

Annual Performance Report 2021

anglianwater

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Version Control

1 This version was published on 20 December 2021 and is an update to the version published on 15 July 2021.

2 This version includes amendments to tables and commentary as a result of the Ofwat query process.

3 The most significant of these changes are in the "Financial flows" table (1F) and the "Impact of price control to date on RCV" table (4C) which include a number of formula changes requested by Ofwat. The following table summarises the changes.

Table(s) / Line(s)	Description
3F.4	Data unites changed
8C.17	Switch to a new methodology shadow figure in the main table.
5A, 6A, 6B - All average pumping head lines	Works changed from ground to surface resulting in Distribution Input percentage change.
4J and 4K	Explanation of variances in maintenance capex between 2019/20 and 2020/21.
3A, 3B, 6B	Express water balance as a percentage. Confirm non-compliance with reporting specification has not materially affected outcome of common PCs.
1F and 4C	A number of formula adjustments to tables 1F and 4C requested by Ofwat.
6D	Data units changed.
3A and 3F	Data unit change for the Mains repairs PC.
7D	Lines were reported in the incorrect format, this has been amended.

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 2021. 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 2020/21.

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 3.12 is set out in a separate section.

This report includes the data assurance summary, which demonstrates the process carried out by Anglian Water Services 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 14 July 2021 and was signed on their behalf by:



Peter Simpson

Chief Executive



Steve Buck

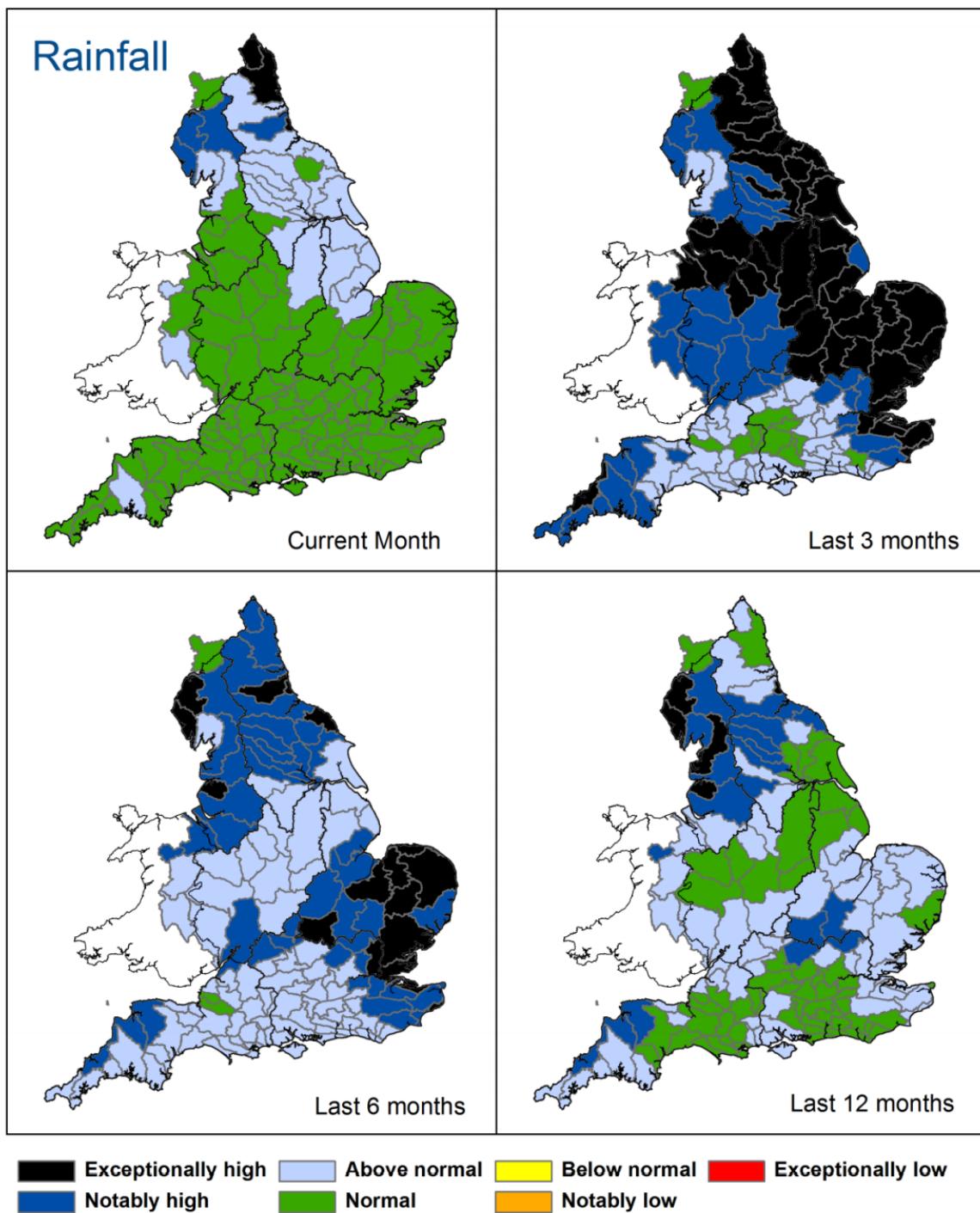
Chief Financial Officer

Key Messages

Anglian Water Services delivered strong operational performance throughout the pandemic. Good further progress has been made in 2020/21 on the delivery of our purpose: to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop!

Highlights

- Best ever performance on interruptions to supply and met our water pressure performance commitment despite supplying increased demand due to Covid-19. We put over 1.4 billion litres of water into supply on seven days last summer, something we have only had to do on one other occasion in the last 14 years. This is also despite significant reductions in abstraction agreed as part of our Water Resources Management Plan to protect the environment.
- We beat our leakage performance commitment target despite a winter which saw us dealing with more bursts than we experienced in Beast from the East in 2018.
- Despite impact of lockdowns we showed strong delivery on our investment programme including early delivery of 520 WINEP obligations (over 50 per cent of the total delivered in AMP6).
- Best Water Recycling Centre compliance on a comparable basis despite the additional loads placed on our works due to Covid-19.
- Continued strong operational and financial performance and on-track delivery of capital programmes despite Covid-19, with an anticipated £10 million of outperformance rewards for 2020/21 and 81 per cent of performance commitments assessed as on track
- Competition and Markets Authority (CMA) redetermination process concluded; business focused on delivering ambitious Business Plan designed to address macro challenges of climate change and population growth by 2025, while preparing for PR24
- New financing structure announced which will lead to lower leverage for Anglian Water
- Company launches sustainability-linked bond framework to facilitate ground-breaking net zero bonds aligned to newly announced transitional carbon targets to 2025
- Five-point Community Recovery Plan launched, underpinning support for community recovery post-Covid
- Beat the industry common targets for sewer flooding, despite large parts of our region suffering exceptional rainfall in the six months up to February. This is demonstrated in the Environment Agency's [Monthly Water Situation Report for February](#) (page 8), which also shows how river levels remained high in our region longer compared to the rest of the UK (page 12).



Financial highlights

- Appointed revenue for the year was £1,257.3 million, a decrease of £51.3 million (3.9 per cent) on the previous year. This is consistent with the price reduction for customers following the Final Determination and reduced demand from non-household customers, offset in part by increased demand for household customers due to Covid-19 - see table 1A
- Appointed profit before tax and fair value movements for the year of £136.4 million, up £77.5 million (131.4 per cent), primarily the result of the non-cash impact of lower inflation on index-linked debt due to a fall in year-on-year average Retail Price Index (RPI) and Consumer Price Index (CPI) - see table 1A
- There were no dividend payments in the year (2020: £67.8 million). Based on the available free cash flow there was capacity to pay a dividend of £203.6 million. The Directors have proposed to pay a final dividend of £96.3 million
- No dividends were paid to the shareholders of Anglian Water Group Limited (AWGL), the ultimate parent company, in the year (2020: £nil). The above dividends do not represent dividends paid to our ultimate shareholders; at this time there is no proposal to pay a dividend to shareholders of AWGL. We are grateful for the ongoing support of our shareholders, who have foregone dividends since June 2017 for the long-term benefit of the company and its customers, in line with our purpose
- No government support requested during pandemic. No employees furloughed and automatically applied Business Rates Relief, received for our recreation businesses, has been repaid in full
- A strong start to our £3.0 billion AMP7 capital investment programme. Gross annual capital expenditure across the business of £448 million (£221 million on capital maintenance, £226 million on capital enhancement and £1 million non-appointed). This is broadly in line with management expectations and achieved despite the challenges of the pandemic
- £10 million of rewards for outperformance under the Ofwat performance framework. Our performance is measured against 45 commitments that help us, our regulators Ofwat and our customers understand the progress we are making and what we've delivered
- Following the CMA Final Redetermination process, weighted Average Cost of Capital (WACC) set at 3.2 per cent on a CPI basis, balancing risk and reward for our shareholders, who have continued to support us through a period of no dividends
- New group financing structure being implemented to enable a reduction in gearing in the company. This will enhance and protect our credit ratings allowing us to borrow at competitive rates to support the investments customers have asked us to make.

Award-winning leadership on environment including net zero and climate change adaptation

- Strong track record on carbon reduction enables the launch of ground-breaking net zero bonds based on new 2025 interim carbon targets: a 30 per cent reduction in operational carbon from a 2018/19 baseline and a 65 per cent reduction in capital carbon from a 2010 baseline
- Detailed routemap to 2030 net zero target for operational carbon and 70 per cent reduction in capital carbon to be launched in July
- Best-ever performance on renewable energy in 2020/21 with 134.4 GWh generated from on-site assets, including new 42,000-panel solar array at Grafham Water, energised in September
- First UK water company to be included on CDP Global A list for its response for climate change, reaching top 3 per cent of 9,600 companies globally
- Anglian Water co-chaired Water UK working group which delivered world-first sector-wide routemap; CEO Peter Simpson continues to co-sponsor industry net zero 2030 commitment
- Ofwat Innovation in Water challenge funding secured to develop whole-life carbon measurement tool in partnership with @One Alliance and Welsh Water

- Company secures three Net Zero Carbon Initiative Awards (Water Industry Awards for 2020 and 2021, Utility Week Awards 2021) and joins Race to Zero as an individual actor
- First company in the UK to submit and publish Climate Change Adaptation report in the third round of the adaptation reporting power
- Five-point plan for green recovery secures £300 million accelerated investment in environmental programmes through Water Industry National Environment Plan (WINEP) at no additional cost to customers, with 'amber' schemes progressed to 'green'Anglian Water Services Limited
- Anglian Water co-chairs of the Prince of Wales Corporate Leaders Group along with EDF
- WINEP includes schemes which will reduce the amount of water abstracted from sensitive areas by 85 million litres per day by 2025, and restore the health of precious and internationally important chalk streams in Anglian Water's region
- 520 environmental schemes delivered in the first year of five-year programme (compared with a total of 1,000 schemes delivered between 2015 and 2020).

A leading employer

- Support for employee health, safety and wellbeing, track record on inclusion and ongoing people development sees Anglian Water named Utility Week Employer of the Year 2020
- No employees furloughed; commitment to recruitment maintained with all job offers honoured, 50 apprentices and six graduates appointed
- Company supports employee wellbeing through pandemic, launching Employee Assistance Fund and providing 24-hour access to virtual GP, Employee Assistance Fund, free subscription to Headspace app and stand-down half-days for 3,000 staff and partners
- New policy sees colleagues offered opportunity to swap Christian religious holidays for religious holidays relating to other faiths
- Annual employee engagement survey records best-ever employee engagement score of 74 per cent, up 2 per cent
- Gender pay gap report published despite requirement being deferred due to the pandemic; Anglian Water reports mean gender pay gap of 5.7 per cent (vs 5.9 per cent in 2019) and median pay gap of 11.6 per cent (vs 11.0 per cent in 2019).

Progress on social purpose and publication of Five-Point Community Recovery Plan

- Five-Point Plan for Community Recovery, published today, sets out Anglian Water's commitments to its social purpose through supporting vulnerable customers; being an inclusive business and driving social mobility; investing in communities; supporting health and fostering wellbeing; and acting with integrity
- £1 million Positive Difference Fund, launched in April 2020, supports more than 100,000 beneficiaries through more than 160 community groups
- Anglian Water Social Contract, founded on 10 company-specific outcomes agreed with customers and five industry-wide Public Interest Commitments, published in June 2021
- Work underway with British Standards Institute and other partners to develop Publicly Available Specification (PAS) for Sustainable Purpose to be published in 2022
- Business in the Community Responsible Business Tracker 2020 – Anglian Water scores 73 per cent versus average energy/utility score of 61 per cent and overall reporting average of 41 per cent
- Anglian Water invited to become founding signatory of the Prince of Wales's global Terra Carta Initiative in January 2021Anglian Water Services Limited.

Focus on customers maintained

- Financial support including payment schemes, instalment plans and concessionary tariffs offered to 319,466 customers facing affordability issues
- ExtraCare team signposts customers to more than £4 million of unclaimed benefits to which they may be entitled
- We've given support to almost 800,000 customers in potentially vulnerable situations working with 100 partner organisations.
- Sign ups to Priority Services Register up by 112 per cent year on year due to active promotion; register now supports more than 175,000 customers
- Increasing digital delivery of services to customers, with more than six million digital interactions in 2020/21.

Operational highlights

- Industry-leading leakage performance maintained and regulatory target exceeded for the 10th year running despite winter weather, with 81 per cent of performance commitments assessed to be on track
- Top quartile performance for internal and external flooding, notwithstanding winter flooding, earning outperformance payments estimated at £6 million
- Best-ever performance on interruptions to supply, earning projected reward of £1 million
- Estimated outperformance payments of £1.1 million each due for Customer Measure of Experience and Developer Measure of Experience
- Properties at risk of low pressure reduced to record low
- Improved performance on pollutions with 20 per cent reduction in number of pollutions year on year; target not yet met. Although less progress was made on serious pollutions it was still a reduction and only one of these pollution incidents resulted in any fish (3 perch) being killed.
- Per capita consumption target missed with three-year average at 138.1 litres per person per day (provisional) compared to 136.1 in the previous year, following hot weather and lockdown-driven increase in household consumption; potential penalty deferred to end of AMP (2025) until pandemic impact assessed.

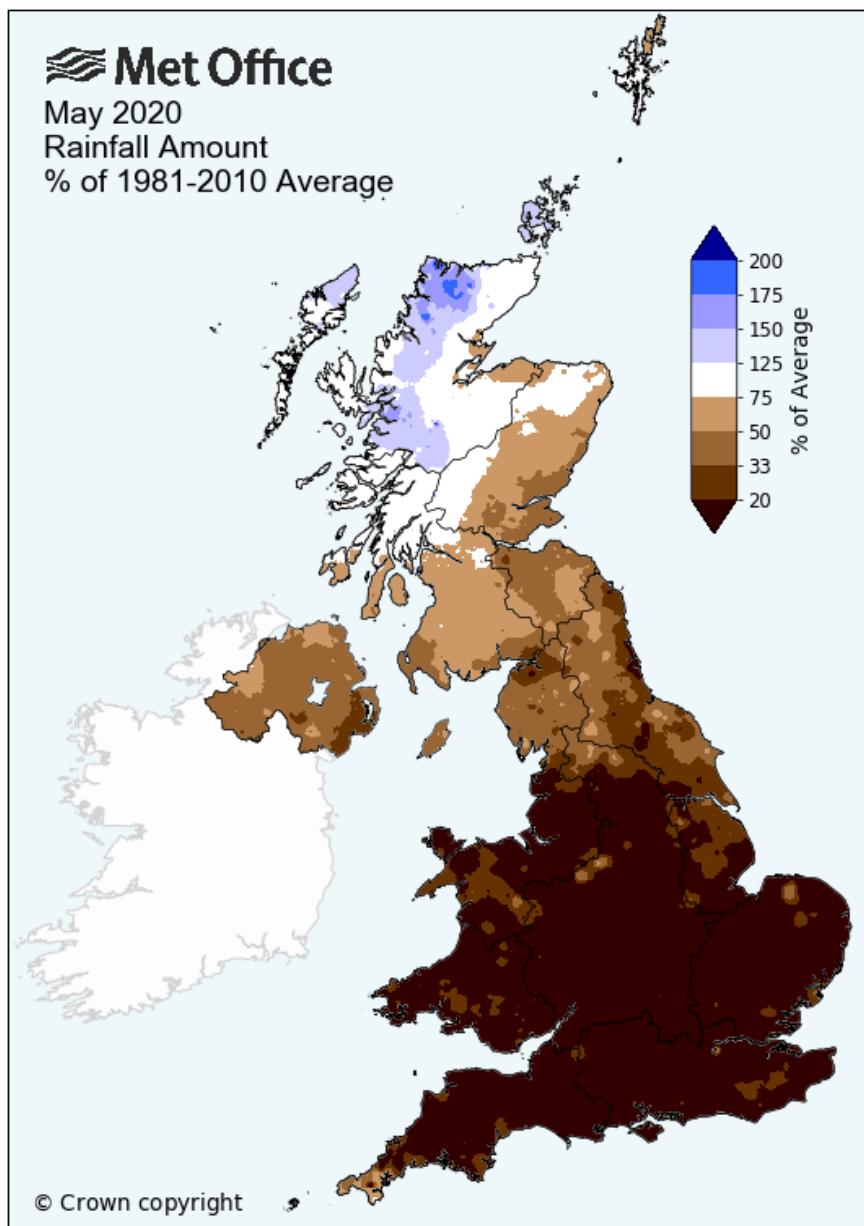
Looking ahead: driving future resilience and supporting growth

- Smart meter programme underway with 164,406 smart meters delivered in year one
- Strategic Pipeline Alliance begins delivery of £400 million strategic interconnector programme to move water around the region, driving resilience to climate change and reducing abstraction
- Site selected for relocation of Anglian Water's Cambridge Waste Water Treatment Plant to accommodate South Cambridgeshire District Council and Cambridge City Council's vision for sustainable growth in North East Cambridge
- Continuing engagement with the Regulatory Alliance for Progressing Infrastructure Development (RAPID) on proposals for two large-scale multi-sector reservoirs, to be delivered in AMP10 (2035-40)
- We formed an Utilities Alliance that includes, Cadent, openreach, SGN, Thames Water, Western Power and UKPN (essential infrastructure providers covering energy, water and broadband across the OxCam Arc area). The aim is to work closely together to help accelerate sustainable economic and housing growth in the OxCam Arc and improve the speed and environmental performance of infrastructure delivery. The chancellor of the exchequer, Rishi Sunak, welcomed the initiative and its "commitment to joined-up delivery of infrastructure in a key area of the UK's economy".

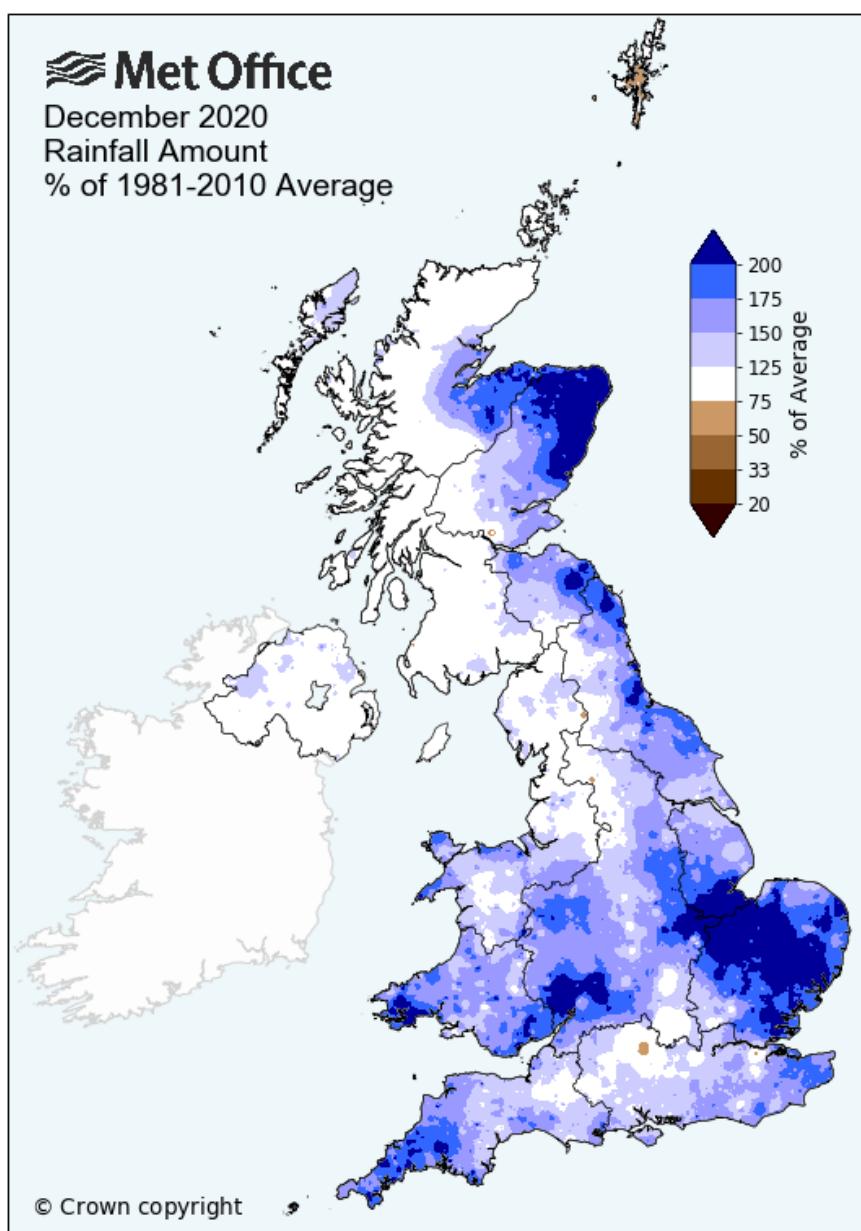
Significant weather events

The 2020/21 reporting year has seen three distinct periods where weather has impacted our operational performance. Each has differed in type, duration and intensity, but all have reflected significantly change from average weather patterns.

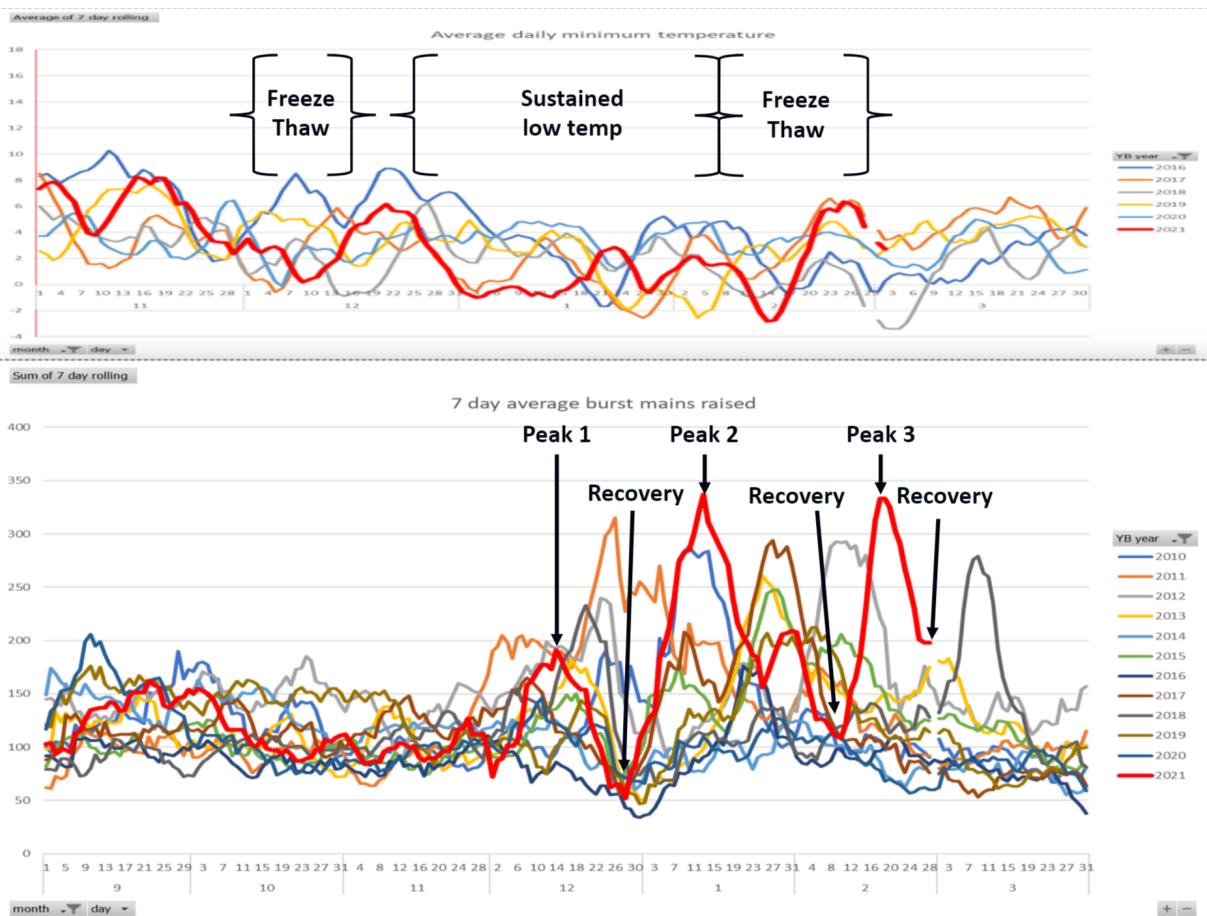
- In May 2020, there was a period of very low rainfall, which combined with the effect of people staying at home due to Covid-19, caused a significant increase in demand for water. People had more time to water gardens, lawns and allotments or to get out paddling pools and hot tubs. The rainfall anomaly map for May 2020 shows that the rainfall for most of the south of the UK was less than 20 per cent of the 1981 to 2010 average.



- In December 2020 the region experienced several periods of heavy rainfall. The Met Office records for East Anglia show that it was the wettest December since 1914 with over 110mm of rain falling during the month. Persistent and sometimes heavy rainfall continued into January and February, with saturated ground leading to prolonged periods of groundwater flooding and causing some of our sewer systems to become inundated. The sheer volume of ground and surface water, with several rivers overtopping their banks, meant we faced isolated pockets of flooding across our region over many weeks. This resulted in an unprecedented volume of customer issues and flooding reports. Our incident team 'stood up' for more than 11 weeks, supported by our alliance partners and operational teams; our response saw 400 technicians and 127 tankers deployed, with more than 200 Anglian Water Force volunteers stepping up to cover 500 incident shifts. The Met Office rainfall anomaly map below shows that over large parts of our region the rainfall in December was over 200 per cent of typical levels.



- The winter saw three periods of freeze thaw conditions which impacted the performance of our water supply network (December 2020, January 2021 and February 2021), especially the areas around the Norfolk coast where we saw elevated burst rates. The January event saw the highest number of burst mains we have experienced in a 7 day period in the last 3 AMPs. Despite this we recovered leakage quickly and the overall impact to 2020/21 was minimised. The graph below shows the link between burst mains and weather.



Board statement on accuracy and completeness of data and information

RAG 3.12 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 Board Audit committee oversees the completion of actions to correct issues identified in audit and categorised as high risk
- the feedback from Ofwat on its 2019/20 Annual Performance Report and, where relevant, other submissions
- the Board's comprehensive approach to risk management, which includes maintenance of a corporate risk register. The risk that 'the data we provide are not robust' is a Top Tier risk in the register 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 manages a comprehensive process to ensure that all internal audit recommendations are completed
- 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
- the annual "Statement of Responsibility" process (conducted by Internal Audit) which requires all 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, in which accurate information is valued, resources are allocated to ensure information accuracy and the provision of high quality information is 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 2020/21.

The Board considered its approach to assurance in its meeting of 26 January 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.

The Board Audit Committee met on three occasions during 2020/21. 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 has used its best estimates and made those assumptions clear;
- where the Company has identified 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 2020/21 is other than accurate and complete in all material respects.

This Statement was approved by the Board of Anglian Water Services Limited on 14 July 2021, drafts having been discussed by the Board meetings of 28 April 2021 and 26 May 2021.

Certified by



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Claire Russell

Company Secretary

Dated: 14 July 2021

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.30 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.
- We have maintained for the whole year an issuer credit rating for Anglian Water Services Financing Group of investment grade (Baa1) in accordance with Condition P.26 of our Instrument of Appointment.

As set out in the long term viability statement on pages 23 - 29 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.

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 J of our Instrument of Appointment creates certain obligations regarding the setting, monitoring and reporting of service targets. Because of changes to the regulatory approach we are no longer required to fulfil these obligations.

Certified by



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Claire Russell

Company Secretary

Dated: 14 July 2021

Board statement on company direction and performance

This statement explains how the Board of Anglian Water Services Ltd (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.

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. In doing so, we must ensure that we keep our services affordable and support our more vulnerable customers.

To that end, the Board's aim is to ensure the effective delivery of the company's Love Every Drop strategy, rooted in finding solutions to the challenges our region faces whilst providing safe, clean drinking water, protecting our environment and delivering world-class customer service. The strategy has forged an efficient, sustainable, responsible business that has delivered frontier performance on bills, leakage, carbon reduction and demand management.

In 2017 we updated our 25-year Strategic Direction Statement (SDS), first published in 2007. The process was informed by in-depth discussions with more than 1,300 household customers and nearly 500 non-household customers. Our online community gave us an 'advisory board' made up of engaged customers with whom we could talk in depth about their needs and our plans.

Our revised SDS set 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
- Work with others to achieve significant improvement in ecological quality across our catchments.

Since revising the SDS, we have led the industry in setting a target to achieve net zero carbon emissions by 2030, and beaten our own ambitious carbon targets for 2021.

Revising our SDS is just one aspect of an on-going programme of engagement with all stakeholders across the region. This programme informs not only our long-term ambitions, but also our 10 Outcomes and the Performance Commitments (with linked Outcome Delivery Incentives) that we use to measure our progress towards them.

In 2019 we published our final Water Resources Management Plan (WRMP), having undertaken public consultation in 2018. This plan sets out how we will manage the water supplies in our region to meet current and future needs over a minimum of 25 years. We will focus on demand for water in the first instance, to reduce the amount used, which is our customers' preferred priority, and we will also invest in the supply side, via ambitious measures including the creation of up to 500km of interconnecting pipelines across our region, to maintain the amount of water available.

We also published our latest Drought Plan, which sets out how we will safeguard public water supplies during extended periods of low rainfall, and what we will do to minimise any potential environmental impacts that may arise as a result. Our draft Drought Plan 2022 is currently out for public consultation.

Alongside plans for water resources management, we are focusing attention on long term planning for water recycling. In 2018, we published our first Water Recycling Long-Term Plan (WRLTP). Endorsed by a wide range of stakeholders, it was the industry's first long-term plan to manage the supply of water recycling services and is equivalent to the Water Resources Management Plan.

The WRLTP is due to be replaced by our first Drainage and Wastewater Management Plan (DWMP) – the new industry-standard way for organisations to work together to improve drainage and environmental water quality. To be published in 2022, the DWMP will be our next phase in long-term planning, covering the period 2025-2050. The framework puts emphasis on strong co-creation to ensure the plan joins up the approach and considers all risks from growth, climate change and customer behaviours. The first step, begun this year, is to agree with all stakeholders what measures the DWMP will focus on in the form of a Strategic Context.

In March 2020 we also became the first company to publish a Climate Change Adaptation Report in response to the third round of reporting under the Climate Change Act (2008), doing so in draft form to enable a wide range of stakeholders to review and help to shape our plans. The final report, which was submitted to the UK Government in December, describes our climate-related risks and the steps we are taking to deliver sustainable adaptation action through innovation, collaboration, investment and education. These steps will be more critical than ever as we seek to build a stronger, more resilient future in the wake of Covid-19.

We are also working with the multi-sector Water Resources East network which we set up in 2014, and which now operates as an independent company, to create a blueprint for the future of the Fens – an area rich in agriculture and biodiversity yet challenged with significant social deprivation and at risk from a changing climate. We believe one coherent plan can concurrently address these challenges and have set up a cross-sector strategic Taskforce to deliver an integrated approach to climate change adaptation.

Our Business Plan for 2020-25 was built on customer engagement that indicates a clear desire for us to take action to increase resilience to the challenges of climate change and population growth now, rather than to wait. It proposed a record £6.5 billion investment programme to drive resilience, protect and enhance the environment and support sustainable growth, while maintaining affordability. Throughout the PR19 process, including our reference to the Competition and Markets Authority, we strove to ensure our customers' views were represented and reflected in final determinations.

Embedding customer and stakeholder engagement

Our Business Plan for 2020-2025 was written following the most extensive engagement we have ever had with customers – no fewer than half a million customer interactions, ten times more than for our previous business plan. This engagement shaped our plan like never before, eschewing traditional consultations for on-going dialogue, ensuring rapid response to changing customer expectations.

However, our engagement with customers and communities goes far beyond our Business Plan. It is fundamental to the development of our strategies and plans, as well as shaping the day-to-day delivery of our service.

Our Customer Engagement Forum (CEF) was set up in 2011 and has an ongoing role which involves challenging us on how we engage with customers and monitoring performance in relation to commitments made to customers. Its members come from a wide range of backgrounds to represent the interests of household and business customers, communities, the environment and the economy. We are currently refreshing the membership of the CEF for the new price control period.

We also have a Customer Board, running alongside the CEF, which comprises a representative selection of members from the online community to provide further guidance and directly feed in customers' views, running alongside the CEF.

We recognise the importance of engaging with a wide variety of stakeholders to inform our strategy and support the delivery of our purpose. Our Annual Integrated Report sets out seven key stakeholder groups:

- our environment and the planet
- our customers and communities
- our people and partners
- our regulators
- our shareholders
- investors and ratings agencies, and
- local and national government.

In the report we highlight how we engage with them and the outcome of that engagement. This year we also held a series of online engagement events which enabled members of our Board and management teams to hear directly from key stakeholders about their priorities and receive first-hand feedback from them. Sixty-six participants representing 46 organisations took part, and significant follow up engagement has ensued.

Company performance : Delivering performance for all those we serve

We have delivered a decade of first-class performance, most notably in leakage reduction and customer service. Our approach – to innovate, learn and share – has again seen us pushing the frontier for the whole industry, while enabling the continued growth and prosperity of the region.

We have already:

- Reduced leakage by a third since privatisation to reach industry-leading levels, with the water lost per kilometre of pipe at half the national average
- Kept the amount of water we supply every day at 1989 levels, despite supplying an extra 600,000 properties – the equivalent of saving 170 litres per property
- Cut our capital carbon emissions by 61 per cent on 2010 levels and reduced operational carbon emissions by 34 per cent in comparison to the 2014/15 baseline (and by a further 5.1 per cent on a 2019/20 baseline set for AMP7). This has driven innovation and efficiencies that feed into lower bills
- Increased bills by just 20p for every extra £1 charged by other companies since privatisation. Our bills have fallen around 10 per cent in the last five years – twice the industry average – in part due to efficiencies we have shared with customers.

We publish details of our performance against our outcomes on our website.

In 2020/21 we met or were on track to deliver 81 per cent of our performance commitment levels and earned net outperformance payments of £10 million. Areas where we exceeded our performance commitment levels included interruptions to supply, leakage, internal and external sewer flooding and the management of void properties. We met our leakage target for the tenth successive year. We also made good progress on our AMP7 capital delivery programme, completing 520 schemes under our Water Industry National Environmental Programme (WINEP) and commencing our massive strategic inter-connector programme which will see us laying up to 500km of pipe to improve our ability to convey water around the region we serve. We also installed the first 160,000 of our smart meters, which will improve customers' ability to use water efficiently and our ability to detect leaks on their supply.

Our performance is not only measured through the regulatory performance framework. Performance highlights in 2020/21 included also the following:

- We met the demands for growth in our region, connecting another 20,000 new properties to our water network
- We achieved our best-ever performance on renewable energy, including first generation from a 42,000 panel solar array at Grahams Water

- We secured the acceleration of £300 million of investment in our WINEP through Ofwat and Defra's green recovery initiative, turning amber schemes to green
- We launched a £1 million Positive Difference Fund to support more than 100,000 beneficiaries in over 160 community groups
- We published our Social Contract, founded on 10 company-specific outcomes agreed with customers and five industry-wide Public Interest commitments
- We more than doubled the number of customers on our Priority Services Register
- We sign-posted customers to unclaimed benefits worth more than £4 million and provided advice and support to 319,466 customers with affordability challenges, surpassing our performance commitment.

We also made progress on the key factors which will drive future performance: building a more diverse workforce; keeping our people healthy, happy and safe; and securing a strong financial base. Towards those ends we

- Recorded our best ever score in the annual all-employee survey we use to track the engagement of our employees with the aspirations of the business
- Provided a wide range of services to support employees through the challenges of the Covid-19 pandemic
- Launched our Inclusion Community and reported a further fall in our mean gender pay gap
- Designed a new financial structure to enable a reduction in gearing in the Company.

Strengthening these foundations reinforces the Board's confidence in the ability of the Company to meet the challenges of the future and to continue delivering for all it serves.

This Board statement was approved by the Board of Directors on 14 July 2021 and signed on its behalf by Claire Russell, Company Secretary.



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Claire Russell

Company Secretary

Dated 14 July 2021

Long Term Viability Statement

Background

The Directors are responsible for ensuring the resilience and viability of Anglian Water's water and water recycling services to meet the needs of its customers in the long term. This means the company 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 company 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 company 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 company's behaviours over the past year had been in line with our risk appetite.

Look forward period

As one of the 10 regional water and sewerage services companies operating in the UK, 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 2021 to March 2031. A 10-year period has been chosen to ensure that our Business Plan for the current AMP does not impact the longer-term viability of the company:

- The first four years 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 Competition and Markets Authority (CMA) Final Determination for AMP7.
- The next six 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 (2025-2030) align to the AMP8 forecasts submitted in our PR19 Business Plan submission, which have been updated to account for the CMA Redetermination.
- 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 company'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 company in the full 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. This process is described in more detail in the full annual integrated report.

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 with individual and combined impacts, as set out in the table, 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:

Scenario	Impact modelled	Potential mitigations required
Material totex underperformance against the Final Determination allowance	Overspend of 10 per cent across an AMP	No mitigations required
Material Outcome Delivery Incentive (ODI) penalties	Up to £100 million applied in a single year	No mitigations required
Regulatory fines and legal penalties	Up to 3 per cent of turnover applied in a single year	No mitigations required
Unfunded pension liabilities	Up to £15 million applied per annum	No mitigations required
Risks associated with the disruption caused by Covid-19, potential reductions in revenue collection	Up to 7 per cent decrease in cash collection	No mitigations required
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
Cost of debt increases	2 per cent above base level assumptions across an AMP	No mitigations required

Significant inflation fluctuations	1 per cent above and below base level assumptions for each AMP	No mitigations required
Combined scenario based on totex underperformance for a whole AMP, along with a significant ODI penalty	Overspend of operating costs of £15m per annum and £50 million ODI penalty in a single year	No mitigations required
Combined scenario based on totex underperformance and lower inflation	Overspend of Totex by 2.8% over AMP combined with inflation 1 per cent below base	No mitigations required

As part of our stress tests for the downside scenarios we have considered the potential impacts of cost shocks resulting from climate change. Such cost shocks include the "Beast from the East" extreme cold weather event followed by a rapid thaw, experienced in early 2018, and the extreme wet weather events experienced in our region in the summer of 2019 and winter of 2020/2021. 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. 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.

In April 2019 Ofwat issued Information Notice IN 19/07 setting out its expectations for companies in issuing long-term viability statements. Additional detail on the processes and assumptions underpinning our long-term viability statement and how we demonstrate our compliance with IN 19/07 is provided immediately after the Directors' statement in the following pages.

Mitigating actions

For each sensitivity and combined scenario, we identify, in case 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 company'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 company'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 and in April 2021 of £110.0 million. In addition, subsequent to the year end, the Group is implementing a new financing structure in order to enable a substantial equity injection into the company, leading to a future reduction in gearing.

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 in parallel with 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.

Ofwat published its PR19 Final Determination in December 2019. This will form the basis for setting customer charges in 2021/22. Funding for the remaining years of AMP7 will be set by the CMA redetermination, which rebalanced the split between operational expenditure (opex) and capital expenditure (capex) and recognised that long-term investment for resilience requires long-term investors, who deserve a fair return on their commitment. While the delivery of our 2020-25 Business Plan remains challenging, the redetermination will enable us to deliver the resilience to climate change and population growth that our region needs and continue to operate within our covenant requirements.

Ofwat's Final Determination included a reduced cost of capital which remains a significant challenge to our financeability in year 2 of AMP7, while later years benefit from the adjustments made by the CMA which improve our financeability. To mitigate this, a number of initiatives have been undertaken to increase our headroom in 2021/22 such that the business can accommodate moderate to severe downside shocks in that year. As well as incorporating the impacts of Covid-19 into our base forecasts, we also conducted modelling of worst-case scenarios, including the likely recessionary impact on the wider economy. As a result of the initiatives in 2021/22, and the adjustments from the CMA process in later years, the viability of the business is not significantly affected by these downside scenarios and no downside scenarios require mitigations.

Anglian Water Services is an efficient company with a history of outperformance and 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 2031, and is financially resilient in the face of severe but plausible downside shocks.

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.

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 PR19 FD and our assumptions for AMP8 are aligned to those submitted with our PR19 Business Plan, updated to account for the CMA Redetermination. Our base plan also reflects our announced revised Group financing structure which is being implemented and will enable a reduction in gearing in the company. This will enhance and protect our credit ratings. The regulatory regime incentivises good operational performance and customer service through the use of financial and reputational rewards. We are a leading company, which has consistently delivered totex outperformance, achieved net ODI rewards across both Water and Water Recycling price controls and was the leading company in the SIM customer service measure for 2018/19 (the final year of measurement). As a leading company we would therefore expect to continue to deliver some net outperformance against price review determinations. Our base AMP7 position to which we apply stresses and shocks, assumes no AMP7 totex outperformance and limited in AMP ODI rewards; in itself we view this as a prudent position.

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 AWS 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. This is enhanced by our leading status in both operational and customer service measures and demonstrated in the recognition in 2019 by Glassdoor as the best place to work in the UK.

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.

Company Monitoring Framework assessment assurance and actions

Ofwat have stated that they will not publish further Company Monitoring Framework assessments. In the absence of this we did receive feedback from Ofwat on our 2020 APR. We have considered that feedback relating to our long term viability statement. Two minor concerns were raised: The first was that the "scenario testing lacked detail on the outcome of the testing". The stress testing completed this year did not require any mitigating actions; the outcome of each of the downside scenarios tested was therefore that the company remained viable and could maintain our required financial metrics. The second minor concern was that "the overall mitigation was provided but it was too high level and was not analysed in enough detail. More detail on the specifics of each mitigation strategy would have improved the LTVS." The stress testing completed this year did not require any mitigating actions as base level headroom was sufficient to absorb the impacts without breaching required financial metrics. In future, if mitigating actions are required as a result of a downside scenario, we will provide more detail on the specifics of each mitigation.

Impact on financing plans

We have tested the impact of a credit rating downgrade through increasing the cost of raising new debt, and our mitigations are sufficient to maintain our business viability. Our Board policy of maintaining at least 18 months of liquidity, together with a policy of refinancing maturing debt at least three months in advance of maturity, ensures significant protection against downside shocks and credit market availability. We have significant

committed liquidity facilities of just under £1 billion and plan to maintain this throughout AMP7. This protects us from any short term restrictions in the availability of credit markets and provides substantial liquidity to meet severe but plausible short term cash flow impacts.

Reflecting impact of gearing benefit sharing mechanism

As the CMA Redetermination did not include a gearing benefit sharing mechanism, we have not therefore included any impacts of this in our scenario testing. We currently have no regulatory investigations being undertaken, therefore we have not had to take these into account for our viability statement.

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.

This 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 submitted to Ofwat a 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, the Company has contracts with any associate company with 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 submitted to Ofwat a certificate which confirms the adequacy of resources and facilities 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 no such changes in the year ended 31 March 2021.

- 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:

- a. So far as the Director is aware, there is no relevant audit information of which the Company's auditors are unaware; and
- b. 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.

