver', who is a different individual from the one who provided the data. Further sign-off is required for higher risk data lines by the Head of Business Unit (for lines rated as Medium risk) or Management Board Director (where the rating is High or Critical). These protocols were all applied to the 2023/24 APR.

19 At the AWS Board on 5 June 2024 the Board delegated authority to certain directors to approve the final versions of the APR including all disclosures. Drafts of the APR were shared with the Board on 1 July and the final version was approved by the company's Executive Directors on 10 July 2024.

APR Financial data

20 Our Regulatory Accounts have been prepared in accordance with the Regulatory Accounting Guidelines issued by Ofwat. In accordance with our plan, they were subject to review by the company's independent financial auditors, Deloitte, to ensure compliance with Condition F of the Instrument of Appointment as a water and sewerage undertaker under the Water Industry Act 1991.

21 The review took the following form:

- Audit of APR Tables 1A-1E, lines 1F.1 to 1F.3, 1F.5 to 1F.8, 1F.12 to 1F.14, 1F.21 to 1F.22 and 1F.24 to 1F.26 of the statement of financial flows (table 1F) and 2A-2O. Deloitte's audit was conducted in accordance with International Standards on Auditing (UK) issued by the Financial Reporting Council, and included such tests of transactions and of the existence, ownership and valuation of assets and liabilities as they considered necessary. Deloitte planned and performed their audit to be able to provide reasonable assurance that the regulatory accounting statements are free from material misstatement and are properly prepared in accordance with Regulatory Licence Condition F
- In line with the approach last year, in order to provide more robust assurance, Deloitte conducted audits on the financial data in tables 4D, 4E, 4H (excluding line 5), 4I, 4J and 4K
- It is important to us that our Annual Performance Report (APR) to Ofwat is completed accurately and in line with the guidance provided (Ofwat Guidance RAG 4.12). We have obtained assurance over the majority of the values to be submitted which includes an opinion from Deloitte, our external auditors, of certain financial values. However,

Deloitte have identified certain data within Table 1F (Financial Flows) that they consider to be outside the scope of their opinion. We have therefore requested they perform a series of agreed upon procedures over these remaining values to confirm the values entered into the prescribed fields of the Table 1F have been accurately drawn from the relevant data source.

22 Our auditor has provided its audit opinion that our Regulatory Accounting Statements have been prepared in all material respects, in accordance with Condition F, the Regulatory Accounting Guidelines as issued by Ofwat, and the accounting policies. The full audit opinion is included in our APR.

Feedback

23 We welcome feedback from stakeholders on all aspects of our performance reporting. You can contact us in any of the following ways:

- email: Stakeholderfeedback@anglianwater.co.uk
- call: 03457 91 91 55

24 We undertake to share the feedback we receive and explain how we have responded to it.

Assurance	Assurance Provider	Table numbers	Topic	Comments
In-Year	AW	7C	First time sewerage	No material issue
In-Year	AW	7C	Sewer rehab	Recommendation to include additional controls and checks in process to reduce risk of error and occasional spot testing on reported lengths
In-Year	AW	5A,6A,6C	Water mains length and comm pipes	No material issue
In-Year	AW	6C, 10G, 10F	Lead	Recommendation to update the procedure document to ensure currency of linked documents and to review the requirement to report on the 'split from supply'
In-Year	AW	5A	Number of sources	Recommendation to update the procedure document and to review whether to include lines formally owned by line providers in the document
In-Year	AW	7E	Odour related complaints	Recommendation to update the procedure to ensure it is simplified and reflects the current process and to include all types of contact
In-Year	AW	6B	Reservoirs and Towers	Recommendation for document owner to review the requirement for ensuring compliance
In-Year	AW	7C	TE Volume	Recommendation to update the procedure to reflect process more accurately
In-Year	AW	6C,7E	Area	No material issue
In-Year	AW	3B, 8A, 8D	Sludge	Recommendation to update procedure to explain data source and test where possible
In-Year	AW	8A	Sludge	No material issues
In-Year	Jacobs	6A	Water treatment works	Recommendation to update procedure document to formalise checks undertaken and ensure document is subject to change and version control
In-Year	Jacobs	7B, 7D	Large sewage treatment works	No material issues
In-Year	Jacobs	3E, 3I, 5A	Drought and water resources capacity	Recommendation to document source data, include additional risk that changes to licences and raw water quality may not be captured, confirm the minimum river flows and restate the preperformance commitment level to align with the methodology
In-Year	Jacobs	7C	Sewer blockages	Recommendation to improve data quality input by operatives and to close duplicate work orders and to update local work instruction to cover process for customer service identified blockages
In-Year	Jacobs	3E, 3F	Customer service measures	Recommendation to review how attempted contacts are classified in regards to attempted contacts and to record when wording of surveys change to assist analysing trends due to methodology changes
In-Year	Jacobs	3B, 3G	Pollution incidents	Recommendation to update APR procedure to reference version 10 of the EPA methodology and to investigate both what happens to pollutions reported via SelfServe and by different entities
Year-End	Jacobs	5A,6A,6B,7C	Pumping stations	No material issue
Year-End	Jacobs	3A	Cyber security	No material issue
Year-End	Jacobs	3B	Water Industry National Environment Programme (WINEP)	No material issue
Year-End	Jacobs	5A,6A,6B	Average pumping head	No material issue
Year-End	Jacobs	3E	Community Investment	No material issue

Year-End	Jacobs	3D	D-MeX	No material issue
Year-End	Jacobs	5A,7D,7E	Environmental outputs	No material issue
Year-End	Jacobs	3A,3F	Interruptions to supply (I2S)	No material issue
Year-End	Jacobs	3A,3F,6B,6D	Leakage and PCC	Recommendation to derive losses from flow balances for the new trunk mains as they are added to the network
Year-End	Jacobs	6C, 7C	Length of mains and sewers	Recommendation to update the processes to adequately use the source data and to ensure coding undertaken is appropriate and in-line with the Ofwat template
Year-End	Jacobs	4R,6A,6D	Raw water, resident population and supply demand	Recommendation to use the PCC for each planning zone as a potential sense check
Year-End	Jacobs	4R,3C	Pops and props	No material issue
Year-End	Jacobs	4Q,4R	New connections	No material issue
Year-End	Jacobs	8C	Sludge liquors: financial data	Recommendation for sensitivity analysis to be carried out to establish the risk posed by additions being added to the asset value but the site percentage split is not being correspondingly updated
Year-End	Jacobs	3A, 4R	Voids	Recommendation to add the process steps to the procedure document to describe the process steps after the data is extracted from the datalake
Year-End	Jacobs	4R	Business customers and properties	No material issue
Year-End	Jacobs	7B, 7C, 7D, 7E	Consents, overflows and flow monitoring	No material issue
Year-End	Jacobs	3E	Helping those struggling to pay	No material issue
Year-End	Jacobs	3B	Sludge treatment centre design review	No material issue
Year-End	Jacobs	3E, 3I	Flooding resilience	Recommendation to update procedure to ensure the two risk grades are correctly documented and explained and more detail about the steps applied
Year-End	Jacobs	3A, 6D	Metering	Recommendation to review the impact of meters being replaced by smart meters across AMPs
Year-End	Jacobs	8C	Liquor cost	No material issue
Year-End	Jacobs	3A	Outage	Recommendation to improve evidence of outage classification of planned compared to unplanned, changes to work processes that impact PWPC, water quality exclusions and assessment of partial outage impact
Year-End	Jacobs	3A	Water quality	No material issue
Year-End	Jacobs	3B	Treatment works compliance	No material issue
Year-End	Jacobs	3A, 3F	Water mains	No material issue
Year-End	Jacobs	3A	Low pressure	No material issue
Year-End	Jacobs	7F	WINEP phosphorus removal scheme costs and cost drivers	No Material issue
Year-End	Jacobs	3B	Bathing waters	No material issue
Year-End	Jacobs	5A, 6A, 6B, 7E, 8C	Bioresources energy / Energy	No material Issue
Year-End	Jacobs	3B	Flooding partnerships	No material issue
Year-End	Aqua consultants	3A	Internal interconnectors	No material Issue.
Year-End	Jacobs	3A	Single supply	No material Issue

Year-End	Jacobs	3B, 3G	Sewer flooding	No material issue
Year-End	Jacobs	3B, 3G, 3I, 7C	Sewer collapses	No material issue
Year-End	Jacobs	3A	Abstraction Incentive Mechanism (AIM)	Recommendation to align to the PR19 FD guidance where the baseline and the threshold criteria do no match
Year-End	Jacobs	3C	Customer service	No material issue
Year-End	Jacobs	3B, 3G	Pollution incidents	No material issue
Year-End	Achilles	11A	Carbon	No material issue

Independent Auditors' Report

Independent Auditor's report to the Water Services Regulation Authority (the WSRA) and the Directors of Anglian Water Services Limited

Opinion

1 We have audited the sections of Anglian Water Services Limited's ("the Company") Annual Performance Report for the year ended 31 March 2024 ("the Regulatory Accounting Statements") which comprise:

- the regulatory financial reporting tables comprising the income statement (table 1A), the statement of comprehensive income (table 1B), the statement of financial position (table 1C), the statement of cash flows (table 1D), the net debt analysis (table 1E), Lines 1F.1 to 1F.3, 1F.5 to 1F.8, 1F.12 to 1F.14, 1F.21 to 1F.22 and 1F.24 to 1F.26 of the statement of financial flows (table 1F) and the related notes; and
- the regulatory price review and other segmental reporting tables comprising the segmental income statement (table 2A), the totex analysis for wholesale water and wastewater (table 2B), the operating cost analysis for retail (table 2C), the historical cost analysis of tangible fixed assets for wholesale and retail (table 2D), the analysis of grants and contributions (table 2E), household revenues by customer type (table 2F), the non-household water revenues by customer type (table 2G), the non-household wastewater revenues by customer type (table 2H), the revenue analysis & wholesale control reconciliation (table 2I), the infrastructure network reinforcement (table 2J), the infrastructure charges reconciliation (table 2K), the analysis of land sales (table 2L), the revenue reconciliation for wholesale (table 2M), residential retail social tariffs (table 2N) and historic cost analysis of intangible fixed assets (table 2O)and the related notes; and
- the wholesale totex analysis – water (table 4D), the wholesale totex analysis – wastewater (table 4E), the financial metrics (table 4H excluding line 5), the Financial derivatives (table 4I), the Base expenditure analysis – water resources and water network + (table 4J), the Base expenditure analysis – wastewater network + and bioresources (Table 4K).

2 We have not audited lines 1F.4, 1F.9 to 1F.11, 1F.15 to 1F.20 and 1F.23 of the statement of financial flows (table 1F), the Outcome performance table (tables 3A to 3I) or the additional regulatory information in tables 4A to 4C, 4F to 4G, 4L to 4Y, 5A to 5B, 6A to 6F, 7A to 7F, 8A to 8D, 9A, 10A to 10H and 11A.

3 In our opinion, Anglian Water Services Limited's Regulatory Accounting Statements have been prepared, in all material aspects, in accordance with Condition F, the Regulatory Accounting Guidelines issued by the WSRA (RAG 1.09, RAG 2.09, RAG 3.14, RAG 4.12 and RAG 5.07) and the accounting policies (including the Company's published accounting methodology statement(s), as defined in RAG 3.14, appendix 2), and available on the Company website at https://www.anglianwater.co.uk/about-us/our-reports/) as set out in the notes to the Annual Performance Report.

Basis for opinion

4 We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)"), including ISA (UK) 800, and applicable law, except as stated in the section on Auditors' responsibilities for the audit of the Regulatory Accounting Statements below, and having regard to the guidance contained in ICAEW

5 Technical Release Tech 02/16 AAF 'Reporting to Regulators on Regulatory Accounts' issued by the Institute of Chartered Accountants in England & Wales.

6 Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the Regulatory Accounting Statements within the Annual Performance Report section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit, including the Financial Reporting Council's

(FRC's) Ethical Standard as applied to public interest entities, and we have fulfilled our ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter – special purpose basis of preparation

7 We draw attention to the fact that the Regulatory Accounting Statements have been prepared in accordance with a special purpose framework, Condition F, the Regulatory Accounting Guidelines, the accounting policies (including the Company's published accounting methodology statement(s), as defined in RAG 3.14, appendix 2) set out in the statement of accounting policies and under the historical cost convention. The nature, form and content of the Regulatory Accounting Statements are determined by the WSRA. As a result, the Regulatory Accounting Statements may not be suitable for another purpose. It is not appropriate for us to assess whether the nature of the information being reported upon is suitable or appropriate for the WSRA's purposes. Accordingly we make no such assessment. In addition, we are not required to assess whether the methods of cost allocation set out in the accounting methodology statement are appropriate to the circumstances of the Company or whether they meet the requirements of the WSRA.