The Impact of Covid-19

Impact of Covid-19 in 2020/21

What happened?	Consequence of this occurring	What did we do in response?	Was there an impact on any performance commitment?	Was there an impact on our costs?	Was there an impact on our revenue?	Comments
Our customers spent much more time at home as schools were closed, employees were furloughed or asked to work from home and non-workers followed the stay home message. This resulted in a displacement of domestic demand from NHH to HH customers, with further reductions in NHH demand for process-water reflecting the reduction in economic activity in many sectors.	Household (HH) demand for water increased as customers forced to "stay at home" pursued water-using activities and those who normally commute to outside our supply region repatriated their demand. HH measured usage increased by c.11% year-on-year, whilst non-household (NHH) usage decreased in a range of 15-20% depending on tariff group. There was a noticeable spike in unmeasured usage at times of hot weather.	We produced and distributed more water. We reinforced our usual water efficiency measures.	Yes - per capita consumption	Yes - opex for producing and distributing water	Yes - increase in HH revenue, partly off-set by the reduction in NHH demand.	Ofwat has converted the PCC performance commitment from in-period to end of period so it can assess the impact of Covid-19 in the round. Additional net wholesale revenue above allowed revenue will be returned to customers in year 3 through the revenue correction mechanism.
See above	One element of our leakage Performance Commitment relates to 'customer side leakage' on customer supply pipes. Due to social distancing, during the first quarter we were not able to visit properties to investigate potential leaks, and we learned that customers were unable to get contractors to carry out necessary repairs even when the need had been flagged to them. This impacted on our leakage performance as well as the Per Capita Consumption (PCC) Performance Commitment.		Yes - Leakage			
See above	The changed behaviours resulting from lock-down that created the increase in household usage have also contributed to localised low pressure issues.	To counter this, we worked to resolve many of the issues. Where circumstances qualify, we mitigated additions to the register through the use of allowable exclusions for 'Abnormal Demand'.	Yes - Low pressure	Yes - additional cost to mitigate additional properties - probably opex and capex		We recorded approximately 4,000 properties at risk of low pressure during year one. This is in contrast to an average of around 250 additions in a standard year. However, we have mitigated the risk for the majority of these and met the PCL for year one.
See above	The changed behaviours resulting from lock-down (i.e. lack of commuting to Cambridge/London and/or	Two pronged approach - tactical response and regulatory liaison.	No - but impact on EPA	Yes - additional costs for changing source	No	The Environment Agency accepted our tankering proposal and our headroom reduction in two out of

	<p>staycations at our coastal locations) increased demand in 24 out of 27 Water Resource Zones (WRZs) compared to 2019/20, with Regional DI up 3.2%. The increase in demand meant we were at risk of recording SOSI well below 100, and therefore taking us into the "red" category under the EPA, limiting our overall company score to no more than two star.</p>	<p>Tactical - proactively took steps to secure public water supplies whilst continuing to protect the environment, e.g. enhanced incident management arrangements, network configurations, alternative sources of supplies, water efficiency communications and leakage control.</p> <p>Regulatory - proposed credible adjustments to our SOSI calculation. Reduced theoretical headroom to account for increase in demand and nominal increase in deployable output where we can demonstrate the viability to bring in water via tankers from WRZs in surplus.</p>		<p>water (e.g. increased imports)</p>		<p>three WRZs proposed (did not accept proposal for Cheveley WRZ due to failure of SOSI in 2019). Challenge remains in Year two onwards. There are wider implications for water resources planning as the peaks experienced this year will become the reference peaks and therefore become part of baseline for supply-demand balances going forward; this will have a material impact on the number and location of water resource zones, the security of supply index and the levels of investment required at PR24.</p> <p>The changes in PCC resets the baseline WRMP19 data.</p>
See above	<p>Due to increased demand, in summer 2020 a tenth of all our annual abstraction licences (21 licences) were forecasting to exceed their annual limit. The consequence would be a breach of abstraction compliance position, resulting in potential prosecution, plus an impact on shadow EPA and wider reputation impact.</p>	<p>Significant tactical and operational action - as above for SOSI.</p> <p>Enhanced monitoring and engagement undertaken to focus on abstraction compliance. Now embedded as BAU.</p>	<p>No - but impact on "shadow" EPA</p>	<p>Yes - additional costs for changing source water (e.g. increased imports)</p>	<p>No</p>	<p>At the end of March 2021, we mitigated the risk with 20 out of the 21 annual licences. BRADPIC marginally failed against its annual licence (102%) despite significant targetted effort. We proactively engaged with the Environment Agency in advance of year end in relation to this forecast exceedance.</p> <p>Overall, we recorded 5 exceedances for the year 2020/21, specifically one annual licence, 3 daily and 1 <i>ad hoc</i> (river support). Despite the unprecedented demand, this is an improvement on 2019/20 where we recorded 6 exceedances.</p>
See above	<p>WQ acceptability contacts increased in the first half of 2020 linked to excess demand. Because we could not enter domestic premises we took more samples from accessible commercial properties. Whilst this strategy did increase the number of regulatory sample points that were available, and therefore moved to a more randomised sampling programme, some of these</p>	<p>We had a really good second half of year but could not catch it back up and so missed our ODI PC for the year (calendar year 2020)</p>	<p>Yes - WQ Contacts</p>			

	sample locations were the cause of taste and odour failures. Due to the low numbers of staff present at the time of the initial sampling visit at some commercial properties the turnover of water within the supply was greatly reduced. This low turnover was the cause attributed to the failures reported in our compliance returns: in 2020 we had 27 (17 in 2019) odour failures and 18 (2 in 2019) taste failures. These failures contributed 54% of the total non-compliance for 2020.					
See above	The changes in demand patterns as a result of lockdown resulted in pressure on some of our WRCs as a result of increased/decreased flows and changes to the diurnal load patterns.	Enhanced monitoring, additional mitigation and crude sewage tankering to peak low high flow/load periods.	No - although made more difficult to meet Treatment Works Compliance PCL	Yes - additional costs for monitoring and tankering		We applied for dispensations to the EA but didn't get all we needed. The inundation of our networks due to flooding impacted customers over a wide geographic area. However we tankered water away irrespective of the cause to ensure customers had use of facilities. The options open to them as a result of Covid-19 were limited. This meant we carried more risk of non compliance of WRCs.
The Environment Agency took insufficient bathing water samples	We have no assessment of the quality of our 48 bathing waters for 2020.	Nothing	Yes - bathing waters			The year will be null and void and the opportunity to earn reward or penalty has been lost.
The Environment Agency deferred the sign-off of year 1 obligations to September 2021.	We risked losing the opportunity to earn reward from the planned early delivery of WINEP schemes.	We negotiated an alternative approach with the EA and Ofwat.	Yes - WINEP			Despite the challenges, we delivered 520 outputs specified in the WINEP tracker, of which 235 were original year 1 obligations and a further 285 represented early delivery.
We stopped reading customers' meters for several weeks from the start of the first lockdown	We had to defer making our assessment for the voids performance commitment from the autumn (as specified in our FD) as our meter readers were occupied on catching up with missed meter reads	We deferred making our assessment for the voids performance commitment to January	Yes - Voids			We wrote to Ofwat to explain our plan.
We were unable to fully complete our Regulatory Water Quality Sampling Programme for Public Water Supply Zones as we were unable to enter customer properties to do this (in common with all companies and as agreed with DWI)	During the 2020 calendar year we had a regulatory sampling programme shortfall of 16,399 samples that were directly attributable to our response to the restrictions introduced by the government to tackle Covid-19.	We did not endeavour to catch up higher frequency parameters over the second half of the year but to ensure resilience within our laboratory and sampling teams we focussed on returning the sampling programme evenly across	Yes - CRI			

		<p>all zones and on targetting lower frequency parameters that we had not been able to take. We decided to limit surrogate sampling from AW assets to specific parameters not influenced by customers' plumbing e.g. Nickel. Our approach was shared with our DWI Liaison Inspector.</p>				
Staff were working from home and meetings and site visits were stopped.	Significant reduction in staff expenses and fleet fuel costs as only essential journeys were undertaken. Additional expenditure was also incurred on IT to enable home working.			Yes - opex savings and transport and accommodation offset by expenditure on IT to enable home working		
Impact of Covid-19 on our ability to deliver the Investment Programme	Increased maintenance backlog, reduced planned proactive maintenance activity, increased project cost	Prioritised workload within constraints.	No	Yes		

Table 1A - Income statement

For the year ended 31 March 2021

Line description	Units	Statutory	Adjustments			Total appointed activities
			Differences between statutory and RAG definitions	Non-appointed	Total adjustments	

1	Revenue	£m	1,351.797	(74.142)	20.366	(94.508)	1,257.289
2	Operating costs	£m	(972.679)	25.658	(13.626)	39.284	(933.395)
3	Other operating income	£m	12.481	(11.017)	-	(11.017)	1.464
4	Operating profit	£m	391.599	(59.501)	6.740	(66.241)	325.358
5	Other income	£m	-	76.446	-	76.446	76.446
6	Interest income	£m	1.978	-	-	-	1.978
7	Interest expense	£m	(251.726)	(19.033)	-	(19.033)	(270.759)
8	Other interest expense	£m	-	3.397	-	3.397	3.397
9	Profit before tax and fair value movements	£m	141.851	1.309	6.740	(5.431)	136.420
10	Fair value gains/(losses) on financial instruments	£m	(23.194)	-	-	-	(23.194)
11	Profit before tax	£m	118.657	1.309	6.740	(5.431)	113.226
12	UK Corporation tax	£m	5.500	(0.845)	(1.281)	0.436	5.936
13	Deferred tax	£m	(25.700)	0.597	-	0.597	(25.103)
14	Profit for the year	£m	98.457	1.061	5.459	(4.398)	94.059
15	Dividends	£m	-	-	-	-	-

Tax analysis							
16	Current year	£m	(0.100)	0.845	1.281	(0.436)	(0.536)
17	Adjustments in respect of prior years	£m	(5.400)	-	-	-	(5.400)
18	UK Corporation tax	£m	(5.500)	0.845	1.281	(0.436)	(5.936)

Analysis of non-appointed revenue						
19	Imported sludge	£m	-	-	-	-
20	Tankered waste	£m	-	-	3.177	-
21	Other non-appointed revenue	£m	-	-	17.189	-
22	Revenue	£m	-	-	20.366	-

1 The figures in the statutory columns in tables 1A to 1D are based on the company only accounts of Anglian Water. 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. 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 treated as negative expenditure in the regulatory accounts (table 2B) is classified as 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.

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 £m	Capitalisation of interest and related depreciation £m	Reclassification of other operating income £m	Grants and contributions income £m	Reclassification of pension scheme interest £m	Reversal of innovation fund provision ¹ £m	
Revenue	-	-	1.545	(75.687)	-	-	(74.142)
Operating costs	(1.462)	12.496	10.175	-	-	4.449	25.658
Other operating income	1.462	-	(12.479)	-	-	-	(11.017)
Other income	-	-	0.759	75.687	-	-	76.446
Interest expense	-	(15.636)	-	-	(3.397)	-	(19.033)
Other interest expense	-	-	-	-	3.397	-	3.397
UK corporation tax	-	-	-	-	-	(0.845)	(0.845)
Deferred tax	-	0.597	-	-	-	-	0.597
Total	-	(2.543)	-	-	-	3.604	1.061

¹ A provision 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 made within revenue.

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

Revenue (1A.1)

4 Total revenue for the year was £1,257.3 million, a decrease of £51.3 million (3.9 per cent) on last year. This primarily reflects the price reduction for customers following the Final Determination, offset by the impact of Covid-19, which has seen an increase in household consumption outweighing the decrease in non-household consumption.

Operating costs (including depreciation) (1A.2)

5 Operating costs of £933.4 million comprise opex of £595.9 million and depreciation of £337.5 million. Overall operating costs (including depreciation) for the year decreased by £65.6 million in nominal terms (6.6 per cent) from £999.0 million in 2020. The key movements in operating costs are highlighted in the following table.

Summary of changes in operating expenditure

Category	£m
Non-recurring items	
2019 summer flooding costs	(3.0)
2020 restructuring costs	(5.0)
2020 Covid-19 bad debt provision	(12.0)
Funded by FD	
General inflation	4.3
Weather related incidents	
Impact of hot summer	1.5
2020 winter flooding costs	3.0
Covid-19	
Covid-19 related materials, travel and fuel	(6.0)
Increase in energy cost/usage due to increased consumption	3.0
Impact of Covid-19 on bad debt	6.5
Management decisions	
Reduction in bad debt (non Covid-19)	(4.2)
Continuous improvement and mitigating actions	(36.2)
Decrease in depreciation	(17.5)
Net decrease in operating costs	(65.6)

6 The inflationary increases formed part of the Final Determination and are therefore offset in revenues.

7 The impacts of climate change are fundamental to our business and our climate-related financial disclosures can be found on page 74 of the Annual Integrated Report. The past two years have seen a number of exceptional weather events, resulting in a net year-on-year increase in operating costs of £1.5 million.

8 Covid-19 has impacted the business in a number of areas. We have also seen a change in where we incur costs. We have seen reduced costs in relation to travel and expenditure, but these have been offset by increased spend on energy usage at our operational sites to manage increased customer demand.

9 The increase in bad debt charge due to Covid-19 of £6.5 million relates to the additional £1.5 million provision recorded in March 2021 in relation to the expected impact Covid-19 will have on unemployment and in turn our customers' ability to pay outstanding bills. This has increased from £12.0 million recorded in 2020 to £13.5 million as at March 2021. In addition, in the year, Covid-19 has resulted in increased household revenue which has an increased risk when compared to non-household revenue. This has resulted in an increase in our bad debt charge of £5.0 million. These increases have been partially offset by a reduction in our base charge of £4.2 million.

10 The decrease of £36.2 million reflects significant management action in the period to mitigate an incorrect allocation between operational expenditure (opex) and capital expenditure (capex) in the PR19 Final Determination. This error was subsequently corrected by the CMA Redetermination. In the meantime, mitigation has involved taking difficult decisions, such as undertaking less optimal capital solutions while we were unable to fully optimise totex whole life cost solutions in our investment decisions.

11 Depreciation and amortisation is down 4.9 per cent compared with last year, primarily as a result of additional depreciation on certain sludge assets in the prior year which resulted in them being fully depreciated.

Other operating income (1A.3)

12 This line comprises primarily profits on fixed asset disposals. More disposals were made in 2019/20, hence the decrease compared with the prior year.

Operating profit (1A.4)

Operating profit for the year was £325.4 million, an increase of 4.3 per cent compared with the previous year. This reflects the decrease in operating costs and depreciation, more than offsetting the decreased revenue, as discussed above.

Other income (1A.5)

13 Other income has decreased by £13.7 million from the previous year. 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. The movement in the year reflects a decreased level of developer activity during the first lockdown, this was offset partly by the strong rebound in the housing market later in the year.

Interest income (1A.6)

14 Interest income for the year was £2.0 million, compared with £4.7 million for the prior year - the decrease is primarily due to a decrease in the average deposits held in the year.

Interest expense (1A.7)

15 Interest expense has decreased from £348.0 million in 2020 to £270.8 million in 2021. This was primarily the result of the non-cash impact of lower inflation on index-linked debt (£65.9 million) which was due to a fall in year-on-year average Retail Price Index (RPI) from 2.6 per cent to 1.2 per cent and year-on-year average Consumer Price Index (CPI) from 1.7 per cent to 0.6 per cent.

Other interest expense (1A.8)

16 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 £3.4 million, compared with a credit of £0.3 million in the previous year. This is consistent with there having been a significant accounting surplus on the funded defined benefit scheme.

17 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 reference
Interest expense on bank loans and overdrafts	3.325	1A.7
Interest expense on other loans including financing expenses	213.160	1A.7
Indexation of loan stock	48.584	1A.7
Amortisation of debt issue costs	4.237	1A.7
Interest on leases	1.038	1A.7
Unwinding of discount on provision	0.076	1A.7
Debt management fee to AWSF	0.339	1A.7
Total interest expense	270.759	1A.7
Defined benefit pension scheme interest	(3.397)	1A.8
Total interest and other interest expense	267.362	1A.7 & 1A.8

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

18 The profit before tax and fair value movements has increased from £59.0 million in the previous year to £136.4 million in 2020/21. This increase is consistent with the increased operating profit referred to above and favourable movements in other income and interest.

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

19 There was a fair value loss of £23.2 million on derivative financial instruments in 2021, compared with a loss of £30.4 million in 2020. The fair value losses in the current year are all non-cash in nature and have no material effect on the underlying commercial operations of the business. The driving factors for the loss in 2021 were primarily due to increases in forward inflation expectations, partially offset by a rise in forward interest rates (decreasing the discounted present value of derivatives). During the year, forward inflation increased by circa 63 basis points and forward interest rates increased by 28 basis points across the curves.

Profit before tax (1A.11)

20 The profit before tax for the year was £113.2 million, compared with a profit of £28.6 million in the previous year. This reflects the increase in profit before tax and reduction fair value movements referred to above.

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

21 The current tax credit for the year was £5.9 million (2020: credit of £16.3 million).

22 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.

23 The deferred tax charge has decreased by £101.8 million from a charge of £126.9 million in 2020 to a charge of £25.1 million this year.

24 The deferred tax charge for this year mainly reflects capital allowances claimed in excess of the depreciation charge in the accounts; this is consistent with the prior year.

25 In 2020 there was a charge relating to a reversal of the corporation tax rate which was originally expected to reduce from 19 per cent to 17 per cent effective from 1 April 2020. The deferred tax balances at 31 March 2019 were therefore measured using the rate of 17 per cent.

26 In the March 2021 Budget, it was announced that legislation will be introduced in the Finance Bill 2021 to increase the main rate of UK corporation tax from 19 per cent to 25 per cent, effective 1 April 2023. As substantive enactment is after the balance sheet date, deferred tax balances as at 31 March 2021 continue to be measured at a rate of 19 per cent.

27 If the amended tax rate had been used, the deferred tax liability would have been £345 million higher.

28 Our relatively low level of cash tax reflects the fiscal incentives available to all UK companies for sustained high levels of capital investment and the interest we pay to fund that investment.

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

29 The profit for the year was £94.1 million, compared with a loss of £82.0 million for the previous year. This increase to profit is consistent with the increased profit before tax offset by the tax charge described above.

Dividends (1A.15)

30 There were no dividend payments in the year (2020: £60.2 million). Based on the available free cash flow there was capacity to pay a dividend of £203.6 million. In June 2021 a final dividend of £96.3 million was approved and paid.

31 This dividend does not represent dividends paid to our ultimate shareholders; at this time there is no proposal to pay a dividend to shareholders of Anglian Water Group Limited (AWGL), the ultimate parent company. No dividends were paid to the shareholders of AWGL in the year (2020: £nil).

Table 1B - Statement of Comprehensive Income

Line description	Units	Statutory	Adjustments			Total appointed activities
			Differences between statutory and RAG definitions	Non-appointed	Total adjustments	
1 Profit for the year	£m	98.457	1.061	5.459	(4.398)	94.059
2 Actuarial gains/(losses) on post-employment plans	£m	(131.800)	-	-	-	(131.800)
3 Other comprehensive income	£m	16.200	-	-	-	16.200
4 Total Comprehensive income for the year	£m	(17.143)	1.061	5.459	(4.398)	(21.541)

- 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 expense for the year of £21.5 million, comprising profit for the year of £94.1 million, actuarial losses on post employment benefits of £131.8 million and other comprehensive income which are gains on cash flow hedges of £16.2 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 £131.8 million (2020: gains of £89.6 million), comprising actuarial losses of £162.7 million partially offset by deferred tax on these gains of £30.9 million. This resulted in Anglian Water reporting a net retirement benefit asset of £10.0 million as at 31 March 2021 (2020: £130.0 million).

Other comprehensive income (1B.3)

- 5 Other comprehensive income for the year comprises gains on cash flow hedges of £20.0 million (2020: £25.8 million), partially offset by deferred tax on these gains of £3.8 million (2020: £3.1 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	10,041.663	(343.498)	10.296	(353.794)
2	Intangible assets	£m	257.352	(12.159)	1.253	(13.412)
3	Investments - loans to group companies	£m	-	-	-	-
4	Investments - other	£m	0.013	-	-	-
5	Financial instruments	£m	112.590	-	-	112.590
6	Retirement benefit assets	£m	54.800	-	-	54.800
7	Total	£m	10,466.418	(355.657)	11.549	(367.206)
						10,099.212

Current assets						
8	Inventories	£m	13.883	-	-	13.883
9	Trade & other receivables	£m	500.874	-	-	500.874
10	Financial instruments	£m	84.798	-	-	84.798
11	Cash & cash equivalents	£m	260.664	-	-	260.664
12	Total	£m	860.219	-	-	860.219

Current liabilities						
13	Trade & other payables	£m	(409.793)	(81.820)	(4.809)	(77.011)
14	Capex creditor	£m	(115.903)	-	-	(115.903)
15	Borrowings	£m	(652.924)	81.820	-	81.820
16	Financial instruments	£m	(24.814)	-	-	(24.814)
17	Current tax liabilities	£m	(167.301)	(0.845)	(1.281)	0.436
18	Provisions	£m	(6.563)	2.225	-	2.225
19	Total	£m	(1,377.298)	1.380	(6.090)	7.470
						(1,369.828)

20	Net Current assets/(liabilities)	£m	(517.079)	1.380	(6.090)	7.470	(509.609)
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Non-current liabilities						
21	Trade & other payables	£m	-	-	-	-
22	Borrowings	£m	(6,282.796)	-	-	(6,282.796)
23	Financial instruments	£m	(1,004.632)	-	-	(1,004.632)

24	Retirement benefit obligations	£m	(44.774)	-	-	-	(44.774)
25	Provisions	£m	(9.449)	2.225	-	2.225	(7.224)
26	Deferred income - G&C's	£m	-	-	-	-	-
27	Deferred income - adopted assets	£m	-	-	-	-	-
28	Preference share capital	£m	-	-	-	-	-
29	Deferred tax	£m	(1,092.158)	67.575	-	67.575	(1,024.583)
30	Total	£m	(8,433.809)	69.800	-	69.800	(8,364.009)

31	Net assets	£m	1,515.530	(284.477)	5.459	(289.936)	1,225.594
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Equity							
32	Called up share capital	£m	32.000	-	-	-	32.000
33	Retained earnings & other reserves	£m	1,483.530	(284.477)	5.459	(289.936)	1,193.594
34	Total Equity	£m	1,515.530	(284.477)	5.459	(289.936)	1,225.594

1 The statement of financial position is based on the statutory Company only balance sheet with adjustments for interest capitalised and associated deferred tax, 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 1A, a provision has been created for the obligation. This has been allocated on a 50/50 basis between current and non-current provisions. 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.

Line description	Adjustments				Total adjustments £m
	Reversal of capitalised interest cost £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	
Fixed assets	(343.498)	-	-	-	(343.498)
Intangible assets	(12.159)	-	-	-	(12.159)
Trade & other payables	-	(81.820)	-	-	(81.820)
Current tax liabilities	-	-	-	(0.845)	(0.845)
Borrowings	-	81.820	-	-	81.820
Provisions <1 year	-	-	-	2.225	2.225
Provisions >1 year	-	-	-	2.225	2.225
Deferred tax	-	-	67.575	-	67.575
Retained earnings and other reserves	355.731	-	(67.575)	3.604	284.478

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

Fixed assets (1C.1)

5 The net book value (NBV) for tangible fixed assets has increased by £101.1 million due to capital expenditure in the year, partially offset by the depreciation charge.

Intangible assets (1C.2)

6 The NBV of intangible assets increased by £37.5 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 £10.0 million comprising a surplus of £54.8 million on the combined Anglian Water Services and Hartlepool schemes, and a £44.8 million obligation on an unfunded scheme.

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

8 Total current assets have decreased by £747.7 million (46.5 per cent) in the year. This is primarily due to a decrease in cash and cash equivalents of £787.4 million and a decrease in trade and other receivables of £29.8 million. The decrease in trade and other receivables was largely due to billing delays in response to Covid-19 at the end of last year.

Trade and other payables (1C.13)

9 Compared with the prior year, trade payables have decreased by £60.2 million (11.0 per cent) to £486.8 million. This is consistent with the decrease in operating costs.

Capex creditor (1C.14)

10 Capital creditors have increased by 19.2 per cent to £115.9 million at 31 March 2021. This movement reflects increased costs in the final quarter compared to 2019/20 following the slower start to the capital programme due to the pandemic.

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

11 Total borrowings have decreased by £786.6 million in the year. This primarily reflects new term loans of £242.6 million less loan repayments of £928.8 million, increase due to indexation of £32.0 million and fair value gains and losses and foreign exchange £100.0 million. A full reconciliation can be found in the analysis of net debt in our statutory accounts.

Current tax liabilities (1C.17)

12 Current tax liabilities have reduced by £30.4 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)

13 The deferred tax credit is £67.6 million lower than the statutory accounts due to the reversal of capitalised interest on fixed and intangible assets, lines 1 and 2. Compared with last year the balance is £2.0 million higher which reflects the charge in relation to capital allowances claimed in excess of the depreciation charge in the accounts being more than offset by the overall deferred tax credit on actuarial losses of retirement benefit deficit and hedging reserve movements.

Retained earnings (1C.33)

14 The difference of £283.7 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.

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	391.599	(59.501)	6.740	(66.241)
2	Other income	£m	(29.284)	76.446	-	76.446
3	Depreciation	£m	351.320	(12.496)	1.340	(13.836)
4	Amortisation - G&C's	£m	-	-	-	-
5	Changes in working capital	£m	(38.942)	-	(6.799)	6.799
6	Pension contributions	£m	(39.283)	-	-	(39.283)
7	Movement in provisions	£m	0.585	(4.449)	-	(4.449)
8	Profit on sale of fixed assets	£m	(1.462)	-	-	(1.462)
9	Cash generated from operations	£m	634.533	0.000	1.281	(1.281)
10	Net interest paid	£m	(220.983)	2.902	-	2.902
11	Tax paid	£m	(25.400)	-	(1.281)	1.281
12	Net cash generated from operating activities	£m	388.150	2.902	-	2.902
						391.052

Investing activities						
13	Capital expenditure	£m	(424.070)	-	-	(424.070)
14	Grants & Contributions	£m	-	-	-	-
15	Disposal of fixed assets	£m	1.770	-	-	1.770
16	Other	£m	239.000	-	-	239.000
17	Net cash used in investing activities	£m	(183.300)	-	-	(183.300)
18	Net cash generated before financing activities	£m	204.850	2.902	-	2.902
						207.752

Cashflows from financing activities							
19	Equity dividends paid	£m	-	-	-	-	-
20	Net loans received	£m	(753.094)	(2.902)	-	(2.902)	(755.996)
21	Cash inflow from equity financing	£m	-	-	-	-	-
22	Net cash generated from financing activities	£m	(753.094)	(2.902)	-	(2.902)	(755.996)
23	Increase (decrease) in net cash	£m	(548.244)	0.000	-	0.000	(548.244)

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 provision for the innovation fund has been reversed for regulatory purposes. 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.

Line description	Adjustments					Total adjustments
	Reclassification of issues costs £m	Capitalisation of interest and related depreciation £m	Reclassification of G&C and rental income £m	Reversal of provision for innovation fund £m		
Operating profit	-	12.496	(76.446)	4.449		(59.501)
Other income	-	-	76.446	-		76.446
Depreciation	-	(12.496)	-	-		(12.496)
Movement in provisions	-	-	-	(4.449)		(4.449)
Net interest paid	2.902	-	-	-		2.902
Net loans received	(2.902)	-	-	-		(2.902)

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

Operating profit (1D.1)

4 The increase in operating profit is explained in the commentary to table 1A. Decreases in revenue have been more than offset by decreases in operating costs.

Other income (1D.2)

5 Other income has decreased £5.9 million to £47.2 million as a result of the impact of Covid-19 on the housing market.

6 The £29.3 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 £6.1 million on the prior year to £32.1 million. This is largely as a result of the decrease seen in trade and other receivables of £29.8 million due to the prior year billing delays in response to start of the Covid-19 pandemic. The remainder of the movement is due to the timing of certain payments around the year end.

Pension contributions (1D.6)

8 The pension contributions primarily comprises of the defined benefits scheme deficit reduction payments of £26.4 million and the Contingent Contribution Support Agreement (CCSA) payment of £10.0 million.

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

9 The decrease in profit on sale of fixed assets reflects the lower number of disposals in the year.

Cash generated from operations (1D.9)

10 Net cash inflow from operating activities reduced by £45.1 million from £678.4 million in 2020 to £633.3 million in 2021 reflecting the movements discussed above.

Net interest paid (1D.10)

11 Net interest paid decreased by £7.1 million to £218.1 million in the current year - this is primarily as a result of the decreased borrowings attracting reduced interest costs in comparison to the prior year.

Tax paid (1D.11)

12 The decrease in tax paid to Group reflects the reduced tax arising as a result of decreased taxable profits compared to last year.

Equity dividends paid (1D.19)

13 There were no dividend payments in the year (2020: £60.2 million). Based on the available free cash flow there was capacity to pay a dividend of £203.6 million. In June 2021 a final dividend of £96.3 million was approved and paid.

14 This dividend does not represent dividends paid to our ultimate shareholders; at this time there is no proposal to pay a dividend to shareholders of Anglian Water Group Limited (AWGL), the ultimate parent company. No dividends were paid to the shareholders of AWGL in the year (2020: £nil).

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	2,074.011	390.988	3,356.437	1,005.342	6,826.778
2 Preference share capital	£m	-	-	-	-	-
3 Total borrowings	£m	-	-	-	-	6,826.778
4 Cash	£m	-	-	-	-	(80.664)
5 Short term deposits	£m	-	-	-	-	(180.000)
6 Net Debt	£m	-	-	-	-	6,566.114
Gearing						
7 Gearing	%	-	-	-	-	82.665%
8 Adjusted Gearing	%	-	-	-	-	81.981%
Interest						
9 Full year equivalent nominal interest cost	£m	112.704	7.404	126.809	22.059	268.976
10 Full year equivalent cash interest payment	£m	112.704	7.404	77.201	14.917	212.226
Indicative interest rates						
11 Indicative weighted average nominal interest rate	%	5.434%	1.894%	3.778%	2.194%	3.940%
12 Indicative weighted average cash interest rate	%	5.434%	1.894%	2.300%	1.484%	3.109%
Time to maturity						
13 Weighted average years to maturity	nr	4.820	5.909	17.202	9.212	11.688

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

1 As per the guidance, borrowings are shown at nominal values plus indexation to 31 March 2021. Accrued interest and fair value adjustments are excluded (and so the numbers shown are different to our statutory accounts prepared on an IFRS basis). Debt issue costs have also been excluded. A reconciliation of debt between regulatory accounts and statutory accounts is shown below. The mix of debt has moved from prior year as discussed in the commentary in table 4H.

	Total £m
Borrowings (per regulatory definition)	6,826.8
Fair value IFRS adjustments ¹	106.3
Strip out accrued indexation on swaps ²	(56.8)
Adjust issue costs ³	(22.3)
Non-current and Current Debt as per Table 1C	6,853.9
Debt interest accrual ⁴	81.7
2021 IFRS debt (per statutory accounts)	6,935.7

¹This represents the IFRS fair value accounting adjustment to applicable debt and derivatives due to spot foreign exchange and fair value hedge adjustments.

²Strip out accrued indexation of index linked derivatives included in the regulatory definition but classified as derivatives under IFRS

³Directly attributable debt issue costs added to the reflect IFRS treatment but excluded from the regulatory definition.

⁴Under the RAGs, debt is shown excluding accrued interest. Under IFRS, debt is shown including accrued interest.

2 The amount of fixed rate debt has decreased year on year due to the following movements:

- Repayment of a £263.7 million public bond and £11.1 million of payments in relation to lease principal,
- This has been partially offset by the addition of a £50 million fixed rate US private placement.

3 The amount of floating rate debt has decreased year on year due to the repayment of £575 million on amounts related to revolving credit facilities.

4 Index linked debt has increased due to the following:

- £48.6 million indexation in the year,
- Inception of a forward starting £65 million CPI-linked bond,
- Issuance of a JPY 7 billion fixed rate Japanese Yen bond, that has been swapped to £50.4 million floating sterling and overlaid with a CPI swap,
- Addition of £52.2 million sterling CPI linked debt, consisting of two £26.1 million term-loan facilities,

- Forward starting CPI linked legs on £250.8 million notional of our derivative swaps became effective and have been economically attached to debt that were previously categorised as fixed (£200 million) and floating (£50.8 million) in the prior year,
- These increases in index linked debt have been partially offset by £128.5 million of accretion and amortisation paydowns in the year.

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

5 Cash and short-term deposits are split as per RAG 4.09. 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 3 months or less classified as cash and cash equivalents.

Adjusted gearing (1E.8)

6 The adjusted gearing shown is Anglian Water's 'Senior RAR' ratio as at 31 March 2021 – representing net debt divided by year-end RCV.

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

7 The fixed interest cost has decreased year on year in line with the decrease in fixed rate debt. Indicative weighted average fixed interest rate increased year on year due to the repayment of the £263.7 million bond which had an indicative average interest rate of c2.1%. In addition, the reclassification of £200 million from fixed to index linked, as index linked swaps became effective, contributed to the increase in indicative weighted average interest rate, given the recategorised debt had indicative average interest rate of c2.3 per cent in the prior year.

8 The decrease in floating interest reflects the reduction in LIBOR rates year on year and the reduction in our floating rate debt. Indicative weighted average floating interest rate has increased year on year due to repayments of the cheaper revolving credit facilities which contributed to a significant proportion of floating rate debt in the prior year.

9 RPI year on year has significantly decreased from 2.6 per cent in the prior year to 1.5 per cent at 31 March 2021. Similarly, CPI year on year has decreased from 1.5 per cent in the prior year to 0.7 per cent at 31 March 2021. This has contributed to the decrease in the weighted average nominal interest rate on index linked debt. The decrease in weighted average cash interest on index linked debt reflects the cheaper more recent issuances of CPI linked debt. Nominal interest is calculated based on the cash number plus year end inflation of 1.5 per cent for RPI linked debt and 0.7 per cent for CPI linked debt as per the definition.

Weighted average years to maturity (1E.13)

10 The weighted average maturity has moved upwards in line with the raising of new debt in the period, offset by the natural lifecycle of debt being one year further on.

Table 1F - Financial Flows

Line description	12 months ended 31 March 2021						Average 2020-25			
	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Notional returns and actual regulatory equity	Actual returns and notional regulatory equity	Notional returns and actual regulatory equity	Actual returns and notional regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity
17 RrRE	4.33%	3.80%	4.76%	130.972	114.941	62.925	4.33%	3.80%	4.76%	130.972
18 Actual performance adjustment 2015-20	0.16%	0.16%	0.16%	4.898	4.898	4.898	0.16%	0.16%	0.16%	4.898
19 Total earnings	4.49%	3.96%	4.92%	135.870	119.839	67.823	4.49%	3.96%	4.92%	135.870
20 RCV growth from inflation	1.01%	1.01%	1.01%	30.529	30.529	13.357	1.01%	1.01%	1.01%	30.529
21 Voluntary sharing arrangements	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.00%	0.00%	0.00%	0.000
22 Total shareholder return	5.50%	4.97%	5.93%	166.399	150.368	81.181	5.50%	4.97%	5.93%	166.399
Dividends										
23 Gross Dividend	4.00%	0.00%	0.00%	120.907	0.000	0.000	4.00%	0.00%	0.00%	120.907
24 Interest Received on Intercompany loans	0.00%	0.00%	0.00%	0.000	0.000	0.000	0.00%	0.00%	0.00%	0.000
25 Retained Value	1.50%	4.97%	5.93%	45.492	150.368	81.181	1.50%	4.97%	5.93%	45.492
										150.368
										81.181

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 shareholders. 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 Profits are essential to attract private investment, as customers' bills alone could only fund a fraction of what we invest each year. We have to provide investors with a reasonable return on their investment. We also believe excellent performance should be reflected in higher profits. However, profits can rise or fall due to factors not directly related to excellent performance — for instance, the level of interest rates, the rate of inflation or unexpected new legal obligations.

3 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. 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
- any rewards for meeting our performance commitment targets.

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

5 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

- Continued strong operational performance and on-track delivery of capital programmes despite Covid-19, with an anticipated £10 million of outperformance rewards for 2020/21.
- Retail underperformance due to increase in bad debt provision reflecting the impact Covid-19 is projected to have on our customers' ability to pay as government support is withdrawn.
- Low inflation has driven higher real cost of debt impacting our financing performance.
- Totex outperformance generated despite the impacts of Covid-19 and recent wet weather.
- No dividend was paid in the year. We are grateful for the ongoing support of our ultimate shareholders, who have foregone dividends since June 2017 for the long-term benefit of the company and its customers, in line with our purpose.

Return on regulatory equity

6 This reflects the return set by the CMA in their redetermination.

Financing

7 This section combines the impacts of our financing arrangements with tax performance.

8 The table calculates a gearing out performance reflecting the difference between our actual structure and the notional structure in which funding is set. Typically we would see this being offset by higher cost of debt as a result of our higher gearing however, we are able to mitigate the additional debt costs due to higher gearing as our 'securitised', highly covenanted structure and associated operational covenants protect customers and lenders.

9 Our covenants, which include commitments to support strong credit ratings, are one of the main reasons we can raise debt at rates that are competitive with those of our peers with lower gearing. This structure transfers a higher proportion of risk on to the shareholders in the event of any operational or financial underperformance. Our customers benefit from higher gearing as the tax benefit of higher tax deductible interest costs have been passed on to them through lower bills.

10 Our cost of debt under performance in the period reflects the impact of low inflation which, whilst reducing our nominal cost of debt, is used as the deflator when comparing to the real rate set in the Final Determination. In addition, we have a proportion of embedded debt which, whilst competitive at the time, was raised when interest rates were higher than they currently are.

11 The current tax credit 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. The Final Determination provided a tax allowance in relation to retail profits with wholesale tax losses being carried forward to future years.

Operational

Totex

12 In 2020/21 we successfully completed the first year of the AMP, and overall are slightly ahead of our delivery plan for the AMP. In total we are ahead of the capex programme by c.4 per cent and ahead on opex by c.1 per cent. Whilst it is very early in the AMP to draw conclusions on efficiency, we are do have variances in some price controls which are worthy of some explanation.

13 In December 2020 to March 2021 we experienced extreme wet weather and extensive fluvial flooding in our region. These challenging operational conditions resulted in a proportion of our tanker fleet being diverted into the sewage collection price control to help with the impact of the flooding. We believe the cost savings are typically one-off in nature and we will see higher cost of Bioresources in future years. We also hope that the flooding does not repeat again and we should accordingly see lower cost within sewage collection in future years. Further details can be found in table 4C.

ODI

14 Our ODI performance reflects our net £10 million (2021 prices) of ODI rewards across a number of our 45 commitments with 81 per cent assessed as on track despite the challenging year. We note that of this £10 million, the calculation excludes our estimated outperformance payments of £1.1 million each due for Customer Measure of Experience and Developer Measure of Experience, this will be reflected in future periods.

15 Operational highlights include

- Industry-leading leakage performance maintained and regulatory target exceeded for the 10th year running despite winter weather, with 81 per cent of performance commitments assessed to be on track
- Top quartile performance for internal and external flooding, notwithstanding winter flooding, earning outperformance payments estimated at £6 million
- Best-ever performance on interruptions to supply, earning projected reward of £1 million

- Properties at risk of low pressure reduced to record low
- Improved performance on pollutions with 20 per cent reduction in number of pollutions year on year; target not yet met
- Per capita consumption target missed with three-year average at 138.1 litres per person per day (provisional) compared to 136.1 in the previous year, following hot weather and lockdown-driven increase in household consumption; potential penalty deferred to end of AMP (2025) until pandemic impact assessed

Retail

16 The retail underperformance is a result of an additional bad debt charge being required due to the impact of Covid-19 on expected household cash collection rates.

Total Returns and dividends

17 We have to provide investors with a reasonable return on their investment ensuring a fair balance between risk and reward. During the price review this notional return is set and forms part of the Final Determination. As mentioned, companies have opportunities to earn additional returns through both operational and financial performance, the converse is also true. This return can then be paid to shareholders through dividends or reinvested within the business.

18 Strong operational performance has offset by the impacts of inflation on our financing and Covid-19 on our bad debt provision resulting in overall return slightly ahead of that set at PR 19. Despite this, whilst the FD assumed a dividend of £103.7 million (2021 prices), no dividend was paid in the year. A final dividend was paid in June 2021 of £96.3 million (2021 prices), at this time there is no proposal to pay this dividend to our ultimate shareholders. We are grateful for the ongoing support of our ultimate shareholders, who have foregone dividends since June 2017 for the long-term benefit of the company and its customers, in line with our purpose.

Table 2A - Segmental Income Statement

Line description	Units	Retail Household	Retail non-household	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
1 Revenue - price control	£m	98.451	-	55.546	418.438	568.056	98.958	-	1,239.449
2 Revenue - non price control	£m	-	-	-	13.372	4.468	-	-	17.840
3 Operating expenditure - excluding PU recharge impact	£m	(73.802)	-	-	-	-	-	-	(73.802)
4 PU opex recharge	£m	(5.299)	-	-	-	-	-	-	(5.299)
5 Operating expenditure - including PU recharge impact	£m	(79.101)	-	(35.994)	(209.641)	(226.930)	(49.545)	-	(601.211)
6 Depreciation - tangible fixed assets	£m	(0.158)	-	(8.771)	(112.502)	(146.706)	(22.958)	-	(291.095)
7 Amortisation - intangible fixed assets	£m	(2.317)	-	(2.038)	(2.746)	(38.543)	(0.744)	-	(46.388)
8 PU recharge impact	£m	-	-	(1.950)	(14.120)	25.209	(3.840)	-	5.299
9 Depreciation & amortisation - including PU recharge impact	£m	(2.475)	-	(12.759)	(129.368)	(160.040)	(27.542)	-	(332.184)
10 Other operating income	£m	0.006	-	0.055	0.246	0.993	0.164	-	1.464
11 Operating profit	£m	16.881	-	6.848	93.047	186.547	22.035	-	325.358
Surface water drainage rebates									
12 Surface water drainage rebates	£m	-	-	-	-	-	-	-	0.320

1 The formulae in the table have been updated to reflect the comments received during the query process.

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

2 Total revenue for the year was £1,257.3 million, down £51.3 million (3.9 per cent) on last year, which is explained in table 1A commentary. Non-price control revenue reflects bulk supplies and rechargeable works income which is in line with revenue 2019/20.

Operating expenditure, depreciation and amortisation (2A.3-2A.9)

3 Operating costs of £933.4 million comprise operating expenditure of £601.2 million and depreciation (including amortisation) of £332.2 million (including the impact of the PU recharge). The increase in opex costs is explained in the commentary to table 1A.

Recharges from/to other segments (2A.8)

4 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. There has been a £3.9 million increase in total recharges due to additional commissioning of assets allocated to Wastewater Network+ which are shared.

Other operating income (2A.10)

5 Represents the profit on disposal of fixed assets which was £0.8 million lower than the previous year due to a reduction in number of land and vehicle disposals completed in the current year.

Surface water drainage rebates (2A.12)

6 The value of surface water drainage rebates has dropped to a lower level this year following two years of higher rebates (£0.615 million in 2019/20 and £4.105 million in 2018/19). The higher level in 2018/19 was as a result of social media sharing leading to an increase in the number of customers applying for rebates, compared with previous years. This has not been repeated in the current or prior year.

Table 2B - Totex Analysis - Wholesale

Line description	Units	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
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Base operating expenditure							
1 Power	£m	8.599	28.338	42.095	(0.989)	-	78.043
2 Income treated as negative expenditure	£m	(0.122)	(0.524)	(0.475)	(8.957)	-	(10.078)
3 Abstraction charges/ discharge consents	£m	9.869	0.507	8.226	0.088	-	18.690
4 Bulk Supply/Bulk discharge	£m	-	2.310	-	-	-	2.310
5 Renewals expensed in year (Infrastructure)	£m	-	32.820	20.114	-	-	52.934
6 Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-
7 Other operating expenditure	£m	12.632	98.306	134.133	55.750	-	300.821
8 Local authority and Cumulo rates	£m	2.545	37.585	21.362	3.287	-	64.779
9 Total base operating expenditure	£m	33.523	199.342	225.455	49.179	-	507.499

Other operating expenditure							
10 Enhancement operating expenditure	£m	0.213	0.173	0.243	-	-	0.629
11 Developer services operating expenditure	£m	-	1.072	0.337	-	-	1.409
12 Total operating expenditure excluding third party services	£m	33.736	200.587	226.035	49.179	-	509.537
13 Third party services	£m	2.258	9.054	0.895	0.366	-	12.573
14 Total operating expenditure	£m	35.994	209.641	226.930	49.545	-	522.110

Grants and contributions							
15 Grants and contributions - operating expenditure	£m	-	-	-	-	-	-

Capital expenditure							
16 Base capital expenditure	£m	6.003	50.477	131.425	17.371	-	205.276
17 Enhancement capital expenditure	£m	1.868	91.929	64.760	0.627	-	159.184
18 Developer services capital expenditure	£m	-	55.793	16.454	-	-	72.247
19 Total gross capital expenditure (excluding third party)	£m	7.871	198.199	212.639	17.998	-	436.707
20 Third party services	£m	1.080	1.143	0.095	0.009	-	2.327
21 Total gross capital expenditure	£m	8.951	199.342	212.734	18.007	-	439.034

Grants and contributions								
22	Grants and contributions - capital expenditure	£m	0.002	27.523	18.864	-	-	46.389

23	Net totex	£m	44.943	381.460	420.800	67.552	-	914.755
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Cash expenditure								
24	Pension deficit recovery payments	£m	1.240	10.542	14.382	5.655	-	31.819
25	Other cash items	£m	-	-	-	-	-	-
26	Totex including cash items	£m	46.183	392.002	435.182	73.207	-	946.574

1 Total operating costs were £522.1 million, a decrease of £33.3 million (6 per cent) in real terms on the previous report year.

2 Wholesale regulated capital expenditure for 2020/21 was £439.0 million, split between water £208.3 million and wastewater £230.7 million.

Change in operating expenditure compared to 2019/20

3 Water services operating expenditure decreased by £15.0 million (5.8 per cent) in real terms against an underlying baseline. Wastewater costs decreased by £18.3 million (6.2 per cent) in real terms.

Movement in costs 2019/20 to 2020/21

	Water £m	Wastewater £m	Total £m
2019/20 reported total operating expenditure	260.0	295.4	555.4
Atypical restructuring costs	(1.5)	(2.9)	(4.4)
Underlying operating costs 2019/20	258.5	292.5	551.0
Inflation @ 0.8%	2.1	2.3	4.4
2019/20 underlying costs indexed to 2020/21 prices	260.6	294.8	555.4
2020/21 total operating expenditure	245.6	276.5	522.1
(Increase)/decrease in underlying expenditure from 2019/20	15.0	18.3	33.3

Operating expenditure

Key variances in underlying costs (real terms)

4 Water

Total operating expenditure was £15 million lower than the prior year with a £1.5 million reduction in water resources compared to 2019/20 levels, with increased DI volumes leading to increased power costs. This has been more than offset by savings in other costs and a one off benefit in rates following a successful challenge on car parking rateable values.

Water treatment operating expenditure reduced by £4.2 million as a mixture of local cost efficiency programmes, savings from lockdown and more resources be moved to capital to support new capital programmes which commenced in 2020/21. Additionally, operating expenditure in treated water distribution reduced by £9.5 million compared to the prior year also due to efficiency programmes and a focus on discretionary expenditure.

Wastewater

5 Total operating costs were £18.3 million lower than the prior year with collection costs decreasing by £1.2 million in real terms, as a result of local cost efficiency programmes, offset by higher operating costs during the prolonged heavy rainfall from late December through January and February. Total sewage treatment costs decreased by £6.9 million in real terms, also due to cost saving efficiencies made in response to the demanding efficiency challenge of AMP7.

6 Bioresources costs decreased by £10.3 million in real terms, a proportionately larger decrease than the rest of wastewater services. This was again due to the general cost saving efficiencies made, plus several one-off savings that are the bulk being in other operating costs. The prolonged heavy rainfall in late December through to February resulted in higher tankering costs in collection and a corresponding decrease in Bioresources, as our tanker fleet was diverted from routine sludge haulage to serve flood-affected customers.

Capital expenditure

7 The figures presented relate to all our regulated capital investment in wholesale services. Total gross capital expenditure for the year was £447 million.

8 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.

9 Total capital expenditure includes £2.3 million of spend on assets used to fulfil third-party agreements.

Cash expenditure

10 The only cash expenditure incurred that is not included in our operating cost totals relates to pension deficit payments. The total paid in the year was £26.2 million, of which £22.8 million was in relation to wholesale.

Table 2C - Operating Cost Analysis - Retail

	Line description	Units	Household - total	Non-household - total	Total
Operating expenditure					
1	Customer services	£m	14.766	-	14.766
2	Debt management	£m	9.185	-	9.185
3	Doubtful debts	£m	31.069	-	31.069
4	Meter reading	£m	3.767	-	3.767
5	Services to developers	£m	-	-	-
6	Other operating expenditure	£m	14.849	-	14.849
7	Local authority and Cumulo rates	£m	0.166	-	0.166
8	Total operating expenditure excluding third party services	£m	73.802	-	73.802
Depreciation					
9	Depreciation on tangible fixed assets existing at 31 March 2015	£m	(0.044)	-	(0.044)
10	Depreciation on tangible fixed assets acquired after 1 April 2015	£m	0.202	-	0.202
11	Amortisation on intangible fixed assets existing at 31 March 2015	£m	-	-	-
12	Amortisation on intangible fixed assets acquired after 1 April 2015	£m	2.317	-	2.317
Recharges					
13	Recharge from wholesale for legacy assets principally used by wholesale (assets existing at 31 March 2015)	£m	0.755	-	0.755
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	4.551	-	4.551
16	Income from wholesale assets acquired after 1 April 2015 principally used by retail	£m	-	-	-
17	Net recharges costs	£m	5.299	-	5.299
18	Total retail costs excluding third party and pension deficit repair costs	£m	81.576	-	81.576
19	Third party services operating expenditure	£m	-	-	-
20	Pension deficit repair costs	£m	4.667	-	4.667
21	Total retail costs including third party and pension deficit repair costs	£m	86.243	-	86.243

Debt written off						
22	Debt written off	£m	9.434	-	9.434	
Capital expenditure						
23	Capital expenditure	£m	4.578	-	4.578	
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	1.305			
25	Demand-side water efficiency - expenditure funded by wholesale	£m	-			
26	Demand-side water efficiency - net retail expenditure	£m	1.305			
27	Customer-side leak repairs - gross expenditure	£m	1.403			
28	Customer-side leak repairs - expenditure funded by wholesale	£m	-			
29	Customer-side leak repairs - net retail expenditure	£m	1.403			

1 Total operating expenditure was £73.8 million, a headline decrease of £14.8 million (16.7 per cent) on the previous report year but a real terms decrease of £2.8 million (3.7 per cent) after adjusting for prior year atypical costs and inflation.

2 The reported total retail costs of £86.2 million is £7.7 million adverse to the amount allowed for retail costs at PR19 (at 2017/18 prices). This is largely due to increased bad debt costs.

3 Recharges of costs from other business units of £5.8 million reflects the recharge of IT systems for the business unit of principle use of wastewater.

4 Pension deficit repair costs of £4.7 million reflects the share of our total deficit repair payment attributable to the retail price control.

5 Household retail capex was £4.6 million, primarily in support of our smart metering programme and also enhanced customer data and exploitation.