8 The Regulatory Accounting Statements are separate from the statutory financial statements of the Company and have not been prepared under the basis of international accounting standards in conformity with the requirements of the Companies Act 2006 ("UK IASs"). Financial information other than that prepared on the basis of UK IASs does not necessarily represent a true and fair view of the financial performance or financial position of a Company as shown in statutory financial statements prepared in accordance with the Companies Act 2006.

9 The Regulatory Accounting Statements on pages [38 to 192] have been drawn up in accordance with Regulatory Accounting Guidelines with a number of departures from IASs. A summary of the effect of these departures in the Company's statutory financial statements is included in the tables within section 1.

10 Our opinion is not modified in respect of this matter.

Conclusions relating to going concern

11 In auditing the Regulatory Accounting Statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the Regulatory Accounting Statements is appropriate.

12 Our evaluation of the directors' assessment of the company's ability to continue to adopt the going concern basis of accounting included:

- Testing key controls over the cashflow forecasting and going concern assessment;
- Understanding Management's process to model the impact of going concern and agreeing relevant data points in the model to supporting documentation;
- Assessing the sophistication of the model used to prepare the forecasts, testing of the clerical accuracy of those forecasts and assessing the historical accuracy of forecasts prepared by Management;
- Assessing the assumptions used in establishing Management's base case, including comparison of key assumptions to plans for the remainder of the Asset Management Period ("AMP") 7, the submitted AMP 8 business plan and independent data sources where relevant;
- Evaluating liquidity, including in the scenario where future financing is restricted;
- Evaluating the external financing to establish and assess the covenant requirements attached to this financing;
- Confirming the availability of committed undrawn borrowing facilities, of which £850m expire in over two years;
- Recalculating and assessing the amount of headroom in the forecasts (liquidity and covenants) and recalculating compliance with covenants during the year ended 31 March 2024;

- Evaluating the sensitivity analysis including downside risks prepared by Management in the context of operational performance challenges, additional spend on capital projects, cyber risks and the broader socio-economic conditions; and
- Assessing the appropriateness of the disclosures in the annual performance report.

13 Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

14 Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Other information

15 The other information comprises all of the information in the Annual Performance Report other than the Regulatory Accounting Statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the Regulatory Accounting Statements does not cover the other information and we do not express any form of assurance conclusion thereon.

16 In connection with our audit of the Regulatory Accounting Statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Regulatory Accounting Statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the Regulatory Accounting Statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of the other information, we are required to report that fact.

17 We have nothing to report based on these responsibilities.

Responsibilities of the Directors for the Annual Performance Report

18 As explained more fully in the Statement of Directors' Responsibilities set out on page 28, the directors are responsible for the preparation of the Annual Performance Report in accordance with the Regulatory Accounting Guidelines issued by the WSRA and the Company's accounting policies (including the Company's published accounting methodology statement(s), as defined in RAG 3.14, appendix 2).

19 The directors are also responsible for such internal control as they determine is necessary to enable the preparation of the Annual Performance Report that is free from material misstatement, whether due to fraud or error.

20 In preparing the Annual Performance Report, the directors are responsible for assessing the Company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the Audit of the Regulatory Accounting Statements within the Annual Performance Report

21 Our objectives are to obtain reasonable assurance about whether the Regulatory Accounting Statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the Regulatory Accounting Statements.

22 Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. In identifying and assessing risks of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, we considered the following:

- the nature of the industry and sector, control environment and business performance including the design of the group's remuneration policies, key drivers for Directors' remuneration, bonus levels and performance targets;
- results of our enquiries of management, the internal audit function and the Audit Committee about their own identification and assessment of the risks of irregularities, including those that are specific to the group's sector;
- any matters we identified having obtained and reviewed the group's documentation of their policies and procedures relating to
- identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
- detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged fraud; and
- the internal controls established to mitigate risks of fraud or non-compliance with laws and regulations;

23 We considered the nature of the company's industry and its control environment, and reviewed the company's documentation of their policies and procedures relating to fraud and compliance with laws and regulations. We also enquired of management about their own identification and assessment of the risks of irregularities.

24 We obtained an understanding of the legal and regulatory frameworks that the company operates in, and identified the key laws and regulations that:

- had a direct effect on the determination of material amounts and disclosures in the Regulatory Accounting Statements. These included Regulatory Accounting Guidelines as issued by the WRSA, UK Companies Act, pensions legislation and tax legislation; and
- do not have a direct effect on the Regulatory Accounting Statements but compliance with which may be fundamental to the company's ability to operate or to avoid a material penalty. These included the company's operating licence, regulatory solvency requirements and environmental regulations.

25 In common with all audits under ISAs (UK), we are also required to perform specific procedures to respond to the risk of management override. In addressing the risk of fraud through management override of controls, we tested the appropriateness of journal entries and other adjustments; assessed whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business.

26 In addition to the above, our procedures to respond to the risks identified included the following:

reviewing financial statement disclosures by testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described as having a direct effect on the financial statements;

- performing analytical procedures to identify any unusual or unexpected relationships that may indicate risks of material misstatement due to fraud;
- enquiring of management, internal audit and in-house legal counsel concerning actual and potential litigation and claims, and instances of non-compliance with laws and regulations; and
- reading minutes of meetings of those charged with governance, reviewing internal audit reports and reviewing correspondence with HMRC and Ofwat.

27 A further description of our responsibilities for the audit of the Regulatory Accounting Statements is located on the Financial Reporting Council's website at www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of this report

28 This report is made, on terms that have been agreed, solely to the Company and the WSRA in order to meet the requirements of Condition F of the Instrument of Appointment granted by the Secretary of State for the Environment to the Company as a water and sewage undertaker under the Water Industry Act 1991 ("Condition F"). Our audit work has been undertaken so that we might state to the Company and the WSRA those matters that we have agreed to state to them in our report, in order (a) to assist the Company to meet its obligation under Condition F to procure such a report and (b) to facilitate the carrying out by the WSRA of its regulatory functions, and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the WSRA, for our audit work, for this report or for the opinions we have formed.

29 Our opinion on the Regulatory Accounting Statements is separate from our opinion on the statutory financial statements of the Company for the year ended 31 March 2024 on which we reported on 10 June 2024, which are prepared for a different purpose. Our audit report in relation to the statutory financial statements of the Company (our "Statutory audit") was made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our Statutory audit work was undertaken so that we might state to the Company's members those matters we are required to state to them in a statutory audit report and for no other purpose. In these circumstances, to the fullest extent permitted by law, we do not accept or assume responsibility for any other purpose or to any other person to whom our Statutory audit report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

30 **Deloitte LLP**

31 Birmingham, United Kingdom

32 10 July 2024

Technical Assurance Executive Summary

Terms of Reference & Assurance Approach

1 Anglian Water Services Limited (Anglian Water) commissioned Jacobs U.K. Limited (Jacobs) to provide independent technical assurance on selected non-financial data tables/lines for its 2024 Annual Performance Report (APR). This information is part of Anglian Water's APR which Ofwat requires all companies to publish by 15 July 2024. The APR is a collection of data and commentary relating to Anglian Water's performance in defined areas, including the Performance Commitments (PCs) for 2023/24. Anglian Water's PCs are defined in Ofwat's PR19 Final Determination.

2 We carried out limited assurance in areas targeted by Anglian Water's risk assessment process as described below. We had full access to corporate systems to audit how information is extracted and used. We worked on the basis that information in corporate databases is reliable.

Risk Assessment

3 In 2021 the Economic Regulation team in Anglian Water updated the regulatory risk assessment process to place a greater focus on where risks sit within the data production and reporting processes.

4 The risk assessment was refreshed for APR2024 by Anglian completing assessment meetings with data providers and data owners. This produced a new risk profile for APR2024 which was shared with us in December 2023 with Process, Risk & Control assessments (PRC) completed for 44 PCs.

In-year process audits

5 Anglian Water requested 'in-year' process audits in six areas. The purpose of the audits was to ensure the processes of systems and control behind the data collection were being implemented effectively and adhered to and that any risks or gaps in those processes were being identified and managed. We assessed the reliability of the processes to assure that the resulting data is appropriate for managing the business and describing its performance. In year audits took place in November and December 2023.

6 The six audit topics were:

- Customer Service Measures
- Drought and water resources capacity
- Large STWs
- Pollution incidents
- Sewer blockages
- Water Treatment Works bands

7 Anglian Water provided terms of reference for each audit, the associated PRC document and methodology/work instructions/local procedures. Jacobs' technical auditors were asked to:

- Review the company's methodologies and procedures for identifying, analysing and recording data and, on a sample basis, test the application of those methodologies and procedures.
- In particular the auditor should focus on the identified targeted areas within the PRC document as outlined in the table (provided in the Terms of Reference).
- Provide an opinion on the way those risks are described within the PRC document.
- Provide an opinion on the adequacy of the methodologies and procedures adopted by the company to provide reliable information.
- Alert the company to any material areas of concern or weakness observed.

- Review progress against issues raised in the last audit.
- Review whether the APR procedures and any associated local procedures / work instructions are current, accurate and appropriate.

Year-end audits

8 The refreshed risk assessment and the findings of the In-year audits were used by Anglian to compile the year end audit programme which comprised 37 audit areas covering process and data:

Audit Group name	Ofwat APR data table / lines
Single supply	3A.7
Flooding partnerships	3B.8
Helping those struggling to pay	3E.13
Community investment	3E.16
Leakage and PCC	3A.3-4, 3F.4-6, 6B.4-15, 29-39, 58-67, 6D.22-25
Average Pumping Head	5A.23, 6A.6,34, 6B.24
Sewer flooding	3B.1,5, 3G.1-3
Sewer collapses	3B.3, 3G.5, 3I.4, 7C.6-7
New connections	4Q.1-4, 4R.17-18
Voids	3A.10, 4R.1-4, 11,20,21 (voids lines only)
Liquor cost	8C.17
Length of mains and sewers	6C.1, 5-17, 7C.11, 16-22
Water supply interruptions	3A.2, 3F.7
Pops and Props	3C.6, 4R.1-10, 13,19,23
Raw water, resident population and supply demand	4R.28, 30-32, 6A.33, 6D.15-20
Water mains	3A.5, 3F.1-3, 6
Consents, overflows and flow monitoring	7B.8, 10-11, 7C.8-10, 13, 7D.20, 7E.3-4, 13
Environmental Outputs	5A.30, 7D.17-19, 22, 7E.9-12, 14-25
Metering	3A.12, 6D. 6-14, 21
Flooding resilience	3E.5, 3I.3
Business customers & properties	4R.5-9, 14, 24-25
Pumping stations	5A.21, 6A.4, 6B.1, 7C.3
Bioresources energy / Energy	5A.24, 6A.7, 35, 6B.23, 7E.6-8, 8C.1-6, 18-23
Pollution incidents	3B.2, 3G.4
WRMP annual reporting	Table 6F (non-financial columns)
WINEP phosphorus removal scheme costs and cost drivers	Table 7F
Sludge treatment centre design review	3B.9
Bathing Waters	3B.6
AIM	3A.9
Low Pressure	3A.8
Water Quality	3A.1, 3A.1

D-Mex	3D.1-3, 6-8
Cyber Security	3A.14
WINEP	3B.7
Outage	3A.6
Customer Service	3C.1-8
Treatment Works Compliance	3B.4

Additional audit effort

9 The terms of reference for the audit of Leakage and PCC were expanded by Anglian following publication of Ofwat's investigation into leakage reporting at Welsh Water. These additional audit tests are reported in the SAR.

10 Additional audit effort was applied to Unplanned Outage following receipt of Ofwat's Information Note IN24/01 which set out expectations for the 2024 APR. Unplanned Outage was highlighted as an area across some companies where non-compliance with Ofwat's guidance had been identified.

11 IN24/01 contained a requirement for forecasts of Performance Commitments that have an end of AMP reward or penalty to be assured. The audit programme was therefore expanded to be able to review and provide an opinion on whether the forecast for 2024/25 were realistic and achievable. These additional audits are included in the table above.

12 We were asked to place additional focus on the content and completeness of APR Procedures.

Audit reporting

13 Audit results have been documented in Jacobs' Summary Audit Reports (SARs). Our audit findings are rated as Red, Amber, Green, and Blue for reporting risk as Material concerns (Red), Minor concerns (Amber), No concerns (Green) and Non-material observations/recommendations (Blue). Grey indicates a not applicable audit test.

14 Weekly meetings were held between Anglian's Economic regulation team and Jacobs' Assurance management team. The purpose of these meetings was to review progress against the audit programme and any actions that emerged from the audits.

Key Findings

Summary audit statement

15 Our limited assurance for the In-year and Year-end audit programmes has identified no material issues with the reported information.

16 We have made observations detailed in Key Findings (identified as 'Amber' and 'Blue'). We have highlighted a number of observations and recommendations for Anglian Water's consideration. These are either work in progress by Anglian Water or opportunities to improve processes to provide further confidence in resulting data for the Company to consider.