6 Demand side water efficiency costs were up on the previous year (£0.9 million) due to increased activity levels, but less than our final determination due to delays in work caused by the pandemic. Customer side leak repairs were lower than 2020 (£1.9 million) and the final determination also due to the pandemic and its impact on work volumes at the start of 2020/21.

7 Total household customers increased by c.52,000 in the year (1.8 per cent), with unmeasured customers down by c.9,000 (1.6 per cent) and measured customers increasing by c.61,000 (4.4 per cent).

Movement in costs 2019/20 to 2020/21

	Total £m
2019/20 total reported operating expenditure	88.6
Atypical costs - restructuring provision	(0.6)

	Total £m
Atypical cost - IFRS9 adjustment (bad debt provision) recognising potential impact of Covid 19	(12.0)
Underlying operating expenditure 2019/20	76.0
Inflation @ 0.8%	0.6
2019/20 expenditure indexed to 2020/21 prices	76.6
2020/21 reported operating expenditure	73.8
Decrease in underlying retail operating costs	2.8

Key variances (real terms)

8 The underlying reduction in costs of £2.8 million from the prior year is due to reductions across a number of headings. These are primarily made up of reduced customer service costs of £2.3 million, reduced debt management costs of £1.5 million and reduced general and support costs of £1.8 million all being partially offset by an increase in the bad debt charge of £2.8 million. Customer service decreases were seen on people costs and bought in services due to a combination of efficiency initiatives and reduced activity in the early part of the year due to Covid-19. Likewise on debt management costs, due to the cessation of collection activities by AWS and WOCs billing on our behalf in the early part of the year, costs for these activities have been suppressed and are expected to at least partially reverse in 2021/22. The reduction in general and support costs is the result of efficiency initiatives.

9 Following agreement by the Audit Committee in March 2021, management have enhanced their provisioning methodology to provide better granularity of debt less than one year old. As part of this review management have taken the more prudent view that, whilst not yet billed and substantially offset by payments already received, the measured income accrual carries an element of bad debt risk. Had the previous methodology been applied, the bad debt provision would have been £1.1 million higher. Management continue to take a prudent approach of providing for debt greater than 48 months old in full.

Debt written off

10 Total household debt written off was £9.4 million, decrease of £9.5 million over the prior year write offs of £18.9 million. Our write off policy has not changed in the year and the decrease seen in total write offs is due to fewer customer accounts meeting 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	Retail Household	Retail non-household	Water resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Total
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Cost										
1	At 1 April 2020	£m	10.105	-	321.389	5,671.728	7,324.937	734.814	-	14,062.973
2	Disposals	£m	(0.048)	-	(0.039)	(19.739)	(5.216)	(1.359)	-	(26.401)
3	Additions	£m	0.518	-	10.206	183.977	152.618	15.920	-	363.239
4	Adjustments	£m	-	-	-	-	-	-	-	-
5	Assets adopted at nil cost	£m	-	-	-	-	29.294	-	-	29.294
6	At 31 March 2021	£m	10.575	-	331.556	5,835.966	7,501.633	749.375	-	14,429.105

Depreciation										
7	At 1 April 2020	£m	(8.952)	-	(93.067)	(1,519.246)	(2,444.923)	(410.045)	-	(4,476.233)
8	Disposals	£m	0.048	-	0.038	19.725	5.027	1.254	-	26.092
9	Adjustments	£m	-	-	-	-	-	-	-	-
10	Charge for year	£m	(0.158)	-	(8.771)	(112.502)	(146.706)	(22.958)	-	(291.095)
11	At 31 March 2021	£m	(9.062)	-	(101.800)	(1,612.023)	(2,586.602)	(431.749)	-	(4,741.236)

12	Net book amount at 31 March 2021	£m	1.513	-	229.756	4,223.943	4,915.031	317.626	-	9,687.869
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13	Net book amount at 1 April 2020	£m	1.153	-	228.322	4,152.482	4,880.014	324.769	-	9,586.740
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Depreciation charge for year										
14	Principal services	£m	(0.158)	-	(8.771)	(112.474)	(146.706)	(22.958)	-	(291.067)
15	Third party services	£m	-	-	-	(0.028)	-	-	-	(0.028)
16	Total	£m	(0.158)	-	(8.771)	(112.502)	(146.706)	(22.958)	-	(291.095)

1 The net book amount includes £417.1 million in respect of assets in the course of construction, £175.2 million of newly constructed adopted assets and £2,954.8 million of revaluation of assets undertaken 1 April 2013. Adopted asset additions decreased from £37.1 million in 2019/20 to £29.3 million in 2020/21 as the high in 2019/20 was thanks to a proactive effort in that year to assist developers bring their sewer developments up to standard and finalise long running Section 104 agreements.

2 Table 2D excludes intangible assets with a net book amount at 31 March 2021 of £243.9 million (31 March 2020: £206.5 million) as shown in table 20.

3 Following the adoption of the new lease treatment standard IFRS 16 with effect from 1 April 2019, new leases form a net increase to cost of £1.1 million during the year and the net book amount of tangible assets includes £31.2 million (31 March 2020: £34.6 million) of lease assets which would not have been included in tangible assets but for the adoption of IFRS 16.

4 The Bioresources depreciation charge for the year is lower than years 2018/19 and 2019/20 due to the additional depreciation on assets which had previously been retained for resilience purposes. These assets no longer form part of the sludge treatment strategy from 1 April 2020 and therefore had the accounting lives adjusted accordingly. The resilience assets depreciation increase was effective from 1 October 2017 resulting in a higher charge for the second half of 2017/18 and the whole of 2018/19 and 2019/20. Bioresources depreciation therefore included £nil (2019/20 £22.0 million) depreciation on these resilience assets.

5 The depreciation charge for third party services relates to fluoridation 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

6 In accordance with RAG 2.08, 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).

7 Due to the above, the majority of management and general assets have been assigned to wastewater network+ as the largest business stream except where the asset has been identified as relating principally to another business stream or retail operations.

8 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	0.002	-	-	0.002
6 Other contributions (non-price control)	£m	-	-	-	-
7 Total	£m	0.002	-	-	0.002
8 Value of adopted assets	£m	-	-	-	-
Grants and contributions - water network+					
9 Connection charges	£m	11.675	-	-	11.675
10 Infrastructure charge receipts	£m	10.001	-	-	10.001
11 Requisitioned mains	£m	2.399	-	-	2.399
12 Diversions - s185	£m	0.970	-	-	0.970
13 Other contributions (price control)	£m	-	-	-	-
14 Price control grants and contributions before deduction of income offset	£m	25.045	-	-	25.045
15 Income offset	£m	1.085	-	-	1.085
16 Price control grants and contributions after deduction of income offset	£m	23.960	-	-	23.960
17 Diversions - NRSWA	£m	0.175	-	-	0.175
18 Diversions - other non-price control	£m	1.181	-	-	1.181
19 Other contributions (non-price control)	£m	2.207	-	-	2.207
20 Total	£m	27.523	-	-	27.523
21 Value of adopted assets	£m	-	-	-	-

Line description	Units	Fully recognised in income statement	Capitalised and amortised (in income statement)	Fully netted off capex	Total
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Grants and contributions - wastewater network+					
22	Receipts for on-site work	£m	0.670	-	-
23	Infrastructure charge receipts	£m	10.509	-	-
24	Diversions - s185	£m	0.676	-	-
25	Other contributions (price control)	£m	3.699	-	-
26	Price control grants and contributions before deduction of income offset	£m	15.554	-	-
27	Income offset	£m	-	-	-
28	Price control grants and contributions after deduction of income offset	£m	15.554	-	-
29	Diversions - NRSWA	£m	0.073	-	-
30	Diversions - other non-price control	£m	2.811	-	-
31	Other Contributions (non-price control)	£m	0.426	-	-
32	Total	£m	18.864	-	-
33	Value of adopted assets	£m	29.294	-	-

Line description	Units	0	0	0	0
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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 No water sources income with the exception of a very small amount relating to the early stages of the diversion due to A47 work near Wansford.

Grants and contributions - Water Network+

Divisions - other non-price control (2E.18)

2 Other non-price control diversion income relates to A14 and A47 road schemes and also East-West rail.

Other contributions (non-price control) (2E.19)

3 Other contributions (non-price control) includes a £1.6 million contribution in respect of a section 66D agreement water mains reinforcement at Peppermint Park enterprise zone, Holbeach plus £0.6 million of contributions received towards the cost of having solar panels installed on some operational sites.

Grants and contributions - Wastewater

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

4 Contributions largely relate to a number of developments accounted for under what is known as the Serviced Site Contribution Model (SSCM) which is intended to enable developer contributions to more closely match actual build rates of the developments instead of the normal higher payment upfront thereby assisting developers' cashflow.

Diversions (2E.30)

5 Other non-price control diversion income relates to A14 and A47 road schemes, East-West rail, HS2 rail and also the Lowestoft Lake Lothing crossing (£2.2 million).

Other contributions (non-price control) (2E.31)

6 These include new sewer connections to existing sewers.

Value of adopted assets (2E.33)

7 Income relating to assets adopted at nil cost decreased from £37.1 million in 2019/20 to £29.3 million in 2020/21 as the high in 2019/20 was thanks to a proactive effort in that year to assist developers bring their sewer developments up to standard and finalise long running Section 104 agreements.

Table 2F - Household - Revenues by Customer Type

Line description	Revenue	Number of customers	Average residential revenues
Units	£m	000s	£
DPs	3	3	3

Residential revenue			
1	Wholesale charges	934.653	-
2	Retail revenue	98.451	-
3	Total residential revenue	1,033.104	-

Retail revenue			
4	Revenue Recovered ("RR")	98.451	-
5	Revenue sacrifice	-	-
6	Actual revenue (net)	98.451	-

Customer information			
7	Actual customers ("AC")	-	2,885.654
8	Reforecast customers	-	2,859.632

Adjustment			
9	Allowed revenue ("R")	102.128	-
10	Net adjustment	3.677	-

Other residential information			
11	Average residential retail revenue per customer	-	34.117

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 £3.7 million revenue under recovery (3.7 per cent of retail revenue) compared to allowed revenues is due to higher demand from customers on concessionary tariffs as a result of lockdowns due to Covid-19. This is partly offset by a lower take-up by new applicants compared to the forecast when setting charges, and a reduction in the maximum discount available to new applicants on the LITE tariff, in order to maximise available cross subsidy in the event that Covid-19 did lead to a surge in applicants. This lower take-up is understood to be a consequence of furlough and other schemes that have protected income during the pandemic.

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

Line description	Number of customers	Average non-household retail revenue per customer
Units	000s	£
DPS	3	3
Revenue per customer		
Total		0.000

1 Table has been left blank as the company is not required to report against this table.

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

Line description	Wholesale charges revenue	Retail revenue	Total revenue	Number of connections	Average non-household revenue per connection	Allowed average non-household retail cost	Outcome delivery incentive (ODI) payment	Allowed average non-household retail cost after ODI payment	Allowed margin	Allowed average non-household revenue per connection
Units	£m	£m	£m	000s	£	£	£	£	%	£
DPs	3	3	3	3	3	3	3	3	3	3
Default tariffs - customer group 1										
1 Tariff type 1	0	0	0.000	0	0.000	0	0	0	0.000	0.000%
2 Tariff type 2	0	0	0.000	0	0.000	0	0	0	0.000	0.000%
3 Tariff type 3	0	0	0.000	0	0.000	0	0	0	0.000	0.000%
4 Total default tariffs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000%
Non-Default tariffs										
5 Total non-default tariffs	0	0	0.000	0	0.000	0	0.000	0	0.000	0.000%
6 Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000%
Revenue per customer										
7 Total	0	0	0.000	0	0.000	0	0.000	0	0.000	0.000%

1 Table has been left blank as the company is 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
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Wholesale charge - water								
1	Unmeasured	£m	73.614	0.293	73.907	9.333	64.574	73.907
2	Measured	£m	290.151	97.706	387.857	43.666	344.191	387.857
3	Third party revenue	£m	-	12.220	12.220	2.547	9.673	12.220
4	Total wholesale water revenue	£m	363.765	110.219	473.984	55.546	418.438	473.984

Line description	Units	Household	Non-household	Total	Wastewater network+	Bioresources	Total
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Wholesale charge - wastewater								
5	Unmeasured - foul charges	£m	100.851	0.627	101.478	81.132	20.346	101.478
6	Unmeasured - surface water charges	£m	13.938	0.071	14.009	13.904	0.105	14.009
7	Unmeasured - highway drainage charges	£m	10.704	0.048	10.752	10.658	0.094	10.752
8	Measured - foul charges	£m	334.169	90.323	424.492	347.020	77.472	424.492
9	Measured - surface water charges	£m	61.437	2.768	64.205	63.720	0.485	64.205
10	Measured - highway drainage charges	£m	49.789	2.289	52.078	51.622	0.456	52.078
11	Third party revenue	£m	-	-	-	-	-	-
12	Total wholesale wastewater revenue	£m	570.888	96.126	667.014	568.056	98.958	667.014

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

16	Wholesale Total	£m	934.653	206.345	1,140.998
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Retail revenue					
17	Unmeasured	£m	20.626	-	20.626
18	Measured	£m	77.825	-	77.825
19	Other third party revenue	£m	-	-	-
20	Retail Total	£m	98.451	-	98.451

Third party revenue - non-price control					
21	Bulk supplies - water	£m	-	-	10.217
22	Bulk supplies - wastewater	£m	-	-	3.721
23	Other third party revenue	£m	-	-	2.832
Principal services - non-price control					
24	Other appointed revenue	£m	-	-	1.070
25	Total appointed revenue	£m	-	-	1,257.289

1 The table reflects the disaggregated charges set to separately recover foul, surface and highway revenue. The calculation of water resources, water network plus, wastewater network plus and bioresources revenue is in line with the proportion of each fixed and volumetric charge set when calculating charges in order to recover the allowed revenue requirement.

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	15.439	-
2 Pumping and storage facilities	£m	1.986	-
3 Other	£m	-	-
4 Total	£m	17.425	-
Wholesale wastewater network+ (sewage collection)			
5 Foul and combined systems	£m	8.124	1.225
6 Surface water only systems	£m	-	-
7 Pumping and storage facilities	£m	3.305	0.176
8 Other	£m	-	-
9 Total	£m	11.429	1.401

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	10.001	10.509	20.510
2 Discounts applied to infrastructure charges	£m	-	-	-
3 Gross Infrastructure charges	£m	10.001	10.509	20.510
Comparison of revenue and costs				
4 Variance brought forward	£m	(16.033)	(3.130)	(19.163)
5 Revenue	£m	10.001	10.509	20.510
6 Costs	£m	(17.425)	(11.429)	(28.854)
7 Variance carried forward	£m	(23.457)	(4.050)	(27.507)

1 For the financial year 2020/21 total network reinforcement costs were £28.9 million which is £8.4 million higher than the corresponding revenues of £20.5 million. Within this, the water costs were £7.4 million higher than the equivalent revenues and wastewater costs were £0.9m million higher.

2 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.

3 Our region is in an area of significant growth and we continue to see a shift towards large Urban Expansions compared to smaller infill sites. The first UK lockdown saw a drop in the number of planned New Connections, which directly impacted our recovery of Infrastructure Charges. During this period, we continued to invest in Network Reinforcement. 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 2020/21 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. This can be seen in the reduction in the gap in 2019/20 (£19.1m) compared to 2020/21 (£8.4m).

4 No discounts have been applied to infrastructure charges in 2020/21.

Table 2L - Analysis of land sales for the 12 months ended 31 March 2021

Line description	Units	Water resources	Water Network+	Wastewater Network+	Total
1 Proceeds from disposals of protected land	£m	0.049	0.182	0.826	1.057

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.

Table 2M - Revenue reconciliation for the 12 months ended 31 March 2021 - Wholesale

	Line description	Units	Water resources	Water network+	Wastewater network+	Bioresources	Additional Price Control	Total
Revenue recognised								
1	Wholesale revenue governed by price control	£m	55.546	418.438	568.056	98.958	-	1,140.998
2	Grants & contributions (price control)	£m	-	23.960	15.554	-	-	39.514
3	Total revenue governed by wholesale price control	£m	55.546	442.398	583.610	98.958	-	1,180.512
Calculation of the revenue cap								
4	Allowed wholesale revenue before adjustments (or modified by CMA)	£m	55.371	409.357	563.446	96.051	-	1,124.225
5	Allowed grants & contributions before adjustments (or modified by CMA)	£m	-	22.986	27.540	-	-	50.526
6	Revenue adjustment	£m	-	-	-	-	-	-
7	Other adjustments	£m	-	-	-	-	-	-
8	Revenue cap	£m	55.371	432.343	590.986	96.051	-	1,174.751
Calculation of the revenue imbalance								
9	Revenue cap	£m	55.371	432.343	590.986	96.051	-	1,174.751
10	Revenue Recovered	£m	55.546	442.398	583.610	98.958	-	1,180.512
11	Revenue imbalance	£m	(0.175)	(10.055)	7.376	(2.907)	-	(5.761)

Amount assumed in wholesale determination (2M.4)

- 1 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 to give the allowed revenue for 2020/21. The resulting calculation of revenue was then used for setting charges for the 2020/21 Charges Scheme.
- 2 Allowed wholesale water resources revenue and network plus revenue were calculated as £55.4 million and £432.3 million respectively.
- 3 Allowed wholesale wastewater network plus revenue and bioresources revenue were calculated as £591.0 million and £96.1 million respectively.

Difference (2M.11)

- 4 The level of wholesale water resources revenue recovered from customers is £0.2 million above allowed revenues and water network plus is £10.1 million above allowed revenue. The over-recovery represents less than 0.5 per cent of water resources allowed revenue and 2.3 per cent of water network plus allowed revenue. The over-recovery of water network plus revenue is primarily due to the increase in main charges revenue as a result of Covid-19 driving changed behaviour in the customer base with higher household demand partly offset by lower non-household demand. The approximately neutral position on water resources

revenue recovery reflects the higher percentage of the overall charge which water resources accounts for in relation to non-households meaning that the reduction in the non-household demand almost completely offset the increase in household demand.

5 The level of wholesale wastewater plus revenue is £7.4 million below allowed revenues and bioresources is £2.9 million above allowed revenue. The under-recovery represents 1.2 per cent of allowed revenues whilst the over-recovery represents 3.0 per cent of allowed revenues. For wastewater network plus this reflects an under-recovery of grants & contributions (£12.0 million) partially offset by an over-recovery of main charges (£4.6 million). The over-recovery on main charges follows the trend in water demand noted above. The over-recovery in bioresources revenue reflects lower actual tonnes dry solids compared to the forecast used when setting charges.

Grants & contributions (2M.2)

6 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.

7 The £15.5m received in wastewater contributions in the year from developers was materially lower than forecast due to the impact of Covid-19 restrictions on the housing market.

Table 2N - Residential retail - social tariffs

Line description	Revenue	Number of customers	Average amount per customer
Units	£m	000s	£
DPs	3	3	3
Number of residential customers on social tariffs			
1 Residential water only social tariffs	-	0.843	
2 Residential wastewater only social tariffs	-	3.680	
3 Residential dual service social tariffs	-	22.519	
Number of residential customers not on social tariffs			
4 Residential water only no social tariffs	-	238.139	
5 Residential wastewater only no social tariffs	-	835.949	
6 Residential dual service no social tariffs	-	1,784.524	
Social tariff discount			
7 Average discount per water only social tariffs customer	-	-	130.486
8 Average discount per wastewater only social tariffs customer	-	-	158.424
9 Average discount per dual service social tariffs customer	-	-	291.221
Social tariff cross-subsidy - residential customers			
10 Total customer funded cross-subsidies for water only social tariffs customers	0.110	-	-
11 Total customer funded cross-subsidies for wastewater only social tariffs customers	0.583	-	-
12 Total customer funded cross-subsidies for dual service social tariffs customers	6.558	-	-
13 Average customer funded cross-subsidy per water only social tariffs customer	-	-	0.460
14 Average customer funded cross-subsidy per wastewater only social tariffs customer	-	-	0.694
15 Average customer funded cross-subsidy per dual service social tariffs customer	-	-	3.629
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	-	-	4.000

1 Numbers reported relate to the LITE tariffs. The tariff is structured as banded discounts of 20 per cent, 40 per cent, 60 per cent and 80 per cent to standard rate charges. The majority of customers have historically qualified for the maximum discount of 80 per cent. For the charging year 2020/21 following discussion with CCW the maximum discount for new applicants was limited to 40 per cent in order to maximise the available cross subsidy in the event that the Covid-19 pandemic did lead to a surge in applicants. In fact the average number of customers in the year was c.27,000 which is below the forecast take up. It is understood that this was a consequence of furlough and other schemes that have protected income during the pandemic. Discount per customer reflects the weighted average of the discount bands available. When setting charges we looked to recover a cross subsidy of £4 for a dual service and £2 for a single service customer. The discount is fully funded by the customer cross subsidy, set following consultation in 2016.

2 In addition to LITE, we provide other forms of assistance through the Watersure and Aquacare Plus tariffs, and through a range of measures to help customers manage their bills including our (arrears) Forgiveness Scheme, Payment and Charges holidays, and temporary instalment plans.

3 To promote accessibility for vulnerable customers we offer additional practical support to a wide range of customers as part of 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. We also provide additional services to help with managing their account, such as bills in alternative formats, translations services, help reading the meter, password schemes and our knock and wait service which can provide extra time for our customers to answer the door. During 2020/21 we increased the number of customers we support through our Priority Service register by 110 per cent (that is nearly 100,000 customers). The increase was as a result of our customer facing teams proactively responding to disclosures of vulnerability, promotional campaigns to increase awareness including newspaper articles, radio interviews, advertisements on pharmacy bags and promotion through our network of more than 100 partners who support those in vulnerable circumstances. We also introduced a dedicated vulnerability team who received extensive training through specialist partners to better understand and support those in vulnerable circumstances.

4 Furthermore we have also worked with our partners to create bespoke communications to check customers are receiving the right support as well as carrying out research with over a thousand disabled customers and carers through Scope, a pan-disability charity, to understand how we can improve our services and increase awareness amongst those most in need. With the use of speech analytics, we were able to understand the scale and nature of vulnerability disclosures and use data to identify areas of focus. As a result of the analysis we made a number of enhancements to the bereavement support we offer. We introduced a dedicated bereavement line and partnered with Life Ledger (a free 'tell us once' death notification service) and Marie Curie, who offered a specialist support for those living or caring for someone with a terminal illness, including bereavement support.

Table 20 - Historic cost analysis of intangible fixed assets

Line description	Units	Water Resources	Water Network+	Wastewater Network+	Bioresources	Additional Control	Retail Residential	Retail non-household	Total
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Cost										
1	At 1 April 2020	£m	15.280	39.282	392.880	12.983	-	77.832	-	538.257
2	Disposals	£m	-	-	-	-	-	-	-	-
3	Additions	£m	2.219	9.619	66.399	2.660	-	2.978	-	83.875
4	Adjustments	£m	-	-	-	-	-	-	-	-
5	Assets adopted at nil cost	£m	-	-	-	-	-	-	-	-
6	At 31 March 2021	£m	17.499	48.901	459.279	15.643	-	80.810	-	622.132

Amortisation										
7	At 1 April 2020	£m	(8.431)	(22.829)	(233.538)	(2.355)	-	(64.651)	-	(331.804)
8	Disposals	£m	-	-	-	-	-	-	-	-
9	Adjustments	£m	-	-	-	-	-	-	-	-
10	Charge for year	£m	(2.038)	(2.746)	(38.543)	(0.744)	-	(2.317)	-	(46.388)
11	At 31 March 2021	£m	(10.469)	(25.575)	(272.081)	(3.099)	-	(66.968)	-	(378.192)

12	Net book amount at 31 March 2021	£m	7.030	23.326	187.198	12.544	-	13.842	-	243.940
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13	Net book amount at 1 April 2020	£m	6.849	16.453	159.342	10.628	-	13.181	-	206.453
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Amortisation for year										
14	Principal services	£m	(2.038)	(2.746)	(38.543)	(0.744)	-	(2.317)	-	(46.388)
15	Third party services	£m	-	-	-	-	-	-	-	-
16	Total	£m	(2.038)	(2.746)	(38.543)	(0.744)	-	(2.317)	-	(46.388)

- 1 Intangible assets included in the above comprise software assets and models, studies and plans used to inform future investments.
- 2 The net book amount includes £113.7 million in respect of assets in the course of construction.
- 3 Table 20 excludes tangible assets with a net book amount at 31 March 2021 of £9,687.9 million (31 March 2020: £9,586.7 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
			Previous reporting year	Current reporting year			

Common PCs - Water (Financial)							
1	Water quality compliance (CRI)	PR19ANH_3	number	1.75	1.98	No	0.000
2	Water supply interruptions	PR19ANH_4	hh:mm:ss	00:18:39	00:05:02	Yes	1.020
3	Leakage	PR19ANH_5	%	0.0	1.5	Yes	0.066
4	Per capita consumption	PR19ANH_6	%	0.0	-3.0	No	-1.907
5	Mains repairs	PR19ANH_11	number	109.3	130.6	Yes	0.000
6	Unplanned outage	PR19ANH_12	%	1.54	1.14	Yes	0.000

Bespoke PCs - Water and Retail (Financial)							
7	Percentage of population supplied by a single supply system	PR19ANH_15	%	24.1	22.7	Yes	0.599
8	Properties at risk of persistent low pressure	PR19ANH_16	nr	148	147	Yes	0.019
9	Abstraction Incentive Mechanism	PR19ANH_20	nr	-94	-83	No	-0.002
10	Managing void properties	PR19ANH_23	%	n/a	0.21	Yes	1.368
11	Water quality contacts	PR19ANH_34	nr	1.09	1.13	No	-0.107
12	Smart metering delivery	PR19ANH_38	nr	n/a	164400	-	0.000
13	Internal interconnection delivery	PR19ANH_39	nr	n/a	1.5	-	0.000
15	Underperformance incentive for Elsham treatment works and transfer scheme	PR19ANH_47	text	n/a	-	-	0.000
16	Outperformance payment for Elsham treatment works and transfer scheme	PR19ANH_48	text	n/a	-	-	0.000

27	Financial water performance commitments achieved	%	64
28	Overall performance commitments achieved (excluding C-MEX and D-MEX)	%	75

1 The information we have published in table 3A is consistent with the updates we have reported to our Customer Engagement Forum during the course of the year.

2 We have set ourselves a target to achieve a net reward under the performance framework (across all price controls) in the 2020-25 price control period. The rewards and penalties we have quoted in the 'forecast' column are consistent with that target.

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

3 The DWI has developed the CRI, alongside ERI, for measuring compliance based risk.

4 The CRI is calculated based on the parameter severity and impacted population. This is converted into a company CRI by dividing the sum of the scores for the year by the company population. The scoring includes the cause of the failure, the way which the company investigates the failure and any risk mitigation put in place by the company and is the inspectorates assessment of that which produces the assessment score.

5 In 2020 the provisional CRI score calculated by the DWI for Anglian Water (including Hartlepool) was 1.98. This is higher than our 2019 score of 1.75. CRI has been impacted in 2020 by the Covid-19 pandemic and national restrictions, owing to fewer samples being collected from domestic properties and more from commercial buildings. These buildings had a lower turnover in 2020 due to staff working remotely which has led to an increase in water quality exceedances such as taste and odour being identified in 2020.

Water Supply Interruptions (3A.2)

6 The total time lost due to interruptions exceeding 3 hours per property is 5 minutes 02 seconds (2019/20: 18 minutes 39 seconds).

7 The breakdown of the score is 4 minutes 58 seconds unplanned (19 minutes 01 second in 2019/20) and 04 seconds planned (01 seconds in 2019/20).

8 In one area of the definition provided by Ofwat, we take a different approach to reporting, which is explained as follows:

- We do not treat tower 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.
- 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.
- 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.

Leakage (3A.3)

9 Three year rolling average leakage is assessed at 191.1 Ml/d against a performance commitment level of 191.4 Ml/d. This is a 1.5 per cent reduction against a target reduction of 1.4 per cent. This generates £0.066m reward for the year.

Impact of Covid-19 related lock down on leakage activities

10 At the start of the 2020/21 our proactive leakage operations were temporarily halted for three weeks as the impact of the pandemic were understood and ways of working safely were developed. Only urgent visible leaks or issues resulting in low pressures or loss of supply were dealt with. Once safe ways of working were developed the teams returned to work and operated effectively through the year. The only enduring impact relates to the

investigation of customer supply pipe leaks requiring customer contact/entry to customers' properties. Our technicians were unable to carry out this work throughout the year which has hindered resolution of some supply pipe leaks.

Impact of the weather on leakage

11 The impact of the weather in 2020/21 on our network has been more severe than in 2019/20. The spring/early summer was fine and dry which caused additional customer demand and customer night use but did not significantly adversely impact the network and leakage. However, the winter saw three periods of freeze thaw conditions which did impact the network (mid December 2020, mid January 2021 and mid February 2021), especially the areas around the Norfolk coast where we saw elevated burst rates. The mid January event saw the highest number of burst mains raised in a seven day period in the last 3 AMPs. Despite this, we recovered leakage quickly and the overall impact to 2020/21 was minimised.

Leakage strategy

12 Our AMP7 leakage strategy continues some 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:

- Detection resources – we have increased our detection teams to ensure that we can deliver the leakage reduction required for AMP7. In 2020/21 we maintained leakage detection resource numbers at the same level as the previous year
- Network/pump optimisation schemes - There have been 32 optimisation schemes implemented this year, delivering 1.22 MI/d of leakage reduction.
- Intensive Leakage Programme - This process has led to a leakage reduction of 3.09 MI/d in 2020/21. The teams have continued their approach of auditing historically high leakage zones but also focused on gaining a better understanding of inoperable zones, working more closely with teams around the business
- Leakage Sensors - We now have 5,143 remote hydrophones installed across 227 DMA's in full monitoring mode. To date, the SENSOR programme has delivered 8,807 leaks proactively and technician productivity has increased on average from 0.4 leaks per day to 0.5 leaks per day across all work streams when compared to 2019/20.
- Customer supply pipe leakage/internal property leakage – We continue our process of working with customers to ensure that they repair leaks on their supply pipe or internally to the property in a timely manner. 2020/21 is our busiest year to date with 8,832 cases managed, against 8,817 in 2019/20.

Per capita consumption, PCC (3A.4)

13 The closure of business premises last March and the almost overnight switch to homeworking had a significant impact on patterns of demand for both water and wastewater services across the country, but perhaps has had a particular impact in those regions where in-commuting to London was a more dominant feature of pre-pandemic work patterns.

14 At its peak, we recorded an over 50 per cent increase in PCC last May, albeit compounded by the warm spring and summer weather. A year later, PCC remains 10.5 per cent higher than the equivalent time in 2019. Covid-19 restrictions have also affected our smart metering and water efficiency programmes. We have not been able to engage customers on their water consumption in the way that we had planned, such as through home water audits and leakage visits. Instead, we switched our focus to targeted social media, email and newspaper and radio campaigns.

- Water saving activities were maximized using our digital engagement, as well as working with key community partnerships to utilize their online channels too. We ran a summer campaign where we reached over half a million of our customers through

our community partnerships driving our water saving messages. Plus, a further 40,000 customers were reached, with social media influencers demonstrating how to use the water saving home kit.

- As we could not visit customers' homes and carry out water home audits, we encouraged customers to order a free water saving home kit via our website. The kit included a digital shower timer, swell gels, tap inserts plus tips to save water in the home. Over 15,000 kits were sent out during the summer campaign. Respondents to a follow-up survey said that the kit helped them save water, with 88 per cent saying the shower timer helped them take shorter showers.
- We reached more than 24,000 customers in Braintree and Colchester with our email campaign as demand increased in the summer. Supporting the targeted engagement, we also used local press and radio adverts to increase our reach.
- Our education team created online materials for schools and home-schooling that was accessed via our website, with over 8,500 downloads.
- We installed 164,400 smart meters in 2020/21 to identify customer-side leaks and help customers track their daily and hourly usage via our online MyAccount web/app platforms.

15 We continued to work in collaboration with Waterwise and Water UK by supporting and engaging with the Water's Worth Saving campaign, plus Water Saving week. Our water saving messaging and activities ran through our internal communications and explaining to our people how demand has been impacted during the pandemic.

16 One of the largest savings in PCC arises from customers volunteering to install a meter and move to a metered tariff. There has been a 56 per cent reduction in this activity against our plans. This reduction is a function of our existing high meter penetration which means generally only the more difficult to install internal meters remain. 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 Water Resources Management Plan to manage the supply demand balance in the region, and our goal during AMP7 remains to fully offset the demand requirements needed to serve new housing and population growth through effective demand-side measures including leakage control and PCC reduction.

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

17 For 2020/21 we report 129.2 bursts per 1,000km of pipe. This is an increase on 2019/20 (109.25 bursts per 1,000km of pipe), but it is more in line with the longer term performance levels.

18 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)

19 The 2020/21 unplanned outage figure is 1.139 per cent, this is a slight reduction on the 2019/20 figure of 1.542 per cent.

20 Overall Company Peak Week Production Capacity (PWPC) saw a 17MI/d increase from 2019/20 to 2020/21. Of our 144 sites, 59 increased, 65 remained the same and 20 sites decreased. A lot of the increases seen this year were due to exceptional demand seen over the summer period.

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

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

22 The performance commitment for supply demand resilience is 'Percentage of Population supplied by a single supply system'.

23 The programme is a continuation of our AMP6 programme.

24 The approach taken to develop the baseline was to identify the resulting deficit if each water treatment works were 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 percent. At the end of AMP6 we reported an outturn position of 24.1 per cent which thus forms the baseline for AMP7.

25 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 with the majority of schemes planned to be delivered towards the end of the AMP as the interconnections are commissioned.

26 In 2020/21 we have completed 2 schemes at Pitsford WTW and Ludham WTW, delivering a combined total of 1.43 per cent reduction. The outturn for the year 2021/21 is 22.7 per cent which is below the performance commitment of 24.1 per cent.

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	

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

27 The number of reportable properties on the register at year end is 147, compared with 148 at the end of 2019/20. This is below the 2020/21 performance commitment level of 150 properties. During the year there were 43 additions and 44 removals.

28 At the end of 2020/21, of the 147 properties below the reference level, five were reportable due to common services and 20 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.

29 During 2020/21, the 44 removals were removed following a capital or operational intervention. Of these, 21 properties were added then removed following issues being detected with communications pipes which were subsequently resolved with renewal of the communication pipes.

30 Four capital schemes to improve pressures have realised benefits in 2020/21:

- Scunthorpe – seven properties were removed from the register following the installation of a cross connection to a higher pressure system.
- Dingley Dell - two properties were removed from the register following the installation of 330m of 63mm MDPE pipe from an existing water booster and transfer of the properties to the new higher pressure pipe line.
- Orlingbury – two properties were removed following a previous year's scheme to accommodate growth. The improvement in pressure to these properties was an additional benefit of the scheme, which was confirmed with network logging in 2020/21.
- Small Area Boosters – three properties were added and removed from the register following the installation of a booster. One property was removed from the register following the installation of a booster. These boost directly to the customers with only

small lengths of dedicated pipework, allowing previously difficult to resolve properties improved pressures.

31 Four operational investigations provided updated information to confirm the removal of eight properties in 2020/21.

- Burghley Estate, Stamford – four buildings on a large estate were removed as they were not individual properties, following on-site investigation, confirmation with billing records and confirmation with the Estate on the actual properties supplied.
- Alconbury – two properties were removed as they had been previously transferred to a higher pressure system.
- Daventry – one non-household property was removed as it was found the property had previously been disconnected from the network and did not require a supply.
- Winceby – one property was removed following verification of main stop tap location being at a lower elevation. This was confirmed with pressure logging at the main stop tap.

32 There have been no changes to the confidence grades and no restatement of previous years' data. A change to the process has been made to use the definition set out in the Final Determination, with the guidance surrogate reference level of 15m head being adopted. Procedures were updated for the commencement of AMP7.

Abstraction Incentive Mechanism (3A.9)

33 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.

34 We have made significant investment to help understand and minimise the impacts of our abstractions and as a result we have reduced output from, relocated or closed a number of our abstraction sources.

35 During AMP6 we invested in state of the art technology at our treatment works at Heigham, Norwich, in order to protect the sensitive chalk stream environment in the upper River Wensum. We also closed our treatment works at Ludham in the Broads in March 2021 in order to protect sensitive fenland habitats nearby.

36 Over the years we have completed a wide range of environmental mitigation measures, the most notable of which was the creation of the 30 hectare wildlife lagoons at Rutland Water. More recently we have completed a number of river restoration schemes in AMP6 to mitigate any potential abstraction impacts and identified a further programme of river habitat improvements which will be progressed in AMP7.

37 The Abstraction Incentive Mechanism (AIM) was introduced by Ofwat as a reputational measure in AMP6 and this has 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. 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: Marham (Groundwater), Wisthorpe, and Wixoe sources.

38 After a reasonably good recharge period at the end of 2019, the start of 2020 was unusually dry. This was accompanied by an increase in demand alongside Covid-19 restrictions, and from March onwards we started to see unusual demand patterns. The dry

weather, along with an exceptional hot spell, meant that the natural groundwater recession came early and resulted in low flows in some rivers from May onwards. This resulted in a long period of low river flows at various sites across the region at a time when we were seeing record demand from our customers.

Marham (River Nar)

39 The hands-off flow requirement in the Marham abstraction licence for the River Nar is due to increase from April 2025. This will result in a large sustainability change for the Marham source and any alterations to our current abstraction regime in this resource zone will require significant investment. We have assessed the impacts in our Water Resources Management Plan 2019 and have included a new transfer option for delivery by 2025.

40 The option to meet the demand from alternative abstraction sources is limited primarily to the Wellington Wellfield groundwater source. Use of the Wellington Wellfield is the identified drought contingency measure for the Marham source and is constrained by the annual abstraction licence limit.

41 Abstraction from the Marham surface water source decreased during AMP6 and was below the baseline during summer 2020. There was one day where flows in the Nar were below the AIM threshold. This has resulted in a small decrease in the quantity reported under AIM this year.

Marham (Groundwater)

42 The Marham groundwater licence is due to decrease significantly from April 2025. As with the Marham (River Nar) abstraction above, the deficit will be made up by a transfer in 2025 and in the meantime we are endeavouring to reduce use of the groundwater during low flow periods. During 2020/21 there were no flows below the AIM threshold.

Wilsthorpe

43 The Wilsthorpe source is located close to the East Glen river. The source has been identified in WINEP for a sustainability cap, plus the requirement to provide river support by April 2025. Until this work is completed we are endeavouring to reduce the use of this source during low flow periods.

44 The East Glen river is partly ephemeral and the flows can drop off quickly during dry weather. This happened very early in 2020, accompanied by high peak demand in the network due to a combination of Covid-19 demand and high temperatures. We struggled to reduce abstraction during the early part of the summer, but by September we were abstracting significantly below the baseline level. During 2020/21 there were 114 days with flow below the AIM threshold and, despite a difficult start to the year, we are reporting an overall decrease in abstraction compared to baseline. However, we will be slightly above our target for the year.

Wixoe

45 The Wixoe source is located near the Bumpstead Brook. The source has been identified in WINEP for relocation or closure during AMP7. The impact of the loss of this source has been assessed in our Water Resources Management Plan 2019 and this includes a new transfer option for delivery by 2025. Until this work is completed we are endeavouring to reduce the use of this source during low flow periods. During 2020/21 there were no flows below the AIM threshold.

AIM Site	AIM volume 2020/21 (MI)	Reward/Penalty (£)
Marham (River Nar)	-1	£420 (Reward)
Marham (Groundwater)	0	£0
Wilsthorpe	-82	£2,550 (Penalty)

AIM Site	AIM volume 2020/21 (Ml)	Reward/Penalty (£)
Wixoe	0	£0
Total	-83	£2,130 (Penalty)

Managing void properties (3A.10)

46 The outcome figure is a calculation of the 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.

47 The audit was due to be performed in early September and again in late October 2020 but was moved back to January and February 2021. This was a knock-on effect of our decision to stop meter reading during the initial Covid-19 lockdown in spring / early summer. We needed our meter readers to remedy the short-fall of meter readings in the autumn rather than conducting the voids audit as we had planned. We set this out in our letter to Ofwat of 2 June 2020.

48 We committed to audit 1,000 records. To ensure our sample number contained at least 1,000 records we extracted 1,242 records. After removing genuine exclusions this returned 1,115 audit results.

49 The performance commitment level was 0.5 per cent and we out-turned at 0.21 per cent. Accordingly we have earned an outperformance payment of £1.4m. The performance shows the impact of the considerable work we have put in during the year to identify false voids. Activities have included reviewing all properties void for more than 4 months, reviewing water consumption data, using bureau and land registry data, making doorstep visits and sending letters and emails.

Water quality contacts (3A.11)

50 The number of acceptability contacts received in 2020 was 1.12 per 1,000 population served.

51 The approach to improving the acceptability rate continues through our 'Keep water healthy' initiative that has been running for over five years. This 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 our focus on engagement with our customers through multi platforms, especially social media and have extended that further via Facebook and Twitter in 2020.

Smart metering delivery (3A.12)

52 After the successful trials with smart meters in AMP6, we are rolling out a 10 year plan to install smart meters across our region. The smart metering programme has significant benefits for optimising our networks, enabling improved customer communications on water efficiency and supporting our leakage strategy.

53 Areas identified as water stressed are being prioritised for the smart meter programme. Archiva is installing the radio masts which support the fixed network to obtain meter readings.

54 The smart meter by itself does not have the capabilities to send out a strong enough signal for the radio masts to receive. An endpoint is therefore also fitted and paired with the corresponding meter. This amplifies the signal, sending out data packets every hour for the network to pick up. These are then collected via a central data repository. The data are accessible to the customer via an app, allowing them to monitor consumption, and to us to raise accurate bills and spot leaks.

55 Despite global supply chain shortages in the supply of microchips, which are a critical component of smart meters and end points, we have successfully installed 164,400 smart meters in 2020/21. These supply chain shortages are forecast to continue and tighten in 2021/22 and could affect the pace of our future roll-out.

Internal interconnection delivery (3A.13)

56 During 2020/21 we have completed the first scheme in our Internal Interconnector Programme which we started during the transition year.

57 The scheme, "HPB1 - Norwich & the Broads WRZ to Happisburgh WRZ", has allowed us to cease abstraction at Ludham Water Treatment Works and voluntarily revoke our abstraction licence.

58 This scheme has provided a new transfer from the Norwich system to replace the supply from the decommissioned boreholes at Ludham (Happisburgh WRZ). We have installed 3.5km of new 280mm diameter water main from Stalham to Catfield and a new 4 MI storage tank and water booster at Horstead which, together with modifications at Household Water Treatment Works, allow a blended supply from Household, Heigham and Thorpe to be delivered to Ludham.

59 There is no target for this performance commitment in this reporting year; following the CMA re-determination the performance commitment has been amended to reflect delivery of the entire programme at the end of the AMP. The capacity included in the performance commitment at the Final Determination for this scheme was 1.3 MI/d; the CMA re-determination increased this to 1.5 MI/d.

60 The completed scheme allows 1.53 MI/d to be transferred on an average day and thus meets the revised commitment for this scheme.

61 Additionally, we have started work on the remainder of the Interconnector Programme across our region, including the large diameter strategic grid schemes, and have commenced detailed design, enabling activities, ecology and archaeology surveys on a number of the schemes. The first phases of pipeline are due to start construction in early 2021/22.

Cyber security (3A.14)

62 Our cyber security performance commitment will not be assessed until 2024/25. Our commitment requires us to assess the operational technology (OT) cyber security risk at more than 100 operational sites and to develop a plan of mitigation for those which we identify to have a higher level of risk.

63 This risk assessment has been completed and we have identified three water supply systems that require cyber security enhancement. By the end of the 2020-25 period, we have committed to completing our action plan for all high-risk operational sites associated to these systems. If not, we will return an equivalent proportion of the investment allocated back to our customers through their bills.

Elsham DPC (3A.15-16)

64 Our performance commitments for direct procurement for customers for the new Elsham water treatment works incentivise us to procure the scheme through a competitively appointed third party under a design, build, finance, maintain and operate model. To achieve the performance commitment and avoid an under-performance payment we must meet the following milestones:

- Submit an Outline Business Case by February 2022
- Submit a Full Business Case by June 2023.

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

66 Reporting against these measures will commence from 2021/22 when the first of the milestones is due.

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
			Previous reporting year	Current reporting year			

Common PCs - Wastewater (Financial)								
1	Internal sewer flooding	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	1.06	1.33	Yes	3.628	18.100
2	Pollution incidents	PR19ANH_8	Pollution incidents per 10,000 km of sewer length	35.00	27.65	No	-1.397	-0.800
3	Sewer collapses	PR19ANH_13	Number of sewer collapses per 1,000 km of all sewers	5.63	6.09	No	-1.126	-1.100
4	Treatment works compliance	PR19ANH_14	%	98.58	99.29	Yes	0.000	0.000

Bespoke PCs - Wastewater (Financial)								
5	External Sewer Flooding	PR19ANH_17	nr	2474	3628	Yes	2.352	29.800
6	Bathing Waters Attaining Excellent Status	PR19ANH_19	nr	32	n/a	-	0.000	0.000
7	Water Industry National Environment Programme	PR19ANH_32	nr	n/a	520	Yes	2.968	6.300
8	Partnership working on pluvial and fluvial flood risk	PR19ANH_42	number	n/a	14	-	0.000	0.000
9	Additional sludge treatment capacity at Whitlingham	PR19CMA_ANH-01	%	n/a	n/a	-	0.000	0.000

19 Financial wastewater performance commitments achieved

%

67

- 1** The information we have published in table 3B is consistent with the updates we have reported to our Customer Engagement Forum during the course of the year.
- 2** We have set ourselves a target to achieve a net reward under the performance framework (across all price controls) in the 2020-25 price control period. The rewards and penalties we have quoted in the 'forecast' column are consistent with that target.
- 3** We are currently developing our Drainage and Wastewater Management Plan (DWMP) to improve the lives of people, and the environment, in the East of England over the long-term. We will use it to plan for investment in drainage, treatment and sewerage systems. To be published in 2022, our DWMP will be our next phase in long-term planning, covering the period 2025-2050. Framed by our Strategic Direction Statement, our new co-created 25 year forward vision for the region which will follow on from the Water Recycling Long-Term Plan (WRLTP) published in 2018. This will drive improvement across all our wastewater performance commitments.

Internal Sewer Flooding (3B.1)

- 4** There were 380 internal flooding incidents in 2020/21. This includes 89 incidents caused by overloaded sewers and 291 incidents caused by other causes, including blockages, collapses, equipment failure, pumping station failure and third party causes. This total includes flooding incidents due to severe weather events; we had a total of 20 internal severe weather events in 2020/21. 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 is reported in thousands in table 4R and is 2,852.4 and is replicated in table 3G. The calculated performance level is 1.33 which is populated in table 3B.
- 5** In 2019/20 we reported 298 internal flooding incidents. In 2020/21 we saw exceptional wet weather over the winter months which resulted in an increase in our internal flooding incidents. There was a period of intense storms during August, which accounted for all the severe weather related incidents. On top of this, the prolonged period of consistent rainfall over winter led to high groundwater levels, which contributed a high number of incidents being recorded in those months.
- 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 version three of the Environmental Performance Assessment (EPA) methodology document: the total number of pollution incidents (categories one to three) 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 explained in our commentary for table 3G.
- 8** There has been a reduction in the total number of pollution incidents in 2020 (210) compared with 2019 (265). This performance sees our downward trend in incidents resume, following a one-year elevation in 2019 which was attributable to an extreme rainfall event. The number of incidents in 2020 is now almost half the figure reported in 2014 at the end of AMP5 .
- 9** Importantly, in 2020 we have seen an overall reduction in those incidents having the greatest impact on the environment (category one and two). There were zero category one incidents in 2020 and two fewer serious wastewater incidents (10) compared to 2019 (12).
- 10** Despite this improving trend, our 2020 performance does not meet the performance commitment level of 24.51, resulting in a penalty of £1.4m.

11 Over a third of our pollution incidents were caused by sewer abuse; predominantly the entry of unflushables, fats and debris leading to blockages. A further fifth were caused by excess rain/surface water during wet periods overwhelming our assets. We continue to work collaboratively with partners, stakeholders, communities and customers to tackle these complex issues and other identified root causes.

12 Preventing pollution is a fundamental part of our remit. Through the delivery of our nine-step Pollution Incident Reduction Plan, we've achieved a 20 per cent reduction in the volume of pollutions this year which has enabled us to regain our 3* Environmental Performance Assessment status. Our Plan focuses on targeting asset investment where we perceive pollution risk, smart use of data, improving processes and educating customers and employees with our 'Keep it Clear' message.

13 We're also increasing monitoring of storm overflows to assess how best to target investment to benefit the environment and engaging with the Government's Storm Overflows Taskforce to accelerate progress, share best practice and technology and develop long-term solutions.

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

14 There were 296 reactive sewer collapses and 173 reactive burst rising mains, totalling 469 for 2020/21. This total number of sewer collapses and burst rising mains is divided by the total length of sewer reported for 2020/21 (77,004 km), giving a rate of 6.09 per 1,000 km. We have seen an increase in both burst rising mains and sewer collapses due to prolonged wet weather experienced. This has caused rising mains to need to pump for longer than usual, which puts them at a higher risk of mechanical failure. The prolonged rainfall has also causes ground movement due to saturated ground which in turn has caused additional collapses and burst rising mains.

15 We have not changed our methodology for calculating the length of formerly private sewers since our 2020 APR submission. While this is compliant to the letter of the definition (to report the length of formerly 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.

16 Our estimate for our length of formerly private sewers is based on initial assessments made at the time of the transfer. We do not expect to improve significantly the accuracy of this figure in the near term as the proactive mapping of transferred sewers is generally agreed to be uneconomic. We are aware that our approach is consistent with most of the industry in that we continue to use the modelled lengths calculated at the time of the transfer.

Treatment Works Compliance (3B.4)

17 In accordance with the conclusions of Ofwat's consultation on the methodology to use for assessing this performance commitment for 2020/21 (published March 2021), we have reported in line with the Environment Agency's Environmental Performance Assessment methodology version 3.

18 This is a measure of the number of our water treatment works and water recycling centres which were compliant during 2020 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. This is the first year that water treatment works have been included in this measure.

19 Out of 848 discharges at sites with numeric consents, six sites were non-compliant for 2020. At 99.29 per cent compliance for 2020, this is an improvement compared to 2019 (twelve works out of 846, 98.58 per cent, on a like-for-like basis). Our 2020 performance does not meet the performance commitment level of 100 per cent but is within the under-performance deadband so no penalty is payable.

20 The six non-compliant Treatment Works were East Dereham WTW, Elmswell WRC, Ingoldmells WRC, Oakham WRC, Pitsford WTW and Whitton WTW.

21 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.

22 The Covid-19 lockdowns presented an additional challenge to the performance of Water Recycling Centres across the region. The effects of the lockdowns were very specific to the different catchments, as some catchments experienced marked increases or decreases in flow and others experienced significant load changes or changes to the peak diurnal load profiles.

23 To improve discharge permit compliance, the following improvements have been implemented:

Water and Water Recycling

- Joint compliance procedures, including initial response and further investigations published and followed to reduce compliance risk and improve site performance.

Water Recycling

- Enhanced monitoring at high-risk sites
- Additional mitigation on Water Recycling Centres that showed a marked deterioration in their performance as a result of lockdown
- Targeted investment
- Delivery of the first year of an End-to-End Compliance plan for targeted initiatives and projects to reduce identified compliance risk and improve performance.

Water

- Reporting of internal monitoring data for all discharges has been improved and published, giving better visibility of data and triggers
- Investigation trigger levels have been reduced and are completed as high priority work
- De-chlorination equipment has been installed on all Water Treatment Works with chlorine parameters in their discharge permits.

External Sewer Flooding Incidents (3B.5)

24 There were 3,628 external flooding incidents in 2020/21. This includes 460 incidents caused by overloaded sewers and 3,168 incidents caused by other causes, including blockages, collapses, equipment failure, pumping station failure and third party causes. This total includes 55 incidents caused by severe weather events.

25 In 2019/20 we reported 2,474 incidents. In 2020/21 we saw exceptional wet weather over the winter months which resulted in an increase in our external flooding incidents. There was a period of intense storms during August, which accounted for all the severe weather related incidents. On top of this, the prolonged period of consistent rainfall over winter led to high groundwater levels, which contributed to a high number of incidents being recorded in those months.

Bathing waters attaining excellent status (3B.6)

26 We initially reported the number of 'Excellent' status designated bathing waters in 2019 as 30. This was revised to 32 for 2019, however, following a successful Judicial Review (JR) in December 2020 to have some extremely elevated samples caused by an abnormal situation removed from three bathing waters in Lincolnshire. The removal of these samples caused two bathing waters (Cleethorpes and Ingoldmells South) to move from a previously published classification of 'Good' for 2019 to 'Excellent'.

27 Turning to 2020, the Environment Agency did not take the samples required to classify bathing waters in 2020 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. We have therefore shown no report against this performance commitment for 2020.

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

28 We have delivered a total of 520 obligations in Year 1 of the WINEP (2020/21) against a baseline of 280 set by the Environment Agency in March 2019. Highlights of our early delivery programme include 56 Event Duration Monitors on storm overflows (under the UMON2 driver), 196 investigations into the feasibility of Flow to Full Treatment monitoring (UINV2) and six phosphorous removal schemes (various Water Framework Directive drivers).

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

29 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.

30 Following the exceptional flooding that occurred over the winter we will be working with the Norfolk Strategic Flood Alliance (led by Lord Dannatt) to ensure partnership working is incorporated into the response to that event.

31 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).

32 Twelve schemes were delivered in 2020/21 through partnership working and these delivered fourteen outputs towards the performance commitment. This reflects greater than expected demand from partners during the year.

33 There was a mixture of schemes in year one, including:

- Coastal erosion protection and reduction of coastal flooding of key sites, including Heacham and Bradwell-on-Sea WRCs
- Surface water alleviation schemes in Maldon, Pitsea and Newmarket which also reduce the water entering our networks, and
- Fluvial protection of pumping stations in South Ferriby and Lincoln where fluvial inundation would occur without the scheme going ahead.

34 A full list of schemes is shown in the table below. Note the Lincoln Defences scheme provides three outputs but our contribution spans years one (one third) and two (two thirds). We are only claiming one output towards our total of fourteen for 2020/21.

Scheme name	Brief description	Partner organisations	Assets protected (each = one Performance commitment output)	Minimum standard of protection provided (return period)
Humber Winteringham Ings & South Ferriby Flood Alleviation Scheme	Flood embankment raising and refurbishment work to manage tidal flooding	Environment Agency, Cemex	South Ferriby pumping stations x2	1:200
Down Westwick Tidal Defences	Flood embankment raising and refurbishment work	Environment Agency	Bradwell on Sea WRC	1:200

Pitsea Surface Water Flood Alleviation Scheme	Creation of a SuDS storage area (pond) to intercept surface water	Essex County Council	Our network in Pitsea	1:20
Maldon Central Surface Water Flood Alleviation Scheme	Creation of a SuDS storage area (pond) to intercept surface water	Essex County Council	Our network in Maldon	1:20
Saint Nicholas Drive Flood Alleviation Scheme	Installation of a new drainage system to intercept surface water	North East Lincolnshire Council, Environment Agency	Our network in Grimsby	1:20
Wash East Coastal Management Strategy	Recycling of beach material to maintain the shingle bank	Environment Agency, Borough Council of Kings Lynn and West Norfolk	Heacham WRC and pumping station	1:200
Kings Ditch Flood Alleviation Scheme	Installation of a new pump and alteration to the IDB water level management	The Bedford Group of Drainage Boards, Bedford Borough Council, Environment Agency, Bedford Girls School	Our network in Bedford	1:100
Lincoln Defences	Flood wall raising and refurbishment work to manage fluvial flooding	Environment Agency	Three pumping stations in Lincoln	1:100
Dunstable phase 2 Flood Alleviation Scheme	Installation of rain gardens and underground storage to intercept surface water	Central Bedfordshire Council, Highways England	Our network in Dunstable	1:100
Newmarket Flood Alleviation Scheme	Installation of small scale SuDS features to intercept surface water	West Suffolk Council, Suffolk County Council	Our network in Newmarket	1:20*
Binbrook Flood Alleviation Scheme	Retrofitting a swale to intercept surface water	East Lindsay District Council	Our network in Binbrook	1:20*
Norfolk Catch Flood Alleviation Scheme	Installation of small scale SuDS features to intercept surface water	Norfolk County Council, National Flood Forum, EU Frames Project funding	Our network in Norwich	1:20*

*We recognise the requirement of the performance commitment that every partnership scheme provides a minimum standard of protection (SoP) of 1:20. However, where we undertake small scale interventions with our partners, the cost of modelling to prove the SoP often far outweighs the cost of the scheme itself. This is the case for the last three schemes in our table. In these cases, we will assume a 1:20 has been met. We only undertake partnership schemes of this type where we have clear evidence of the need through pre-existing national modelling datasets or through flood reports from the communities.

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

	Item	Unit	Value
1	Annual customer satisfaction score for the customer service survey	Number	82.51
2	Annual customer satisfaction score for the customer experience survey	Number	83.59
3	Annual C-MeX score	Number	83.05
4	Annual net promoter score	Number	37.50
5	Total household complaints	Number	23,125
6	Total connected household properties	Number	2,984,853
7	Total household complaints per 10,000 connections	Number	77.475
8	Confirmation of communication channels offered	TRUE or FALSE	TRUE

1 2020 saw the official introduction of a new customer satisfaction measure within the water industry called C-MeX, the customer measure of experience. C-MeX is comprised of two surveys, the Customer Satisfaction Survey (CSS) and the Customer Experience Survey (CES).

2 The CSS survey aims to measure the experience of customers following a recent contact with their water company.

3 The CES survey aims to measure the general experience of their water company, by surveying a random sample of members of the public within our region.

4 Although C-MeX was trialled in 2019/20, the final methodology changed between the shadow year (2019/20) and when it first went live (2020/21). Net Promoter Score (NPS) was removed from the calculation of C-MeX and changes were made to the quotas and weightings. Quotas were aligned to the sample composition, meaning the split of digital and non-digital contacts would be mirrored in the survey methodology. Those companies with a higher percentage of digital contacts would receive a higher percentage of digital surveys.

5 This adds a layer of ambiguity when comparing performance across companies, with a different proportion of digital and non-digital surveys being conducted for each water company. 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.

6 The changes to C-MeX mean that we are unable to draw comparisons between our performance in 2019/20 and this report year.

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

7 Our 2020/21 year-end score for CSS was 82.51. This saw us achieve sixth position across all water companies and fourth position across water and sewerage companies.

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

8 For Customer Experience we achieved a score of 83.59 and a position of eleventh place across all water companies and ninth place for water and sewerage companies.

Annual C-MeX score (3C.3)

9 Our overall C-MeX score was 83.05, achieving seventh place across all water companies and fifth position amongst water and sewerage companies.

Annual net promoter score (3C.4)

10 Our combined Net Promoter Score achieved was 37.50.

Total household complaints (3C.5)

11 The reporting of household complaints also saw the introduction of substantial changes. Previously, complaints were captured across written communication channels such as letter and email. From 2020/21 onwards complaints would be recorded across all communication channels, including telephone, live chat and social media to name but a few. Again, these changes mean we are unable to compare our overall complaints performance with previous years.

12 On analysing our written complaints performance, we have been successful in achieving a four per cent reduction, during what has been a tremendously challenging year. Rapid adjustments were made to ensure our customers received continuous service during the pandemic. During the winter months we combated unprecedented rainfall, with January seeing a 200 per cent increase in rainfall. In 2020/21 we also extended our data sharing to a third credit reference agency to combat bad debt; this initial introduction saw an increase in complaints.

13 With the inclusion of telephone complaints, we have introduced additional audit checks to monitor the accuracy of reporting. With the use of speech analytics, we are able to analyse all our telephone contacts to identify negative sentiment towards the end of the call. This enables targeted quality checks to be performed to ensure a greater degree of accuracy.

Total connected household properties (3C.6)

14 The number of connected properties has seen a marginal increase from 2019/20 to this reporting year. This is the net result of growth, additional data cleansing activities performed throughout the year, reductions in the number of voids and the reclassification of NHH properties.

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

15 As highlighted in the comments relating to Table 3C.5, we are unable to provide comparison to previous years due to the change in reporting criteria and expansion of channels to which complaints can be reported.

Confirmation of communication channels offered (3C.8)

16 In total we operate ten communication channels, providing a diverse range of media through which our customers can contact us. Over half of these are digital channels. We are proud to offer a British Sign Language (BSL) interpreter service to our customers. Although we have offered this channel for a number of years, we have expanded its use, providing our field-based staff with an app that will enable them to access a BSL interpreter from any location at any time.

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

	Item	Unit	Value
1	Qualitative component annual results	Number	75.73
2	Quantitative component annual results	Number	99.72
3	D-MeX score	Number	87.72
4	Developer services revenue (water)	£m	25.045
5	Developer services revenue (wastewater)	£m	15.554

Calculating the D-MeX quantitative component					
	Water UK performance metric	Unit	First reporting period (1 April to 30 September)	Second reporting period (1 October to 31 March)	Quantitative score (annual)
W1	S1.1	%	100.00%	100.00%	
W2	S3.1	%	100.00%	100.00%	
W3	S4.1	%	100.00%	0.00%	
W4	S7.1	%	100.00%	100.00%	
W5	W1.1	%	100.00%	100.00%	
W6	W17.1	%	100.00%	100.00%	
W7	W17.2	%	100.00%	100.00%	
W8	W18.1	%	100.00%	95.24%	
W9	W20.1	%	100.00%	96.30%	
W10	W21.1	%	100.00%	0.00%	
W11	W23.1	%	100.00%	100.00%	
W12	W26.1	%	100.00%	100.00%	
W13	W27.1	%	100.00%	100.00%	
W14	W3.1	%	99.92%	99.94%	
W15	W30.1	%	100.00%	99.55%	
W16	W4.1	%	99.36%	99.15%	
W17	W6.1	%	98.40%	99.28%	
W18	W7.1	%	100.00%	100.00%	
W19	W8.1	%	100.00%	100.00%	
W20	SAM - 3/1	%	n/a	100.00%	
W21	SAM - 4/1	%	n/a	100.00%	
W22	SN2.2	%	n/a	100.00%	
W23	WN1.1	%	n/a	100.00%	
W24	WN2.2	%	n/a	100.00%	
W25	WN4.1	%	n/a	100.00%	

W26	WN4.3	%	n/a	100.00%
6/7	D-MeX quantitative score (for the relevant reporting period)	%	99.88%	99.56%
8	D-MeX quantitative score (annual)	Number		1.00

Qualitative component annual results (3D.1)

1 We have shown improvements in the qualitative (customer survey) score throughout the year and compared with the shadow year (2019/20).

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

2 Our performance against the quantitative element (levels of service) of D-MeX has been strong throughout the year. Decisions made to prioritise work on behalf of the housing market during the initial stage of the Covid-19 lockdown in March 2020 allowed us to ensure that we were able to support the designated key work that developers were completing and maintain our performance against the metrics.

3 The performance metrics changed at the mid point of the year with the addition of new metrics for New and Variation companies (NAV) and supplementary targets for Self Lay Providers following the introduction of Codes for Adoption. We are pleased that our service to all our customer groups continues to be upper quartile.

D-MeX score (3D.3)

4 Our D-MeX score for 2020/21 is 87.72, which places us sixth in the industry and fifth out of the Water and Sewerage Companies.

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

5 The impact of the reduced output during the first and second quarter of the year has resulted in the total contribution received from developers to be lower than would be expected in a normal year.

Table 3E - Outcome performance - Non financial performance commitments

Line description	Unique reference	Unit	Performance level - actual		PCL met?
			Previous reporting year	Current reporting year	

Common					
1	Risk of severe restrictions in a drought	PR19ANH_9	%	5.2	5.2
2	Priority services for customers in vulnerable circumstances - PSR reach	PR19ANH_22	%	2.9	6.0
3	Priority services for customers in vulnerable circumstances - Attempted contacts	PR19ANH_22	%	100.0	50.0
4	Priority services for customers in vulnerable circumstances - Actual contacts	PR19ANH_22	%	100.0	38.8
5	Risk of sewer flooding in a storm	PR19ANH_10	%	0.41	0.37

Bespoke PCs					
6	Reactive Mains Bursts	PR19ANH_18	nr	2954	4037
7	Customer awareness of the company's Priority Services Register	PR19ANH_21	%	47	54.3
8	Operational carbon	PR19ANH_24	%	34.4	5.1
9	Capital carbon	PR19ANH_25	%	61	61.2
10	Non-household Retailer Satisfaction	PR19ANH_30	score	NA	74.6
11	Event Risk Index (ERI)	PR19ANH_35	score	8.28	6.16
12	British Standards Institution - Standard for Inclusive Service	PR19ANH_36	text	Yes	Yes
13	Helping those struggling to pay	PR19ANH_37	nr	n/a	319466
14	Value for Money	PR19ANH_40	%	75	76
15	WINEP Delivery	PR19ANH_NEPO1	text	N/A	Met
16	Community investment	PR19ANH_43	%	N/A	0
17	Customer trust	PR19ANH_44	score	N/A	0.02
18	Natural capital impact	PR19ANH_45	text	N/A	Fail
19	Regional collaboration	PR19ANH_46	text	N/A	On track

Non-financial performance commitments achieved

%

84

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 Our Priority Service Register (PSR) has increased by 110 per cent from 1 April 2020 to 31 March 2021. The increase is the direct result of our customer-facing teams proactively responding to disclosures of vulnerability and signposting our Priority Service Register.
- 6 With the use of speech analytics, we can understand the nature and scale of vulnerability disclosures we receive and perform targeted coaching to support our customer-facing teams in identifying and responding to potential indicators of vulnerability.
- 7 We have also conducted a variety of promotional campaigns to increase awareness, including newspaper articles, radio interviews, advertisements on pharmacy bags and promotion through our network of more than 100 partners who support those in vulnerable circumstances.
- 8 To calculate the PSR reach we have divided by the total number of households on the PSR as of the 31 March 2021 by the total number of residential properties billed. The second figure has been calculated by adding the total number of residential properties billed for water (4R.19) plus an estimate of the equivalent number of properties connected for wastewater services only (excluding voids).
- 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 communication	11,178	29,813
Households on PSR receiving support with mobility and access restrictions	37,091	117,012
Households on PSR receiving support with supply interruption	49,794	172,004
Households on PSR receiving support with security	2,541	3,562
Households on PSR receiving support with 'other needs'	762	4,854

- 10 The first column shows the type of support, the second column shows the forecast figures based on our Year 1 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 one target by 237 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 and the pandemic.

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

12 The percentage of customers contacted during 2020/21 reflects the number of customers who have been on our Priority Service Register for more than two years and have received two or more attempts to confirm they are receiving the right support.

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

14 We have utilised a number of different contact methods aligned to customers' communication preferences and developed bespoke communication messages. We have worked in collaboration with specialist organisations that support those with sight and hearing loss to create tailored messaging that is easy to understand and respond to.

15 In addition, we have also enhanced our digital service offerings to enable customers 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)

16 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 Priority Service Register.

17 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.

18 As a result of our tailored communication strategy and bespoke messaging we have been able to achieve response rates as high as 45 per cent. We have also created the ability for our customers to be able to update their Priority Services registrations and support needs at a touch of a button, by building in the capability to manage their services in real time using our online account management portal and mobile app.

19 We have enhanced our communication strategy to capture customer communication preferences and updated our internal systems to provide greater visibility across our customer-facing teams. The enhanced system changes will provide prompts to our agents during key interactions and touch points reminding them to 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)

20 For 2020/21, we have continued to use vulnerability risk grades one and five. Risk grade one represents the population equivalent (PE) 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.

21 Risk grade five represents the PE identified as flooding in a 1:50 annual return period (ARP) event using the Option 1b methodology.

22 The numbers that contribute to the summary reporting table are shown in the following table:

Total number of catchments	1,139
Total number of catchments PE. > 2,000	318
Total number of catchments PE < 2,000	821
Total PE served	6,437,774
Total PE in included catchments	6,437,774
Total PE in excluded catchments	0
Percentage of total PE in excluded catchments	0%
Total PE Option 1a	0
Percentage of total PE. Option 1a	0%
Total PE Option 1b	6,437,774
Percentage of total PE Option 1b	100%

23 We have 1,139 modelled catchments, serving a population of over 6.4 million people, with an increase of 94,399 people compared to 2019/20.

24 Due to our modelling capability, Option 1b remains the most appropriate option for undertaking this vulnerability assessment. As highlighted in the Ofwat methodology, now that all catchments have been modelled it is not expected that they will all be assessed in detail each year. Instead, the methodology states that companies should report outputs for all catchments annually, but the assessment need only be repeated where

- interventions to reduce the risk to customers that have been deployed on the ground
- detail and knowledge has improved.

25 With this in mind, we have used the same methodology as we did in 2019/20 on 67 catchments where it was deemed appropriate to do so due to increased knowledge through improved models. These 67 catchments equate to a population equivalent of 2,253,740 – 36 per cent of the total AW population. The table below shows the list of catchments assessed this year. This improved modelling work has moved 0.04 per cent of the population equivalent out of flood risk. This equates to 2,400 population equivalent.

Catchment short code	Catchment Name	Population Equivalent
ASHBSC	Ashbrook	3,666
ASHTSC	Ashton	4,876
ATTLSC	Attleborough	11,708
BARDSC	Bardney	2,076
BASISC	Basildon	124,186
BELASC	Belaugh	9,037
BLCYSC	Billericay	7,414
BOURSC	Bourne	19,260
BUCKSC	Buckden	5,091
BUKMSC	Buckingham	17,312
CAIPSC	Caister - Pump Lane	108,327
CAMBSC	Cambridge	161,403
CANVSC	Canvey Island	37,808
CANWSC	Canwick	113,831

Catchment short code	Catchment Name	Population Equivalent
CHALSC	Chalton	5,179
CHWWSC	Chawston-Wyboston	603
CHELSC	Chelmsford	137,099
CLOHSC	Clophill	7,031
COLCSC	Colchester	129,691
CONISC	Coningsby	7,327
DEEPSC	Deeping	17,600
DOWNSC	Downham Market	11,749
DUNSSC	Dunstable	46,495
EMPISC	Empingham	2,277
FELISC	Felixstowe	31,088
FRISSC	Friskney	812
GBARSC	Great Barford	2,017
HASLSC	Haslingfield	10,001
HEACSC	Heacham	24,504
HORCSC	Horncastle	7,029
HUNTSC	Huntingdon (Godmanchester)	38,440
IGOMSC	Ingoldmells	55,193
KIBWSC	Kibworth	5,249
KLYNSC	Kings Lynn	56,090
LEADSC	Leadenham	1,023
LLINSC	Leighton Linslade	40,428
LET CSC	Letchworth	43,973
LBYTSC	Little Bytham	2,111
MALDSC	Maldon	22,660
MRCHSC	March	41,297
MARMSC	Marston Moretaine	10,363
MEPASC	Mepal	995
MOULSC	Moulton	3,985
PITSSC	Pitsea	21,708
PORISC	Poringland	6,262
PYEWSC	Pyewipe	94,301
RAYESC	Rayleigh-East	17,408
RAYWSC	Rayleigh-West	22,318
REPMSC	Reepham (Lincs)	8,072
RYHASC	Ryhall	1,183
SHEHSC	Shenfield And Hutton	43,448

Catchment short code	Catchment Name	Population Equivalent
SHILSC	Shillington	6,419
SOHASC	Soham	14,305
SPALSC	Spalding	33,604
STICSC	Stickney	1,261
STOWSC	Stowmarket	23,014
TEMPSC	Tempsford	2,086
NWTMSC	Tetney-Newton Marsh	58,204
TILBSC	Tilbury	138,798
TOWCSC	Towcester	10,611
WALTSC	Walton On The Naze	23,309
WASHSC	Washingborough	11,197
WHITSC	Whitlingham Trowse	251,197
WHISSC	Whittlesey	15,199
WINTSC	Winterton	9,195
WITHSC	Witham	32,920
WYMSC	Wymondham	19,417
	Total population equivalent	2,253,740
	% of total AW population	36%

26 The results for 2020/21 are shown below:

High level vulnerability grade	5
Total number of catchments	1,139
Total number of nodes modelled	865,956
Total number of nodes predicted to flood	99,278
Percentage of nodes predicted to flood	11%
Total PE in modelled catchments at vulnerability risk grade	6,437,774
Total PE associated with flooding nodes	23,762
PE associated with flooding nodes as a percentage of total modelled PE	0.37%
Assessed overall model confidence grade	B4

27 Based on the above, we consider our overall model confidence to remain at B4, for the same reasons as in 2019/20.

28 For 2020/21 we have continued to count only those properties (and the associated population equivalent) that have been flooded internally. In our models, internal flooding occurs when the depth of water touching the property boundary is greater than a 200mm threshold. For the 2021/22 reporting year we will update our methodology to further align with other companies, reducing property thresholds from 200mm to 150mm. This will likely result in an increase in the population equivalent at risk.

29 However, it remains the case that c. 50,000 PE will need to be made more resilient to show a 1 per cent improvement in the PE at risk. With this in mind, we will continue to report the PE at risk to two decimal places.

30 We are committed to establishing a metric that is consistent and repeatable across the water industry to measure flood resilience. We are working alongside other companies and Water UK as part of the nationwide methodology review to help identify changes and improvements that may benefit everyone involved in undertaking this vulnerability assessment.

Reactive mains bursts (3E.6)

31 There were 4,037 reactive bursts in 2020/21, compared to 2,946 in 2019/20. We attribute this increase to colder weather in the region over the winter months, which saw over 1,000 more bursts between December 2020 and February 2021 compared to the corresponding months of 2019/20.

32 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)

33 To measure the percentage of customers aware of Priority Services, we have conducted an independent survey of 1,087 customers. Customers were selected at random and asked if they are aware of additional free services provided by Anglian Water known as Priority Services, of which 54 per cent of respondents said yes.

34 Throughout 2020/21 we have undertaken a wide range of promotional activities to increase awareness, recognising the increased importance of customers being aware of the support available during the pandemic.

35 At the beginning of the year we issued one of our biggest ever email campaigns to nearly 1 million customers to promote the available assistance we offer. We continued the email activity throughout the year, sending in excess of 2 million emails promoting both financial and non-financial assistance.

36 Further promotional campaigns to increase awareness included newspaper articles, radio interviews, advertisements on a quarter of million pharmacy bags, pay point receipts and promotion through our network of more than 100 partners who support those in vulnerable circumstances.

37 We continue to look at new ways to increase awareness and have commissioned additional research in partnership with Scope, a pan-disability charity to understand how we can improve our services and extend our reach.

Operational carbon (3E.8)

38 For operational carbon we are certified with Carbon Reduce Scheme, formally CEMARS (ISO-14064), with Platinum Status for over ten years' carbon reduction against this standard.

39 Operational carbon emissions for 2020/21 have been calculated using the UKWIR Carbon Accounting Methodology which is updated annually and is reflective of carbon reporting and emissions guidance from Defra. For 2020/21 we have used version 15 (CAWv15) of the UKWIR greenhouse gas (GHG) workbook which includes the latest Government GHG conversion factors (2020).

40 Following recommendations from the UKWIR report, “*Quantifying and reducing direct greenhouse gas emissions from waste and water treatment processes - Phase 1*”, (20/CL/01/28), the accounting of nitrous oxide (N₂O) associated with treatment has been updated in the CAWv15. To align with this new accounting, we have recalculated the baseline year of 2019/20. This increases the baseline emissions from 298,576 to 311,003 t/CO₂e.

41 Gross operational GHG emissions for the reporting year 2020/21 have reduced against the 2019/20 baseline by 5.1 per cent from 311,003 t/CO₂e to 295,830 t/CO₂e.

42 The main external factors impacting emissions in 2020/21 from the baseline year are a reduction in grid electricity emission factor of 10 per cent. There has also been a reduction in emissions from business travel which has reduced by 833t/CO₂e, largely owing to the impact of the Covid-19 pandemic on travel.

43 In 2020/21 our optimisation programme delivered a positive contribution, with 17.75GWh (full year effect) of energy savings, mitigating 4,494 tCO₂e. The self-generation of renewable power has also continued to increase.

44 Our PCL for 2020/21 is a reduction of two per cent on the 2019/20 baseline, which we have achieved.

Embodied carbon (3E.9)

45 Our PCL for 2020/21 is a reduction of 61 per cent on the 2010 baseline, which we have achieved.

Non-household retailer satisfaction (R-MeX) (3E.10)

46 In order to calculate this measure there are three detractors, which are Net Promoter Score (NPS), Operational Performance Standards (OPS) and Market Performance Standards (MPS).

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 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 after we submit a MOSL data sheet containing OPS tasks completed and outstanding for the given period.

49 Finally, and in line with Ofwat's published PR19 Outcomes & Performance commitments for Non-household retailer satisfaction (1.2.11 page 77), we use the three performance results to complete the calculation, giving us a score of 74.6 for Retailer satisfaction. This matches the performance commitment of 74.6 for year one.

Event Risk Index (3E.11)

50 The DWI has developed the Event Risk Index (ERI), alongside CRI, for measuring event based risk.

51 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.

52 In 2020 the provisional ERI score calculated by the DWI for Anglian Water (including Hartlepool) was 6.16, which is an improvement from our 2019 score of 8.28.

53 Confirmed 2020 ERI results will be published in the Chief Inspector's Report in July 2021, pending the outcome of the ongoing event assessments.

BSI standard for inclusive service (3E.12)

54 We completed our annual assessment for BSI 18477 Inclusive Service Provision in September 2020. A statement of approval was given for our compliance with the requirements.

55 Continual improvement against the standard was demonstrated by:

- The appointment of a dedicated vulnerability team who received extensive training through specialist partners to better understand and support those in vulnerable circumstances
- The level of communication to customers throughout the Covid-19 pandemic, highlighting the various forms of assistance available and how to assess support
- The introduction of the £1 million Positive difference fund which provides grants to support projects that have a positive impact on the communities we serve
- Increased level of engagement and partnership working with community groups.

56 The audit identified no areas of non-conformity and only one opportunity for improvement (OFI) was raised. We can confirm the OFI raised as part of the audit is in place but unfortunately was not showcased as part of the audit. We have taken the action to increase awareness of information available within our knowledge base system

Helping those struggling to pay (3E.13)

57 We supported 319,466 customers throughout 2020/21. The breakdown by scheme is summarised in the below table:

Scheme	Customers supported
Forgiveness schemes	6,840
Payment holidays	13,076
Concessionary tarriffs	188,766
Charges holiday	7,537
Temporary installment plans	176,209
Total instances of support	392,428
Total unique customers supported	319,466

58 The Covid-19 pandemic has had a serious impact on many of our customers' household finances. We have mounted proactive communications campaigns to encourage those in difficulty to contact us to discuss their circumstances. We also understand that, Covid-19 aside, affordability will vary across time for the same household and can be driven by different circumstances. We have tailored the service that we offer customers who are struggling to pay, applying experience from across our business in order to target support most effectively.

59 Using data analytics, we route customer contacts with high affordability risk through to our ExtraCare team, where we check to see if they are claiming all benefits to which their household is entitled. This year we have signposted customers to more than £4 million worth of potential unclaimed benefits.

60 We then look to see what help we can provide to customers in managing their payments to us. This includes the schemes which are eligible for this performance commitment as well as others.

61 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)

62 In the CCW 2020 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 an increase compared to 74 per cent in 2019. The same percentage 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?". This is an increase compared to 75 per cent in 2019.

63 Our performance commitment score is therefore also 76 per cent and does not meet our performance commitment level of 77 per cent.

WINEP delivery (3E.15)

64 We delivered 520 obligations in Year 1 of the WINEP (2020/21), meeting all Environment Agency obligations. The total figure marks significant out-performance compared to original year 1 baseline (see Table 3B.7).

Community investment (3E.16)

65 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.

66 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 re-branded as Business for Societal Impact (B4SI). For the avoidance of confusion we will continue to refer to their previous name, LBG, in our reporting.

67 Following this methodology, during 2020/21 our community investment directly supported an estimated 28,563 people. This figure has been audited by Jacobs as required by our final determination and forms our baseline year.

Summary table

	Number of people directly reached or supported
Education	19,342
People in vulnerable circumstances	8,602
Environmental	619
Total	28,563

68 This performance commitment captures investment in communities which is reportable using the LBG methodology, but there are also significant wider contributions which sit outside this reporting methodology. For example, in 2020 we launched the £1m Positive Difference Fund (which has not been included as it was funded by Anglian Water Group, not Anglian Water Services). The first half provided emergency funds to help front-line community organisations in the immediate response to the pandemic. This supported an

estimated 83,000 people, through the funding of over 120 vital community organisations. The second half, allocated in March 2021, provided funds to meet emerging needs, helping groups and communities adapt and re-build.

69 Further information and examples can be found in our Annual Integrated Report and Accounts 2021.

Customer trust (3E.17)

70 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.

71 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 1 being 'do not trust them at all' and 10 being 'trust them completely'. The measure of the performance commitment is the improvement of the company relative to the industry average of the CCW Trust score.

72 The calculation is:

73 (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)

74 The result of this calculation is shown in the following table:

	2019/20	2020/21
Anglian Score	7.69	7.89
Industry Average Score	7.69	7.87
Anglian Difference	0.00	0.02
Anglian Improvement	0.00	0.02
Performance Commitment Level	0.00	0.00
PCL met?	Met	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 2020/21 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 2020/21. The target three year rolling average for distribution input/population was 237 litres/head/day but the actual was 243 l/h/d. This result is an impact of the dramatic change in water usage due to the current Covid-19 pandemic across the UK and is not unique to the Anglian region.

77 The Ground Water Quality sub-measure is on track. The nitrate engagement programme has been developed and agreed with the Environment Agency as required.

78 The Surface Water Quality sub-measure is on track, with six relevant WINEP schemes for 2020/21 delivered ahead of target.

79 The biodiversity sub-measure is on track. The biodiversity net gain target of 10 per cent applied to two projects in the 2020/21 financial year in accordance with our materiality thresholds. The two projects reported overall losses of 7.21 Habitat Biodiversity Units (HBU) in design. Both these construction projects have met and exceeded the target of 10 per cent against the measured losses and will deliver 12.78 HBU. In addition, by including HBU gains from other construction and land management activities below the materiality thresholds, gains increase from 12.78 to 28.63 HBU. At a company level we have therefore delivered a total 297 per cent biodiversity net gain against measured losses in design. These

additional biodiversity units will be banked and made available to help other construction schemes during the course of AMP7 to meet their compensation requirements, where ecologically appropriate.

Regional collaboration (3E.19)

80 The Regional Collaboration performance commitment measures the collaborative approach to measuring and managing natural capital beyond the company's operational boundaries. In 2020/21 the Natural Capital East (NCE) Group met five times, with representation from 15 organisations. A five-year strategy milestone route map has been developed and the agreed focus in the first year has been to support the development of the OxCam Arc Local Natural Capital Plan and the Water Resources East, Systematic Conservation Plan (now known as the Natural Capital Plan). Both of these organisations are members of NCE and their projects are considered as key enablers to a regional baseline. The detailed time plans for these were published on their respective websites. 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)
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Performance commitments set in standardised units - Water					
1	Mains repairs - Reactive	Mains repairs per 1000 km	Mains length in km	38,763.77	4,073
2	Mains repairs - Proactive	Mains repairs per 1000 km	Mains length in km	38,763.77	988
3	Mains repairs	Mains repairs per 1000 km	Mains length in km	38,763.77	5,061
4	Per capita consumption (PCC)	lpd	Total household population (000s) and household consumption (MI/d)	4,767.14	700.38
					146.92

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 3 year average (current and previous 2 years)	Calculated performance level to compare against PCLs
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Performance commitments measured against a calculated baseline								
5	Leakage	MI/d	191.3	199.9	191.0	194.1	182.4	191.1
6	Per capita consumption (PCC)	lpd	134.8	134.1	133.3	134.1	146.9	138.1
								-3.0

Line description	Unit	Standardising data indicator	Standardising data numerical value	Total minutes lost	Number of properties supply interrupted	Calculated performance level
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Water supply interruptions						
7	Water supply interruptions	Average number of minutes lost per property per year	Number of properties	2,235.01	11247840	32,228
						00:05:02

20 21 22

Line description	Current company level peak week production capacity (PWPC) Ml/d	Reduction in company level PWPC Ml/d	Outage proportion of PWPC %
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Unplanned or planned outage	8	Unplanned outage	1,747.85	19.908	1.14%
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23 24 25 26 27 28 29 30

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 %
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Priority services for customers in vulnerable circumstances	9	Priority services for customers in vulnerable circumstances	2,903.48	175,345	6.0%	20,091	10,047	50.0%	7,789	38.8%
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Mains repairs - Reactive (3F.1)

- 1 There were 4,037 reactive bursts in 2020/21, compared to 2,954 in 2019/20.
- 2 In 2020, the weather was clement until winter, when the region experienced a significant level of flooding followed by sub-zero temperatures. This caused a spike in the number of burst mains on our network: in January we dealt with 850 reactive bursts, the highest monthly total we have had to deal with in the last 10 years. January accounted for 18 per cent of the reactive bursts we are reporting this year. Historically, January usually accounts for 10 per cent of the yearly total.

Mains repairs - Proactive (3F.2)

- 3 In 2020/21 we identified and repaired 970 bursts using proactive leak detection. This is slightly lower than last year and relates to about 20 per cent of all our bursts being proactively detected. The decrease is largely down to leakage technicians being deployed to repair bursts over the winter period instead of leak detection.

Mains repairs (3F.3)

- 4 This is a calculated field and is the sum of 3F.1 and 3F.2. The length of potable mains is 38,763.77km. This number is consistent with the number reported in table 6C.1.

Per capita consumption (PCC) (3F.4 and 3F.6)

- 5 Please see commentary for 3A.4.

Leakage (3F.5)

- 6 Please see commentary for 3A.3.

Water supply interruptions (3F.7)

7 This field takes the number of connected properties in the region (4R.25) 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 figure for 2020/21 was 00:05:02. The number of properties with their supply interrupted was 32,228 (600 planned and 31,628 unplanned).

Unplanned outage (3F.8)

8 The 2020/21 unplanned outage figure is 1.139 per cent, this is a slight reduction on the 2019/20 figure of 1.542 per cent.

9 Overall company peak week production capacity (PWPC) saw a 17MI/d increase from 2019/20 to 2020/21. Of our 144 sites, 59 increased, 65 remained the same and 20 sites decreased. A lot of the increases seen this year were due to exceptional demand seen over the summer period.

Priority services for customers in vulnerable circumstances (3F.9)

10 The residential properties figure has been calculated by adding the total number of residential properties billed for water (4R.19) plus an estimate of the equivalent number of properties connected for wastewater services only (minus voids). For further details please see commentary for 3E.1 - 3E.5.

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	2,852.37	355	1.24
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	2,852.37	25	0.09
3 Internal sewer flooding	PR19ANH_7	Number of internal sewer flooding incidents per 10,000 sewer connection	Number of sewer connections	2,852.37	380	1.33
4 Pollution incidents	PR19ANH_8	Pollution incidents per 10,000 km of sewer length	Sewer length in km	75,950.00	210	27.65
5 Sewer collapses	PR19ANH_13	Number of sewer collapses per 1,000 km of all sewers	Sewer length in km	77,004.00	469	6.09

Internal sewer flooding - customer proactively reported (3G.1)

1 There were 355 internal incidents which customers proactively reported to the business. These include customers proactively informing us when an incident has occurred either by contacting us directly or informing us if a neighbour has been affected.

Internal sewer flooding - company reactively identified (i.e. neighbouring properties) (3G.2)

2 There were 25 internal incidents which have been reactively identified by the business. These include reactively adding additional properties to an incident once we have confirmed from visiting neighbouring properties.

Internal sewer flooding (3G.3)

3 There were 380 internal flooding incidents in 2020/21. This includes 89 incidents caused by overloaded sewers and 291 incidents caused by other causes, including blockages, collapses, equipment failure, pumping station failure and third party causes. This total includes 20 incidents caused by severe weather events.

4 In 2019/20 we reported 298 internal flooding incidents. In 2020/21 we saw exceptional wet weather over the winter months which resulted in an increase in our internal flooding incidents. There was a period of intense storms during August, which accounted for all the severe weather related incidents. On top of this, the prolonged period of consistent rainfall over winter led to high groundwater levels, which contributed a high number of incidents being recorded in those months.

5 We have reported sewer connections in thousands (000s) to align with the reporting requirements for table 4R.16 from which this line should be copied.

Pollution incidents (3G.4)

Absolute number of pollution incidents (column 5)

6 The definition of this measure is taken from version three of the Environmental Performance Assessment (EPA) methodology document: the absolute number of pollution incidents (categories one to three) for which the company is responsible in a calendar year.

7 There has been a reduction in the total number of pollution incidents in 2020 (210) compared with 2019 (265). This performance sees our downward trend in incidents resume, following a one-year elevation in 2019 which was attributable to an extreme rainfall event. The number of incidents in 2020 is now almost half the figure reported in 2014 at the end of AMP5 .

8 This 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:

- sewage treatment works
- foul sewers, including private gravity sewers transferred to the water companies in Oct 2011 (used in the EPA from 1 Jan 2016)
- combined sewer overflows
- rising mains
- pumping stations
- storm tanks
- surface water outfalls
- other.

9 It does not include pollution incidents from transferred private pumping stations or transferred private rising mains (which transferred in 2016). Pollution incidents emanating from clean water distribution and water treatment works are also excluded.

Sewer length (column 4)

10 Ofwat concluded in March 2021, following consultation, that version three of the EPA should be applied to report this measure. Version three quotes the sewer length (based on 2012/13) that should be used to convert the absolute number of pollution incidents to the normalised value per 10,000 km. We notified Ofwat that the sewer length figure for Anglian Water in version three was inaccurate, as it did not include our rising main length. This understatement of our total sewer length would therefore misrepresent our pollution incident performance. Ofwat stated in its March 2021 response that evidence for the exclusion of the rising main length from version three of the EPA is required for the additional length to be considered in the 2020/21 determination of outcome delivery incentive payments.

11 Our sewer length figures at 2012/13 were set out in table 13 ('Wastewater network') of the Information Request submission we made to Ofwat in 2017. Data from the relevant lines of that submission are reproduced in the table below.

Line number	Line description	Length in Km	Present in EPA Version 3?
16	Length of foul (only) public sewers	18,703	Yes
17	Length of surface water (only) public sewers	11,354	Yes
18	Length of combined public sewers	10,343	Yes
19	Length of rising mains	4,345	No
20	Length of other wastewater network pipework	6	No

Line number	Line description	Length in Km	Present in EPA Version 3?
21	Total length of "legacy" public sewers as at 31 March	44,750	n/a
22	Length of formerly private sewers and lateral drains (S105a sewers)	31,200	Yes

12 The sum of the figures with a 'Yes' in the right-hand column is 71,599 km, which almost matches the sum in version three (there is a difference of one km, which we cannot reconcile). It is evident that 4,345 km of rising mains and six km of other pipework are excluded and should be included, giving a total value of 75,950 km. This is the figure we have used in column four of line four as the normalising value. This is also consistent with the figure in the EA End-of-Year performance tracker, implying this figure has also been accepted by the EA.

13 The absolute number of pollution incidents from 3G line four should therefore be divided by 7.5950 (75,950 km/1000) to give the normalised total number of pollution incidents category one to three for the calendar year.

Sewer collapses (3G.5)

14 There were 296 reactive sewer collapses and 173 reactive burst rising mains, totalling 469 for 2020/21. We have seen an increase in both burst rising mains and sewer collapses due to prolonged wet weather experienced. This caused rising mains to need to pump for longer than usual, which puts them at a higher risk of mechanical failure. The prolonged rainfall also caused ground movement due to saturated ground which, in turn, caused additional collapses and burst rising mains.

15 The sewer length quoted in line 5 is our figure for 2020/21, taken from table 7C, whereas the sewer length figure in the previous line is the one for 2012/13, as specified by v3 of the EA's EPA methodology.

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	0.44
2 Water network plus	-0.31
3 Wastewater network plus	5.98
4 Bioresources (sludge)	0.00
5 Residential retail	1.37
6 Business retail	0.00
7 Dummy control	0.00
Initial calculation of end of period revenue adjustment by price control	
8 Water resources	0.00
9 Water network plus	0.00
10 Wastewater network plus	0.00
11 Bioresources (sludge)	0.00
12 Residential retail	0.00
13 Business retail	0.00
14 Dummy control	0.00
Initial calculation of end of period RCV adjustment by price control	
15 Water resources	0.00
16 Water network plus	0.00
17 Wastewater network plus	0.00
18 Bioresources (sludge)	0.00
19 Residential retail	0.00
20 Business retail	0.00
21 Dummy control	0.00

1 The table below summarises our performance against the performance commitments for 2020/21 (excluding C-Mex and D-Mex). It shows that we met 75 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)	7	4	5	16
Wastewater financial (3B)	4	2	3	9
Non-financial (3E)	16	3	0	19
Total	27	9	8	44

2 Adding in our estimates of the rewards from C-Mex and D-Mex, we have earned total net reward of £9.7m (17/18 prices) for our performance under the performance framework in 20/21. The table below shows where those rewards were achieved and also shows the figures in 20/21 prices.

	Rewards/penalties from 2020/21 performance (£m)	
	2017/18 Prices	2020/21 prices
Water		
Water supply interruptions	1.0	1.1
Leakage	0.1	0.1
Per capita consumption	-1.9	-2.0
Percentage of population supplied by a single supply system	0.6	0.6
Managing void properties	1.4	1.4
Water quality contacts	-0.1	-0.1
Wastewater		
Internal sewer flooding	3.6	3.8
Pollution incidents	-1.4	-1.5
Sewer collapses	-1.1	-1.2
External sewer flooding	2.4	2.5
WINEP	3.0	3.1
Retail		
C-Mex	1.1	1.2
D-Mex	1.1	1.2
Total	9.7	10.2

3 Most performance payments will be made through bills from charging year 22/23 but the per capita consumption performance commitment has been converted to an end-of-period PC, meaning that any payments related to it will be deferred to the next regulatory period (i.e. 2025-30). This is not shown in 3H, where all payments are recorded as in-period.

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 %
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Unplanned or planned outage	Planned outage	1,747.85	18.89	1.08%
1				

Line description	Deployable output	Outage allowance	Dry year demand	Target headroom	Total population supplied	Customers at risk
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Risk of severe restrictions in drought	Risk of severe restrictions in drought	1,533.42	39.27	1,151.48	54.72	4,821.90	1,364.25
2							

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 severe flooding in a storm	Risk of severe flooding in a storm	6,437,774	0.00	0.00%	0.00	0.00%	6,437,774	100.00%	0.37%	0.00%	99.63%
3											

Line description	Number of patch repairs or relining undertaken on sewer and not included in reported sewer collapses.
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Sewer collapses	816
4	

Planned outage (3I.1)

1 The planned outages number for 2020/21 is 1.081 per cent which equates to 18.894MI/d. The planned outages are captured on the Planned & Unplanned Outage event log but are reported separately.

Risk of severe restrictions in drought (3I.2)

2 Please refer to the commentary for table 3E, line 1.

Risk of sewer flooding in a storm (3I.3)

3 Please refer to the commentary for table 3E, line 5.

Sewer collapses (3I.4)

4 There were 786 work orders, which have been confirmed as spot repairs or relining, and 30 potential sewer collapses, which were resolved using relining. This totals 816 spot repairs and relining which have been excluded from our reported sewer collapses.