17 Our audits confirmed data have been combined for the Anglian and Hartlepool operating regions.

18 In accordance with Ofwat's Information Note IN24/01, we have provided a statement confirming the status of third-party audits of the PCs with financial rewards and penalties. We have included a statement to confirm assurance of the 2024/25 forecasts for Performance Commitments that have an end of AMP reward or penalty.

G D Hindley

Assurance Director

Jacobs UK Ltd

08 July 2024

In-year audits

19 For the six topics we were asked to audit 'In-year', there were robust processes in place to generate the information used for reporting of PCs. The risks to data production, processing and reporting were adequately explained for most of the areas.

20 Some PRC risk assessments required updates to reflect the actual process that take place. Similarly, methodologies were generally sound, although a small number required updating to record the processes more accurately. We did not identify any material risks or concerns.

Year-end audits

APR Procedures

21 The level of detail in the APR procedures is generally satisfactory, however some would benefit by expanding the content to fully describe processes and data sources.

22 Some sign off by data providers and managers was outstanding at the time of audit.

23 The level of internal checks and controls is considered adequate and was demonstrated at audit. We note that the Economic Regulation team carries out independent audits and checks prior to the data going to external audit.

Specific issues

24 We identified some issues to which we have alerted the Company at audit and included in the SAR reports. The items of note are detailed below.

25 Audit RAG Key: No concerns; Minor concerns; Material concerns; Non-material observations/recommendations

Performance Commitment /APR data table	ANH risk rating (highest rating from assessment)	Audit RAG	Summary findings by exception and/or good performance
PC Leakage/water balance information **3A, 3F, 6B, 6D**	Critical	Green	Anglian Water's PC for year 4 of AMP7 is an 12.4% reduction in the three-year average leakage 2019/20 baseline level (194.1 Ml/d), giving a year 3 target of 170.0 Ml/d. We confirmed the three-year average leakage outturn for 2023/24 as 182.0 Ml/d which is a 6.2% reduction, incurring a penalty. We have reviewed the company's consistency RAG status, which is fully compliant with the exception of the 'Water Balance and MLE' which is coded red due to the reconciliation error being 3.18% of distribution input. The company continues to investigate options to improve the water balance reconciliation error and is proposing to undertake a major review of the methodology and assumptions over the next two years. As the error remains below the 5% limit specified for Maximum Likelihood Estimation we do not consider the gap materially impacts on leakage. Anglian's leakage reporting methodology is well established to produce reliable data.
		Blue	There has been a gradual decline in the Individual Household Monitor (IHM) sample. In 2014/15 Anglian started using a hybrid approach which combined data from the IHM and unmeasured but metered properties. Anglian uses occupancy cohorts when deriving the per household consumption (PHC). The impact of removing the occupancy cohort adjustment for APR24 is to increase leakage by 0.1 Ml/d (from 182.1 to 182.2 Ml/d) and to decrease PCC by 0.1 l/head/day (from 127.6 to 127.5 l/hd/day). Given that the consistency RAG suggests a 1% materiality threshold the use of occupancy is not material. We therefore recommend that the company reviews the PHC calculation as part of the wider water balance review and use of smart metering data that it is currently discussing with Ofwat.

		Green	We have reported against the additional audit requirements for Leakage. Considering the many assumptions used in the water balance and the time available for APR auditing, we were unable to cover all components. We have therefore recommended a review of the minor components of the water balance to form part of the 2024/25 In-year programme which will take place in the autumn of 2024. As part of the additional focus on leakage, we reviewed Anglian's arrangements for responsibilities, accountabilities, governance of leakage and water balance reporting. The objective was to seek assurance that the culture of the Company allows transparency of leakage activities and reporting from "on the ground" through to the Executive Management, CEO and Board of Directors. We met with the Director of Water Distribution. Anglian's arrangements for responsibility, accountability of leakage activities and performance provide a clear line of sight from the technical and operational activities up through the Company to the Executive Management and Board of Directors/Chairman level through a culture of transparency. We found that leakage reporting drives activities which are sufficiently agile to respond to changing circumstances and tightening regulatory targets.
PC **Unplanned outage** **3A.6, 3F.8, 3I.1**	Medium	Green	Anglian has met the target reporting 2.05% of Peak Week Production Capacity (PWPC) as unplanned outage (PCL = 2.34%).
		Blue	The team has continued to include the capacity of works that have been off-line for long durations (greater than 6 months) in the company PWPC calculation. The team confirmed that excluding works that have been out-of-service for over a year due to water quality has only a minor impact on the reported figures and does not impact the ODI. Additionally, the team explained that Anglian has an action plan to operationalise these long-term out-of-service works, which justifies their inclusion in the PWPC calculation. We recommend the company details the reasons for these prolonged outages and the steps being undertaken to return them to operation in its commentary to Ofwat. The commentary should also present evidence that the water quality exclusions are consistent with Ofwat's guidance. Whilst this initially scored a RAG rating of Amber, a further review of the immaterial impact on the reported value resulted in a Blue rating. The team's decision to issue a statement of compliance with Ofwat's guidance, as an alternative to the RAG table, aligns with the latest Ofwat advice issued in the Ofwat Information Notice (IN24/01). It is important to ensure that this statement accurately reflects the company's adherence to the regulatory requirements. We therefore recommend the statement is supported by an explanation on how the company PWPC approach aligns with the guidance requirement.
PC **Interruptions to Supply (I2S)** **3A, 3F**	Critical	Green	We confirmed performance of 9 minutes 8 seconds per property which does not meet the PC target of 5 mins 23 secs per property. All I2S events are now recorded and managed through the Event Management Platform which is a significant improvement in retaining records in one place. We found the I2S investigation process is being diligently followed. All events audited were traceable in Event Management Platform including events we selected from sources external to Anglian.
PC **Properties at risk of persistent low pressure** **3A**	Medium	Green	Anglian is reporting a year end figure of 65 properties at risk of persistent low pressure. This is the closing balance on the low pressure register following removals during the year which came from four interventions (two capital schemes and two proactive removals). Data was traceable to the audit packs which have complete records to support removal of the properties. Anglian is on track to meet the end of AMP PC.
PC **Smart metering delivery** **3A, 6D**	High	Green	The process for extracting and reporting data is well documented and we consider it to be logical. The process relies on a mostly automated system, that takes data uploaded remotely. A number of logic checks are embedded to ensure that meters installed are correct and functional.
		Blue	We noted two anomalies regarding how the data is being reported: · Data where an AMR meter is installed and then replaced within the AMP period is not currently being excluded from the reported numbers. This would relate to failure rates for meters. · When reporting data for replacement of meters with smart meters a simplification has been made that assumes meters without a specific reference code are basic meters. However, this excludes a number of smart meters that were installed in AMP6 but are being replaced in AMP7. For both issues, Anglian advised that it has assessed this number and believes it to be in the region of 5,000 jobs (less than 1%). Anglian further advised that such numbers would be accounted for in year 5 of the AMP period and the method adjusted accordingly.
PC	Medium	Green	One of the four sites has triggered the threshold. Anglian is reporting 29Ml AIM volume, causing an underperformance penalty of about £69k as the FD target is -87Ml.

Abstraction Incentive Mechanism (AIM)			
3A		Amber	We found the trigger baseline and threshold for each site did not match with the FD guidance. We also found the algorithm used for the AIM volume calculation did not consider the 'at' the trigger threshold as highlighted in the FD guidance. This has been corrected and the impact on prior years' reporting has been assessed. Anglian would be entitled to less penalty and more reward however we understand the amount is relatively trivial and the change is not being pursued.
New connections **4Q, 4R**	High	Green	Anglian's new connections data shows trends which reflect the changes in the region's economy and fluctuations in the housing market.
PC **Helping those struggling to pay**	Medium	Green	Anglian is comfortably ahead of the target for the report year and year 5 of the AMP.
3E		Blue	We identified a non-material issue with customers applying to the crisis fund. Customers were being included on the list when their application went live and then removed if the application was rejected or withdrawn. We identified that if a customer had a live application at a month end which was then cancelled, they would appear on the list for that month and therefore be picked up in the reported total. If they did not receive any other form of help during the year, this would not be correct. The company reviewed the data post-audit and found 310 cases where this issue applied. The reported total was therefore revised from 389,681 to 389,371. The company identified a methodology change for future use which would eliminate this issue.
Liquor costs	Critical	Green	All recommendations identified in APR23 have been implemented. The documents reviewed during the audit were comprehensive and included the latest updates on liquor costing for returns. Auditing the loads was not part of the scope of the audit. Therefore, upstream processes were briefly discussed and explained but were not reviewed in detail.
8C		Blue	It is recommended that the haulage sampling and calculations records table be improved by automating the process of calculating load values from on-site records. This could follow a similar process to the return liquor mass balance process adopted in Version 1.1 where the %DS is sampled before and after treatment to calculate the return liquor volume.
Properties & population	High	Green	Properties and population data are used as denominators for some PCs and other key data for Anglian's reporting. The methodology used to obtain the data is embedded and the source systems are mature. We traced information to source.
4R		Blue	Data on the number of meter types is supplied by the Water Services team, which is assured for their APR reporting. The Water Services team's data includes voids and therefore the team uses total meter numbers from its own charge multipliers reports and uses the Water Services meter data to split across meter types. We discussed which report was more robust for the purposes of 4R and the team concluded that it should use the charges report for the number of unmeasured AMR and AMI meters and use the Meter Services data only to apportion the AMI meters between capable and active. The team revised its procedures for this change and updated the reported numbers. The total number of meters is unchanged, but more basic meters and fewer AMI meters are reported.
PC **Percentage of population supplied by a single supply system** **3A**	Low	Amber	The reporting methodology is unchanged from previous years. As highlighted at APR23 there remains a potential risk that completed schemes that deliver a benefit may not be defined as 'in supply', we recommend that a wider definition is developed for 2024/25 reporting. This is because gateway DM4 is an extended step and could take many weeks (or months) to complete after the scheme is operational.
Length of mains and sewers **6C, 7C**	High	Blue	Anglian's process for calculating the reported numbers for length of mains and length of sewers relies on a mostly automated system which requires manual updates to timelines and new parameters as necessary. This raises a minor risk (Amber RAG score). The methodology for this table needs to cover how data is uploaded to the source system. This is not currently covered in the audit and represents a shortcoming in audit presentation. We are unable to assess what this impact might be on reported data based on the audit. We recommend the audit team should seek assurance that the source data entered into the system is robust. Subsequent to the audit Anglian advised that new processes will be embedded and documented in time for APR 25 to address this (Blue RAG score).
PC **Mains repairs** **3A, 3E, 3F**	Critical	Green	We confirmed the year 4 outturn outperformed the PC target, reporting in line with the guidance of proactive and reactive jobs. Hartlepool jobs are extracted separately, the team manually check every job and define the reportable ones. Evidence of the checks presented in the audit. The procedure required updating to reflect the latest guidance, process and data sources. This has been completed.
PC	Low	Green	Anglian provided a good level of detail of how pollution incidents were captured internally via their system and how to cross-check with the EA tracker to ensure