Table 4A - Water bulk supply information for the 12 months ended 31 March 2021

Line description	Volume	Operating costs	Revenue
Units	Ml	£m	£m
DPs	3	3	3

Bulk supply exports	
1	Graham
2	Wing
3	Earith Bridge
4	Stokes Bridge
5	West Raynham
6	Broadland Gate, Postwick
7	Norwich Road, Thetford Phase 1
8	Brooklands
9	Great Billing Way
10	Long Croft Road
10a	Priors Hall
10b	Clipston Park, Leighton Linslade
10c	Prebend Lane, Welton
10d	Cowdray Centre, Colchester
10e	Clipstone Park (commercial), Leighton Linslade
10f	Norwich Common
10g	Wynyard
10h	Barrowden
10i	Scrooby
10j	Sewstern
10k	Tickencote
10l	Welham
10m	Finmere
10n	Goddington
10o	Juniper Hill
10p	Mixbury
10q	Newton Purcell
10r	Cheddington
10s	Wingrave
10t	Silver End

11	Total bulk supply exports	26,408.002	10.149	10.217
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Bulk supply imports			
12	Ramsey Mereside	-	-
13	Barnham village	27.572	0.051
14	Northstowe	98.125	0.067
15	Layer Bretton	36.339	0.048
16	Maldon Rd	75.235	0.102
17	Grange Rd, Tiptree	890.767	0.766
18	Hogwells	6.503	0.009
19	Fuller Street	8.874	0.014
20	Ranks Green Rd	15.433	0.022
21	Buxted Chickens	90.444	0.113
21a	Woods Meadow	30.603	0.038
21b	Hothorpe Estate, Lubenham Rd	5.536	0.008
21c	Theddingworth Road	10.326	0.016
21d	Stone Road End	1.240	0.002
21e	Milton	5.916	0.009
21f	Quainton	47.424	-
21g	Wroot Road, Finningley	9.824	0.013
21h	Finningely Village	103.564	0.114
22	Total bulk supply imports	1,463.725	1.392

Bulk supply exports (4A.1 - 4A.11)

- 1 Water exports principally relate to two cost sharing bulk supply agreements with the revenue mirroring the operating costs, which include depreciation and interest.
- 2 For the remaining smaller exports, the revenue is either based on standard Wholesale or NAV tariffs, with the operating costs based on the unit cost for each customer class less, in the case of those supplies based on NAV charges, the costs avoided in the wholesale 'minus' applied to charges.
- 3 The exceptions are the export at Silver End, which has no operating costs or revenue and is instead offset against a corresponding import, and exports at Wynyard, Cheddington and Wingrave, which were not billed in the year as the basis of charging is to be determined.
- 4 For some new exports based on NAV charges, the revenue is negative or zero. This is due to the inclusion of an allowance for upfront investment by the NAV (in line with published charging guidance) combined with initial low levels of development at the site.
- 5 The export volumes are consistent with table 6B.

Bulk supply imports (4A.12 - 4A.22)

- 6 Water imports are based on standard Wholesale tariffs.
- 7 The import volumes are consistent with table 6B.

Table 4B - Analysis of debt

Line description	Instrument identifier	Credit rating	Currency	Class/subordination	Further information	Instrument start date (if after 31/07/21)	Years to maturity	Principal sum outstanding as at 31 March 2021 (excluding unamortised debt issue costs)	Amount used to calculate nominal interest and cash interest payment (might be equal or differ from principal sum outstanding)	£m (nominal)
Units	Text	Text	Text	Text	Text	Date	Years	£m (nominal)	£m (nominal)	
Fixed rate instruments										
1	US\$410 million 5.18% private placements 2021	G0369@AK2	BBB/Baa3/BBB	USD	Class B		0.7	260.748	260.748	182.5236
2	£250 million 5.837% fixed rate 2022	XS0151946695	A-/A3/A-/	GBP	Class A Wrapped		1.3	250	250	325
3	£31.9 million 3.983% private placements 2022	GB00B8HYC601	A-/A3/A-/	GBP	Class A		1.5	31.884	31.884	47.826
4	£22.3 million 3.983% private placements 2022	GB00B7W1QT00	A-/A3/A-/	GBP	Class A		1.5	22.319	22.319	33.4785
5	US\$47 million 5% private placements 2022	G0369@AK9	A-/A3/A-/	USD	Class A		1.5	29.973	29.973	44.9595
6	IFRS 16 leases			GBP			11.3	39.495	39.495	446.2935
7	£200 million 6.875% fixed rate 2023	XS00895533282	A-/A3/A-/	GBP	Class A		2.4	200	200	480
8	£93 million 3.537% private placements 2023	GB00B8T33X02	A-/A3/A-/	GBP	Class A		2.5	93	93	232.5
9	US\$170 million 3.84% private placements 2023	G0369@AU0	A-/A3/A-/	USD	Class A		2.5	7.021	7.021	17.5525
10	US\$160 million 4.99% private placements 2023	G0369@AV8	BBB/Baa3/BBB	USD	Class B		2.7	100.24	100.24	270.648
11	£250 million Green Bond 1.625% 2025	XS1659112616	A-/A3/A-/	GBP	Class A		4.4	58.705	58.705	258.302
12	£200 million Class B 4.5% fixed rate 2026	XS0890564544	BBB/Baa3/BBB	GBP	Class B		4.9	100	100	490.00
13	£55 million 2.93% fixed rate private placements 2026	GB00BYP7WV13	A-/A3/A-/	GBP	Class A		5.1	55	55	280.5

14	US\$150 million 3.29% private placements 2026	G0369@AW6	A-/A3/A-	USD	Class A		5.1	25	25	127.5
15	£20 million 2.93% fixed rate private placements 2026	GB00BY7P7VT90	A-/A3/A-	GBP	Class A		5.1	20	20	102
16	£200 million Class B 2.6225% fixed rate 2027	X51577797456	BBB/Baa2/BBB	GBP	Class B		6.2	118.8	118.8	736.56
17	£200 million 6.625% fixed rate 2029	X50093312550	A-/A3/A-	GBP	Class A		7.8	200	200	1560.00
18	£246 million 6.293% fixed rate 2030	X50151948980	A-/A3/A-	GBP	Class A		9.3	196	196	1822.80
19	£25 million 6.875% private placements 2034	X50405687995	A-/A3/A-	GBP	Class A		12.8	25	25	320
20	£110 million Class A unwrapped floating rate bonds 2043	X50346810236	A-/A3/A-	GBP	Class A		21.9	15.761	15.761	345.166
21	£25 million 3.0% fixed rate 2031	GB00BH0PBK08	A-/A3/A-	GBP	Class A		9.9	25	25	247.5
22	US\$3 million 3.053% fixed rate 2029	G0369@BA3	A-/A3/A-	USD	Class A		7.9	40.067	40.067	316.529
23	£85 million 2.88% fixed rate 2029	GB00BH0PB92	A-/A3/A-	GBP	Class A		7.9	85	85	671.5
24	£50 million 1.76% fixed rate 2035	X52257836838	A-/A3/A-	GBP	Class A		14.6	50	50	730
25	RCF £550 million		A-/A3/A-	GBP	Class A		0.1	25	25	2.5
26	RCF £550 million		A-/A3/A-	GBP	Class A	Undrawn facilities	0	0	575	0
27	RCF £50 million bilaterals		A-/A3/A-	GBP	Class A	Undrawn facilities	0	0	50	0
28	Liquidity facilities		A-/A3/A-	GBP	Class A	Undrawn facilities	0	0	400	0
29	MBIA wrapping fees		A-/A3/A-	GBP	Class A Wrapped		35.8	0	61.0	0
30	Letter of credit		A-/A3/A-	GBP	Class A	Undrawn facilities	0	0	60	0
201	Totals for fixed rate instruments		-	-	-	-	-	2,074,013	3,769,013	10,091.639

Line description	Real RPI Coupon	Real CPI Coupon	Reference Interest Rate	Margin over market index	Nominal Interest Rate	Nominal Interest Cost (Full year equivalent)	Cash Interest Payment (Full year equivalent)	Unamortised debt issue costs as at 31 March 2021	Value per balance sheet at 31 March 2021	Fair value of debt at 31 March 2021
Units	%	%	%	%	%	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)
Fixed rate instruments										
1 US\$110 million 5.18% private placements 2021	4.24%	5.06%	-	-	5.80%	15.123	15.123	0.210	(302,124)	(312,010)
2 £250 million 5.83% fixed rate 2022	4.28%	5.10%	-	-	5.84%	14,600	14,600	0.450	(259,345)	(277,299)
3 £31.9 million 3.983% private placements 2022	2.44%	3.26%	-	-	3.98%	1,269	1,269	0.055	(32,461)	(34,143)
4 £22.3 million 3.983% private placements 2022	2.44%	3.26%	-	-	3.98%	0,888	0,888	0.055	(22,706)	(23,900)
5 US\$47 million 5% private placements 2022	3.82%	4.65%	-	-	5.38%	1,613	1,613	0.057	(34,895)	(37,175)
6 IFRS 16 leases	1.94%	2.75%	-	-	3.47%	1,370	1,370	0.010	(39,511)	(41,909)
7 £200 million 6.875% fixed rate 2023	5.30%	6.14%	-	-	6.88%	13,760	13,760	0.030	(208,372)	(236,570)
8 £93 million 3.537% private placements 2023	2.01%	2.82%	-	-	3.54%	3,292	3,292	0.171	(94,343)	(100,555)
9 US\$170 million 3.84% private placements 2023	2.08%	2.89%	-	-	3.61%	0,253	0,253	0.299	(132,855)	(134,325)
10 US\$160 million 4.99% private placements 2023	3.46%	4.28%	-	-	5.01%	5,022	5,022	0.319	(117,778)	(130,083)
11 £250 million Green Bond 1.625% 2025	1.26%	2.07%	-	-	2.78%	1,632	1,632	1.732	(256,915)	(253,285)
12 £200 million Class B 4.5% fixed rate 2026	2.96%	3.77%	-	-	4.50%	4,500	4,500	1.327	(207,586)	(227,332)
13 £55 million 2.93% fixed rate private placements 2026	2.51%	3.33%	-	-	4.05%	2,228	2,228	0.329	(55,360)	(58,856)
14 US\$150 million 3.29% private placements 2026	2.68%	3.50%	-	-	4.22%	1,055	1,055	0.692	(113,738)	(116,544)
15 £20 million 2.93% fixed rate private placements 2026	2.61%	3.43%	-	-	4.15%	0,830	0,830	0.212	(20,039)	(21,402)
16 £200 million Class B 2.6225% fixed rate 2027	2.95%	3.76%	-	-	4.49%	5,334	5,334	1,488	(202,254)	(209,161)
17 £200 million 6.625% fixed rate 2029	5.05%	5.89%	-	-	6.63%	13,260	13,260	0.056	(202,742)	(265,947)
18 £246 million 6.293% fixed rate 2030	4.72%	5.55%	-	-	6.29%	12,328	12,328	1,517	(256,562)	(336,658)
19 £25 million 6.875% private placements 2034	5.30%	6.14%	-	-	6.88%	1,720	1,720	0.346	(25,008)	(36,942)

Line description	Instrument identifier	Credit rating	Currency	Class/subordination	Further information	Instrument start date (if after 31/07/21)	Years to maturity	Principal sum outstanding as at 31 March 2021 (excluding unamortised debt issue costs)	Amount used to calculate nominal interest cost and cash interest payment (might be equal or differ from principal sum outstanding)	Years to maturity x principal sum
Units	Text	Text	Text	Text	Text	Date	Years	£m (nominal)	£m (nominal)	£m (nominal)

Floating rate instruments

202	US\$160 million 4.52% private placements 2021	G0369@A15	A-/A3/A-	USD	Class A	6m Libor	0.2	74.102	74.102	14.820
203	US\$170 million 3.84% private placements 2023	G0369@A10	A-/A3/A-	USD	Class A	3m Libor	2.5	103.498	103.498	238.745
204	£250 million Green Bond 1.625% 2025	XS1659112616	A-/A3/A-	GBP	Class A	3m Libor	4.4	11.748	11.748	51.691
205	£200 million Class B 4.5% fixed rate 2026	XS0890564544	BBB/Bea3/BBB	GBP	Class B	6m Libor	4.9	100	100	490.000
206	£73.3 million 4.394% private placements 2028	GB00B815LC89	A-/A3/A-	GBP	Class A	6m Libor	7	7.401	7.401	51.807
207	£246 million 6.293% fixed rate 2030	XS0151948980	A-/A3/A-	GBP	Class A	6m Libor	9.3	50	50	465.000
208	£110 million Class A unwrapped floating rate bonds 2043	XS0346810236	A-/A3/A-	GBP	Class A	6m Libor	21.9	44.239	44.239	968.834
209	£35 million 2.14% fixed rate 2036		A-/A3/A-	GBP	Class A	SONIA	04-30-2021	15.1	0	0
210	£40 million 2.14% fixed rate 2036		A-/A3/A-	GBP	Class A	SONIA	04-30-2021	15.1	0	0.000
402	Totals for floating rate instruments		-	-	-	-	-	390.988	390.988	2,348.898

Line description	Real RPI Coupon	Real CPI Coupon	Reference Interest Rate	Margin over market index	Nominal Interest Rate	Nominal Interest Cost (Full year equivalent)	Cash Interest Payment (Full year equivalent)	Unamortised debt issue costs as at 31 March 2021	Value per balance sheet at 31 March 2021	Fair value of debt at 31 March 2021
Units	%	%	%	%	%	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)

Floating rate instruments										
202	US\$160 million 4.52% private placements 2021	-0.49%	0.30%	0.11%	0.89%	1.00%	0.741	0.741	0.022	(118,446)
203	US\$170 million 3.84% private placements 2023	-0.39%	0.40%	0.09%	1.01%	1.10%	1.138	1.138	-	- (118,641)
204	£250 million Green Bond 1.625% 2025	-0.83%	-0.04%	0.09%	0.57%	0.66%	0.078	0.078	-	-
205	£200 million Class B 4.5% fixed rate 2026	0.76%	1.56%	0.11%	2.16%	2.27%	2.270	2.270	-	-
206	£73.3 million 4.394% private placements 2028	1.58%	2.38%	0.11%	2.99%	3.10%	0.229	0.229	0.149	(77,473)
207	£246.1 million 6.293% fixed rate 2030	3.49%	4.31%	0.11%	4.93%	5.04%	2.520	2.520	-	- (85,864)
208	£110 million Class A unwrapped floating rate bonds 2043	-0.53%	0.26%	0.11%	0.85%	0.96%	0.425	0.425	-	-
209	£35 million 2.14% fixed rate 2036	-0.26%	0.54%	0.00%	1.24%	1.24%	-	-	0.035	0.312
210	£40 million 2.14% fixed rate 2036	-0.26%	0.54%	0.00%	1.24%	1.24%	-	-	0.028	0.346
402	Totals for floating rate instruments	-	-	-	-	-	7.401	7.401	0.234	(195,261) (204,505)

Line description	Instrument identifier	Credit rating	Currency	Class/subordination	Further information	Instrument start date (if after 31/07/21)	Years to maturity	Principal sum outstanding as at 31 March 2021 (excluding unamortised debt issue costs)	Amount used to calculate nominal interest cost and cash interest payment (might be equal or differ from principal sum outstanding)
Units	Text	Text	Text	Text	Text	Date	Years	£m (nominal)	£m (nominal)

RPI linked instruments

403	US\$160 million 4.52% private placements 2021	G0369@A15	A-/A3/A-	USD	Class A		0.2	29.744	29.744	5.949
404	£15 million 1.37% index-linked private placements 2022	GB00B6TRH025	A-/A3/A-	GBP	Class A		1.3	18.305	18.305	23.796
405	£75 million 3.666% index-linked 2024	XS0151950887	A-/A3/A-	GBP	Class A		3.3	126.428	126.428	417.212
406	£250 million Green Bond 1.625% 2025	XS1659112616	A-/A3/A-	GBP	Class A		4.4	76.197	76.197	335.267
407	EIB £75 million 0.53% index-linked term facility 2027		A-/A3/A-	GBP	Class A	Amortising debt:	5.8	55.814	55.814	323.721
408	EIB £75 million 0.79% index-linked term facility 2027		A-/A3/A-	GBP	Class A	Amortising debt:	5.8	55.814	55.814	323.721
409	£250 million 4.5% fixed rate 2027	XS0764876693	A-/A3/A-	GBP	Class A		6.5	252.51	252.51	1641.315
410	EIB £150 million 0% index-linked term facility 2028		A-/A3/A-	GBP	Class A	Amortising debt:	6.8	126.468	126.468	859.982
411	£73.3 million 4.394% private placements 2028	GB00B815LC89	A-/A3/A-	GBP	Class A		7	74.556	74.556	521.892
412	EIB Tranche 3 £60 million 0.01% 2030		A-/A3/A-	GBP	Class A	Amortising debt:	8.9	62.136	62.136	553.010
413	EIB £65 million 0.41% index-linked term facility 2029		A-/A3/A-	GBP	Class A	Amortising debt:	7.9	60.381	60.381	480.960
414	EIB Tranche 2 £125 million 0.1% 2029		A-/A3/A-	GBP	Class A	Amortising debt:	8.4	122.843	122.843	1031.881

415	£200 million 3.07% index-linked 2032	XS0151947586	A-/A3/A-	GBP	Class A Wrapped		11.3	337.146	337.146	380.9750
416	£60 million 3.07% index-linked 2032	XS0151948550	A-/A3/A-	GBP	Class A Wrapped		11.3	101.666	101.666	1148.826
417	£50 million 2.05% index-linked private placements 2033	GB00B6R38W19	A-/A3/A-	GBP	Class A		11.8	61.018	61.018	720.012
418	£402 million 2.4% index-linked 2035	XS0217679991	A-/A3/A-	GBP	Class A		14.1	623.981	623.981	8798.132
419	£35 million 1.141% index-linked bond 2042	XS0918595645	A-/A3/A-	GBP	Class A		21.4	41.876	41.876	896.146
420	£110 million Class A unwrapped floating rate bonds 2043	XS0346810236	A-/A3/A-	GBP	Class A		21.9	54.417	54.417	1191.732
421	£130 million 2.262% indexation bond 2045	XS0507160744	A-/A3/A-	GBP	Class A		24.4	174.82	174.82	4265.608
422	£50 million 1.7% index-linked 2046	XS0252244347	A-/A3/A-	GBP	Class A		24.8	75.582	75.582	1874.434
423	£50 million 1.7% index-linked 2046	XS0252591903	A-/A3/A-	GBP	Class A		25.3	75.588	75.588	1912.376
424	£60 million 1.7903% indexation bond 2049	XS0253441359	A-/A3/A-	GBP	Class A		28.3	90.734	90.734	2567.772
425	£50 million 1.52% indexation bond 2055	XS0326722302	A-/A3/A-	GBP	Class A		34.3	72.505	72.505	2486.921
426	£40 million 1.7146% indexation bond 2056	XS0258730760	A-/A3/A-	GBP	Class A		35.3	60.502	60.502	2135.721
427	£50 million 1.6777% indexation bond 2056	XS0258730687	A-/A3/A-	GBP	Class A		35.3	75.628	75.628	2669.668
428	£50 million 1.3825% indexation bond 2056	XS0279796681	A-/A3/A-	GBP	Class A		35.3	75.608	75.608	2668.962
429	£100 million Class A wrapped floating rate bonds	XS0292942595	A-/A3/A-	GBP	Class A Wrapped		35.8	113.727	113.727	4071.427
430	£100 million 1.3784% indexation bond 2057	XS0279973332	A-/A3/A-	GBP	Class A		36.3	151.216	151.216	5489.141
431	£75 million 1.449% indexation bond 2062	XS0317554417	A-/A3/A-	GBP	Class A		41.3	108.727	108.727	4490.425
603	Totals for RPI linked instruments		-	-	-	-	-	3,356.44	3,356.44	57,715.76

Line description	Real RPI Coupon	Real CPI Coupon	Reference Interest Rate	Margin over market index	Nominal Interest Rate	Nominal Interest Cost (Full year equivalent)	Cash Interest Payment (Full year equivalent)	Unamortised debt issue costs as at 31 March 2021	Value per balance sheet at 31 March 2021	Fair value of debt at 31 March 2021
Units	%	%	%	%	%	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)

RPI linked instruments

403 US\$160 million 4.52% private placements 2022	1.52%	-	-	-	3.04%	0.905	0.452	-	-	-
404 £15 million 1.37% index-linked private placements 2022	1.37%	-	-	-	2.89%	0.529	0.251	0.050	(18.297)	(19.288)
405 £75 million 3.666% index-linked 2024	3.67%	-	-	-	5.23%	6.606	4.640	0.227	(126.983)	(151.331)
406 £250 million Green Bond 1.625% 2025	4.38%	-	-	-	5.95%	4.530	3.337	-	-	-
407 EIB £75 million 0.53% index-linked term facility 2027	0.53%	-	-	-	2.04%	1.137	0.296	0.047	(55.816)	(60.227)
408 EIB £75 million 0.79% index-linked term facility 2027	0.79%	-	-	-	2.30%	1.285	0.441	0.048	(55.840)	(60.721)
409 £250 million 4.5% fixed rate 2027	6.10%	-	-	-	7.69%	19.422	15.403	2.529	(252.957)	(293.072)
410 EIB £150 million 0% index-linked term facility 2028	0.00%	-	-	-	0.00%	-	-	0.063	(126.405)	(134.899)
411 £73.3 million 4.394% private placements 2028	3.79%	-	-	-	5.35%	3.986	2.826	-	-	-
412 EIB Tranche 3 £60 million 0.01% 2030	0.01%	-	-	-	1.51%	0.938	0.006	-	(62.137)	(66.745)
413 EIB £65 million 0.41% index-linked term facility 2029	0.41%	-	-	-	1.92%	1.167	0.250	0.123	(60.786)	(66.214)
414 EIB Tranche 2 £125 million 0.1% 2029	0.10%	-	-	-	1.60%	1.967	0.123	-	(122.857)	(132.214)
415 £200 million 3.07% index-linked 2032	3.07%	-	-	-	4.62%	15.563	10.350	2.468	(336.428)	(501.457)
416 £60 million 3.07% index-linked 2032	3.07%	-	-	-	4.62%	4.693	3.121	0.754	(102.224)	(76.119)
417 £50 million 2.05% index-linked private placements 2033	2.05%	-	-	-	3.58%	2.185	1.251	0.189	(61.036)	(84.330)
418 £402. million 2.4% index-linked 2035	2.40%	-	-	-	3.94%	24.560	14.976	1.492	(629.199)	(931.556)
419 £35 million 1.141% index-linked bond 2042	1.14%	-	-	-	2.66%	1.113	0.477	0.223	(41.732)	(57.534)
420 £110 million Class A unwrapped floating rate bonds 2043	2.14%	-	-	-	3.67%	1.998	1.165	-	-	-
421 £130 million 2.262% indexation bond 2045	2.26%	-	-	-	3.79%	6.632	3.951	1.632	(173.844)	(298.502)

422	£50 million 1.7% index-linked 2046	1.70%	-	-	3.23%	2.438	1.285	0.327	(75.479)	(117.706)
423	£50 million 1.7% index-linked 2046	1.70%	-	-	3.23%	2.438	1.285	0.111	(75.695)	(118.094)
424	£60 million 1.7903% indexation bond 2049	1.79%	-	-	3.32%	3.010	1.624	0.038	(91.051)	(148.672)
425	£50 million 1.52% indexation bond 2055	1.52%	-	-	3.04%	2.206	1.102	0.208	(72.571)	(119.831)
426	£40 million 1.7146% indexation bond 2056	1.72%	-	-	3.25%	1.964	1.041	0.036	(60.719)	(105.899)
427	£50 million 1.6777% indexation bond 2056	1.68%	-	-	3.21%	2.424	1.271	0.039	(75.898)	(131.243)
428	£50 million 1.3825% indexation bond 2056	1.38%	-	-	2.90%	2.193	1.043	0.067	(75.749)	(122.147)
429	£100 million Class A wrapped floating rate bonds	1.40%	-	-	2.92%	3.322	1.592	0.152	(99.916)	(68.820)
430	£100 million 1.3784% indexation bond 2057	1.38%	-	-	2.90%	4.386	2.087	0.051	(151.580)	(247.012)
431	£75 million 1.449% indexation bond 2062	1.45%	-	-	2.97%	3.231	1.577	0.068	(108.998)	(193.728)
603	Totals for RPI linked instruments	-	-	-	-	126,829	77,221	10,942	(3,114,197)	(4,307,361)

Line description	Instrument identifier	Credit rating	Currency	Class/subordination	Further information	Instrument start date (if after 31/07/21)	Years to maturity	Principal sum outstanding as at 31 March 2021 (excluding unamortised debt issue costs)	Amount used to calculate nominal interest and cash interest payment (might be equal or differ from principal sum outstanding)	Years to maturity x principal sum
Units	Text	Text	Text	Text	Text	Date	Years	£m (nominal)	£m (nominal)	£m (nominal)

CPI linked instruments

604	£250 million Green Bond 1.625% 2025	XS1659112616	A-/A3/A-	GBP	Class A		4.4	105,334	105,334	463,470
605	US\$150 million 3.29% private placements 2026	G0363@AW6	A-/A3/A-	USD	Class A		5.1	82,45	82,45	420,495
606	£200 million Class B 2.6225% fixed rate 2027	XS1577797456	A-/A3/A-	GBP	Class B		6.2	84,476	84,476	523,751
607	£35 million floating rate private placements 2031	GB00BYP7VR76	A-/A3/A-	GBP	Class A		10.1	36,412	36,412	367,761
608	£300 million Green bond 2.75% 2029	XS1895640404	A-/A3/A-	GBP	Class A		8.6	310,146	310,146	2667,256
609	£65 million 2.87% fixed rate 2029	G0369@TBD7XX	A-/A3/A-	GBP	Class A		8	66,384	66,384	535,072
610	EDC £100 million 1.588% fixed rate 2028		A-/A3/A-	GBP	Class A		3.5	100,578	100,578	352,023
611	£65 million CPI 0.835% 2040		A-/A3/A-	GBP	Class A	Amortising debt	19	65,237	65,237	1239,503
612	JPY 7 billion 0.855% fixed rate 2039	XS2010166572	A-/A3/A-	JPY	Class A		18.2	51,113	51,113	930,257
613	JPY 7 billion 0.85% fixed rate 2040	XS2275077308	A-/A3/A-	JPY	Class A		19.7	50,423	50,423	993,333
614	JR £26.1 million CPI 0.01% 2035		A-/A3/A-	GBP	Class A		14.7	26,141	26,141	384,273
615	BPPT £26.1 million CPI 0.01% 2035		A-/A3/A-	GBP	Class A		14.7	26,148	26,148	384,376
616	Totals for CPI linked instruments		-	-	-	-	-	1,005,34	1,005,34	9,261,57
805	Totals for all instruments		-	-	-	-	-	6,826,78	8,521,78	79,417.87

Line description	Real RPI Coupon	Real CPI Coupon	Reference Interest Rate	Margin over market index	Nominal Interest Rate	Nominal Interest Cost (Full year equivalent)	Cash Interest Payment (Full year equivalent)	Unamortised debt issue costs as at 31 March 2021	Value per balance sheet at 31 March 2021	Fair value of debt at 31 March 2021
Units	%	%	%	%	%	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)	£m (nominal)

CPI linked instruments

604 £250 million Green Bond 1.625% 2025	-	2.25%	-	-	2.97%	3,124	2,370	-	-	-
605 US\$1.50 million 3.29% private placements 2026	-	2.82%	-	-	3.54%	2,919	2,325	-	-	-
606 £200 million Class B 2.6225% fixed rate 2027	-	2.92%	-	-	3.64%	3,075	2,467	-	-	-
607 £35 million floating rate private placements 2031	-	2.76%	-	-	3.48%	1,267	1,005	0,269	(34,735)	(34,231)
608 £300 million Green bond 2.75% 2029	-	2.28%	-	-	3.00%	9,292	7,071	3,492	(300,060)	(313,597)
609 £65 million 2.87% fixed rate 2029	-	0.35%	-	-	1.05%	0,704	0,234	0,449	(65,405)	(68,809)
610 EDC £100 million 1.588% fixed rate 2028	-	-0.48%	-	-	0.22%	0,218	(0,483)	0,312	(100,190)	(102,958)
611 £65 million CPI 0.835% 2040	-	0.84%	-	-	1.55%	1,008	0,548	0,328	(65,179)	(74,886)
612 JPY 7 billion 0.855% fixed rate 2039	-	0.01%	-	-	0.71%	0,363	0,005	0,161	(45,823)	(37,851)
613 JPY 7 billion 0.85% fixed rate 2040	-	-1.21%	-	-	-0.52%	(0,261)	(0,610)	0,428	(39,295)	(36,788)
614 JR £26.1 million CPI 0.01% 2035	-	0.01%	-	-	0.71%	0,186	0,003	(3,777)	(29,918)	(27,331)
615 BPPT £26.1 million CPI 0.01% 2035	-	0.01%	-	-	0.71%	0,186	0,003	(3,555)	(29,704)	(27,341)
616 Totals for CPI linked instruments	-	-	-	-	-	22,080	14,938	(1,893)	(710,309)	(723,792)
805 Totals for all instruments	-	-	-	-	-	268,980	212,230	22,302	(6,935,715)	(8,412,280)

Inflation Assumptions	
806	RPI %
807	CPI %
Indicative interest rates	
808	Indicative weighted average nominal interest rate
809	Indicative weighted average cash interest rate
Indicative debt portfolio breakdown	
810	Floating rate debt as percentage of total debt (gross)
811	Fixed rate debt as percentage of total debt (gross)
812	RPI linked debt as percentage of total debt (gross)
813	CPI linked debt as percentage of total debt (gross)
814	All index (CPI and RPI) linked debt as percentage of total debt (gross)
815	Fixed rate debt and index linked debt as percentage of total debt (gross)
816	Weighted average years to maturity

Table 4C - Impact of price control performance to date on RCV

Line description	Units	12 months ended 31 March 2021			Price control period to date				
		Water resources	Water network plus	Wastewater network plus	Bioresources	Water resources	Water network plus		
Totex (net of business rates, abstraction licence fees and grants and contributions)									
1 Final determination allowed totex (net of business rates, abstraction licence fees and grants and contributions)	£m	34.003	313.070	364.182	81.401	34.003	313.070	364.182	81.401
2 Actual totex (net of business rates, abstraction licence fees and grants and contributions)	£m	28.052	334.111	399.884	63.890	28.052	334.111	399.884	63.890
3 Transition expenditure	£m	5.278	10.137	3.297	-	5.278	10.137	3.297	-
4 Disallowable costs	£m	-	-	0.123	-	-	-	0.123	-
5 Total actual totex (net of business rates, abstraction licence fees and grants and contributions)	£m	33.330	344.248	403.058	63.890	33.330	344.248	403.058	63.890
6 Variance	£m	(0.673)	31.178	38.876	(17.511)	(0.673)	31.178	38.876	(17.511)
7 Variance due to timing of expenditure	£m	4.000	15,000	30,000	(5,000)	4,000	15,000	30,000	(5,000)
8 Variance due to efficiency	£m	(4.673)	16.178	8.876	(12.511)	(4.673)	16.178	8.876	(12.511)
9 Customer cost sharing rate	£m	0.450	0.450	0.450	-	0.450	0.450	0.450	-
10 Customer share of totex over/underspend	£m	(2.103)	7.280	3.994	-	(2.103)	7.280	3.994	-
11 Company share of totex over/underspend	£m	(2.570)	8.898	4.882	(12.511)	(2.570)	8.898	4.882	(12.511)

Line description	Units	12 months ended 31 March 2021			Price control period to date		
		Water resources	Water network plus	Wastewater network plus	Bioresources	Water resources	Water network plus
Totex - business rates and abstraction licence fees							
12 Final determination allowed totex - business rates and abstraction licence fees	£m	13.146	37.853	21.574	3.023	13.146	37.853
13 Actual totex - business rates and abstraction licence fees	£m	12.414	38.092	21.362	3.287	12.414	38.092
14 Variance - business rates and abstraction licence fees	£m	(0.732)	0.239	(0.212)	0.264	(0.732)	0.239
15 Customer cost sharing rate - business rates and abstraction licence fees	£m	0.890	0.889	0.900	0.900	0.889	0.900
16 Customer share of totex over/underspend - business rates and abstraction licence fees	£m	(0.652)	0.212	(0.191)	0.238	(0.652)	0.212
17 Company share of totex over/underspend - business rates and abstraction licence fees	£m	(0.080)	0.027	(0.021)	0.026	(0.080)	0.027
						(0.021)	0.026

Line description	Units	12 months ended 31 March 2021			Price control period to date		
		Water resources	Water network plus	Wastewater network plus	Bioresources	Water resources	Water network plus
Totex not subject to cost sharing							
18 Final determination allowed totex - not subject to cost sharing	£m	2.726	13.827	0.790	0.837	2.726	13.827
19 Actual totex - not subject to cost sharing	£m	4.477	8.172	(0.446)	0.375	4.477	8.172
20 Variance - 100% company allocation	£m	1.751	(5.655)	(1.236)	(0.462)	1.751	(5.655)
21 Total company share of totex over/under spend	£m	(0.899)	3.269	3.625	(12.947)	(0.899)	3.269
RCV							
22 Total customer share of totex over/under spend	£m	(2.755)	7.493	3.803	0.238	(2.755)	7.493
23 PAYG rate	£m	0.829	0.602	0.531	0.834	0.829	0.602
24 RCV element of totex over/underspend	£m	(0.472)	2.982	1.782	0.039	(0.472)	2.982
25 Adjustment for ODI outperformance payment or underperformance payment	£m	-	-	-	-	-	-
26 RCV determined at FD at 31 March	£m	-	-	-	-	200.806	2,894,613
27 Projected 'shadow' RCV	£m	-	-	-	-	200.334	2,897,595
						4,519,448	329,980

Final determination allowed totex (net of business rates, abstraction licence fees and grants and contributions) (4C.1)

1 This has been taken from Ofwat's published inputs for table 4C, inflated by CPIH to 2020/21 year average prices.

Actual totex (net of business rates, abstraction licence fees and grants and contributions) (4C.2)

2 This has been calculated from the APR tables according to the requirements of RAG 4.09.

Transition expenditure (4C.3)

3 Transition expenditure has been taken from the reported figures in the 2019/20 APR, inflated by CPIH to 2020/21 year average prices.

Disallowable costs (4C.4)

4 Disallowable costs relate to court fines incurred in the year.

Total actual totex (net of business rates, abstraction licence fees and grants and contributions) (4C.5) and Variance (4C.6)

5 These are calculated cells.

Variance due to timing of expenditure (4C.7)

6 For Water Resources, Water Network+ and Wastewater Network+ the variance, including transition spend, is primarily due to timing is due to acceleration of capex from future years. Given the nature of assessing this, we have rounded each to the nearest £million. For Bioresources, it is the estimated impact on 2020/21 of having sludge backed up due to the diversion of tankering resource to sewage collection during the extreme wet weather experienced in the year. For sewage collection there is no contra of this as it is residual inefficiency as it won't unwind in 2021/22. 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.

Variance due to efficiency (4C.8)

7 These are calculated cells.

Customer cost sharing rate (4C.9)

8 These have been taken from the CMA Redetermination. The customer sharing rate is 45 per cent for an overspend (and 55 per cent for an underspend) in the combined Water Resources and Water Network+ prices control. The customer sharing rate for Wastewater Network+ is 45 per cent for an overspend (and 55 per cent for an underspend). There is no sharing of out or underperformance for Bioresources.

Customer share of totex over/underspend (4C.10) and Company share of totex over/underspend (4C.11)

9 These are calculated cells.

Final determination allowed totex - business rates and abstraction licence fees (4C.12)

10 This has been taken from Ofwat's published inputs for table 4C, inflated by CPIH to 2020/21 year average prices.

Actual totex - business rates and abstraction licence fees (4C.13)

11 This has been calculated from the APR tables according to the requirements of RAG 4.09.

Variance - business rates and abstraction licence fees (4C.14)

12 These are calculated cells.

Customer cost sharing rate - business rates and abstraction licence fees (4C.15)

13 The CMA Redetermination set the customer sharing rate at 90 per cent for business rates and 75 per cent for abstraction licences. Given the different sharing rates we have calculated a hybrid sharing rate taking into account the individual out / under performance for business rates and abstraction licences.

Water Resources	FD Allowance	Actual Expenditure	Outperformance	Customer Share Rate	Customer Share
	£'m (2020/21 prices)	£'m (2020/21 prices)	£'m (2020/21 prices)	%	£'m (2020/21 prices)
	A	B	C = A-B	D	E = CxD
Abstraction Licences	9.916	9.869	0.047	75.00%	0.036
Business Rates	3.230	2.545	0.685	90.00%	0.616
Total	13.146	12.414	0.732		0.652
Hybrid sharing rate				89.03%	
(Total E / Total C)					

Water Network+	FD Allowance	Actual Expenditure	Underperformance	Customer Share Rate	Customer Share
	£'m (2020/21 prices)	£'m (2020/21 prices)	£'m (2020/21 prices)	%	£'m (2020/21 prices)
	A	B	C = A-B	D	E = CxD
Abstraction Licences	0.489	0.507	-0.018	75.00%	-0.013
Business Rates	37.364	37.585	-0.221	90.00%	-0.199
Total	37.853	38.092	-0.239		-0.213
Hybrid sharing rate				88.88%	
(Total E / Total C)					

Customer share of totex over/underspend - business rates and abstraction licence fees (4C.16) and Company share of totex over/underspend - business rates and abstraction licence fees (4C.17)

14 These are calculated cells.

Final determination allowed totex - not subject to cost sharing (4C.18)

15 This has been taken from Ofwat's published inputs for table 4C, inflated by CPIH to 2020/21 year average prices.

Actual totex - not subject to cost sharing (4C.19)

16 This has been calculated from the APR tables according to the requirements of RAG 4.09.

Variance - 100% company allocation (4C.20) and Total company share of totex over/under spend (4C.21) and Total customer share of totex over/under spend (4C.22)

17 These are calculated cells.

PAYG rate (4C.23)

18 This has been taken from Ofwat's published inputs for table 4C.

RCV element of totex over/underspend (4C.24)

19 These are calculated cells.

Adjustment for ODI outperformance payment or underperformance payment (4C.25)

20 These are zero as we have no ODIs linked to RCV reward or penalty.

RCV determined at FD at 31 March (4C.26)

21 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 £15m higher than the Ofwat published RCV.

Projected 'shadow' RCV (4C.27)

22 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.

Totex Out / Under Performance AMP7 to Date

23 In 2020/21 we successfully completed the first year of the AMP, and overall are slightly ahead of our delivery plan for the AMP. In total, including transition spend we are ahead of the FD Totex by c.6 per cent, which is largely explained by our acceleration of capex from future years.

24 Whilst it is very early in the AMP to draw conclusions on efficiency, we are do have variances in some price controls which are worthy of some explanation.

25 In setting the context for this commentary there are four key factors to highlight in explaining variances:

1. Enhancement capex expenditure profile
2. Impact of Covid-19 on timing of capital delivery
3. The impact of the severe wet weather in the December 2020 to March 2021 period.
4. The financial necessity to 'live with the FD' whilst the CMA referral was ongoing.

26 Because we have a very large capital enhancement programme to deliver over the AMP, in addition to the transition expenditure, we set out to accelerate a further c.£100 million worth of enhancement capex into year one of AMP7 from later years. The impact of

Covid-19 was felt in terms of our ability to deliver that larger programme and we reduced our delivery plan during the year by £63m. We then delivered very close to that revised plan. So, even though we felt the impact of Covid-19, we still delivered c.£49m of capex in excess of the FD. This was predominantly on the Network+ price controls.

27 In December 2020 to March 2021 we experienced extreme wet weather and extensive fluvial flooding in our region. These challenging operational conditions resulted in a proportion of our tanker fleet being diverted into the sewage collection price control to help with the impact of the flooding. This fleet would normally have been tankering sludge from our smaller works to our sludge treatment centres and the net result of this has left higher volumes of sludge within our sewage treatment works, whilst lower volumes of sludge were treated in our sludge treatment centres. This is consistent with the reduction in revenue within the Bioresources price control. This resulted in lower operational costs within Bioresources and higher operational cost within sewage collection. The lower volumes of sludge being treated through the winter, was coupled with high availability of the sludge treatment centres and we avoided the need to hire a temporary lime treatment plant and thus further reduced our cost. We believe the cost savings are typically one-off in nature and we will see higher cost of Bioresources in future years. We also hope that the flooding does not repeat again and we should accordingly see lower cost within sewage collection in future years.

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	33.523	7.419	0.302	42.603	149.018
2	Enhancement operating expenditure	£m	0.213	-	-	-	0.173
3	Developer services operating expenditure	£m	-	-	-	-	1.072
4	Total operating expenditure excluding third party services	£m	33.736	7.419	0.302	42.603	150.263
5	Third party services	£m	2.258	2.079	-	3.472	3.503
6	Total operating expenditure	£m	35.994	9.498	0.302	46.075	153.766
							245.635

Grants and contributions							
7	Grants and contributions - operating expenditure	£m	-	-	-	-	-

Capital expenditure							
8	Base capital expenditure	£m	6.003	0.723	0.533	14.370	34.851
9	Enhancement capital expenditure	£m	1.868	(0.033)	-	22.118	69.844
10	Developer services capital expenditure	£m	-	-	-	-	55.793
11	Total gross capital expenditure (excluding third party)	£m	7.871	0.690	0.533	36.488	160.488
12	Third party services	£m	1.080	0.005	-	1.107	0.031
13	Total gross capital expenditure	£m	8.951	0.695	0.533	37.595	160.519
							208.293

Grants and contributions							
14	Grants and contributions - capital expenditure	£m	0.002	-	-	-	27.523
							27.525

15	Net totex	£m	44.943	10.193	0.835	83.670	286.762	426.403
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Cash expenditure								
16	Pension deficit recovery payments	£m	1.240	0.140	0.014	3.595	6.793	11.782
17	Other cash items	£m	-	-	-	-	-	-
18	Totex including cash items	£m	46.183	10.333	0.849	87.265	293.555	438.185

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 Line numbers shown within the table are as per the Ofwat APR spreadsheet.

Change in operating expenditure compared to 2019/20 - Regulatory Accounts

2 Underlying water services operating expenditure decreased by £15.0 million (5.8 per cent) in real terms.

Movement in costs 2019/20 to 2020/21

	Water Resources	Raw water Transport & Storage	Water Treatment	Treated Water Distribution	Water Total
	£m	£m	£m	£m	£m
2019/20 reported operating costs	37.3	9.6	50.3	162.8	260.0
Atypical costs - re-structuring provisions	(0.1)	(0.1)	(0.4)	(0.8)	(1.4)
2019/20 costs restated to underlying position	37.2	9.5	49.9	162.0	258.6
Inflation @ 0.8%	0.3	0.1	0.4	1.3	2.1
2019/20 underlying costs indexed to 2020/21 prices	37.5	9.6	50.3	163.3	260.7
2020/21 reported operating costs	36.0	9.8	46.1	153.8	245.6
(Increase)/decrease in underlying costs from 2019/20	1.5	(0.2)	4.2	9.5	15.0

Water resources

3 Operating expenditure was £1.5 million lower vs 2019/20 levels with heightened DI volumes leading to increased power costs which have then been more than offset by savings in other costs and a one off benefit in rates following a successful challenge on carparking rateable values.

Raw Water transport and storage

4 Operating expenditure was £0.2 million higher than last year with increased power costs (DI increase) not being offset by net savings across 3rd party services and other costs.

Water treatment

5 Operating expenditure reduced by £4.2 million as a mixture of local cost efficiency programmes, savings from lockdown and more resources be moved to capital to support the large WRMP capital programmes which commenced in 2020/21. These operating cost savings more than offset the cost increase in variable costs due to higher volumes of water needing treatment for both Anglian Water customers and bulk supply arrangements.

Treated water distribution

6 Operating expenditure in real terms reduced by £9.5 million compared to the prior year; this saving was seen in Other costs due to local efficiency programmes and a focus on discretionary expenditure and also in Infrastructure renewals as productivity improvements were delivered by both Anglian Water and its key alliance partners.

Capital Expenditure (4D.8-4D.13)

7 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.

8 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.

9 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.

10 Total water capital expenditure includes £2.2 million of spend on assets used to fulfil third-party agreements.

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	61.268	22.823	10.940	123.313	7.111	18.525	24.169	6.485	274.634
2 Enhancement operating expenditure	£m	0.207	-	-	0.036	-	-	-	-	0.243
3 Developer services operating expenditure	£m	0.337	-	-	-	-	-	-	-	0.337
4 Total operating expenditure excluding third party services	£m	61.812	22.823	10.940	123.349	7.111	18.525	24.169	6.485	275.214
5 Third party services	£m	-	-	-	0.895	-	0.016	0.322	0.028	1.261
6 Total operating expenditure	£m	61.812	22.823	10.940	124.244	7.111	18.541	24.491	6.513	276.475
Grants and contributions										
7 Grants and contributions - operating expenditure	£m	-	-	-	-	-	-	-	-	-
Capital expenditure										
8 Base capital expenditure	£m	21.703	7.818	3.324	93.651	4.929	4.163	11.650	1.558	148.796
9 Enhancement capital expenditure	£m	5.440	1.960	0.832	53.703	2.825	-	0.627	-	65.387
10 Developer services capital expenditure	£m	16.454	-	-	-	-	-	-	-	16.454
11 Total gross capital expenditure (excluding third party)	£m	43.597	9.778	4.156	147.354	7.754	4.163	12.277	1.558	230.637
12 Third party services	£m	0.025	0.009	0.004	0.054	0.003	-	0.009	-	0.104
13 Total gross capital expenditure	£m	43.622	9.787	4.160	147.408	7.757	4.163	12.286	1.558	230.741
Grants and contributions										
14 Grants and contributions - capital expenditure	£m	14.295	3.206	1.363	-	-	-	-	-	18.864
15 Net totex	£m	91.139	29.404	13.737	271.652	14.868	22.704	36.777	8.071	488.352

Cash expenditure											
16	Pension deficit recovery payments	£m	3.992	1.438	0.611	7.867	0.474	2.329	2.335	0.991	20.037
17	Other cash items	£m	-	-	-	-	-	-	-	-	-
18	Totex including cash items	£m	95.131	30.842	14.348	279.519	15.342	25.033	39.112	9.062	508.389

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 Line numbers shown within the table are as per the Ofwat APR spreadsheet.

Change in operating expenditure compared to 2019/20 - regulatory accounts

2 Underlying wastewater operating expenditure decreased by £18.3 million (6.2 per cent) in real terms.

Movement in costs 2019/20 to 2020/21

	Sewage Collection £m	Sewage Treatment £m	Bioresources £m	Sewerage Total £m
2019/20 reported operating costs	96.9	138.5	60.0	295.4
Atypical costs - restructuring provisions	-0.9	-1.3	-0.7	-2.9
2019/20 costs restated to underlying position	96.0	137.2	59.3	292.5
Inflation @ 0.8%	0.8	1.1	0.5	2.3
2019/20 underlying costs indexed to 2020/21 prices	96.8	138.3	59.8	294.8
2020/21 reported operating costs	95.6	131.4	49.5	276.5
(Increase)/decrease in underlying costs from 2019/20	1.2	6.9	10.3	18.3

Operating expenditure key changes (4E.1-4E.11)

Sewage Collection

3 Total Collection costs decreased by £1.2 million in real terms, as a result of local cost efficiency programmes, offset by higher operating costs during the prolonged heavy rainfall from late December through January and February.

Sewage treatment

4 Total Treatment costs decreased by £6.9 million in real terms, due to cost saving efficiencies made in response to the demanding efficiency challenge of AMP7.