Pollutions **3B, 3G**			the records matched. We reviewed the dashboard used to run the check on monthly basis and reviewed some examples of their change requested when they found discrepancies between their record and the EA tracker. The team explained weekly meetings across the company are held to review the performance and discuss with the filed team. A checklist was presented at the audit indicating a robust check and review procedure implemented for the reporting.
PC **Water Quality (CRI & WQ contacts)** **3A**	Medium	Green	We reviewed CRI and water quality contacts methodologies during the audit. Also checked APR procedure relating to Water Quality metric reporting. Documents aligned to the procedure observed and discussed in audit and meet the guidance requirements. Both CRI and Water Quality Contacts have a suitable Process Risk Control document holding appropriate risks for each of the measures. The documents assessed appropriate vulnerabilities and controls for the methods used to generate the data.
		Blue	The CRI number sign off appears to be limited when the final value is provided by the DWI. It was not clear in the audit how robust the governance is on the final number before it goes to Board. Considering a final, formal sign off that is logged through the Compliance Monitoring Group may be beneficial.
Consents, overflows & flow monitoring **7B, 7C, 7D, 7E**	Critical	Amber	Procedures were shared prior to the audit that were a different version to the procedures shared in the "Line Procedures" file. These were dated April 2020 compared to May 2023 shared in the Audit folder. The difference in versions was explained that line owners are responsible for updating their procedures and then re-uploading them to the central database. This poses a risk of uncontrolled documents in local drives which is material to procedure management which could impact on the accuracy of reported numbers if an outdated procedure was used. It is recommended that procedures are prevented from being downloaded from the central database, and responsibilities for ensuring most up to date procedure is within the database included within the procedure document.
		Green	Content of the most recent line procedures shared for the audit were appropriate and methodologies aligned with calculations discussed. No material concerns were identified. Spreadsheets used to calculate data shared in the audit call and required values demonstrated for input into APR return sheets. A minor concern was identified for 7C.9 - Number of emergency overflows as a look up error was identified within the data spreadsheet potentially reducing the figure from 887 to 885. Two data entry errors in the PACE system have been corrected along with the APR return on 7C.9.
PC **Sewer flooding** **3B, 3G**	High	Green	The sewer flooding team reviews jobs in the reporting year to check whether they should be included in the reported performance. The team looks at all the reports of flooding when carrying out the checks, reads all the text and records whether they agree with the conclusion. The issue with the quality of long text associated with work orders. The quality of information in the work orders' long text is being addressed by the introduction of a new "Error Report" which is distributed monthly to the Network / Catchment Managers. This report provides a summary of issues that the reporting team have to manually correct or interpret. It has become live in the last few months with the aim of improving the quality of data captured in the field. We support this approach and it will be useful to monitor the metrics in this report over the coming year to see if there is an improving trend.
		Blue	The PRC document for Sewer Flooding and is broadly reflective of the process. In our opinion, the balance of risk in the PRC is not reflective of the overall risk in the process. We believe that the PRC should reflect that the biggest risks are with the upstream processes and ensuring that data is captured correctly and accurately to feed the downstream processes. Currently, the PRC shows that the higher risks are in the downstream processes, when in fact, these downstream processes represent the checks and controls to ensure that the upstream reporting has been completed correctly and no jobs have been mis-coded or incorrectly captured. We recommend reviewing the balance of risk in the PRC.
PC **Partnership working on pluvial and fluvial flood risk** **3B**	Low	Amber	Anglian's APR procedure for this PC does not fully reflect the exact definition of the regulatory output in the 2019 Final Determination. Despite this, Anglian continues to work in partnership with others (e.g. Local Authorities) to jointly fund and implement schemes to benefit customers by reducing flood risk which, is in the spirit of the PC. Through this partnership working, the way in which schemes are justified has become enhanced since the PC was established in 2018/19. There is a small financial risk that Ofwat may consider the reported outputs to be lower, however Anglian is in a strong position to justify all outputs and demonstrate the principle of the PC has been followed. We understand Anglian is working to deliver all schemes by the end of the AMP.

Independent assurance of PCs with financial rewards and penalties & End of AMP forecasts

PCs with financial rewards and penalties

26 Ofwat's Information Note (IN24/01) requires companies to provide a statement from their Assurers confirming that appropriate third-party assurance has been carried out on their reported 2023/24 PCs that have financial rewards and penalties. This statement should specify which of these PCs the third-party assurers have reviewed as part of their assurance work.

27 All financial PCs have been part of Jacobs' audit programme as confirmed below in the summary table in section 2.4.3. The final C-MeX and D-Mex scores are confirmed by Ofwat but were also subject to third-party audit by Jacobs.

End of AMP forecasts - 2024/25

28 IN24/01 requires companies to apply independent assurance to forecast performance against PCs with a financial reward or penalty which is assessed at the conclusion of year 5 of the AMP (2024/25).

29 In the summary table in section 2.4.3 we have indicated those PCs which have an end of AMP financial reward or penalty. We have confirmed that the 2024/25 forecasts were assured as part of our audit work. The forecasts have been made to the best of Anglian's ability taking into consideration performance to year 4 of the AMP and current trends. We consider the forecasts are a reasonable prediction of the likely outturn by 31 March 2025, however there is always a risk of unforeseen circumstances or unpredictable events outside of Anglian's control that could impact on actual performance.

Summary table for PCs with financial rewards and penalties and end of AMP forecasts

30 The table below confirms the audits that have taken place. For clarity, as highlighted in this report, in-year audits are of the process only and year-end audits are of the process and data.

PC with financial reward/penalty	In-year audit	Year-end audit	PC with end of AMP financial reward/penalty
Water supply interruptions		Yes	
Leakage		Yes	
Per capita consumption		Yes	Yes
Mains bursts		Yes	
Unplanned outage		Yes	
Internal Sewer Flooding		Yes	
Sewer collapses		Yes	
Customer Measure of Experience (C-MeX)	Yes	Yes	
Developer Measure of Experience (D-Mex)	Yes	Yes	
Percentage of population supplied by single supply system		Yes	
Properties at risk of persistent low pressure		Yes	
External sewer flooding		Yes	
Abstraction Incentive Mechanism		Yes	
Managing void properties		Yes	
WINEP		Yes	

Water Quality contacts		Yes	
CRI		Yes	
Pollution incidents	Yes	Yes	
Treatment works compliance		Yes	
Bathing waters attaining excellent status		Yes	Yes
Smart metering delivery		Yes	Yes
Partnership working on pluvial and fluvial flood risk		Yes	Yes
Cyber security		Yes	Yes
Additional sludge treatment capacity (Whitlingham)		Yes	Yes

Glossary

Annual Integrated Report (AIR) - report by the Company on the year's activities**.** Includes the strategic report, corporate governance report, remuneration report and the statutory accounts

Annual Performance Report (APR) – report produced by the Company for regulatory reporting purposes, in accordance with the Regulatory Accounting Guidelines.

Appointed business – the appointed business comprises the regulated activities of the Company which are activities necessary in order for a company to fulfil the function and duties of a water and sewerage undertaker under the Water Industry Act 1991.

Arm's-length trading – arm's-length trading is where the Company treats the associate companies on the same basis as external third parties.

Asset Management Plan (AMP) – a plan agreed with Ofwat on a five-yearly basis for the management of water and wastewater assets. The plan runs for a five-year period. AMP6 covered April 2015 to March 2020 and AMP7 covers April 2020 to March 2025.

Associate company – whereas Anglian Water Services (AWS) Limited is the regulated company within the AWG group, the group also contains other companies ('associates') which are not regulated by Ofwat. The Licence requires that AWS is ring-fenced from these associates and that all transactions between them are disclosed.

Botex - base expenditure to operate and maintain our assets to a fixed service performance level.

Botex plus - botex expenditure plus the costs of dealing with sewer flooding and low water pressure and extending the off-site network to meet the demands of growth

Carbon Reduce Scheme (formerly CEMARS - Certified Emissions Measurement and Reduction Scheme) - the methodology for producing an organisational carbon footprint is aligned with the internationally recognised Greenhouse Gas Protocol for corporate accounting and reporting.

CMOS (Central Market Operating System) - CMOS is the core IT system which underpins MOSL's role in the water retail market. CMOS manages all the electronic transactions involved in switching customers and provides usage and settlement data that is used in the billing process.