Bioresources

5 Bioresources costs decreased by £10.3 million in real terms, a proportionately larger decrease than the rest of wastewater services. The decrease in Bioresources was due to the general cost saving efficiencies made, plus several one-off savings that are not expected to be repeated, with the bulk of the reduction in costs seen in Other costs. A significant expense was incurred in 2019/20 (£1.4 million) in relation to a temporary lime treatment plant, which was not incurred in 2020/21 and transportation costs were £1.2 million lower in 2020/21 as excess mileage was reduced due to increased STC availability. The prolonged heavy rainfall in late December through February resulted in higher tankering costs in Collection and a corresponding decrease in Bioresources, as our tanker fleet was diverted from routine sludge haulage to serve flood-affected customers.

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 programme. Large projects and stakeholder required investments can lead to variances in year on year comparisons of the same data point.

9 An allocation was required for the foul, surface water drainage and highway drainage split. The allocation was based on flow estimate models provided by Anglian Water's modelling team.

10 Total wastewater capital expenditure includes £0.1 million of spend on assets used to fulfil third-party agreements.

Table 4F - Major project expenditure for wholesale water by purpose

Line description	Units	Water resources	Expenditure in report year £m			Total
			Raw water transport	Raw water storage	Water treatment	
Major project capital expenditure by purpose						
1 WRMP DPC - Elstham to Lincoln Transfer	£m	0.347	-	-	-	0.347
2 WRMP North Lincs Deficit DPC	£m	1.290	-	-	0.686	0.768
3 Capital expenditure purpose - line 3	£m	-	-	-	-	-
4 Capital expenditure purpose - line 4	£m	-	-	-	-	-
5 Capital expenditure purpose - line 5	£m	-	-	-	-	-
6 Capital expenditure purpose - line 6	£m	-	-	-	-	-
7 Capital expenditure purpose - line 7	£m	-	-	-	-	-
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	1.637	-	-	0.686	1.115
						3.438

Line description	Units	Water resources	Cumulative expenditure on schemes completed in the report year £m				Total	
			Water network+					
			Raw water transport	Raw water storage	Water treatment	Treated water distribution		
Major project capital expenditure by purpose								
1 WRMF DPC - Elstham to Lincoln Transfer	£m	-	-	-	-	-	-	
2 WRMF North Lincs Deficit DPC	£m	-	-	-	-	-	-	
3 Capital expenditure purpose - line 3	£m	-	-	-	-	-	-	
4 Capital expenditure purpose - line 4	£m	-	-	-	-	-	-	
5 Capital expenditure purpose - line 5	£m	-	-	-	-	-	-	
6 Capital expenditure purpose - line 6	£m	-	-	-	-	-	-	
7 Capital expenditure purpose - line 7	£m	-	-	-	-	-	-	
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	-	-	-	-	-	-	

Major project operating expenditure by purpose	
12 Operating expenditure purpose - line 1	£m
13 Operating expenditure purpose - line 2	£m
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

Major project operating expenditure by purpose			
12	Operating expenditure purpose - line 1	£m	-
13	Operating expenditure purpose - line 2	£m	-
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	-

Elsham to Lincoln Transfer

1 This scheme now has a reduced scope and will be delivered in-house rather than as a DPC project. The project delivery is with a new alliance partner (Strategic Pipeline Alliance) with oversight by the Major Infrastructure team. The project is running in line with the timetable. We have started discussions with Ofwat to process an IDoK so the internal funding authorisation can be formally issued. We expect the IDoK to be completed in financial year 2021/22. The IDoK will allow us the funding for this scheme which was not allowed in price controls when it was envisaged the scheme would be delivered by DPC.

North Lincs Deficit

2 This scheme is progressing to time. The Strategic Outline Case (SOC) has been completed and on track to meet next deadline of Outline Business Case (OBC) by February 2022.

Table 4G - Major project expenditure for wholesale wastewater by purpose

Line description	Units	Expenditure in report year £m									
		Wastewater network+						Bioresources		Total	
		Sewage collection			Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal		
		Foul	Surface water drainage	Highway drainage							
1	Capital expenditure purpose - line 1	£m	-	-	-	-	-	-	-	-	
2	Capital expenditure purpose - line 2	£m	-	-	-	-	-	-	-	-	
3	Capital expenditure purpose - line 3	£m	-	-	-	-	-	-	-	-	
4	Capital expenditure purpose - line 4	£m	-	-	-	-	-	-	-	-	
5	Capital expenditure purpose - line 5	£m	-	-	-	-	-	-	-	-	
6	Capital expenditure purpose - line 6	£m	-	-	-	-	-	-	-	-	
7	Capital expenditure purpose - line 7	£m	-	-	-	-	-	-	-	-	
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	-	-	-	-	-	-	-	-	

Line description	Units	Expenditure in report year £m								
		Wastewater network+						Bioresources		
		Sewage collection			Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	Total
		Foul	Surface water drainage	Highway drainage						
12	Operating expenditure purpose - line 1	£m	-	-	-	-	-	-	-	-
13	Operating expenditure purpose - line 2	£m	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-

Units	Expenditure in report year £m									
		Wastewater network+				Bioresources			Total	
		Sewage collection			Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment		
		Foul	Surface water drainage	Highway drainage						
12	£m	-	-	-	-	-	-	-	-	
13	£m	-	-	-	-	-	-	-	-	
14	£m	-	-	-	-	-	-	-	-	
15	£m	-	-	-	-	-	-	-	-	
16	£m	-	-	-	-	-	-	-	-	
17	£m	-	-	-	-	-	-	-	-	
18	£m	-	-	-	-	-	-	-	-	
19	£m	-	-	-	-	-	-	-	-	
20	£m	-	-	-	-	-	-	-	-	
21	£m	-	-	-	-	-	-	-	-	
22	£m	-	-	-	-	-	-	-	-	

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	6,566.114	-
2	Regulatory equity	£m	1,376.912	-
3	Regulatory gearing	%	82.67%	-
4	Post tax return on regulatory equity	%	10.28%	-
5	RORE (return on regulatory equity)	%	2.49%	2.49%
6	Dividend yield	%	-	-
7	Retail profit margin - Household	%	17.15%	-
8	Retail profit margin - Non household	%	-	-
9	Credit rating - Fitch	Text	N/A	-
10	Credit rating - Moody's	Text	Baa1 (Stable)	-
11	Credit rating - Standard and Poor's	Text	A- (Negative)	-
12	Return on RCV	%	5.15%	-
13	Dividend cover	dec	-	-
14	Funds from operations (FFO)	£m	423.195	-
15	Interest cover (cash)	dec	2.94	-
16	Adjusted interest cover (cash)	dec	1.19	-
17	FFO/Net debt	dec	0.06	-
18	Effective tax rate	%	-0.39%	-
19	RCF	£m	423.195	-
20	RCF/Net debt	dec	0.06	-
Revenue and earnings				
21	Revenue (actual)	£m	1,239.449	-
22	EBITDA (actual)	£m	638.238	-
Borrowings				
23	Proportion of borrowings which are fixed rate	%	30.38%	-
24	Proportion of borrowings which are floating rate	%	5.73%	-
25	Proportion of borrowings which are index linked	%	63.89%	-
26	Proportion of borrowings due within 1 year or less	%	6.73%	-
27	Proportion of borrowings due in more than 1 year but no more than 2 years	%	6.15%	-
28	Proportion of borrowings due in more than 2 years but no more than 5 years	%	20.45%	-

29	Proportion of borrowings due in more than 5 years but no more than 20 years	%	48.75%	-
30	Proportion of borrowings due in more than 20 years	%	17.93%	-

Net debt (4H.1)

1 The principal difference between statutory and regulatory net debt is that Ofwat's definition of regulatory net debt excludes accrued interest, fair value adjustments and debt issue costs. A full reconciliation between statutory and regulatory borrowings can be found in table 1E.

Regulated equity (4H.2)

2 Compared with prior year regulated equity has decreased by £375.3 million to £1,376.9 million. This principally reflects the reduction in RCV over the year as a result of the midnight adjustment.

Regulated gearing (4H.3)

3 Regulated gearing represents net debt per table 1E divided by year-end RCV. The change is largely due to the movement in RCV discussed above.

Post tax return on regulated equity (4H.4)

4 In the previous year the return was 4.34 per cent. A break down of the calculation for both years is shown below for information.

Line description	2020/21	2019/20
Profit before tax and fair value movements	£136.420m	£58.963m
UK corporation tax	£5.935m	£16.274m
Profit/(loss) after current tax (excluding fair value movements)	£142.355m	£75.237m
Regulated equity (average for year)	£1,385.035m	£1,732.048m
Post tax return on regulated equity %	10.28%	4.34%

RORE (4H.5)

5 RORE is calculated in table 1F, full details of the calculation and commentary can be found on pages 53-57. The Ofwat submission table displays RORE as a decimal and not a percentage.

Dividend yield (4H.6)

6 No dividend was paid this year, therefore this line is nil.

Retail profit margin - household and non-household (4H.7 and 4H.8)

7 Both lines 7 and 8 are Ofwat calculated cells.

8 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.

9 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)

10 Moody's rate our Class A debt as A3, Class B debt as Baa3 and have them on stable outlook as at 31 March 2021. Our Corporate Family Rating by Moody's was Baa1, stable outlook as at 31 March 2021.

11 S&P rate our Class A debt as A-, Class B debt as BBB and have them on negative outlook as at 31 March 2021.

12 Fitch rate our Class A debt as A-, Class B debt as BBB and have them on stable outlook as at 31 March 2021.

13 Post 31 March 2021, we announced a new financing structure which has led to the following changes:

- Moody's has upgraded the Corporate Family Rating from Baa1 to A3 and Class B debt from Baa3 to Baa1;
- S&P has upgraded its outlook from negative to stable;
- Fitch has updated its rating to being on Rating Watch Positive.

Return on RCV (4H.12)

14 Return on RCV for the year was 5.2 per cent compared with 4.7 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 decrease in average RCV.

Dividend cover (4H.13)

15 No dividend was paid this year, therefore this line is nil.

Funds from operations (4H.14)

16 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.

17 FFO for the year was £423.2 million compared with £440.7 million for the prior year. The decrease is due principally due to the reduction in cash generated from operations discussed in the commentary for table 1D.

Interest cover (cash) (4H.15)

18 Interest cover (cash) equals to FFO as calculated above plus interest paid on borrowings, divided by interest paid on borrowings. Interest paid on borrowings excludes any accretion of interest-linked debt which is a non cash item.

19 The interest cover ratio for the year was 2.94 compared with 2.96 for the prior year. This metric has worsened marginally due to the lower FFO.

Adjusted interest cover (cash) (4H.16)

20 Adjusted interest cover (cash) adjusts for regulatory depreciation of £381.3 million (2020: £330.2 million) as published by Ofwat.

21 The cover ratio for the year was 1.2 compared with 1.5 for the prior year. This decrease is a result of reduction in interest payments, as discussed in the commentary to 1D, more than offset by the increase in the regulatory depreciation.

FFO/debt (4H.17)

22 The ratio for 2020/21 is 0.06 which is marginally lower to that disclosed in the prior year, 0.07. This reflects the reduction in FFO, combined with the increased net debt in the current year.

23 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)

24 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.

25 The rate for 2020/21 was (0.39) per cent compared with (22.3) per cent in the prior year as set out in the following table:

	2020/21 £m	2019/20 £m
(Loss) / Profit before tax per the Annual Performance Report	113.2	28.6
Fair value (loss)/profit on derivatives included in Profit before tax	(23.2)	(30.4)
Profit excluding Fair value (loss)/profit on derivatives (A)	136.4	59.0
Corporation tax charged at 19% (2019-20: 19%)	26.0	11.2
Depreciation and amortisation	53.6	50.1
Capital allowances	(67.3)	(64.2)
Items not taxable	(5.8)	(0.4)
Items not deductible for tax purposes	1.9	2.0
Capital grants and contributions	(3.6)	(3.7)
Pension payments	(8.1)	(3.5)
Change in general provision movement	2.9	2.3
Current tax charge for the year before adjustments in respect of previous years (B)	(0.5)	(13.2)
Adjustments in respect of previous years	(5.4)	(3.1)
Current tax charge for the year after adjustments in respect of previous years	(5.9)	(16.3)
Effective tax rate (B/A)	(0.4%)	(22.3%)

Regulated free cash flow (4H.19)

26 Free cash flow for the year was £423.2 million compared with £380.5 million for the prior year. The increase results from there being no dividend for the current year, with the increase being slightly offset due to the lower FFO as discussed above.

RCF/Net debt (4H.20)

27 The ratio for the year was 0.06 as a result of the movement in RCF and net debt discussed above.

Revenue and EBITDA (4H.21 and 4H.22)

28 EBITDA (earnings before interest, tax, depreciation and amortisation) is calculated using the price control revenue as set out in table 4H and the associated costs. It includes only amounts which are relevant to the price control.

29 As explained in the commentaries to 1A and 2A, revenue is lower than prior year due to the price reduction for customers following the Final Determination, offset by the impact of Covid-19. EBITDA is lower than last year due to revenue decreases more than offsetting the decrease in opex .

Borrowings (4H.23 - 4H.30)

30 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), fixed and floating rates of interest. To guard against the adverse movements in interest rates having a detrimental impact on the business and to enable covenanted obligations and credit ratings to be met, the overall underlying debt portfolio is maintained at between 45 and 55 per cent of RCV for index-linked debt and between 5 per cent and 15 per cent for floating rate debt, with the remaining being

fixed rate. Within these hedging levels, 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.

31 The proportion of borrowings split between fixed, floating and index-linked changed from the prior year. Floating rate debt saw a proportional decrease due to our repayment of £575 million of revolving credit facilities which were drawn in the prior year as a response to managing liquidity through the global pandemic environment. The issuance of index-linked debt (CPI) in the year and the maturity of fixed rate debt during the year contributed to the increase in index-linked debt and decrease of fixed rate debt proportionally.

32 The maturity profile of our debt remains broadly consistent with the 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 11.69 years and the weighted exposure to tenor of issue is 23.13 years.

33 The year on year decrease in proportion of debt due in more than two years but no more than five years is a result of the new debt issuances in the year placing in the more than five years proportion (fifteen and twenty year maturities) and partly due to accretion increasing the proportion on the longer dated index linked debt, as well as the natural timing of debt maturities and amortisation schedules being one year on.

Table 4I - Financial Derivatives

Line description	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)	
	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	%	%
DPs	3	3	3	3	3	3	3	3

	Interest rate swap (sterling)								
1	Floating to fixed rate	381.251	113.800	274.013	769.064	(166.334)	-	4.408%	0.778%
2	Floating from fixed rate	161.700	688.800	279.532	1,130.032	58.239	-	0.368%	1.388%
3	Floating to index linked	25.000	150.000	541.303	716.303	(664.253)	(35.874)	2.667%	0.657%
4	Floating from index linked	-	-	-	-	-	-	0.000%	0.000%
5	Fixed to index-linked	-	-	665.857	665.857	(92.155)	(20.933)	0.837%	3.588%
6	Fixed from index-linked	-	-	-	-	-	-	0.000%	0.000%
7	Total	567.951	952.600	1,760.705	3,281.256	(864.503)	(56.807)	0.000%	0.000%

	Foreign Exchange								
8	Cross currency swap USD	-	-	-	-	-	-	-	-
9	Cross currency swap EUR	-	-	-	-	-	-	-	-
10	Cross currency swap YEN	-	-	-	-	-	-	-	-
11	Cross currency swap Other	-	-	-	-	-	-	-	-
12	Total	-	-	-	-	-	-	-	-

	Currency interest rate								
13	Currency interest rate swaps USD	389.822	210.770	144.319	744.911	116.402	-	2.813%	4.568%
14	Currency interest rate swaps EUR	-	-	-	-	-	-	0.000%	0.000%
15	Currency interest rate swaps YEN	-	-	101.230	101.230	(15.170)	-	1.960%	0.853%
16	Currency interest rate swaps Other	-	-	-	-	-	-	0.000%	0.000%
17	Total	389.822	210.770	245.549	846.141	101.232	-	-	-

Line description	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)	
	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	%	%
DPs	3	3	3	3	3	3	3	3

Forward currency contracts								
18	Forward currency contracts USD	-	-	-	-	-	0.000%	0.000%
19	Forward currency contracts EUR	-	-	-	-	-	0.000%	0.000%
20	Forward currency contracts YEN	-	-	-	-	-	0.000%	0.000%
21	Forward currency contracts CAD	-	-	-	-	-	0.000%	0.000%
22	Forward currency contracts AUD	-	-	-	-	-	0.000%	0.000%
23	Forward currency contracts HKD	-	-	-	-	-	0.000%	0.000%
24	Forward currency contracts Other	-	-	-	-	-	0.000%	0.000%
25	Total	-	-	-	-	-	-	-

Other financial derivatives								
26	Other financial derivatives	19.523	114.194	581.300	715.017	(68.787)	-	-

27	Total financial derivatives	977.296	1,277.564	2,587.554	4,842.414	(832.058)	(56.807)	-	-
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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 of financial instruments in Table 1C of £832.1 million agrees to the table due to the inclusion of energy hedges which relate to the risk management of the businesses operating costs. Whilst this does not strictly relate to financing obligations, the 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 there has been little activity in the floating to fixed rate category. Changes in bucketing relate to the natural passage of time.

3 Receivable floating leg weighted average interest rates has declined year on year as a result of the fall in LIBOR. Payable weighted average interest rates has remained largely consistent with prior year.

Floating from fixed rate (4I.2)

4 Two receive fixed pay SONIA swaps totalling £75.0 million (£35.0 million and £40.0 million disaggregated) were executed in the year, which contributes to the increase in notional in this category.

5 Weighted average floating interest rate payable has decreased in line with the drop in LIBOR.

Floating to index linked (4I.3)

6 The increase in notional in this category is attributable to a £50.4 million CPI swap executed in the year and economically attached to the JPY 7 Billion new debt received within the year.

7 Weighted average interest rates payable for index linked debt remained broadly unchanged year on year. Weighted average interest rates receivable has fallen marginally to reflect the downward movement in LIBOR rates within the year.

Fixed to index linked (4I.5)

8 No notable movements in this category as no new swaps have been executed or existing swaps maturing.

Currency interest rate swaps USD/YEN (4I.13 - 4I.16)

9 The movement in the JPY cross currency swaps relates to a new issuance of a 20 year JPY 7 billion which has been swapped to a sterling notional of £50.4 million.

10 Weighted average interest rate payable for cross currency interest rate swaps has fallen in the year, due to lower year on year LIBOR on the floating legs.

Other financial derivatives (4I.26)

11 Other financial derivatives consists of electricity hedges and fixed to fixed interest rate swaps. The rates quoted are the fixed rates on the interest rate swaps only. There has been no change to this population within the year.

Assumptions:

12 For floating rate derivatives the LIBOR rate as at 31 March 2021 has been used for calculations (3m: 0.08788 per cent, 6m: 0.11275 per cent).

13 The Anglian Water Services Financing Group holds derivative financial instruments which contain more than 2 legs (i.e. multiple pay and receive legs). In legal terms these form a single contract but these have been split to reflect the relevant risks implied on an individual leg basis. Where the risks could be consolidated (i.e. pay RPI receive floating) this has been done to best reflect the net impact of the instruments.

14 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.

Table 4J -Base expenditure analysis for the 12 months ended 31 March 2021 - 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	8.599	4.353	0.241	8.067	15.677	36.937
2 Income treated as negative expenditure	£m	(0.122)	(0.037)	(0.007)	(0.163)	(0.317)	(0.646)
3 Bulk supply	£m	-	-	-	2.170	0.140	2.310
4 Renewals expensed in year (infrastructure)	£m	-	-	-	-	32.820	32.820
5 Renewals expensed in year (non-infrastructure)	£m	-	-	-	-	-	-
6 Other operating expenditure	£m	12.632	2.672	0.068	26.109	67.567	109.048
7 Local authority and Cumulo rates	£m	2.545	0.431	-	5.913	31.241	40.130
Service Charges							
8 Canal & River Trust abstraction charges/ discharge consents	£m	-	-	-	-	-	-
9 Environment Agency / NRW abstraction charges/ discharge consents	£m	-	-	-	-	-	-
10 Other abstraction charges/ discharge consents	£m	9.869	-	-	0.507	-	10.376
Other operating expenditure							
11 Costs associated with Traffic Management Act	£m	-	-	-	-	1.890	1.890
12 Costs associated with lane rental schemes	£m	-	-	-	-	-	-
13 Statutory water softening	£m	-	-	-	-	-	-
14 Total base operating expenditure	£m	33.523	7.419	0.302	42.603	149.018	232.865
Capital expenditure							
15 Maintaining the long term capability of the assets - infra	£m	0.268	0.347	-	-	6.826	7.441
16 Maintaining the long term capability of the assets - non-infra	£m	5.735	0.376	0.533	14.370	28.025	49.039
17 Total base capital expenditure	£m	6.003	0.723	0.533	14.370	34.851	56.480
Traffic Management Act							
18 Projects incurring costs associated with Traffic Management Act	nr	-	-	-	-	32,514.000	32,514.000

Maintenance non-infra – Water resources

- 1** This year-on-year reduction was driven principally by a circa £3.5m reduction in borehole replacement activities (again at least partially driven by timing variances within the respective AMPs), and £2.6m of non-recurring spend on a strategic regional water resources model delivered as part of the overall Water Resources Management Plan strategy.
- 2** Additionally, spend on a number of smaller schemes in 2019/20 outweighed the equivalent expenditure in 2020/21

Maintenance non-infra – Water treatment

- 3** The reduction in annual expenditure on water treatment was driven principally by a number of large maintenance schemes at several water treatment works in 2019/20. This included significant schemes at our treatment works in Ardleigh (£3.5m), Alton (£2.8m) and Great Wrating (£2.1m), alongside a number of smaller schemes where expenditure was only partially replicated in the following financial year.

- 4** The timing of these years in their respective AMPs will have had a material impact on the stages of delivery of large water treatment maintenance schemes meaning that a larger number of such deliveries were in their costly build phases during year-5 of AMP6 as opposed to those at a similar stage of completion in year-1 of AMP7.

Maintenance infra – Treated water distribution

- 5** The year-on-year reduction seen in capital maintenance spend on our treated water distribution networks is primarily driven by non-recurring spend incurred in 2019/20 aimed at further reducing our network leakage. This includes, but is not limited to, £6.5m on additional leakage sensor and monitor installation and strategic pressure management, £2.5m of further leakage mitigation and optimisation activities and c£2.3m more spend on maintaining our district meter areas than seen in 2020/21.

- 6** In addition to this were various substantial mains replacements completed in 2019/20 which were only partially replicated in the following year, accounting for some £5m of the additional spend seen in the former. This was at least in part due to the different stages of the AMP. Larger more complex and more expensive jobs tend to be completed in the later years of AMP periods with more design and survey work taking place in the early years.

Table 4K -Base expenditure analysis for the 12 months ended 31 March 2021 - 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	8.489	3.058	1.300	27.539	1.709	0.003	(0.992)	-	41.106
2	Income treated as negative expenditure	£m	(0.063)	(0.023)	(0.010)	(0.379)	-	-	(6.757)	(2.200)	(9.432)
3	Bulk discharge	£m	-	-	-	-	-	-	-	-	-
4	Renewals expensed in year (infrastructure)	£m	13.290	4.788	2.036	-	-	-	-	-	20.114
5	Renewals expensed in year (non-infrastructure)	£m	-	-	-	-	-	-	-	-	-
6	Other operating expenditure	£m	37.900	14.405	7.361	70.144	4.141	18.458	28.634	8.658	189.701
7	Local authority and Cumulo rates	£m	0.109	0.039	0.017	20.077	1.120	0.064	3.196	0.027	24.649

Service Charges											
8	Canal & River Trust discharge consents	£m	-	-	-	-	-	-	-	-	-
9	Environment Agency / NRW discharge consents	£m	1.424	0.513	0.218	5.930	0.141	-	0.088	-	8.314
10	Other discharge charges / permits	£m	-	-	-	-	-	-	-	-	-

Other expenditure											
11	Costs associated with Traffic Management Act	£m	0.119	0.043	0.018	0.002	-	-	-	-	0.182
12	Costs associated with lane rental schemes	£m	-	-	-	-	-	-	-	-	-
13	Costs associated with Industrial Emissions Directive	£m	-	-	-	-	-	-	-	-	-

14	Total base operating expenditure	£m	61.268	22.823	10.940	123.313	7.111	18.525	24.169	6.485	274.634
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Capital expenditure											
15	Maintaining the long term capability of the assets - infra	£m	14.883	5.361	2.279	-	-	-	-	-	22.523
16	Maintaining the long term capability of the assets - non-infra	£m	6.820	2.457	1.045	93.651	4.929	4.163	11.650	1.558	126.273
17	Total base capital expenditure	£m	21.703	7.818	3.324	93.651	4.929	4.163	11.650	1.558	148.796

Traffic Management Act									
18	Projects incurring costs associated with Traffic Management Act	nr	2,322	-	-	-	-	-	2,322

Opex

See Table 4E for opex commentary.

Maintenance infra – Sewage collection (total)

1 The increase seen here was driven principally by additional spend on proactive network maintenance, CCTV and relining activities driven by a focus on pollution incidents reduction. There was also an increase in activity in response to the intense wet weather periods observed in 2020/21, where further CCTV investigations and relining were required to repair parts of our network damaged by flooding.

Maintenance non-infra – Sewage collection (total)

2 Whilst variances exist across all areas of non-infra sewage maintenance activity, significant additional items incurred in 2019/20 not fully replicated in 2020/21 include building our urban drainage models (£1.3m), work at Pyewipe TPS (£1.2m) and an increased level of network optimisation activity seen in the earlier year.

Table 4L - Enhancement Expenditure - Wholesale Water

Line description	Units	Water resources	Expenditure in report year			Total
			Raw water transport	Raw water storage	Water treatment	
EA/NRW environmental programme (WINEP/NEP)						
1 Ecological improvements at abstractions	Capex	£m	0.031	-	-	-
2 Ecological improvements at abstractions	Opex	£m	-	-	-	-
3 Ecological improvements at abstractions	Totex	£m	0.031	-	-	0.031
4 Eels Regulations (measures at intakes)	Capex	£m	(1.913)	-	-	(1.913)
5 Eels Regulations (measures at intakes)	Opex	£m	-	-	-	0.005
6 Eels Regulations (measures at intakes)	Totex	£m	(1.913)	-	-	(1.908)
7 Invasive Non Native Species	Capex	£m	0.015	-	-	0.015
8 Invasive Non Native Species	Opex	£m	0.168	-	-	0.168
9 Invasive Non Native Species	Totex	£m	0.183	-	-	0.183
10 Drinking Water Protected Areas (schemes)	Capex	£m	0.318	-	-	0.318
11 Drinking Water Protected Areas (schemes)	Opex	£m	(0.005)	-	-	(0.005)
12 Drinking Water Protected Areas (schemes)	Totex	£m	0.313	-	-	0.313
13 Water Framework Directive measure	Capex	£m	-	-	-	-
14 Water Framework Directive measure	Opex	£m	-	-	-	-
15 Water Framework Directive measure	Totex	£m	-	-	-	-
16 Investigations	Capex	£m	0.132	-	0.243	-
17 Investigations	Opex	£m	-	-	-	-
18 Investigations	Totex	£m	0.132	-	0.243	-
19 Total environmental programme expenditure	Totex	£m	(1.254)	-	0.243	0.005 (1.006)

Line description	Units	Water resources	Expenditure in report year			Total
			Raw water transport	Raw water storage	Water treatment	
Supply-demand balance						
20	Supply-side improvements delivering benefits in 2020-2025	Capex	£m	(0.084)	-	0.511
21	Supply-side improvements delivering benefits in 2020-2025	Opex	£m	-	-	-
22	Supply-side improvements delivering benefits in 2020-2025	Totex	£m	(0.084)	-	0.511
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	-	-	-
26	Leakage improvements delivering benefits in 2020-2025	Capex	£m	-	-	12,609
27	Leakage improvements delivering benefits in 2020-2025	Opex	£m	-	-	-
28	Leakage improvements delivering benefits in 2020-2025	Totex	£m	-	-	12,609
29	Internal interconnectors delivering benefits in 2020-2025	Capex	£m	-	-	33,788
30	Internal interconnectors delivering benefits in 2020-2025	Opex	£m	-	-	-
31	Internal interconnectors delivering benefits in 2020-2025	Totex	£m	-	-	33,788
32	Supply demand balance improvements delivering benefits starting from 2026	Capex	£m	-	1.140	-
33	Supply demand balance improvements delivering benefits starting from 2026	Opex	£m	-	-	-
34	Supply demand balance improvements delivering benefits starting from 2026	Totex	£m	-	1.140	-
35	Strategic regional water resources	Capex	£m	1.137	-	1.137
36	Strategic regional water resources	Opex	£m	-	-	-
37	Strategic regional water resources	Totex	£m	1.137	-	1.137
38	Total supply demand expenditure	Totex	£m	1,053	-	1,651
					46,402	49,106

Line description	Units	Water resources	Expenditure in report year			
			Raw water transport	Raw water storage	Water treatment	Total

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	Total metering expenditure	Totex	£m	-	-
				1.032	1.032

Line description	Units	Water resources	Expenditure in report year			Total	
			Water network+		Treated water distribution		
			Raw water transport	Raw water storage			
Other enhancement							
49 Improvements to taste, odour and colour	Capex	£m	-	-	-	-	
50 Improvements to taste, odour and colour	Opex	£m	-	-	-	-	
51 Improvements to taste, odour and colour	Totex	£m	-	-	-	-	
52 Meeting lead standards	Capex	£m	-	-	1.085	0.616	
53 Meeting lead standards	Opex	£m	-	-	-	1.701	
54 Meeting lead standards	Totex	£m	-	-	-	0.027	
55 Addressing raw water deterioration	Capex	£m	-	-	1.085	0.643	
56 Addressing raw water deterioration	Opex	£m	-	-	9.255	9.255	
57 Addressing raw water deterioration	Totex	£m	-	-	-	9.255	
58 Improvements to river flow	Capex	£m	2.135	-	-	2.135	
59 Improvements to river flow	Opex	£m	0.050	-	-	0.050	
60 Improvements to river flow	Totex	£m	2.185	-	-	2.185	
61 Enhancing resilience to low probability high consequence events	Capex	£m	0.097	(0.033)	9.884	1.283	
62 Enhancing resilience to low probability high consequence events	Opex	£m	-	-	-	-	
63 Enhancing resilience to low probability high consequence events	Totex	£m	0.097	(0.033)	9.884	1.283	
64 Security - SEMD	Capex	£m	-	-	-	-	
65 Security - SEMD	Opex	£m	-	-	-	-	
66 Security - SEMD	Totex	£m	-	-	-	-	
67 Security - Non-SEMD	Capex	£m	-	-	-	-	
68 Security - Non-SEMD	Opex	£m	-	-	-	-	
69 Security - Non-SEMD	Totex	£m	-	-	-	-	

Line description	Units	Water resources	Expenditure in report year			Total
			Raw water transport	Raw water storage	Water treatment	
70 Low Pressure (DG2)	Capex	£m	-	-	-	3.152
71 Low Pressure (DG2)	Opex	£m	-	-	-	0.141
72 Replacement Enhancement Metering (Smart)	Capex	£m	-	-	-	7.611
73 Replacement Enhancement Metering (Smart)	Opex	£m	-	-	-	-
74 Smart Metering Infrastructure	Capex	£m	-	-	-	9.748
75 Smart Metering Infrastructure	Opex	£m	-	-	-	-
76 Additional line 4	Capex	£m	-	-	-	-
77 Additional line 4	Opex	£m	-	-	-	-
78 Additional line 5	Capex	£m	-	-	-	-
79 Additional line 5	Opex	£m	-	-	-	-
80 Total other enhancement expenditure	Totex	£m	2.282	(0.033)	-	20.224
Total enhancement						
81 Total enhancement expenditure	Capex	£m	1.868	(0.033)	-	22.118
82 Total enhancement expenditure	Opex	£m	0.213	-	-	0.173
83 Total enhancement expenditure	Totex	£m	2.081	(0.033)	-	22.118
						70.017
						94.183

1 There has been no cumulative expenditure on any of the reported lines for schemes completed in the report year.

Enhancement expenditure by purpose

- 2 Figures in this table are at price of the day.
- 3 The above table excludes £1.1 million of 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 £2.2 million in table 4D.
- 4 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.
- 5 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.
- 6 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.
- 7 Schemes addressing low pressure have been separately reported in 4L.70 Additional line 1 - Low Pressure (DG2).
- 8 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.
- 9 As per Ofwat guidance, we only report cumulative expenditure on leakage improvements delivering benefits in the current AMP. No such outputs were delivered in 2020/21 so no expenditure is reported here.

Table 4M - Enhancement Expenditure - Wholesale Wastewater

Line description	Units	DPS	Wastewater network+				Expenditure in report year			
			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	3	-	-	-	-	-	-	-
2 Conservation drivers	Opex	£m	3	-	-	-	-	-	-	-
3 Conservation drivers	Totex	£m	3	-	-	-	-	-	-	-
4 Event Duration Monitoring at intermittent discharges	Capex	£m	3	0.213	0.077	0.033	-	-	-	0.323
5 Event Duration Monitoring at intermittent discharges	Opex	£m	3	-	-	-	-	-	-	-
6 Event Duration Monitoring at intermittent discharges	Totex	£m	3	0.213	0.077	0.033	-	-	-	0.323
7 Flow monitoring at sewage treatment works	Capex	£m	3	-	-	-	1.010	0.053	-	1.063
8 Flow monitoring at sewage treatment works	Opex	£m	3	-	-	-	-	-	-	-
9 Flow monitoring at sewage treatment works	Totex	£m	3	-	-	-	1.010	0.053	-	1.063
10 Schemes to increase flow to full treatment	Capex	£m	3	-	-	-	1.940	0.102	-	2.042
11 Schemes to increase flow to full treatment	Opex	£m	3	-	-	-	0.033	-	-	0.033
12 Schemes to increase flow to full treatment	Totex	£m	3	-	-	-	1.973	0.102	-	2.075
13 Schemes to increase storm tank capacity	Capex	£m	3	-	-	-	14.865	0.782	-	15.647
14 Schemes to increase storm tank capacity	Opex	£m	3	-	-	-	0.003	-	-	0.003
15 Schemes to increase storm tank capacity	Totex	£m	3	-	-	-	14.868	0.782	-	15.650
16 Storage schemes to reduce spill frequency at CSOs, storm tanks, etc	Capex	£m	3	-	-	-	-	-	-	-
17 Storage schemes to reduce spill frequency at CSOs, storm tanks, etc	Opex	£m	3	-	-	-	-	-	-	-

18	Storage schemes to reduce spill frequency at CSOs, storm tanks, etc	Totex	£m	3	-	-	-	-	-	-	-
19	Chemical removals schemes	Capex	£m	3	-	-	-	-	-	-	-
20	Chemical removals schemes	Opex	£m	3	-	-	-	-	-	-	-
21	Chemical removals schemes	Totex	£m	3	-	-	-	-	-	-	-
22	Chemicals monitoring/ investigations/ options appraisals	Capex	£m	3	-	-	0.440	0.023	-	-	0.463
23	Chemicals monitoring/ investigations/ options appraisals	Opex	£m	3	-	-	-	-	-	-	-
24	Chemicals monitoring/ investigations/ options appraisals	Totex	£m	3	-	-	0.440	0.023	-	-	0.463
25	Nitrogen removal	Capex	£m	3	-	-	-	-	-	-	-
26	Nitrogen removal	Opex	£m	3	-	-	-	-	-	-	-
27	Nitrogen removal	Totex	£m	3	-	-	-	-	-	-	-
28	Phosphorus removal	Capex	£m	3	-	-	19.316	1.017	-	-	20.333
29	Phosphorus removal	Opex	£m	3	-	-	-	-	-	-	-
30	Phosphorus removal	Totex	£m	3	-	-	19.316	1.017	-	-	20.333
31	Reduction of sanitary parameters	Capex	£m	3	-	-	4.283	0.225	-	-	4.508
32	Reduction of sanitary parameters	Opex	£m	3	-	-	-	-	-	-	-
33	Reduction of sanitary parameters	Totex	£m	3	-	-	4.283	0.225	-	-	4.508
34	UV disinfection (or similar)	Capex	£m	3	0.073	0.026	0.011	0.117	0.006	-	0.233
35	UV disinfection (or similar)	Opex	£m	3	-	-	-	-	-	-	-
36	UV disinfection (or similar)	Totex	£m	3	0.073	0.026	0.011	0.117	0.006	-	0.233
37	Investigations	Capex	£m	3	0.263	0.095	0.040	2.541	0.134	-	3.073
38	Investigations	Opex	£m	3	-	-	-	-	-	-	-
39	Investigations	Totex	£m	3	0.263	0.095	0.040	2.541	0.134	-	3.073
40	Total environmental programme expenditure	Totex	£m	3	0.549	0.198	0.084	44.548	2.342	-	47.721

Line description	Units	DPS	Expenditure in report year									
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal	Total	
Other enhancement												
41 Growth at sewage treatment works (excluding sludge treatment)	Capex	£m	3	-	-	-	6,769	0,356	-	-	7,125	
42 Growth at sewage treatment works (excluding sludge treatment)	Opex	£m	3	-	-	-	-	-	-	-	-	
43 Growth at sewage treatment works (excluding sludge treatment)	Totex	£m	3	-	-	-	6,769	0,356	-	-	7,125	
44 Reduce flooding risk for properties	Capex	£m	3	3,594	1,295	0,550	-	-	-	-	5,439	
45 Reduce flooding risk for properties	Opex	£m	3	0,183	-	-	-	-	-	-	0,183	
46 Reduce flooding risk for properties	Totex	£m	3	3,777	1,295	0,550	-	-	-	-	5,622	
47 First time sewerage	Capex	£m	3	0,811	0,292	0,124	(0,014)	(0,001)	-	-	1,212	
48 First time sewerage	Opex	£m	3	0,024	-	-	-	-	-	-	0,024	
49 First time sewerage	Totex	£m	3	0,835	0,292	0,124	(0,014)	(0,001)	-	-	1,236	
50 Sludge enhancement (quality)	Capex	£m	3	-	-	-	-	-	-	-	0,572	
51 Sludge enhancement (quality)	Opex	£m	3	-	-	-	-	-	-	-	-	
52 Sludge enhancement (quality)	Totex	£m	3	-	-	-	-	-	-	-	0,572	
53 Sludge enhancement (growth)	Capex	£m	3	-	-	-	-	-	-	-	-	
54 Sludge enhancement (growth)	Opex	£m	3	-	-	-	-	-	-	-	-	
55 Sludge enhancement (growth)	Totex	£m	3	-	-	-	-	-	-	-	-	
56 Odour	Capex	£m	3	0,486	0,175	0,074	0,023	0,001	-	0,055	-	0,814
57 Odour	Opex	£m	3	-	-	-	-	-	-	-	-	
58 Odour	Totex	£m	3	0,486	0,175	0,074	0,023	0,001	-	0,055	-	0,814

59	Enhancing resilience to low probability high consequence events	Capex	£m	3	-	-	2.393	0.126	-	-	2.519
60	Enhancing resilience to low probability high consequence events	Opex	£m	3	-	-	-	-	-	-	-
61	Enhancing resilience to low probability high consequence events	Totex	£m	3	-	-	2.393	0.126	-	-	2.519
62	Security - SEMD	Capex	£m	3	-	-	-	-	-	-	-
63	Security - SEMD	Opex	£m	3	-	-	-	-	-	-	-
64	Security - SEMD	Totex	£m	3	-	-	-	-	-	-	-
65	Security - Non-SEMD	Capex	£m	3	-	-	-	-	-	-	-
66	Security - Non-SEMD	Opex	£m	3	-	-	-	-	-	-	-
67	Security - Non-SEMD	Totex	£m	3	-	-	-	-	-	-	-
68	NEP Groundwater	Capex	£m	3	-	-	0.020	0.001	-	-	0.021
69	Additional line 1	Opex	£m	3	-	-	-	-	-	-	-
70	Additional line 2	Capex	£m	3	-	-	-	-	-	-	-
71	Additional line 2	Opex	£m	3	-	-	-	-	-	-	-
72	Additional line 3	Capex	£m	3	-	-	-	-	-	-	-
73	Additional line 3	Opex	£m	3	-	-	-	-	-	-	-
74	Additional line 4	Capex	£m	3	-	-	-	-	-	-	-
75	Additional line 4	Opex	£m	3	-	-	-	-	-	-	-
76	Additional line 5	Capex	£m	3	-	-	-	-	-	-	-
77	Additional line 5	Opex	£m	3	-	-	-	-	-	-	-
78	Total other enhancement expenditure	Totex	£m	3	5.098	1.762	0.748	9.191	0.483	0.627	17.909

Total enhancement

79	Total enhancement expenditure	Capex	£m	3	5.440	1.960	0.832	53.703	2.825	0.627	65.387
80	Total enhancement expenditure	Opex	£m	3	0.207	-	-	0.036	-	-	0.243
81	Total enhancement expenditure	Totex	£m	3	5.647	1.960	0.832	53.739	2.825	0.627	65.630

19	Chemical removals schemes	Capex	£m	3	-	-	-	-	-	-	-
20	Chemical removals schemes	Opex	£m	3	-	-	-	-	-	-	-
21	Chemical removals schemes	Totex	£m	3	-	-	-	-	-	-	-
22	Chemicals monitoring/ investigations/ options appraisals	Capex	£m	3	-	-	-	-	-	-	-
23	Chemicals monitoring/ investigations/ options appraisals	Opex	£m	3	-	-	-	-	-	-	-
24	Chemicals monitoring/ investigations/ options appraisals	Totex	£m	3	-	-	-	-	-	-	-
25	Nitrogen removal	Capex	£m	3	-	-	-	-	-	-	-
26	Nitrogen removal	Opex	£m	3	-	-	-	-	-	-	-
27	Nitrogen removal	Totex	£m	3	-	-	-	-	-	-	-
28	Phosphorus removal	Capex	£m	3	-	-	-	8.655	0.456	-	9.111
29	Phosphorus removal	Opex	£m	3	-	-	-	-	-	-	-
30	Phosphorus removal	Totex	£m	3	-	-	-	8.655	0.456	-	9.111
31	Reduction of sanitary parameters	Capex	£m	3	-	-	-	0.785	0.041	-	0.826
32	Reduction of sanitary parameters	Opex	£m	3	-	-	-	-	-	-	-
33	Reduction of sanitary parameters	Totex	£m	3	-	-	-	0.785	0.041	-	0.826
34	UV disinfection (or similar)	Capex	£m	3	-	-	-	-	-	-	-
35	UV disinfection (or similar)	Opex	£m	3	-	-	-	-	-	-	-
36	UV disinfection (or similar)	Totex	£m	3	-	-	-	-	-	-	-
37	Investigations	Capex	£m	3	-	-	-	-	-	-	-
38	Investigations	Opex	£m	3	-	-	-	-	-	-	-
39	Investigations	Totex	£m	3	-	-	-	-	-	-	-
40	Total environmental programme expenditure	Totex	£m	3	-	-	-	-	-	-	-

Line description	Units	DPS	Cumulative expenditure on schemes completed in the report year						
			Wastewater network+			Bioresources			
			Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge transport	Sludge disposal
Other enhancement									
Growth at sewage treatment works (excluding sludge treatment)	Capex	£m	3	-	-	-	-	-	-
Growth at sewage treatment works (excluding sludge treatment)	Opex	£m	3	-	-	-	-	-	-
Growth at sewage treatment works (excluding sludge treatment)	Totex	£m	3	-	-	-	-	-	-
Reduce flooding risk for properties	Capex	£m	3	0.309	0.111	0.047	-	-	0.467
Reduce flooding risk for properties	Opex	£m	3	-	-	-	-	-	-
Reduce flooding risk for properties	Totex	£m	3	0.309	0.111	0.047	-	-	0.467
First time sewerage	Capex	£m	3	-	-	-	-	-	-
First time sewerage	Opex	£m	3	-	-	-	-	-	-
First time sewerage	Totex	£m	3	-	-	-	-	-	-
Sludge enhancement (quality)	Capex	£m	3	-	-	-	-	-	-
Sludge enhancement (quality)	Opex	£m	3	-	-	-	-	-	-
Sludge enhancement (quality)	Totex	£m	3	-	-	-	-	-	-
Sludge enhancement (growth)	Capex	£m	3	-	-	-	-	-	-
Sludge enhancement (growth)	Opex	£m	3	-	-	-	-	-	-
Sludge enhancement (growth)	Totex	£m	3	-	-	-	-	-	-
Odour	Capex	£m	3	-	-	-	-	-	-
Odour	Opex	£m	3	-	-	-	-	-	-
Odour	Totex	£m	3	-	-	-	-	-	-

59	Enhancing resilience to low probability high consequence events	Capex	£m	3	-	-	-	-	-
60	Enhancing resilience to low probability high consequence events	Opex	£m	3	-	-	-	-	-
61	Enhancing resilience to low probability high consequence events	Totex	£m	3	-	-	-	-	-
62	Security - SEMD	Capex	£m	3	-	-	-	-	-
63	Security - SEMD	Opex	£m	3	-	-	-	-	-
64	Security - SEMD	Totex	£m	3	-	-	-	-	-
65	Security - Non-SEMD	Capex	£m	3	-	-	-	-	-
66	Security - Non-SEMD	Opex	£m	3	-	-	-	-	-
67	Security - Non-SEMD	Totex	£m	3	-	-	-	-	-
68	NEP Groundwater	Capex	£m	3	-	-	-	-	-
69	Additional line 1	Opex	£m	3	-	-	-	-	-
70	Additional line 2	Capex	£m	3	-	-	-	-	-
71	Additional line 3	Opex	£m	3	-	-	-	-	-
72	Additional line 3	Capex	£m	3	-	-	-	-	-
73	Additional line 3	Opex	£m	3	-	-	-	-	-
74	Additional line 4	Capex	£m	3	-	-	-	-	-
75	Additional line 4	Opex	£m	3	-	-	-	-	-
76	Additional line 5	Capex	£m	3	-	-	-	-	-
77	Additional line 5	Opex	£m	3	-	-	-	-	-
78	Total other enhancement expenditure	Totex	£m	3	-	-	-	-	-
Total enhancement									
79	Total enhancement expenditure	Capex	£m	3	-	-	-	-	-
80	Total enhancement expenditure	Opex	£m	3	-	-	-	-	-
81	Total enhancement expenditure	Totex	£m	3	-	-	-	-	-

Enhancement capital expenditure by purpose

- 1** This is Enhancement expenditure for wholesale Wastewater services, and is stated at price of the day.
- 2** No enhancement expenditure was incurred on schemes fulfilling third-party agreements in the current year.
- 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 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.
- 4** 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.
- 5** 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.
- 6** 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.
- 7** An allocation was required for the foul, surface water drainage and highway drainage split. The allocation was based on flow estimate models provided by Anglian Water's modelling team.
- 8** An allocation was also required for the sewage treatment and disposal and the imported sludge liquor treatment. This allocation is based on a population equivalent calculation.
- 9** As per Ofwat guidance, we only report cumulative expenditure on selected output types.
- 10** On certain schemes we will incur additional expenditure on schemes where the output has been claimed in a prior year. Such spend includes additional landscaping, ancillary asset, telemetry and compensation costs and has been excluded from table 4M. Such expenditure on reported lines was immaterial in the current year.