Competition and Markets Authority (CMA) - the non-ministerial department which works to promote competition and the fair conduct of markets for the benefit of consumers. In the event that a water company rejects Ofwat's determination at a price review the CMA conducts a re-determination.

Competitively Appointed Provider (CAP) - the firm appointed to deliver a scheme under the DPC regime.

Consumer Price Index including owner occupied housing costs (CPIH) - compiled and published monthly by the Office of National Statistics, this is a measure of consumer inflation which includes a measure of the owner occupied housing costs (costs that are associated with owning, maintaining and living in one's home) and council tax. Anglian Water's allowed revenues can be raised annually by the value of CPIH.

Direct Procurement for Customers (DPC) - individual very large construction schemes, which previously would have been delivered by the water undertaker by default, can be designated by Ofwat to be delivered by a competitively appointed provider instead.

Enhancement expenditure - expenditure to deliver a higher quality of service than is delivered through base expenditure, such as meeting tighter environmental standards or complying with new statutory obligations.

Final Determination (FD) – this is the conclusion of discussions on the scale and content of the Asset Management Plan for the forthcoming five-year period. It is accompanied by a determination of the allowable 'K' factor for the forthcoming five-year period.

K factor – the annual charge, set by Ofwat, in revenue that companies in the water industry can make. The amount by which a company can increase (or must decrease) its charges is controlled by the price limit formula CPIH + or – 'K'. 'K' is a number determined by Ofwat for each company, usually at a price review, for each year to reflect what it needs above or below inflation in order to finance the provision of services to customers, and is subject to adjustment mechanisms to reflect prior year revenue recovery and in-period performance commitments.

Licence – the Instrument of Appointment dated August 1989 under Sections 11 and 14 of the Water Act 1989 (as in effect on 1 August 1989) under which the Secretary of State for the Environment appointed Anglian Water Services Limited as a water and sewerage undertaker under the Act for the areas described in the Instrument of Appointment, as modified or amended from time to time.

MOSL (Market Operating Services Limited) - MOSL is the not-for-profit company which operates the business water market which opened on 1 April 2017.

Non-appointed business – the non-appointed business activities of the Company are activities for which the Company as a water and sewerage undertaker is not a monopoly supplier (for example, the sale of laboratory services to an external organisation) or involves the optional use of an asset owned by the Company (for example, the use of underground assets for cable television).

Ofwat – the name used to refer to the Water Services Regulation Authority (WSRA). The WSRA acts as the economic regulator of the water industry.

Outcome Delivery Incentives (ODIs) – financial incentives which reward companies for outperforming their performance commitment levels and penalises them for under-performing.

Performance commitment - a measure chosen to track the delivery of outcomes which customers have told us are valued by them

Performance Commitment Level (PCL) – the standard of performance that we expect to deliver against each performance commitment. Typically, though not always, there will be a separate PCL for each year of the price control period.

Periodic Review – the price determination process undertaken by Ofwat every five years. Each water and sewerage undertaker submits an Business Plan covering the five-year period for which Ofwat will determine allowed revenues.

Price Control Units – at the 2019 price review, Ofwat introduced separate price controls for water resources, water network plus (water treatment and treated water distribution), wastewater network plus (waste water collection and treatment), bioresources, retail household and retail non-household.

Regulatory Accounting Guidelines (RAGs) – the accounting guidelines for the APR issued, and amended from time to time, by Ofwat.

Regulatory Capital Value (RCV) – the capital base used in setting price limits and the value of the appointed business that earns a return on investment. It represents the initial market value (200-day average), including debt, at privatisation, plus subsequent net new capital expenditure including new obligations imposed since 1989. The capital value is calculated using the Ofwat methodology.

Retail Price Index (RPI) – the RPI is compiled and published monthly by the Office for National Statistics. RPI is an average measure of change in the prices of goods and services bought for the purpose of consumption by the vast majority of households in the United Kingdom. From 1 April 2020 50% of Anglian Water's RCV is indexed to the RPI, with the balance indexed to CPIH.

Retail services – the elements of the business responsible for direct contact with customers e.g. the contact centre, billing and reading meters. From April 2017, following the opening of the non-household market, business customers became able to choose their retail supplier. Anglian Water's appointed business exited all non-household market activities.

Section 24 Sewers - In England there is a category distinction between sewers built before or after 1937. Sewers dating from after 1937, and that only serve your own home (albeit that the drain line crosses somebody else's land) are "private" or "lateral drains". On the other hand if your house was constructed before 1st October 1937 and your drains are shared, serving two or more homes, then that drain line is a "public" sewer (a "section 24 sewer").

Sludge Treatment Centre (STC) - These are sites where we convert sludge into biosolids that can be recycled to agricultural land. We have ten of these and they are all located at water recycling centres. Each STC treats the sludge produced by its host WRC plus the sludge that is tankered into it from surrounding WRCs.

Third-party contributions since 1989/90 – grants and third-party contributions received in respect of infrastructure assets and any deferred income relating to grants and third-party contributions for non-infrastructure assets.

Totex – total expenditure comprising operational expenditure (opex) and capital expenditure (capex).

Transferred private sewers - On 1 October 2011 all privately owned sewers and lateral drains which drained to existing public sewers as at 1 July 2011 became the responsibility of the sewerage undertaker. This covered foul, surface water or combined sewers, and any drains serving individual properties, which are outside the curtilage of the property they serve, connect to the public sewerage system and were previously the responsibility of homeowners. In the second tranche of this programme all privately owned pumping stations serving more than one property and their associated rising mains transferred to the sewerage undertaker on 1 October 2016.

UKWIR (UK Water Industry Research) - the body which facilitates, manages and delivers a strategic programme of research projects for its members, the water companies of the UK and Ireland, to address the key challenges they face

Water and Sewerage Company (WaSC) – a company responsible for the provision of both water and sewerage services.

Water only company (WOC) - a company responsible for the provision of water services only.

Water recycling - to promote public understanding of the water cycle and encourage stakeholders to value water appropriately, we use this term to describe our waste water or sewerage service.

Water Recycling Centre (WRC) - we use this term, rather than sewage treatment works, to describe the facilities which return used water to a condition where it can safely be discharged to environmental waters.

Water Treatment Works (WTW) - operational site where raw water from the environment is made potable.

Wholesale services – the elements of the business responsible for the abstraction, treatment and distribution of water and the collection, treatment and disposal of sewage and sludge.

Working capital – the aggregate of stocks, trade debtors and trade creditors.