Table 4N - Developer services expenditure for the 12 months ended 31st March 2021 - water resources and water network+

Line description	Units	Expenditure in report year						
		Water resources	Water network+				Total	
			Raw water transport	Raw water storage	Water treatment	Treated water distribution		
1 New connections	Capex	£m	-	-	-	-	16.291	16.291
2 New connections	Opex	£m	-	-	-	-	0.320	0.320
3 Requisition mains	Capex	£m	-	-	-	-	18.688	18.688
4 Requisition mains	Opex	£m	-	-	-	-	0.367	0.367
5 Infrastructure network reinforcement	Capex	£m	-	-	-	-	17.425	17.425
6 Infrastructure network reinforcement	Opex	£m	-	-	-	-	0.322	0.322
7 s185 diversions	Capex	£m	-	-	-	-	3.389	3.389
8 s185 diversions	Opex	£m	-	-	-	-	0.063	0.063
9 Other price controlled activities	Capex	£m	-	-	-	-	-	-
10 Other price controlled activities	Opex	£m	-	-	-	-	-	-
11 Total developer services expenditure - capex	Capex	£m	-	-	-	-	55.793	55.793
12 Total developer services expenditure - opex	Opex	£m	-	-	-	-	1.072	1.072
13 Total developer services expenditure	Totex	£m	-	-	-	-	56.865	56.865

- 1 New connections output fell 24 per cent in 2020/21 from 24,924 in 2019/20 to 19,088 in 2020-21. The output is dependent on the demand in the housing market, which was severely affected by the Covid-19 restrictions at the start of the year. It is likely that there will be a continued recovery in 2021-22 where we will see output increasing again.
- 2 For requisition water mains, we commissioned 68.08km of onsite mains delivered by our Partners and a further 58.2km delivered and commissioned by Self-lay Providers; 10 per cent down on Year 5 where 139.7km of onsite mains were commissioned.
- 3 S185 Diversions – these schemes can be driven by local authority spend as well as developer activity. As such there no impact from Covid-19 throughout Year 1 of AMP7; 2019/20 we commissioned 1.9km of diversions compared with 5.4km in 2020-21; 3.7km developer driven, 1.6km through local authorities; an aggregated increase of 282 per cent on Year 5 of AMP6.

Table 40 - Developer services expenditure for the 12 months ended 31st March 2021 - 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	
New connections and requisition sewers	Capex £m	3.865	-	-	-	-	-	-	-	3.865
New connections and requisition sewers	Opex £m	0.076	-	-	-	-	-	-	-	0.076
Infrastructure network reinforcement	Capex £m	11.429	-	-	-	-	-	-	-	11.429
Infrastructure network reinforcement	Opex £m	0.237	-	-	-	-	-	-	-	0.237
s185 diversions	Capex £m	1.160	-	-	-	-	-	-	-	1.160
s185 diversions	Opex £m	0.024	-	-	-	-	-	-	-	0.024
Other price controlled activities	Capex £m	-	-	-	-	-	-	-	-	-
Other price controlled activities	Opex £m	-	-	-	-	-	-	-	-	-
Total developer services expenditure	Capex £m	16.454	-	-	-	-	-	-	-	16.454
Total developer services expenditure	Opex £m	0.337	-	-	-	-	-	-	-	0.337
Total developer services expenditure	Totex £m	16.791	-	-	-	-	-	-	-	16.791

1 New wastewater connections fell in line with new water connections; 22,254 for Year 1, down from 24,258 in 2019/20. This was the result of the restrictions in the first quarter of the year due to Covid-19.

2 The number of new properties connecting to the sewerage network will continue grow as we move into 2021/22; we saw a 3.4 per cent increase in wastewater connection applications throughout 2020/21. In Year 1, we approved a total of 165 s185 sewer diversions compared to 161 throughout 2019/20.

Table 4P - Expenditure on non-price control diversions for the 12 months ended 31 March 2021

Line description	Units	Water resources	Water network+	Wastewater network+	Bioresources	Total
Non-price control diversions						
1 DivERSIONS - NRSWA	£m	-	(0.098)	0.106	-	0.008
2 DivERSIONS - other non-price control	£m	0.004	1.636	1.768	-	3.408
3 Total expenditure on non-price control diversions	£m	0.004	1.538	1.874	-	3.416

1 Reported expenditure reflects the size of the infrastructure programme and varies year to year. We expect the size of the 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	16600	19588	36188
2 New connections (business – excluding NAVs)	nr	1155	1363	2518
3 Total new connections served by incumbent	nr	17755	20951	38706
4 New connections – SLPs	nr	7092	8369	15461
Properties volume data				
5 New properties (residential - excluding NAVs)	nr	17933	21161	39094
6 New properties (business - excluding NAVs)	nr	1155	1363	2518
7 Total new properties served by incumbent	nr	19088	22524	41612
8 New residential properties served by NAVs	nr	831	700	1531
9 New business properties served by NAVs	nr	3	3	6
10 Total new properties served by NAVs	nr	834	703	1537
11 Total new properties	nr	19922	23227	43149
12 New properties – SLP connections	nr	7092	8369	15461
New water mains data				
13 Length of new mains (km) - requisitions	nr	68	-	-
14 Length of new mains (km) - SLPs	nr	58	-	-

New connections, properties and length of Mains (4Q.1 - 4Q.14)

- 1 In a year where the housing market was severely impacted by the Covid-19 pandemic the number of new properties connected to our network was 19,922, including those completed by new and variation companies (NAVs). This is a reduction of 4,322 (-17.8 per cent) on 2019/20.
- 2 Self-lay Providers (SLPs) accounted for 40 per cent of the total connections and 46 per cent of the new water mains laid on development sites.
- 3 NAVs connected 4 per cent of all new properties in the Anglian Water region in the year.

Table 4R - Connected properties, customers and population

Line description	Units	Unmeasured	Measured	Total	Voids
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Customer numbers - average during the year					
1	Residential water only customers	000s	89.423	149.559	238.982
2	Residential wastewater only customers	000s	236.629	603	839.629
3	Residential water and wastewater customers	000s	231.946	1575.097	1807.043
4	Total residential customers	000s	557.998	2327.656	2885.654
5	Business water only customers	000s	0.527	32.882	33.409
6	Business wastewater only customers	000s	1.401	33.182	34.583
7	Business water & wastewater customers	000s	0.777	68.874	69.651
8	Total business customers	000s	2.705	134.938	137.643
9	Total customers	000s	560.703	2462.594	3023.297
					116.142

Line description	Units	Water			Wastewater		
		Unmeasured	Measured	Total	Unmeasured	Measured	Total

Property numbers - average during the year							
10	Residential properties billed	000s	321.369	1724.656	2046.025	468.575	2178.097
11	Residential void properties	000s	-	-	53.678	-	-
12	Total connected residential properties	000s	-	-	2099.703	-	-
13	Business properties billed	000s	1.304	101.756	103.060	2.178	102.056
14	Business void properties	000s	-	-	26.261	-	-
15	Total connected business properties	000s	-	-	129.321	-	-
16	Total connected properties	000s	-	-	2229.024	-	-
							2852.389

Line description	Units	Dps	Water				
			Unmeasured		Measured		
No meter	Basic meter	Smart meter	Total	No meter	Basic meter	Smart meter	Total

**Property and meter numbers -
at end of year**

17 Total new residential properties connected in year	000s	3	2,354	0	0	2,354	0
18 Total new business properties connected in year	000s	3	0,425	0	0	0,425	0
19 Residential properties billed at year end	000s	3	197,889	103,16	15,598	316,647	0
20 Residential void properties at year end	000s	3	-	-	-	6,551	-
21 Total connected residential properties at year end	000s	3	-	-	-	323,198	-
22 Business properties billed at year end	000s	3	1,354	0	0	1,354	0
23 Business void properties at year end	000s	3	-	-	-	0,668	-
24 Total connected business properties at year end	000s	3	-	-	-	2,022	-
25 Total connected properties at year end	000s	3	-	-	-	325,220	-

Line description	Units	Dps	Water	Wastewater
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Population data

26 Resident population	000s	3	4837.755	6316.163
27 Business population	000s	3	-	86.707

Customer numbers - average during the year - unmeasured, measured and total columns (4R.1-8)

1 The billed customer numbers in lines one to four were previously reported in table 2F. 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 lower due to the impact of Covid-19. There has also been an increase in the numbers as a result of void properties moving to occupied during the year.

2 In lines five to eight we report the number of business properties for which we have reported revenue. They are not billed by Anglian Water. 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. This is the first year that this split of business customers has been required so there is no comparison available.

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 that would have been billed in the year has decreased since last year. This is largely due to void periods for a number of properties as a result of the first lockdown (and, to a lesser extent, subsequent ones) which meant that many businesses were required to shut. The effect of this can be seen in an increase in voids.

Residential void properties (4R.11)

4 The number of measured and unmeasured household voids has reduced. This reduction has resulted from improved processes and an increase in void investigation activities that have identified and billed false voids. The void totals include accounts where other water company's bill on our behalf. Those numbers are provided to us by those companies and are assumed to be correct.

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.

6 Data has been taken from two reports published by MOSL. The first is the Market Settlement Report which is published for each calendar month with each month being updated on five scheduled dates over a 16-month period. This report contains Retailer Wholesale charges for the month and details the status of a registered business premises e.g. occupied or vacant. The second is a Market Data Set report which is available from MOSL on any day in a calendar year. This report includes details of all the Market Data set on that day and includes occupied or vacancy status. Data from both reports have been used to derive the NHH void figures for 2020/21 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.

8 The number of water Non-Household voids in the AWS region on 31st March 2021 was 23 thousand, which is an increase of 4 thousand from last year. This trend is also consistent with the nationwide market data which shows a significant increase (circa 200 thousand) in non-household vacant premises during the first lockdown period followed by a return to similar levels pre-Covid-19.

9 The main reason for this increase were the impact of Covid-19 and the lockdown periods throughout the year. In addition, Ofwat implemented several measures to help mitigate the risk of overestimated Market Settlement charges being billed to Retailers. One such measure was to allow Retailers to switch a premise from occupied to "temporary vacant". As a result of this market change approximately 30 thousand additional premises in our region were switched to temporary vacant status until the end of September when Ofwat withdrew the measure. After this date premises were reinstated to either occupied or vacant from 1st October (or an earlier date if Retailers were able to validate this).

10 We have continued to assess and validate changes to occupied status in the market since October. This work is expected to continue into 2021/22 as we seek to ensure the application of temporary vacancy does not create an enduring issue in the market.

New properties connected in year (4R.17 and 4R.18)

11 The table shows that a proportion of our new water properties had no meter at the end of the year. This is purely a timing issue. All new properties are metered and charged on a measured basis.

Residential and business properties billed at year end (4R.19 and 4R.22)

12 Meters have been split into the type of meter installed at the property and includes 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 from previous periods relating to trial areas.

Resident population (4R.26)

13 Population is calculated based upon Anglian Water SAP customer information and ONS population and local authority household data. Population is derived using the estimation of households we serve as a percentage of the Office of National Statistics (ONS) property totals, as applied to the ONS Local Authority and Unitary Authority (LAUA) property and population assessments. Additional account is taken of non-household communal population, which is derived using census data. The estimate of household population is based on the 2012 (2018 updated) sub-national population and the December 2018 household projections from the ONS. Population projections have been amended to reflect the current ONS mid-year population estimates.

14 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, either directly through GIS or via parish attribution. This allows the percentage of households served by Anglian Water to be determined for the AWS statutory water and sewerage areas. These property totals for the Anglian Water statutory water and wastewater geographies, once derived, are confirmed with the 'Income and Tariff' and 'Leakage' teams and are then used to provide the baseline for the forecast models. Base-line population totals are then be derived using the known household percentages derived from the comparison of Anglian Water and ONS household totals and applying these to the ONS snpp population figures (per LAUA).

15 We apportion the data for the districts we serve to derive an estimate of both the water and the waste water populations in the Anglian Water region.

16 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 2 'Improving Institutional Population Estimates and Projections'. In addition we have added an estimate of people resident in mixed properties.

17 For our Water customers population has increased by 66,431 from 4,771,324 to 4,837,775.

18 Our Water recycling population has increased by 112,007 from 6,204,156 to 6,316,162.

19 Water customer population has increased by 66,431, in line with additional connected properties and year-on-year changes in occupancy rates for the LAUAs in the Anglian Water region.

20 Water recycling population has increased by 112,007. This is in line with additional connected properties and year-on-year changes in occupancy rates for the LAUAs in the Anglian Water region.

21 The total population for 2020/21 can be split and shown as follows, based upon 'Billing' information and occupancy rates derived by the leakage team to determine measured/unmeasured populations.

Description	Unit	2020/21
Population (water only)	000	501.367
Population (sewerage only)	000	1979.775
Population (water and sewerage)	000	4336.388
Total population (water)	000	4837.755
Total population (sewerage)	000	6316.163
Total population (water or sewerage)	000	6817.53

22 For our water customers population can be shown:

Description	Unit	2020/21
Population households billed unmeasured water	000	859.635
Population - households billed measured water	000	3906.515
Population non-households billed unmeasured water	000	0.000
Population - non-households billed measured water	000	71.605
Population - Total	000	4837.755

23 For our water recycling customers population can be shown:

Description	Unit	2020/21
Population households billed unmeasured sewerage	000	1123.56
Population - households billed measured sewerage	000	5105.895
Population - non-households billed unmeasured sewerage	000	0.000
Population - non-households billed measured sewerage	000	86.707
Population - Total Resident	000	6316.163

Table 5A - Water resources asset and volumes data for the 12 months ended 31st March 2021

	Line description	Units	DPs	Input
Water resources				
1	Water from impounding reservoirs	ML/d	2	28.51
2	Water from pumped storage reservoirs	ML/d	2	590.58
3	Water from river abstractions	ML/d	2	618.8
4	Water from groundwater works,excluding managed aquifer recharge (MAR) water supply schemes	ML/d	2	664.41
5	Water from artificial recharge (AR) water supply schemes	ML/d	2	0
6	Water from aquifer storage and recovery (ASR) water supply schemes	ML/d	2	0
7	Water from saline abstractions	ML/d	2	0
8	Water from water reuse schemes	ML/d	2	0
9	Number of impounding reservoirs	nr	0	2
10	Number of pumped storage reservoirs	nr	0	8
11	Number of river abstractions	nr	0	17
12	Number of groundwater works excluding managed aquifer recharge (MAR) water supply schemes	nr	0	202
13	Number of artificial recharge (AR) water supply schemes	nr	0	0
14	Number of aquifer storage and recovery (ASR) water supply schemes	nr	0	0
15	Number of saline abstraction schemes	nr	0	0
16	Number of reuse schemes	nr	0	0
17	Total number of sources	nr	0	229
18	Total number of water reservoirs	nr	0	10
19	Total volumetric capacity of water reservoirs	ML	0	227252.7
20	Total number of intake and source pumping stations	nr	0	222
21	Total installed power capacity of intake and source pumping stations	kW	0	40823
22	Total length of raw water abstraction mains and other conveyors	km	2	132.90
23	Average pumping head – raw water abstraction	m.hd	2	41.60
24	Energy consumption - raw water abstraction	MWh	3	83609.072
25	Total number of raw water abstraction imports	nr	0	0
26	Water imported from 3rd parties' raw water abstraction systems	ML/d	2	0
27	Total number of raw water abstraction exports	nr	0	0
28	Water exported to 3rd parties' from raw water abstraction systems	ML/d	2	0
29	Water resources capacity (measured using water resources yield)	ML/d	2	1749.9

Water from impounding reservoirs (5A.1)

1 The reported volume of water from impounding reservoirs is 28.51 MI/d. The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable and excluded the MLE adjustment to Distribution Input.

Water from pumped storage reservoirs (5A.2)

2 The reported volume of water from pumped storage reservoirs is 590.58 MI/d. The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable and excluded the MLE adjustment to Distribution Input. For some of our larger river abstraction works (such as Wing & Graftham) 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 reported volume of water from river abstractions is 618.8 MI/d. The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable and excluded the MLE adjustment to Distribution Input. The total volume of water from lines 5A.1-5A.8 is more than 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 reported volume of water from groundwater is 664.41 MI/d. The sum of the water abstracted cannot be directly compared to DI as it includes imports/exports, non potable and excluded 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.

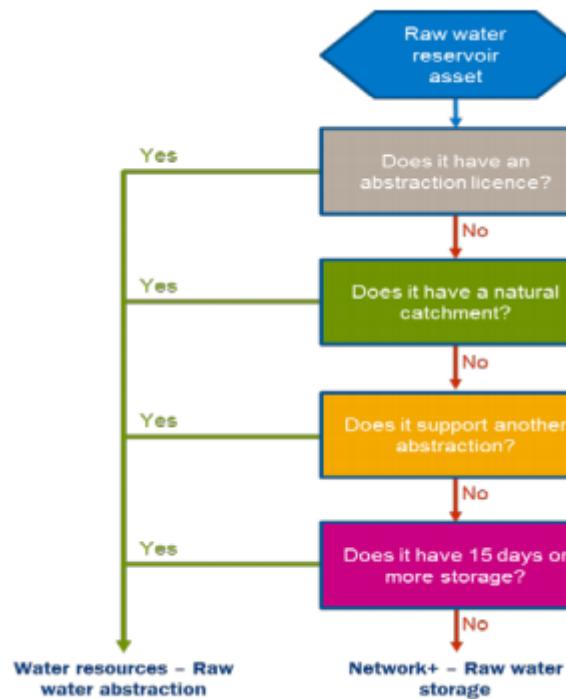
Water from water reuse schemes (5A.8)

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 based on the following RAG 4.09 flow chart:

RAG 4.09 flow chart to classify raw water reservoir assets as either water resources or network+



Impounding reservoirs (2)

- Ravensthorpe (Ruthamford North RZ): 100 per cent inflow
- Hollowell (Ruthamford North RZ): 100 per cent inflow.

Pumped storage reservoirs (8)

- Alton Water (East Suffolk RZ): 69 per cent pumped
- Ardleigh (South Essex RZ): 82 per cent pumped
- Covenham (East Lincolnshire RZ): 100 per cent pumped
- Grafham Water (Ruthamford South RZ): 99 per cent pumped
- Pitsford (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.

10 The RAG 4.09 guidance means we also class Cadney Carrs and Costessey Pits as raw water reservoirs. Cadney Carrs has storage >15 days, and Costessey Pits has an abstraction licence.

The definition for Line 9 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)

11 We are reporting seventeen river abstractions for 2019/20. This consists of seven direct river intakes and ten indirect supporting river abstractions. This reflects the full complement of our surface water intake assets.

Direct river intakes (7)

- Cadney (River Ancholme)
- Clapham (Bedford Ouse)
- Hall (River Trent)
- Heigham (River Wensum)
- Costessey (River Wensum)
- Marham (River Nar)
- Stoke Ferry (River Wissey).

Indirect supporting river abstractions (10)

- 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)
- Sroughton (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).

Number of groundwater works, excluding managed aquifer recharge (MAR) water supply schemes (5A.12)

12 We report 202 groundwater sources for 2020/21 which is different to the 203 that was reported for 2019/20. 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 addition in 2020/21 of the Pulloxhill and Skitfield Road Sources. The following sources were also removed from the operational source list based on the above source definition:

- Winterton Holmes (not operated into supply in 2020/21 due to operational difficulties returning the WTW to supply following the boreholes being turned off as a precautionary measure due to a pollution incident within the catchment)

- Winterton Carrs (not operated into supply in 2020/21 due to operational difficulties returning the WTW to supply following the boreholes being turned off as a precautionary measure due to a pollution incident within the catchment)
- Redbourne (not operated into supply in 2020/21).

Number of artificial recharge (AR) water supply schemes (5A.13)

13 No such schemes are operated by the company.

Number of aquifer storage and recovery schemes (ASR) water supply schemes (5A.14)

14 No such schemes are operated by the company.

Number of saline abstraction schemes (5A.15)

15 No such schemes are operated by the company.

Number of reuse schemes (5A.16)

16 No such schemes are operated by the company.

Total number sources (5A.17)

17 The reported number is summed from lines 9-12.

Total number of water reservoirs (5A.18)

18 The reported number has changed for 2020/21 due to the addition of 2 new lines in table 6A.

The new number (10) includes the impounding and pumped storage reservoirs reported in lines 9 and 10 but no longer includes the 3 bank side storage reservoirs:

1. Heigham Large Deposit Reservoir – for Heigham WTW
2. Bedford – for Clapham WTW
3. South Clifton – for Hall WTW

Although raw water is pumped into these reservoirs, RAG 4.09 guidance (Figure 1) classes them as network + raw water storage rather than raw water abstraction, and therefore these have not been included in table 5A.9 and 5A.10 and will now be included in table 6A.1 and 6A.2.

Total capacity of water reservoirs (5A.19)

19 The capacity of all water reservoirs has been revised in line with guidance to reflect the design/construction capacity of the reservoir where possible. The value has changed for the 2020/21 year following the removal of the bankside storage reservoirs from this line. The new value for 2020/21 is 227,252.7ML

Total number of intake and source pumping stations (5A.20)

20 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 goes to treatment (considered to be raw water abstraction) and the proportion that goes to supply (considered to be water distribution).

In line with the dis-aggregation of raw water transport pumps, for 2020/21 we are reporting:

- 20 no. intake and source pumping stations including 1 no. gravity intake system at Ravensthorpe Reservoir
- 202 groundwater sources

This is a reduction of 1 source from what was reported for the 2019/20 report year.

Total installed power capacity of intake and source pumping stations (5A.21)

21 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 between this year and last can be partially attributed to a large programme of efficiency work targeting surface water pumping stations. The remaining reduction comes from changes in operational status of borehole sources.

Total length of raw water abstraction mains and other conveyors (5A.22)

22 This data has been reviewed and refined for PR19. 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 4.09. There is a small decrease of 3.6km for 2020/21 compared to 2019/20 this is due to constant improvements to on-site pipe classifications.

Average pumping head – raw water abstraction (5A.23)

23 For 2020/21 pumping head is based on telemetry pressure or level sensor data where possible and reported pump head or site data where not. However, there has been some difficulty separating resources and raw water transport for the majority of sites as there is not the resolution on the data required except on the larger treatment works.

The sources of data for flow in these calculations are primarily reported abstraction flows or telemetry. Where a site has multiple boreholes and only a single combined flow meter we have assumed an equal flow between the boreholes.

We are confident about the combined total average pumping head for water resources and raw water transport. However, for some sites we are unable to split the pumping head between the two categories. In these instances all the pumping head has been assigned to resources as we have been unable to obtain the necessary data to be able to proportionally split the pumping head.

Energy consumption - raw water abstraction (5A.24)

24 This is a new APR line for 2020/21, albeit similar to the previous APR line 4Q.25. The difference is that the new line description requires an allowance for administrative buildings and head office function, which was previously all allocated to water network plus. The energy consumption was 83,609 MWh. The equivalent number for 2019/20 was 77,198 MWh so there has been an increase of 6,411 MWh or 8.3 per cent.

The main component of this change has been driven by higher domestic water demand due to the Covid-19 pandemic lockdowns (fuels and transport consumption were lower, year on year).

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 our finance team and operational managers.

- 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.
- 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 BEIS' greenhouse gas reporting condensed conversion factors for 2020.
- For electric vehicles we have made the assumption that the mileage claimed relates to charging at home, rather than using the charging points at the offices as most office-based employees were working from home during the Covid-19 pandemic. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption totals just 8,455 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. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and AW infrastructure.

Total number of raw water abstraction imports (5A.25)

25 There are currently no raw water abstraction imports, so this figure is zero.

Water imported from 3rd parties' raw water abstraction systems (5A.26)

26 The volume of raw water imported from 3rd party systems is zero.

Total number of raw water abstraction exports (5A.27)

27 There are currently no raw water abstraction exports, so this figure is zero.

Water exported to 3rd parties' from raw water abstraction systems (5A.28)

28 The volume of raw water exported to 3rd party systems is zero.

Water resources capacity (measured using water resources yield) (5A.29)

29 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.

30 The total annual average water resources capacity is 1,741.9MI/d, which is made up of groundwater and direct surface water intakes (1,015.5MI/d) and surface water reservoirs, including their surface water intakes (726.4MI/d). There is no previous water resources capacity calculation to compare this value to, although, it could be compared to the WRMP company deployable output of 1,533.4MI/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.

Table 5B - Water resources operating cost analysis for the 12 months ended 31st March 2021

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
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Opex analysis									
1	Power	£m	0.003	0.110	4.194	4.291	0	0	8.598
2	Income treated as negative expenditure	£m	-	-	(0.062)	(0.060)	-	-	-0.122
3	Abstraction charges / discharge consents	£m	0.419	3.543	1.740	4.167	-	-	9.869
4	Bulk supply	£m	-	-	-	-	-	-	0.000

Other operating expenditure									
5	Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-	0.000
6	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-	0.000
7	Other operating expenditure excluding renewals - direct	£m	0.084	0.435	1.525	3.041	-	-	5.085
8	Other operating expenditure excluding renewals - indirect	£m	0.276	0.461	3.324	3.699	-	-	7.760
9	Local authority and Cumulo rates	£m	0.042	0.160	(0.136)	2.478	-	-	2.544
10	Total operating expenditure (excluding 3rd party)	£m	0.824	4.709	10.585	17.616	-	-	33.734

Table 6A - Raw water transport, raw water storage and water treatment data for the 12 months ended 31st March 2021

Line description	Units	DPs	Input
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Raw water transport and storage			
1 Total number of balancing reservoirs	nr	0	4
2 Total volumetric capacity of balancing reservoirs	ML	0	414
3 Total number of raw water transport stations	nr	0	10
4 Total installed power capacity of raw water transport pumping stations	kW	0	12870
5 Total length of raw water transport mains and other conveyors	km	2	526.74
6 Average pumping head ~ raw water transport	m.hd	2	38.96
7 Energy consumption ~ raw water transport	MWh	3	44968.569
8 Total number of raw water transport imports	nr	0	0
9 Water imported from 3rd parties' raw water transport systems	ML/d	2	0
10 Total number of raw water transport exports	nr	0	0
11 Water exported to 3rd parties' raw water transport systems	ML/d	2	0
12 Total length of raw and pre-treated (non-potable) water transport mains for supplying customers	km	2	62.16

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
DPs	2	0	2	0
13 All SD simple disinfection works	0	0	8.09	4
14 W1 works	0	0	1.77	1
15 W2 works	0	0	171.83	42
16 W3 works	0	0	118.59	29
17 W4 works	4.25	1	215.31	33
18 W5 works	576.7	9	82.61	11
19 W6 works	7	1	0	0

Water treatment - works size	% of total	Number of works
Units	DI	nr
DPs	1	0
20 WTWs in size band 1	3.1	33
21 WTWs in size band 2	9.3	38
22 WTWs in size band 3	14.5	30
23 WTWs in size band 4	13.2	14
24 WTWs in size band 5	19.9	11
25 WTWs in size band 6	5.6	2
26 WTWs in size band 7	16.7	2
27 WTWs in size band 8	17.6	1

Water treatment - other information	Units	DPs	Input
28 Total water treated at more than one type of works	ML/d	2	0
29 Number of treatment works requiring remedial action because of raw water deterioration	nr	0	1
30 Zonal population receiving water treated with orthophosphate	000's	3	4770.139
31 Average pumping head – water treatment	m.hd	2	9.44
32 Energy consumption ~ water treatment	MWh	3	85,394.698
33 Total number of water treatment imports	nr	0	0
34 Water imported from 3rd parties' water treatment works	ML/d	2	0
35 Total number of water treatment exports	nr	0	0
36 Water exported to 3rd parties' water treatment works	ML/d	2	0

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 4.09 guidance (Figure 1). We only include reservoirs which have 1 or more day's storage.

1. Heigham Large Deposit Reservoir – for Heigham WTW
2. Bedford – for Clapham WTW
3. South Clifton – for Hall WTW
4. Saltersford Raw Water Reservoir – for Saltersford WTW

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 is a new addition to the list for 2020/21 following review of the guidance.

Total volumetric capacity of balancing reservoirs (6A.2)

2 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 is 414ML.

Total number of raw water transport stations (6A.3)

3 In line with guidance as described above, for 2020/21 we are reporting:

- 10 transfer pumping stations including one gravity intake system at Ravensthorpe Reservoir.

4 This has increased by one in 2020/21, following review of the guidance we have included Empingham raw water transfer to Saltersford raw water 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 slight reduction in rated capacity comes from more accurate information now held in SAP overriding historical data.

Total length of raw water transport mains and other conveyors (6A.5)

6 This data were reviewed and refined for PR19. The lengths have also been calculated using the guidance provided in RAG 4.09. The constant improvement to on-site pipe classification has led to a 2km length decrease from the figure quoted in the 2019/20 length.

Average pumping head ~ raw water transport (6A.6)

7 For 2020/21 pumping head is based on telemetry pressure or level sensor data where possible and reported pump head or site data where not. However, there has been some difficulty separating resources and raw water transport for the majority of sites as there is not the resolution on the data required except on the larger treatment works.

8 The sources of data for flow in these calculations are primarily reported abstraction flows or telemetry. Where a site has multiple boreholes and only a single combined flow meter we have assumed an equal flow between the boreholes.

9 We are confident about the combined total average pumping head for water resources and raw water transport. However, for some sites we are unable to split the pumping head between the two categories. In these instances all the pumping head has been assigned to resources as we have been unable to obtain the necessary data to be able to proportionally split the pumping head.

Energy Consumption ~ raw water transport (6A.7) and water treatment (6A.32)

10 These are new APR lines for 2020/21, albeit included in the previous APR table 4Q, line 24. The previous line included treated water distribution, which is now reported in table 6B, line 27, and an allowance for administrative buildings and head office function has now been allocated to water resources in table 5A, line 24.

11 The total energy consumption across both lines was 130,363 MWh. The equivalent number for 2019/20 was 122,732 MWh so there has been an increase of 7,631 MWh or 6.2 per cent. For raw water transport the increase is 1,064 MWh (2.4 per cent) and for water treatment the increase is 6,568 MWh (8.3 per cent).

12 The main component of this change has been driven by higher domestic water demand due to the Covid-19 pandemic lockdowns. (Fuels and transport consumption were lower, year on year.) Also, a higher proportion of electricity costs was attributed to treated water distribution in 2019/20 in that year's regulatory accounts compared to that in 2020/21 and in 2018/19. This helps to explain why the year-on-year growth in energy consumption for water treatment is higher than it is for raw water transport.

13 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 table 5A, line 24). In addition, we have included energy from solar sources generated and used on site.

Total number of raw water transport imports (6A.8)

14 There have been no raw water transport imports.

Water imported from 3rd parties' raw water transport systems (6A.9)

15 There is no water imported from 3rd parties' raw water transport systems.

Total number of raw water transport exports (6A.10)

16 There has been no water transported.

Water exported to 3rd parties' raw water transport systems (6A.11)

17 There has been no water transported to 3rd parties.

Total length of raw and pre-treated (non-potable) water transport mains for supplying customers (6A.12)

18 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 62kms has remained stable compared to 2019/20.

All simple disinfection works - W6 works (6A.13 - 6A.19)

19 The number of sites in each specified WTW category (based upon MI/d DI) is defined, based upon our Source Works Output Reporting System (SWORPS) data.

20 Volumes per WTW have been calculated using 2020/21 year values. WTWs have then been grouped by category, as described, giving total numbers of WTWs per category and the volume of water in MI/d by either ground or surface water.

21 Significant changes to categories are explained below:

- Surface Water W5 – The increase in this line is due to our Bedford WTW being brought into service this year to meet additional demand.
- Groundwater SD – The reduction reported in 2020/21 is due to Stanton WTW being re-classified from SD to W4 due to the introduction of Ion Exchange to the treatment process in 2020/21.
- Groundwater W1 and W2 - Our Business Plan submission had a higher number forecast in this category due to sites where the water is blended at a site downstream being classified separately. We updated our approach to reporting against these lines so they are now treated as one site in 2018-19 in our APR.
- Groundwater W3 - The reduction is due to Irby WR being removed from W3 and re-classified to W4 due to introduction of UV treatment in 2020/21. This is offset in W4 by the loss of Great Wratting WTW, see below. Our Business Plan submission had a higher number forecast in this category due to sites where the water is blended at a site downstream being classified separately. We updated our approach to reporting against these lines so they are now treated as one site in 2018-19 in our APR.
- Groundwater W5 – The increase is due to Great Wratting WTW being moved from W4 to W5 due to addition of UV disinfection in 2020/21.

WTWs by category (6A.20 - 6A.27)

22 The number of sites in each specified WTW category (based upon MI/d DI) is defined, based upon our Source Works Output Reporting System (SWORPS) data.

23 Volumes per WTW have been calculated using 2020/21 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.

24 The following WTWs have not been in supply this year -

- Winterton Holmes (not operated into supply in 20/21 due to operational difficulties returning the WTW to supply following the boreholes being turned off as a precautionary measure due to a pollution incident within the catchment)

- Pulloxhill (not operated into supply in 20/21)
- Barnaldby (not operated into supply in 20/21 as site is used only as river support)
- Healing (not operated into supply in 20/21)
- Harborough (not operated into supply in 20/21)

Total water treated at more than one type of works (6A.28)

25 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.29)

26 One site has been recorded as requiring remediation. This is the following:

- Pitsford WTW - regarding pesticides reduction.

Zonal population receiving water treated with orthophosphate (6A.30)

27 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.

28 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 currently stands at over 98.6 per cent.

Average pumping head – water treatment (6A.31)

29 For 2020/21 pumping head is based on telemetry pressure or level sensor data where possible and reported pump head or site data where not. However, there has been some difficulty separating resources and raw water transport for the majority of sites as there is not the resolution on the data required except on the larger treatment works.

30 The sources of data for flow in these calculations are primarily reported abstraction flows or telemetry. Where a site has multiple boreholes and only a single combined flow meter we have assumed an equal flow between the boreholes.

31 We are confident about the combined total average pumping head for water resources and raw water transport. However, for some sites we are unable to split the pumping head between the two categories. In these instances all the pumping head has been assigned to resources as we have been unable to obtain the necessary data to be able to proportionally split the pumping head.

Energy consumption ~ water treatment (6A.32)

32 Please refer to the commentary for raw water transport (6A.7).

Total number of water treatment imports (6A.33)

33 There are no water treatment imports.

Water imported from 3rd parties' water treatment works (6A.34)

34 There is no water imported from 3rd parties' water treatment works.

Total number of water treatment exports (6A.35)

35 There are no water treatment exports.

Water exported to 3rd parties' water treatment works (6A.36)

36 There is no water exported to 3rd parties' water treatment works.

Table 6B - Treated water distribution - assets and operations for the 12 months ended 31st March 2021

	Line description	Units	Input
Assets and operations			
1	Total installed power capacity of potable water pumping stations	kW	78517
2	Total volumetric capacity of service reservoirs	ML	1809.0
3	Total volumetric capacity of water towers	ML	120.0
4	Distribution input	ML/d	1186.15
5	Water delivered (non-potable)	ML/d	50.24
6	Water delivered (potable)	ML/d	1037.07
7	Water delivered (billed measured residential)	ML/d	736.42
8	Water delivered (billed measured business)	ML/d	276.68
9	Total annual leakage	ML/d	182.38
10	Distribution losses	ML/d	142.03
11	Water taken unbilled	ML/d	23.97
12	Proportion of distribution input derived from impounding reservoirs	Propn 0 to 1	0.020
13	Proportion of distribution input derived from pumped storage reservoirs	Propn 0 to 1	0.403
14	Proportion of distribution input derived from river abstractions	Propn 0 to 1	0.073
15	Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes	Propn 0 to 1	0.504
16	Proportion of distribution input derived from artificial recharge (AR) water supply schemes	Propn 0 to 1	0
17	Proportion of distribution input derived from aquifer storage and recovery (ASR) water supply schemes	Propn 0 to 1	0
18	Proportion of distribution input derived from saline abstractions	Propn 0 to 1	0
19	Proportion of distribution input derived from water reuse schemes	Propn 0 to 1	0
20	Total number of potable water pumping stations that pump into and within the treated water distribution system	nr	457
21	Number of potable water pumping stations delivering treated groundwater into the treated water distribution system	nr	137
22	Number of potable water pumping stations delivering surface water into the treated water distribution system	nr	11
23	Number of potable water pumping stations that re-pump water already within the treated water distribution system	nr	306
24	Number of potable water pumping stations that pump water imported from a 3rd party supply into the treated water distribution system	nr	3
25	Total number of service reservoirs	nr	254
26	Number of water towers	nr	128
27	Energy consumption ~ treated water distribution	MWh	156271.124
28	Average pumping head – treated water distribution	m.hd	71.07

29	Total number of treated water distribution imports	nr	19
30	Water imported from 3rd parties' treated water distribution systems	MI/d	4.01
31	Total number of treated water distribution exports	nr	34
32	Water exported to 3rd parties' treated water distribution systems	MI/d	72.35

Power capacity and number of potable water pumping stations (6B.1 and 6B.20-24)

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. An estimated rated power of 4kW has been applied to the small subset of pumps whose ratings are not available from corporate sources.

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". The rated capacity has increased on the submission for 2019/20 partially due the addition of three water boosters but primarily due to better data on individual pump rated powers which, on balance, have increased the overall figure.

3 A deeper assessment of boosters previously deemed to serve single properties (and therefore excluded) has yielded a further thirteen sites which are, in fact, small area boosters (i.e. serve more than one property). These have been added to the figures for 2020/21. The recent qualification that a booster serving a single commercial property should be removed is unlikely to affect these numbers based on elicited knowledge but an assessment will be carried out in the next few months to double check this position.

Number and capacity of Service Reservoirs (6B.2 and 6B.25)

4 For 2020/21 the count of Service Reservoirs has remained the same due to two sites. One was removed last year and not reported for 2020 but added back for 2021 and another site that was reported for 2020 but has since been abandoned for 2021.

2021 Structures Added

5 Woburn Sands WR2 (WOB2WR).

2021 Structures Removed

6 Pilsgate WR (PILSWR) – Decommissioned in August 2020.

7 For 2020/21 We are reporting 1,809.865MI. This is a slight decrease compared to 2019/20 which was 1,811.523MI. This is due to on-going improvements to our data where there has been a few changes to the capacities.

Sites	2021 Capacity	2020 Capacity	Difference	Reason
WOBURN SANDS WR 1 (WOBSWR)	4.546	10.229	5.683	Deemed 1 structure for 2020 so capacity was made up of the two.
Woburn Sands WR2 (WOB2WR)	5.683			WOB2WR added back this year and took back its share of the capacity
SAPLEY #1 WR (SAP1WR)	0.708	1.136	0.428	Changed due to internal inspections
SAPLEY #2 WR (SAP2WR)	15.19	16	0.81	Changed due to internal inspections and usable storage Volume

Total volumetric capacity of water towers (6B.3 and 6B.26)

8 For 2020/21 we are reporting 128 Water Towers which is a slight decrease from 2019/20 when there were 129. This is a result of a Water Tower that has since been decommissioned.

2021 Structures Removed

9 Yelling WT (YELLWT) - 0.068MI.

10 For 2020/21 we are reporting 120.375MI. This is a slight increase compared to 2019/20 which was 119.869MI. This is due to on-going improvements to our data where there has been a few changes to the capacities.

Sites	2021 Capacity	2020 Capacity	Difference	Reason
SAPLEY WT (SAPLWT)	1.143	0.569	0.574	Adjustment increase due to Survey Inspections for 2021
YELLING WT (YELLWT)		0.068	-0.068	Not counted for 2021

Distribution Input (6B.4)

11 Distribution Input has increased this year by 3.3 per cent as a result of additional domestic demand due to Covid-19.

Water delivered non-potable (6B.5)

12 The amount of water delivered to our non-potable customers is similar to 2019/20. This water is used to supply large industrial customers on the Humber bank and in Hartlepool.

Water delivered potable (6B.6-8)

13 Water delivered to measured residential properties continues to rise as customers switch from unmeasured to measured billing and is countered by a drop in water delivered to unmeasured residential properties.

14 Water delivered to measured business customers has reduced this year due to the impacts of Covid-19 on the ways that businesses operate. We continue to find that data held in the CMOS system (Central Market Operating System) is not reliable enough to calculate consumption for the water balance 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.

Leakage (6B.9)

15 Leakage for 2020/21 is assessed at 182.38 MI/d using the new reporting methodology as set out by Ofwat during the PR19 process. This represents an 8.63 MI/d decrease from 2019/20 using like for like reporting methodologies.

16 There are some areas where we do not meet requirements set out in the Leakage definition, however we consider that they do not have a material impact on our reported leakage figure. 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 green components and 1 amber component. Our water balance gap is 1.54%. At the subcomponent level we are reporting 71 green and 5 amber. These are summarised below.

- *Average availability* has been assessed at 88 per cent against a target of 90 per cent. This includes 5 per cent from properties across the year have been unavailable due to temporary meter faults (faults lasting less than 6 months).

We report leakage at the zonal level (groups of DMAs), the availability statistic is therefore based on zonal data. Because of this we are susceptible to single large meter failures taking a high number of properties out from reporting and have found that, although a significant number of large meters have been replaced this year, we have also seen a number of new failures. This means availability has not increased as much as we had planned.

Analysis of fault duration data shows that 5 per cent of properties across the year have been unavailable due to temporary meter faults (faults lasting less than 6 months). Adding these to the available properties (83 per cent) gives a total of 88 per cent of properties with a high percentage availability for the year. This is close to the 90 per cent target, so we have changed the RAG status to amber for this year.

- *Household night use* - Fast loggers are deployed in small DMAs to generate our household night use figure. This year we have experienced data quality issues with our loggers meaning that the confidence level has been reduced for our night use figure from 95 to 85 per cent. The logger issue has been resolved and we are planning to install a further 80 sites this year, taking the total to 200 to give greater resilience. We have compared our fast logged data to smart meter data and found that the year to year variance is higher for smart meters than fast logged sites suggesting that we may have understated night use for the report year but we have not corrected for this.
- *Hour to day conversion* - we use an N1 factor of 1.15 but haven't completed enough studies to evidence this. However, sensitivity analysis shows that the impact to leakage of moving from N1 = 1.0 to N1=1.2 has 0.6 per cent impact to reported leakage.
- *Water delivered unmeasured* - with the advent of smart meters in AMP7 we do not consider it a cost beneficial use of customer money to replace meters in our IHM that will shortly be replaced with smart meters. We have rebuilt our un-measured non-household consumption model using up to date data.
- *Other water use* - We are currently reporting an overall figure of 2.02 per cent of DI for unbilled water against the target of 1.8 per cent. This is split 0.51 per cent illegally unbilled against target of 0.6 per cent and 1.51 per cent legally unbilled against a target of 1.2 per cent. As a WASC we have more water unbilled due to Water Recycling Centre use and sewer flushing which pushes us over the threshold.

17 Detection resources – we have increased our detection teams to ensure that we can deliver the leakage reduction required for AMP7. In 2020/21 we maintained leakage detection resource numbers at the same level as the previous year. Our AMP7 leakage strategy continues some 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 as follows:

- Network/pump optimisation schemes - There have been 32 optimisation schemes implemented this year delivering 1.22 MI/d leakage reduction.
- Intensive Leakage Programme - This process has led to a leakage reduction of 3.09 MI/d in 2020/21. The teams have continued their approach to auditing historically high leakage zones but also focussed on gaining a better understanding of inoperable zones working closer with teams around the business
- Leakage Sensors - We now have 5143 remote hydrophones installed across 227 DMA's in full monitoring mode. To date the SENSOR programme has delivered 8807 leaks proactively and technician productivity has increased on average from 0.4 leaks per day to 0.5 leaks per day across all workstreams when compared to 2019/20.
- Customer supply pipe leakage/internal property leakage – We continue our process of working with customers to ensure that they repair leaks on their supply pipe or internally

to the property in a timely manner. 2020/21 is our busiest year to date with 8832 cases managed against 8817 in 2019/20.

- The full water balance components are listed below:

Water Delivered - Volumes		Pre MLE	After MLE
Billed Measured Household	MI/d	557.20	562.05
Billed Measured Non-Household	MI/d	273.53	275.56
Billed Measured	MI/d	830.74	837.61
Billed Un-Measured Household	MI/d	172.24	174.36
Billed Un-Measured Non-Household	MI/d	1.06	1.12
Billed Un-Measured	MI/d	173.30	175.49

Water Delivered - Components			
Estimated Water Delivered per UnM Non-Household	l/pr/d	827.44	878.57
Per Capita Consumption (UnMeas HH excl UGSPL)	l/h/d	185.25	187.33
Per Capita Consumption (Meas HH excl UGSPL)	l/h/d	136.85	138.01
Underground Supply Pipe Leakage (UnMeas HH)	l/pr/d	40.23	41.26
Underground Supply Pipe Leakage (Ext Metered HH)	l/pr/d	9.04	9.18
Underground Supply Pipe Leakage (Other Metered HH)	l/pr/d	40.23	40.85
Underground Supply Pipe Leakage (Voids)	l/pr/d	38.46	39.37
Meter Under-registration (Meas HH)	MI/d	12.12	12.22
Meter Under-registration (Meas Non-HH)	MI/d	21.66	21.82
Distribution System Operational use	MI/d	6.78	7.05
Water taken legally unbilled	MI/d	17.47	17.93
Water taken illegally unbilled	MI/d	5.88	6.04
Water taken unbilled	MI/d	23.36	23.97
Water Delivered (Potable)	MI/d	1027.39	1037.07
Water Delivered (Non-potable)	MI/d	49.04	49.04
Water Delivered (Non-standard rates : Potable)	MI/d	0.51	0.51
Water Delivered (Non-standard rates : Non-potable)	MI/d	6.17	6.17
Distribution Losses	MI/d	138.99	142.03
Total Leakage	MI/d	178.56	182.38
Distribution Input	MI/d	1191.46	1186.15
Bulk Supply Imports	MI/d	4.01	4.01
Bulk Supply Exports	MI/d	72.35	72.35
Water Treated at own works to own customers	MI/d	1187.45	1182.14

Overall Water IMBALANCE	MI/d	18.30	0.00
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Distribution losses (6B.10)

18 Distribution losses is calculated by subtracting customer supply pipe leakage from total leakage.

Water taken unbilled (6B.11)

19 Water taken unbilled remains similar to 2019/20. This is spilt into water taken legally and water taken illegally.

20 Water taken legally is equivalent to 1.5 per cent of DI. This is greater than the 1.2 per cent of DI specified in the reporting guidelines but is based on measurements or detailed estimation methods. It should be noted that the guidance does not distinguish between WOCs and WASCs - WASCs are likely to report a higher number than the industry average here as they use water as part of water recycling operations. This is made up of the following components:

Sub component	Estimation method
Fire service	Each fire service publish a list of fires attended and the type of fire. They also publish typical usage per fire type. We extract the data for our region to derive a figure. Water used for training is not captured so may be under estimate
Use at water recycling works and pumping stations	Largest sites are measured/logged, model built to derive usage for smaller sites, not all of which have water connections
Sewer flushing	Model built taking number of tanker vehicles used, volume of tanks and assumption about the number of fills per day
Non billed consumption	This includes water used at AW offices, unbilled connections and water used in void properties
Void property customer supply pipe leakage	Derived from customer supply pipe leakage model built as part of industry club project by Tynemarsh (now Ovarro)

21 Water taken illegally is equivalent to 0.5 per cent of DI and is less than 0.6 per cent specified in the reporting guidance. This is made up from the following components:

Sub component	Estimation method
Illegal use of hydrants	We employ Aquam to manage the hire of metered standpipes. The volume from these is accounted for under non household billed consumption. As part of this they police our network for us identifying 3rd parties using non metered standpipes and ensure that when found they are trained and issued with a metered standpipe. From these interactions they produce a report estimating illegal use of standpipe volume for us each year
Illegal use within properties	This is currently based on industry assumptions but during 2021/22 we are working with Invenio to survey a significant number of non household property fire mains for which the bulk of the volume for this component is associated with

Proportion of distribution input derived from impounding reservoirs (6B.12)

22 The proportion of distribution input for 2020/21 from impounding reservoirs is reported as 0.020 or 23.24 MI/d.

Proportion of distribution input derived from pumped storage reservoirs (6B.13)

23 The proportion of distribution input for 2020/21 from pumped storage is reported as 0.403 or 477.61 MI/d.

Proportion of distribution input derived from river abstractions (6B.14)

24 The proportion of distribution input for 2020/21 from river abstractions is reported as 0.073 or 87.10 MI/d.

Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes (6B.15)

25 The proportion of distribution input for 2020/21 from groundwater works is reported as 0.504 or 598.20 MI/d.

Proportion of distribution input derived from artificial recharge (AR) and aquifer storage and recovery water supply schemes (6B.16 and 6B.17)

26 No such schemes are operated by the company.

Proportion of distribution input derived from saline abstractions and water reuse schemes (6B.18 and 6B.19)

27 No such schemes are operated by the company.

Total number of service reservoirs and water towers (6B.25 and 6B.26)

28 There are 254 service reservoirs and 128 water towers.

Energy Consumption ~ Treated Water Distribution (6B.27)

29 This is a new APR line for 2020/21, albeit included in the previous APR table 4Q, line 24. The previous line included Raw Water Transport and Water Treatment, which are now covered in table 6A, lines 7 and 32, and an allowance for administrative buildings and head office function has now been allocated to Water Resources in Table 5A, line 24.

30 The total energy consumption was 156,271 MWh. The equivalent number for 2019/20 was 160,405 MWh so there has been a decrease of 4,133 MWh or -2.58 per cent. Electricity usage has declined only marginally by -0.42 per cent year-on-year so the main component of this change has been the reduction in transport mileage due to more home-working due to the Covid-19 pandemic lockdowns. Deliveries of gas-oil were also lower year-on-year, however, given that gas-oil is used for standby generation and exports from this generation were slightly higher, this reduction is likely to be due to the running down of higher inventories being held from previous years due to Brexit stockpiling. Another factor is the higher proportion of electricity costs attributed to Treated Water Distribution in 2019/20 in that year's regulatory accounts compared to that in 2020/21 and in 2018/19.

31 A number of assumptions have been made in calculating the Treated Water Distribution energy consumption data. Please refer to the commentary for Table 6A, lines 7 and 32.

Average pumping head ~ treated water distribution (6B.28)

32 For 2020/21 pumping head is based on telemetry pressure or level sensor data where possible and reported pump head or site data where not. However, there has been some difficulty separating resources and raw water transport for the majority of sites as there is not the resolution on the data required except on the larger treatment works.

33 The sources of data for flow in these calculations are primarily reported abstraction flows or telemetry. Where a site has multiple boreholes and only a single combined flow meter we have assumed an equal flow between the boreholes.

34 We are confident about the combined total average pumping head for water resources and raw water transport. However, for some sites we are unable to split the pumping head between the two categories. In these instances all the pumping head has been assigned to resources as we have been unable to obtain the necessary data to be able to proportionally split the pumping head.

Total number of treated water distribution imports (6B.29)

35 The total number of treated water distribution imports for 2020/21 is reported as 19.

Water imported from 3rd parties' treated water distribution systems (6B.30)

36 The total volume of imported water for 2020/21 is reported as 4.01 MI/d.

Total number of treated water distribution exports (6B.31)

37 The total number of treated water distribution exports for 2020/21 is reported as 34.

Water exported to 3rd parties' treated water distribution systems (6B.32)

38 The total volume of exported water for 2020/21 is reported as 72.35 MI/d

Table 6C - Water network+ - Mains, communication pipes and other data for the 12 months ended 31st March 2021

	Line description	Units	Input
Treated water distribution - mains analysis			
1	Total length of potable mains as at 31 March	km	38763.8
2	Total length of potable mains relined	km	0
3	Total length of potable mains renewed	km	16.7
4	Total length of new potable mains	km	142
5	Total length of potable water mains (\leq 320mm)	km	35793.6
6	Total length of potable water mains $>$ 320mm and \leq 450mm	km	1738.2
7	Total length of potable water mains $>$ 450mm and \leq 610mm	km	623
8	Total length of potable water mains $>$ 610mm	km	609.1
Communication pipes			
9	Number of lead communication pipes	nr	515685
10	Number of galvanised iron communication pipes	nr	184548
11	Number of other communication pipes	nr	1545493
Treated water distribution - mains age profile			
12	Total length of potable mains laid or structurally refurbished pre-1880	km	5.0
13	Total length of potable mains laid or structurally refurbished between 1881 and 1900	km	6020.8
14	Total length of potable mains laid or structurally refurbished between 1901 and 1920	km	3455.7
15	Total length of potable mains laid or structurally refurbished between 1921 and 1940	km	1103.8
16	Total length of potable mains laid or structurally refurbished between 1941 and 1960	km	6650.9
17	Total length of potable mains laid or structurally refurbished between 1961 and 1980	km	5067.8
18	Total length of potable mains laid or structurally refurbished between 1981 and 2000	km	12514.7
19	Total length of potable mains laid or structurally refurbished post 2001	km	3945.1
Other			
20	Company area	km ²	22,626
21	Number of lead communication pipes replaced for water quality	nr	209
22	Supply-side improvements delivering benefits in 2020-25	MI/d	0

23	Demand-side improvements delivering benefits in 2020-25 (excluding leakage and metering)	MI/d	0.09
24	Leakage improvements delivering benefits in 2020-25	MI/d	8.63
25	Internal interconnectors delivering benefits in 2020-25	MI/d	1.53
26	Event Risk Index	nr	6.16

Total length of potable mains as at 31 March (6C.1)

1 The data is consistent with the previous year's methodology. There is a reduced increase compared to previous years' increases. This is due to the impacts of Covid-19 on both the building industry and also in-house data capture activities. The length from the previous year's increase of ~55km to 38,763.8km for 2020/21.

Total length of potable mains relined and renewed (6C.2 and 6C.3)

2 For 2020/21 we are reporting 5.3km of mains diversions. Our parcels programme delivered 11.4km of renewed mains, the majority of which (9.4km) was to alleviate low pressure on the network.

3 This gives a total of 16.7km of mains renewal reported in line three. We are unable to separate out lengths of mains relined and renewed, and so lines two and three are combined together.

Total length of new potable mains (6C.4)

4 We have three new mains programmes: our standalone projects, the Housing Estate Mains (HEMs) parcel and a Network Reinforcement parcel. These three programmes delivered 4.4km, 126.3km, and 11.3km respectively.

5 This gives a total of 142.0km reported in line 4. This is a reduction on 2019/20, and we attribute this to reduced economic activity in the region due to Covid-19 restrictions.

Potable mains by diameter band (6C.5- 6C.8)

6 These lines have been calculated using the latest in-service company-owned potable water mains data out of G/water (our corporate mapping system). The largest increase at 57km is in the smallest diameter band – line five. There was a minor decrease in line six and seven of ~2km which is due to constant improvement around the accuracy of the base data.

Number of lead, galvanised iron and other communication pipes (6C.9 - 6C.11)

7 Our communication pipe stock was last modeled in 2012 for Periodic Review 2014. 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 modeled totals.

8 Lines 6C.9 and 6C.10 have experienced a small decrease, which falls in line with previous years, whereas line 11 has experienced a smaller than usual increase. This is due to this number being generated from total water connections. Please see the commentary for 3C.6 for explanations for this smaller increase.

9 In the consultation for APR data fields we recommended that length be captured to enable better enhancement cost models to be prepared for PR24. In the absence of this data Ofwat will be forced to continue to rely on the number of outputs with no driver of length, penalising companies who choose to replace longer pipes thereby removing more lead from the system. It is recommended that Ofwat review how they could obtain this data prior to PR24 if not via APR tables. We think the commentary on this line would be a good way for us to provide this information moving forward and will propose this to Ofwat.

Total length of mains laid or structurally refurbished (6C.12 - 6C.19)

10 There has been some changes to lengths for many of these age bands, this is mainly due to work being undertaken to assign materials to pipes with previously unknown material types. This has enabled a more accurate estimate of ages for these particular pipes. This explains an increase of 100km for pipes aged between 1881 and 1900, with other age bands experiencing a decrease in length. The age band that has seen the most significant increase is line 19, for mains laid or structural refurbished post 2001. This age band has seen an additional 106km in 2020/21.

Company area (6C.20)

11 The area shown is the sum of the water appointed areas for Anglian Water and Hartlepool Water, less the aggregate area of sites served by new appointees.

Number of lead communication pipes replaced for water quality (6C.21)

12 In 2020/21 we have replaced 209 lead communication pipes. These have been proactively replaced following compliance failures of the lead standard, notification from a customer that they intend to replace or have replaced their lead pipe, or during planned work on the network. No planned proactive replacements in areas of known high lead pipework have been undertaken in this reporting year, which is comparable to the last 2 reporting years.

Supply-side improvements delivering benefits in 2020-25 (6C.22)

13 We have one Supply-side enhancement scheme in our WRMP19. This is Pyewipe water reuse for non-potable use which is due for completion in 2024/25. Therefore, we are reporting zero against this line for this year.

Demand-side improvements delivering benefits in 2020-25 (excluding leakage and metering) (6C.23)

14 Water efficiency interventions have been significantly impaired by the impact of Covid-19, 'lockdown' and social distancing protocols. However, we have still been able to issue 15,000 water saving home kits (with an estimated saving of six litres per household per day). This has meant an overall saving of 0.09MI/d for this water efficiency programme.

Leakage improvements delivering benefits in 2020-25 (6C.24)

15 The definition for this line requires us to report the difference between 2019/20 and 2020/21 leakage and this is what we have done. However we do not feel that this is the best way to reflects the outputs from leakage improvement initiatives. It assumes that the total of any change in leakage is as a result of direct activity from us 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.

Internal interconnectors delivering benefits in 2020-25 (6C.25)

16 During 2020/21 we have completed the first scheme in our Internal Interconnector Programme which we started during the transition year.

17 The scheme, "HPB1 - Norwich & the Broads WRZ to Happisburgh WRZ" has allowed us to cease abstraction at Ludham Water Treatment Works and voluntarily revoke our abstraction licence.

18 This scheme has provided a new transfer from the Norwich system to replace the supply from the decommissioned boreholes at Ludham (Happisburgh WRZ). We have installed 3.5km of new 280mm diameter watermain from Stalham to Catfield and a new 4 MI storage tank and water booster at Horstead which, together with modifications at Household Water Treatment Works allow a blended supply from Household, Heigham and Thorpe to be delivered to Ludham.

19 There is no target for this performance commitment in this reporting year, following the CMA redetermination the performance commitment has been amended to reflect delivery of the entire programme at the end of the AMP. The capacity included in the performance commitment at the Final Determination for this scheme was 1.3 MI/d, the CMA redetermination increased this to 1.5 MI/d.

20 The completed scheme allows 1.53 MI/d to be transferred on an average day and thus meets the revised commitment for this scheme.

21 Additionally, we have started work on the remainder of the Interconnector Programme across our region, including the large diameter strategic grid schemes and have commenced detailed design, enabling activities, ecology and archaeology surveys on a number of the schemes. The first phases of pipeline are due to start construction in early 2021/22.

Event Risk Index (6C.26)

22 Please see the commentary for 3E.11.

Table 6D - Demand management - Metering and leakage activities for the 12 months ended 31 March 2021

	Line description	Units	DPS	Basic meter	Smart meter
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Metering activities - Totex expenditure					
1	New optant meter installation	£m	3	0.756	0.183
2	New selective meter installation	£m	3	-	-
3	New business meter installation	£m	3	0.083	0.010
4	Residential meters renewed	£m	3	5.303	18.953
5	Business meters renewed	£m	3	1.036	0.128

Metering activities - Explanatory variables					
6	New optant meters installed	000s	3	2.667	0.728
7	New selective meters installed	000s	3	0.330	0.036
8	New business meters installed	000s	3	0.099	0.006
9	Residential meters renewed	000s	3	43.162	158.426
10	Business meters renewed	000s	3	4.067	0.873
11	New residential meters installation - supply-demand balance benefit	Ml/d	2	0.11	0.04
12	New business meters installation - supply-demand balance benefit	Ml/d	2	0.00	0.00
13	Residential meters renewed - supply-demand balance benefit	Ml/d	2	-	1.36
14	Business meters renewed - supply-demand balance benefit	Ml/d	2	-	0.00
15	Residential properties - meter penetration	%	1	84.2	8.4

	Leakage activities - Totex expenditure	Units	DPS	Maintaining leakage	Reducing leakage	Total
16	Total leakage activity	£m	3	55.502	12.626	68.128

Per capita consumption (excluding supply pipe leakage)				
17	Per capita consumption (measured customers)	l/h/d	2	138.00
18	Per capita consumption (unmeasured customers)	l/h/d	2	187.3

1 Metering activities - totex expenditure (6D.1 - 6D.5)

2 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 this first year of the AMP.

New optant and selective meters installed (6D.6 - 6D.7) and Number of residential and business meters renewed (6D.9 - 6D.10)

3 There were significant disruptions to the start of our AMP7 operations in 2020/21 with the Covid-19 restrictions. Government advice meant we could not carry out any of the planned or reactive work. This is evident in the lower numbers of meters installed at customer behest compared to 2019/20.

4 Coming out of the first lock-down, we were able to offer our customers home visits. We worked closely within the guidelines to carry out the work with updated health and safety practices, making sure it was safe for our employees and customers during our visit.

5 With the meters that are installed at our behest, the volumes of the true selective meters were similar to previous years at 366 including smart and non smart meters. We do not have any plans for an enhanced metering programme (fitting meters to properties but allowing customers to chose whether to pay measured charges). This has lowered the volume of total meters that are fitted at our behest compared to 2019/20.

6 There was a significant increase in our renewal programme as we embarked on our AMP7 smart metering programme. Nearly eighty per cent of our meter renewals were with smart meters. We continued to renew with non-smart meters in areas outside our target zones for the smart programme as we will not be able to gather readings from these meters until the necessary smart infrastructure is in place. The meter renewal programme was less affected by the restrictions caused by Covid-19 as it comprises mainly screw out/in from the boundary box outside the customer property.

7 We streamlined the process of fitting smart meters as the work is being carried out street by street. We had dedicated customer service technicians fitting the meters and support crews re-supplying materials when necessary, making the process efficient and cost effective.

8 For non household customers the Covid-19 restrictions also meant a large proportion of business customer jobs were on hold until the premises were re-opened but we managed to prioritise these jobs once we were able to resume work.

New business meters installed (6D.8)

9 There was a marked decline in volumes for new business meters being fitted this reporting year. The was expected given the large number of business which closed during the restrictions.

10 The number of smart meters in 6D.6-10 sum to 160,063. In addition, we fitted 4,337 meters to new connections, giving a total number of smart meters fitted of 164,400.

New residential meters installation – supply-demand balance benefit (6D.11)

11 As part of our meter replacement and smart meter installation programme we have installed 162,763, smart meters to household customers and 879 smart meters to business customers, along with non-smart traditional meter replacement. For new residential properties we have installed the following:

Meter Installation	Non-smart installations	Smart Meter Installations	Total
New Residential Meters	19,690	4,337	24,027

12 We have assumed that smart meters account for a 3 per cent change in customer behaviour, in alignment with WRMP19 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.

13 Additionally we would assume a 15 per cent reduction for customers being metered on a non-smart traditional meter, as opposed to unmeasured.

14 Savings have been calculated based upon 2019/20 per capita consumption and occupancy rates, reflective of less exceptional pre-Covid-19 conditions.

15 For residential meter installations we have, consequently, calculated savings of 0.71 Ml/d.

16 New business meter installations are as below:

Meter Installation	Non-smart installations	Smart Meter Installations	Total
New Business Meters	99	6	105

17 We currently have not attributed water efficiency savings to the installation of non-household meters, but will look to monitor changes to non-household consumption as customers are switched to smart meters.

Residential meters renewed - supply-demand balance benefit (6D.13)

18 As part of our meter replacement and smart meter installation programme we have installed 163,520 smart meters to household customers and 880 smart meters to business customers, along with non-smart traditional meter replacement. For residential property meter renewal, we have installed the following:

Meter Installation	Non-smart installations	Smart Meter Installations	Total
Residential Meters Renewed	43,162	158,426	201,588

19 We have assumed that smart meters account for a 3 per cent change in customer behaviour, in alignment with WRMP19 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.

20 Savings have been calculated based upon 2019/20 per capita consumption and occupancy rates, reflective of less exceptional pre-Covid-19 conditions.

21 Additionally we would assume a 15 per cent reduction for customers being metered on a non-smart traditional meter, as opposed to unmeasured, noting that 3,000 customers opted to switch from being unmeasured to measured customers (optants) of 0.1MI/d.

22 Consequently, for residential meter renewals, we have calculated savings of 0.78 MI/d.

23 Business meter renewal installations are as below:

Meter Installation	Non-smart installations	Smart Meter Installations	Total
New Business Renewed	4,067	873	4,940

24 We currently have not attributed water efficiency savings to the installation or renewal of non-household meters, but will look to monitor changes to non-household consumption as customers are switched to smart meters over time.

Residential properties - meter penetration (6D.15)

25 Meter penetration has increased to 92.3 per cent as the result of our previous enhancement programme, which fits meters on properties that do not have a meter already. The effect of high meter penetration means that we now get fewer customers proactively requesting meters to be fitted. This also means if customers want to be billed via measured charges the process is very easy to switch, with meters already in the ground.

26 Of that penetration percentage, 73.69 per cent are non radio meters and 18.58 per cent are classed as smart. These include different smart technologies which have been installed in the last 11 years. The fixed network (AMI) is our preferred solution and have installed 15,980 over AMP6 as part of the Newmarket and Norwich trials along with 164,400 in 2020/21. There are also 200,100 radio meter that has been installed as part of earlier trials on smart metering which are classed as AMR. These meters need local mobile device to collect the reads, typically taken by walk-by carried out by meter readers and had trials with dustbin lorries in the past.

Total leakage activity (6D.16)

27 We have reported costs to maintain leakage and costs to reduce leakage. Costs to maintain leakage align with base costs and costs reduce leakage align with the activities associated with the Enhanced Capex detailed in our business plan.

28 Further details about the components that make up each area of spend are shown in the table below:

Total leakage activity - Maintaining leakage spend	£m	Comments
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OPEX		
Central Leakage Teams	0.692	This is mainly cost to employ the staff in the central leakage teams excluding any time that is recharged to capital projects listed below. The following teams time is included: Leakage reporting, Leakage targeting, Customer leakage support team (manage customers through the repair of leaks on their assets), Leakage noise logging analysis team
Leakage Detection	6.372	This is the cost to employ the detection technicians, their managers and support teams. Includes van/fuel costs and equipment
Repairs (Proactive)	13.354	This is the cost of carrying out leak repairs that have been identified by the proactive teams. Includes element of IMR alliance overhead (Integrated Maintenance and Repair alliance) associated with running the alliance eg commercial teams, H&S team etc
Repairs (Reactive)	11.959	This is the cost of carrying out leak repairs that have been reported via the public. Includes element of IMR alliance overhead (Integrated Maintenance and Repair alliance) associated with running the alliance eg commercial teams, H&S team etc
Repairs (reactive large bursts)	10.746	As above but larger jobs that are moved to a different budget for internal reporting purposes
Network Techs	1.759	This is the cost of sending customer facing network technicians to investigate, move to work and assist with the repair of leaks that are reported by the public
Planned Maintenance	1.439	This is the cost of the team responsible for maintaining our network flowmeters, data loggers and Pressure reducing valve (PRV) stock
Management	2.004	Management overhead for the IMR alliance
Total opex	48.326	

Capital maintenance		
Leakage Sincon/ Sodcon IMR 2020-21	0.143	This is spend on our individual household monitor used for Per capita consumption (pcc) calculations - relates to replacement of meters/loggers
Leakage - DMA, DZ and SWORPS meter maint	4.225	This is replacement costs incurred for our network meters used to monitor leakage and DI
Smart Controller Refurb 20-21	0.009	Refurbishment of PRV controllers
Unservicable Pressure Mgmt Asset Prog	0.655	Replacement of PRVs
Hartlepool leakage management 20/21 BAU	0.015	Replacement of meters and PRVs in Hartlepool

MDD Loggers IMR 20-21	0.025	Replacement of loggers on our large industrial customers
Atplas and Stoptap Rpl 20-21	1.256	Replacement of failed Atplas boxes
Total Capital maintenance	6.329	

Emergent Needs - capex	0.847	Mains replacement following burst where replacement of small section of main (>15m) better than simple repair
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Total maintaining leakage spend	55.502
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Total leakage activity - Reducing leakage spend		
Leakage Projects		
Leakage Advanced Noise Sensors	6.281	Installation of permeant noise sensors
Leakage 142 Enabling IMR 2020-21	1.325	Identification of leaking assets (services and mains) for replacement instead of repair an the re[pair of said assets
Small Area Networks 20/21	0.260	Creating smaller DMAs either by installation of permanent meters or installation of chambers to allow temporary meters to be installed to split dma up
Leakage targeted mains replacement 20/21	0.657	Mains replacement targeted solely at leakage reduction
Leakage Comb infra renewal/optimisation	0.323	Mains replacement targeted solely at leakage reduction
Total leakage projects	8.847	

Optimisation Projects		
Pressure & Transient Management 20/21	0.859	Installation of pressure management equipment (PRVs, pump controllers etc) at new locations
Combined renewal and optimisation 20/21	0.361	Installation of new mains/assets to enable pressure management schemes
Adv Monitoring Pressure Sensors 20-21	2.545	Installation of permanent high speed pressure loggers to allow transient identification
Small Area Optimisation B70573	0.014	Installation of pressure management equipment (PRVs, pump controllers etc) at new locations
Total optimisation projects	3.779	

Total reducing leakage spend	12.626
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Per capita consumption (unmeasured customers) (6D.17) and (measured customers) (6D.18)

29 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 1 amber detailed below:

- *Meters are selected to provide sufficient granularity to detect low continuous flows indicative of plumbing losses or leakage short duration flow variations. The value of meter under registration is less than the company's average meter stock - Our IHM*

property meters are the same as our standard billing meters. They are included in our domestic meter replacement program based on age. We therefore apply the same MUR as for domestic meters. During the next AMP 50 per cent of our properties will have smart meters installed. This will substantially change the water balance and PHC calculation methodology allowing us to move to daily water balances in many areas. This should improve accuracy. We therefore currently have no plans to replace these meters with higher spec versions.

PCC Annual Review 2020/21

30 The closure of business premises last March and the almost overnight switch to homeworking had a significant impact on patterns of demand for both water and wastewater services across the country, but perhaps has had a particular impact in those regions where in-commuting to London was a more dominant feature of pre-pandemic work patterns.

31 At the peak, we recorded a greater than 50 per cent increase in PCC last May, albeit compounded by the warm spring and summer weather. A year later, PCC remains 10.5 per cent higher than the equivalent time in 2019. Covid-19 restrictions have also affected our smart metering and water efficiency programmes. We have not been able to engage customers on their water consumption in the way that we had planned, such as through home water audits and leakage visits. Instead, we switched our focus to targeted social media, email and newspaper and radio campaigns.

- Water saving activities were maximized using our digital engagement, as well as working with key community partnerships to utilize their online channels too. We ran a summer campaign where we reached over half a million of our customers through our community partnerships driving our water saving messages. Plus, a further 40,000 customers reached with social media influencers demonstrating how to use the water saving home kit.
- As we couldn't visit customers' homes and carry out water home audits, we provided customers to order a free water saving home kit via our website, the kit included a digital shower timer, swell gels, tap inserts plus tips to save water at home. Over 15,000 were sent out during the summer campaign. Respondents to a follow up survey said that the kit helped them save water, with 88 per cent saying the shower timer helped them take shorter showers.
- We reached more than 24,000 customers in Braintree and Colchester with our email campaign as demand increased in the summer. Supporting the targeted engagement, we also used local press and radio adverts to increase our reach.
- Our education team created online materials for schools and home-schooling that was accessed via our website with over 8,500 downloads.
- We installed 164,000 smart meters in 2020/21 to identify customer side leaks and helping customers track their daily and hourly usage via our online MyAccount web/app platforms.

32 We continued to work in collaboration with Waterwise and Water UK by supporting and engaging with the Water's Worth Saving campaign, plus Water Saving week. Our water saving messaging and activities ran through our internal communications and explaining to our people how demand has been impacted during the pandemic.

33 One of the largest savings in PCC arises from customers volunteering to install a meter and move to a metered tariff. There has been a 56 per cent reduction in this activity against our plans. This reduction is a function of our existing high meter penetration which means generally only the more difficult to install internal meters remain. Nevertheless, 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 Water Resources Management Plan to manage

the supply demand balance in the region, and our goal during AMP7 remains to fully offset the demand requirements needed to serve new housing and population growth through effective demand-side measures including leakage control and PCC reduction.

Table 7A - Wastewater network+ - Functional expenditure for the 12 months ended 31st March 2021

	Line description	Units	£000s
Costs of STWs in size bands 1 to 5			
1	Direct costs of STWs in size band 1	000s	3,492
2	Direct costs of STWs in size band 2	000s	2,875
3	Direct costs of STWs in size band 3	000s	10,089
4	Direct costs of STWs in size band 4	000s	18,146
5	Direct costs of STWs in size band 5	000s	13,538
6	General & support costs of STWs in size bands 1 to 5	000s	8,943
7	Functional expenditure of STWs in size bands 1 to 5	000s	57,083
Costs of large STWs (size band 6)			
8	Service charges for STWs in size band 6	000s	1,233
9	Estimated terminal pumping costs size band 6 works	000s	3,249
10	Other direct costs of STWs in size band 6	000s	39,191
11	Direct costs of STWs in size band 6	000s	43,673
12	General & support costs of STWs in size band 6	000s	8,511
13	Functional expenditure of STWs in size band 6	000s	52,184
Costs of STWs - all sizes			
14	Total Functional expenditure for Sewage treatment	000s	109,267

Table 7B - Wastewater network+ - Large sewage treatment works for the 12 months ended 31 March 2021

	Line description	Units	Large STW1	Large STW2	Large STW3	Large STW4	Large STW5	Large STW6	Large STW7	Large STW8	Large STW9	Large STW10
Sewage treatment works - Explanatory variables												
1	Works name (existing works)	text	ANWICK STW	BASILDON STW	BEDFORD STW	BENFLEET STW	BOURNE STW	BRACKLEY STW (NEW)	BRAINTREE	BROADHOLME STW	CAISTER - PUMP LANE STW	
2	Classification of treatment works	text	Tertiary A2	Secondary Activated Sludge	Tertiary A2	Secondary Biological	Secondary Biological	Tertiary A2	Tertiary A2	Tertiary A2	Secondary Activated Sludge	
3	Population equivalent of total load received	000s	34.37	125.33	184.47	28.43	55.02	29	46.71	30.11	228.41	107.87
4	Suspended solids consent	mg/l	26	45	30	80	70	22	25	16	30	0
5	BOD ₅ consent	mg/l	13	25	20	25	25	11	11	8	17	25
6	Ammonia consent	mg/l	6	10	7	20	0	3	3	3	3	0
7	Phosphorus consent	mg/l	2	0	1	0	0	2	2	2	1	0
8	UV consent	mW/s/cm ²	0	0	0	0	0	0	0	0	0	0
9	Load received by STW	kgBOD ₅ /d	2062	7520	11068	1706	3301	1740	2803	1807	13705	6472
10	Flow passed to full treatment	m ³ /d	5284	33249	50302	6778	12339	7351	7392	7473	64633	28873

	Service charges	£000s	17	32	32	19	17	19	19	19	32	23
11	Estimated terminal pumping expenditure	£000s	0	112	189	0	0	0	0	0	25	0
12	Other direct expenditure	£000s	423	529	1187	209	307	349	372	525	1315	722
13	Total direct expenditure	£000s	440	673	1408	228	324	368	391	544	1372	745
14	General and support expenditure	£000s	85	136	272	44	63	71	75	105	266	145
15	Functional expenditure	£000s	525	809	1680	272	387	439	466	649	1638	890

Line description	Units	Large STW11	Large STW12	Large STW13	Large STW14	Large STW15	Large STW16	Large STW17	Large STW18	Large STW19	Large STW20
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Sewage treatment works - Explanatory variables

1	Works name (existing works)	text	CAMBRIDGE STW	CANVEY ISLAND STW	CANWICK STW	CHELMSFORD STW	COLCHESTER STW	CORBY STW	COTTON VALLEY STW	DUNSTABLE STW	FELIXSTOWE STW
2	Classification of treatment works	text	Secondary Activated Sludge	Secondary Activated Sludge	Tertiary B2	Secondary Activated Sludge	Secondary Activated Sludge	Secondary Activated Sludge	Tertiary A2	Tertiary A2	Secondary Activated Sludge
3	Population equivalent of total load received	000s	189.19	38.91	125.88	147.16	46.34	140.8	132.82	310.8	55.31
4	Suspended solids consent	mg/l	20	-	30	40	-	60	20	25	20
5	BOD ₅ consent	mg/l	15	25	10	20	25	25	10	12	12
6	Ammonia consent	mg/l	5	-	3	10	-	15	1	5	3
7	Phosphorus consent	mg/l	1	-	1	-	-	-	1	1	2
8	UV consent	mW/s/cm ²	-	-	-	-	-	30	-	-	-
9	Load received by STW	kgBOD ₅ /d	11,351	2,335	7,553	8,830	2,780	8,448	7,969	18,648	3,319
10	Flow passed to full treatment	m ³ /d	55,907	9,977	34,338	40,660	13,307	31,792	21,667	81,922	12,197
											8,002

Sewage treatment works - Functional expenditure

11	Service charges	£000s	35	17	32	33	17	32	19	57	19	17
12	Estimated terminal pumping expenditure	£000s	234	-	236	64	12	339	7	234	-	-
13	Other direct expenditure	£000s	903	369	615	1,386	443	1,110	1,260	2,232	554	395
14	Total direct expenditure	£000s	1,172	386	883	1,483	472	1,481	1,286	2,523	573	412
15	General and support expenditure	£000s	233	74	171	286	92	295	248	496	111	79
16	Functional expenditure	£000s	1,405	460	1,054	1,769	564	1,776	1,534	3,019	684	491

Line description	Units	Large STW21	Large STW22	Large STW23	Large STW24	Large STW25	Large STW26	Large STW27	Large STW28	Large STW29	Large STW30
Sewage treatment works - Explanatory variables											
1 Works name (existing works)	text	FLITWICK STW	FORNHAM ALL SAINTS STW	GREAT BILLING STW	GRIMSBY/PEMBLE STW	HAVERHILL STW	HITCHIN STW	HUNTINGDON (COMMUNICATOR) STW	INGOLDMELLS STW	IPSWICH CLIFF QUAY RABURN STW	KINGS LYNN STW
2 Classification of treatment works	text	Tertiary A2	Tertiary B2	Tertiary A2	Secondary Activated Sludge	Tertiary B2	Tertiary A2	Tertiary A2	Secondary Activated Sludge	Secondary Activated Sludge	Tertiary A2
3 Population equivalent of total load received	000s	32.42	81.47	304.05	148.65	32.44	37.07	44.01	43.32	146.84	64.8
4 Suspended solids consent	mg/l	25	16	25	-	20	30	30	-	200	100
5 BOD _s consent	mg/l	15	8	13	25	10	15	20	25	25	25
6 Ammonia consent	mg/l	5	2	5	-	4	4	7	-	50	-
7 Phosphorus consent	mg/l	2	2	1	-	2	1	1	-	-	-
8 UV consent	mW/s/cm ²	-	-	-	-	-	-	-	-	-	-
9 Load received by STW	kgBOD _d /d	1,945	4,888	18,243	8,919	1,946	2,224	2,641	2,599	8,810	3,888
10 Flow passed to full treatment	m ³ /d	7,359	11,607	83,526	49,593	6,950	9,233	11,211	13,249	34,806	22,080

Line description	Functional expenditure
11 Service charges	£000s
12 Estimated terminal pumping expenditure	£000s
13 Other direct expenditure	£000s
14 Total direct expenditure	£000s
15 General and support expenditure	£000s
16 Functional expenditure	£000s

Line description	Units	Large STW31	Large STW32	Large STW33	Large STW34	Large STW35	Large STW36	Large STW37	Large STW38	Large STW39	Large STW40
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Sewage treatment works - Explanatory variables

1 Works name (existing works)	text	LEIGHTON LINSLADE STW	LEITCHWORTH STW	LOWESTOFT STW	MARSTON STW (LINCS)	NEWMARKET STW	PETERBOROUGH (FLAG FEN) STW	ROCHFORD STW	SHENFIELD AND HUTTON STW	SOUTHEND STW	SPALDING STW
2 Classification of treatment works	text	Tertiary B2	Tertiary A2	Secondary Activated Sludge	Tertiary B2	Tertiary A2	Tertiary A1	Tertiary A1	Tertiary A2	Secondary Activated Sludge	Secondary Biological
3 Population equivalent of total load received	000s	43.86	46.85	85.11	59.62	28.2	225.3	34.37	44.12	201.65	77.04
4 Suspended solids consent	mg/l	35	25	-	15	20	24	60	20	150	120
5 BOD ₅ consent	mg/l	25	13	25	10	12	9	25	10	25	25
6 Ammonia consent	mg/l	8	3	-	3	4	3	-	3	-	-
7 Phosphorus consent	mg/l	2	1	-	2	2	-	-	2	-	-
8 UV consent	mW/s/cm ²	-	-	-	-	-	-	-	-	-	-
9 Load received by STW	kgBOD ₅ /d	2,632	2,811	5,107	3,577	1,692	13,518	2,062	2,647	12,099	4,622
10 Flow passed to full treatment	m ³ /d	7,911	8,268	19,059	16,947	4,637	67,849	11,227	14,091	64,354	17,278

Sewage treatment works - Functional expenditure

11 Service charges	£000s	19	19	32	19	19	32	17	19	32	19
12 Estimated terminal pumping expenditure	£000s	14	20	-	5	-	161	-	-	429	17
13 Other direct expenditure	£000s	548	466	1,374	251	250	1,952	360	655	1,294	139
14 Total direct expenditure	£000s	581	505	1,406	275	269	2,145	377	674	1,755	175
15 General and support expenditure	£000s	112	98	273	53	52	416	73	130	339	34
16 Functional expenditure	£000s	693	603	1,679	328	321	2,561	450	804	2,094	209

Sewage treatment works - Explanatory variables

		ST NEOTS STW	TEENE-NEVTON MARSH STW	THETFORD STW	WEST WALTON STW	WHILTON STW	WHITINGHAM TROWSE STW	WICKFORD STW	WITHAM STW	Total STW
1	Works name (existing works)	text								
2	Classification of treatment works	text	Tertiary B2	Tertiary A2	Secondary Activated Sludge	Tertiary B2	Tertiary A2	Tertiary A1	Secondary Activated Sludge	
3	Population equivalent of total load received	000s	39.92	53.03	32.14	149.97	114.07	32.51	306.31	42.58
4	Suspended solids consent	mg/l	90	45	50	95	80	24	40	45
5	BOD _s consent	mg/l	25	25	25	25	12	20	22	20
6	Ammonia consent	mg/l	-	-	16	-	20	3	7	10
7	Phosphorus consent	mg/l	1	-	2	-	-	2	1	-
8	UV consent	mW/s/cm ²	-	30	-	-	-	-	30	-
9	Load received by STW	kgBOD/d	2,395	3,182	1,028	8,998	6,844	1,951	18,379	2,555
10	Flow passed to full treatment	m ³ /d	13,032	18,905	6,755	34,426	16,665	6,352	79,133	12,390
										6,147
										1,208,523

Sewage treatment works - Functional expenditure

11	Service charges	£000s	19	32	19	32	19	19	56	19	19	1,233
12	Estimated terminal pumping expenditure	£000s	-	3	13	146	-	-	2	-	32	3,249
13	Other direct expenditure	£000s	263	483	504	1,756	1,287	335	2,338	478	372	39,191
14	Total direct expenditure	£000s	282	518	536	1,934	1,306	354	2,396	497	423	43,673
15	General and support expenditure	£000s	54	99	104	379	252	68	470	95	81	8,511
16	Functional expenditure	£000s	336	617	640	2,313	1,558	422	2,866	592	504	52,184

Works name, classification of treatment works and population equivalent of total load received (7B.1- 7B.3)

1 We have calculated the population equivalent and the loads on a basis consistent with how we used to report table 17b in the June Return. The numbers exclude imported effluents (tankered loads from septic tanks and cesspools) and include non-resident population. The number of works has remained the same as 2019/20, but there are two works, Harwich and Dovercourt Water Recycling Centre (WRC) and Market Harborough WRC, which are only marginally under the threshold. We anticipate they will be added to the list of large works in 2021/22.

Large STW Consents (7B.4-8)

2 We maintain an internal system (PACE) which summarises details of the permit limits relating to our STW discharges. These are the limits which are detailed in the Environmental Permits issued to us by the Environment Agency.

BOD5 Consent (7B.5)

3 For a number of water recycling centres the UWWTD BOD limit of 25mg/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)

4 The total load received at large works has fallen by over 60,000pe in 2020/21. This equates to a 1 per cent reduction in treated load, and is accounted for in by the reduction in trade effluent load received over the period as well as a reduction in the non-resident load.

Flow passed to full treatment (7B.10)

5 The numbers reported for many of our STW have changed noticeably when compared with those reported in 2019/20. We believe this is due, in part, to the natural variance associated with different rainfall patterns from year to year but may also be due to the effects of Covid-19. An example of the latter is the reduction in the number being reported for Ingoldmells WRC where there was a drop in the holiday population during 2020/21 compared with 2019/20.

6 The flow meter at Witham WRC was reading significantly higher than normal during the winter of 2019. This was investigated but no faults were found. The flow meter readings for the WRC have returned to normal but as a result of the high number reported in 2019/20 there is a significant drop in the number being reported for line 7B.10 for 2020/21. The number being reported for Spalding WRC is significantly higher than in 2019/20 and we are currently investigating the potential reason for this.

Service charges (7B.11)

7 Service charges in total for large works agrees to table 4N sewage treatment (line 4N.8).

Table 7C - Wastewater network+ - Sewer and volume data for the 12 months ended 31st March 2021

	Line description	Units	Input
Wastewater network			
1	Connectable properties served by s101A schemes completed in the report year	nr	0
2	Number of s101A schemes completed in the report year	nr	0
3	Total pumping station capacity	kW	120840
4	Number of network pumping stations	nr	6255
5	Total number of sewer blockages	nr	40959
6	Total number of gravity sewer collapses	nr	296
7	Total number of sewer rising main bursts	nr	173
8	Number of combined sewer overflows	nr	1244
9	Number of emergency overflows	nr	895
10	Number of settled storm overflows	nr	373
11	Sewer age profile (constructed post 2001)	km	2191
12	Volume of trade effluent	ML/yr	20465.11
13	Volume of wastewater receiving treatment at sewage treatment works	ML/yr	677683.73
14	Length of gravity sewers rehabilitated	km	16
15	Length of rising mains replaced or structurally refurbished	km	15
16	Length of foul (only) public sewers	km	19198
17	Length of surface water (only) public sewers	km	11647
18	Length of combined public sewers	km	10318
19	Length of rising mains	km	4635
20	Length of other wastewater network pipework	km	6
21	Total length of "legacy" public sewers as at 31 March	km	45804
22	Length of formerly private sewers and lateral drains (s105A sewers)	km	31200

s101A Schemes completed in the report year (7C.1 and 7C.2)

1 There have been no s101A schemes delivered within year one.

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. The number of sites was calculated based on this more granular pump specific asset data. Inlet pumping stations sited on sewage treatment works have been excluded because they have been considered to be inter-stage pumping stations.

Total number of sewer blockages (7C.5)

3 The total number of blockages has increased compared to 2019/20. In 2020/21 we had 40,959 blockages compared to 39,177 in 2019/20. We have seen a reduction in the number of public sewer blockages (-665) and an increase in the blockages numbers on sewers that were previously described as transferred sewers (+2447).

4 We continue to focus on proactive measures to prevent blockages, with better analytical techniques being used to more effectively identify blockage hotspots.

Total number of sewer rising main bursts / collapses (7C.6 and 7C.7)

5 There were 296 reactive sewer collapses reported in 2020/21. This is a slight increase compared to 2019/20 when we reported 270.

6 There were 173 reactive burst rising mains in 2020/21. This is a slight increase compared to 2019/20 when we reported 138.

7 We've seen an increase in both burst rising mains and sewer collapses due to prolonged wet weather experienced. This has caused rising mains to need to pump for longer than usual, which puts them at a higher risk of mechanical failure. The prolonged rainfall has also causes ground movement due to saturated ground which in turn has caused additional collapses and burst rising mains.

Numbers of overflows (7C.8 - 7C.10)

8 Figures for 2020/21 are taken from source databases at the end of the reporting year.

9 The number of combined sewer overflows has reduced this year. There have also been minor changes to lines 9 and 10. These changes are due to data improvement within our permitting database (known internally as PACE).

Sewer age profile (constructed post 2001) (7C.11)

10 The best estimated year of every mapped sewer laid 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.

11 These lengths have increased slightly on last year, with 127kms more lengths in this age band when compared to 2019/20.

12 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)

13 The volume of trade effluent is lower than 2019/20 due to the lower levels of activity for business customers resulting from the lockdowns during the Covid-19 pandemic.

Volume of wastewater receiving treatment at sewage treatment works (7C.13)

14 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.

Length of gravity sewers rehabilitated (7C.14)

15 In 2020/21 16km of gravity sewer was proactively replaced or relined. This is a significant reduction in length based on previous years and reflects a shift in Anglian Water strategy to focus on relining and replacing larger critical sewer, where failure could cause

significant risk, and accept a greater level of risk on small diameter sewer failure unless they are causing customer problems. For example, this year a 0.44km section of 1500mm trunk sewer (Peterborough Potters Way) was replaced at a total scheme cost of £2622.553k.

16 We have also begun a more proactive approach to infiltration reduction, to refurbish or replace sewer lengths (including private customer laterals) where cracks in the sewers are leading to increase risk of customer flooding due to groundwater taking up capacity in the sewerage system.

Length of rising mains replaced or structurally refurbished (7C.15)

17 In 2020/21 15km of rising mains was proactively replaced or refurbished.

18 This is a significant increase in length based on previous years and reflects a change in approach to mitigate rising mains to extend asset life, rather than a strategy based solely on rising main replacement.

19 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.

20 Capital interventions include (but are not limited to) installation of air valves along the rising main length and VSD at the pumping station to reduce pressure spikes. Nine rising mains (totalling 13km length) benefitted from these types of interventions in 2020/21.

21 Rising main replacement schemes are completed when mitigation is not possible or cost effective, or if further burst occur post mitigation.

Length of wastewater network pipework (7C.16-7C.21)

22 Our modelled estimate of ex-Section 24 sewer lengths have been included in our reported sewer lengths since 2002/03 and this has not changed this year. 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.

23 Lines 16-19 have all seen increases for 2020/21, with foul sewer and rising main lengths seeing the largest increase of ~53km from 2019/20.

24 In line 7C.20 we have included a length of 6.325km which is for a sludge main.

Length of formerly private sewers and lateral drains (s.105A sewers) (7C.22)

25 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.

Table 7D - Wastewater network+ - Sewage treatment works data for the 12 months ended 31st March 2021

Line description	Units	Treatment categories							Total
		Primary	Secondary		Tertiary				
			Activated Sludge	Biological	A1	A2	B1	B2	

Load received at sewage treatment works										
1	Load received by STWs in size band 1	kg BOD ₅ /day	21	397	1491	207	8	371	0	2495
2	Load received by STWs in size band 2	kg BOD ₅ /day	0	456	1374	282	23	726	47	2908
3	Load received by STWs in size band 3	kg BOD ₅ /day	0	1970	6473	1435	263	6795	607	17543
4	Load received by STWs in size band 4	kg BOD ₅ /day	0	8954	18012	4533	2670	14585	9052	57806
5	Load received by STWs in size band 5	kg BOD ₅ /day	0	10768	7922	5599	14519	3184	26975	68967
6	Load received by STWs above size band 5	kg BOD ₅ /day	0	105084	9630	18135	122699	0	24942	280490
7	Total load received	kg BOD ₅ /day	21	127629	44902	30191	140182	25661	61623	430209
8	Load received from trade effluent customers at treatment works	kg BOD ₅ /day	-	-	-	-	-	-	-	42531

Treatment works consents				
Phosphorus				
<=0.5mg/l	>0.5 to <=1mg/l	>1mg/l	No permit	Total

Load received at sewage treatment works					
1	Load received by STWs in size band 1	0	0	2494	2494
2	Load received by STWs in size band 2	70	57	2765	2892
3	Load received by STWs in size band 3	1980	766	14593	17339
4	Load received by STWs in size band 4	10780	2902	43297	56979
5	Load received by STWs in size band 5	10550	2455	55962	68967
6	Load received by STWs above size band 5	10071	18379	252040	280490
7	Total load received	33451	24559	371151	429161

Treatment work consents					
BOD ₅					
	<=7mg/l	>7 to <=10mg/l	>10 to <=20mg/l	>20mg/l	No permit
					Total

Load received at sewage treatment works	0	0	192	204	2097	2493
1 Load received by STWs in size band 1	0	0	192	204	2097	2493
2 Load received by STWs in size band 2	0	52	860	1510	470	2892
3 Load received by STWs in size band 3	72	478	8598	8159	32	17339
4 Load received by STWs in size band 4	188	10315	27253	18969	254	56979
5 Load received by STWs in size band 5	0	10818	30761	27388	0	68967
6 Load received by STWs above size band 5	0	43905	125322	111262	0	280489
7 Total load received	260	65568	192986	167492	2853	429159

Treatment work consents					
Ammonia					
	<=1mg/l	>1 to <=3mg/l	>3 to <=10mg/l	>10mg/l	No permit
					Total

Load received at sewage treatment works	0	0	111	166	2216	2493
1 Load received by STWs in size band 1	0	0	111	166	2216	2493
2 Load received by STWs in size band 2	0	23	261	699	1909	2892
3 Load received by STWs in size band 3	0	623	5198	4843	6676	17340
4 Load received by STWs in size band 4	1051	7839	26325	10741	11022	56978
5 Load received by STWs in size band 5	2480	7611	34444	11932	12500	68967
6 Load received by STWs above size band 5	7969	60316	113648	38793	59763	280489
7 Total load received	11500	76412	179987	67174	94086	429159

Line description	Units	Treatment categories							
		Primary	Secondary		Tertiary				Total
			Activated Sludge	Biological	A1	A2	B1	B2	

Number of sewage treatment works										
9	STWs in size band 1	nr	6	51	293	26	1	46	0	423
10	STWs in size band 2	nr	0	19	61	12	1	33	2	128
11	STWs in size band 3	nr	0	26	98	24	3	102	7	260
12	STWs in size band 4	nr	0	27	70	15	7	56	29	204
13	STWs in size band 5	nr	0	10	9	5	14	3	27	68
14	STWs above size band 5	nr	0	16	3	3	20	0	7	49
15	Total number of works	nr	6	149	534	85	46	240	72	1132

Line description	Units	Treatment categories							
		Primary	Secondary		Tertiary				Total
			Activated Sludge	Biological	A1	A2	B1	B2	

Number of sewage treatment works										
9	STWs in size band 1	0	6	51	293	26	1	46	0	423
10	STWs in size band 2	0	0	19	61	12	1	33	2	128
11	STWs in size band 3	0	0	26	98	24	3	102	7	260
12	STWs in size band 4	Number of sewage treatment works	0	27	70	15	7	56	29	204
13	STWs in size band 5	STWs in size band 1	0	10	9	5	14	3	27	68
14	STWs above size band 5	STWs in size band 2	0	16	3	3	20	0	7	49
15	Total number of works	STWs in size band 3	6	149	534	85	46	240	72	1132

Population equivalent			
16	Current population equivalent served by STWs	000s	7068.020
17	Current population equivalent served by filter bed or activated sludge STWs with tightened/new P consents	000s	24.802
18	Current population equivalent served by STWs with tightened/new N consents	000s	0.000
19	Current population equivalent served by STWs with tightened/new sanitary parameter consents	000s	2.259
20	Current population equivalent served by STWs with tightened/new UV consents	000s	0.000
21	Population equivalent treatment capacity enhancement	000s	0.000
22	Current population equivalent served by STW with tightened / new consents for chemicals	000s	0.000
23	Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity	l/s	0.000
24	Additional storm tank capacity provided at STWs	m3	0.000
25	Additional volume of network storage at CSOs etc to reduce spill frequency	m3	0.000

Loads received (7D.1-7D.8)

1 We have calculated the loads using a process consistent 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, tankered waste (from septic tanks and cesspools) and trade effluent loads. Non-resident population has not been included when determining the size banding of the works, in line with the guidance.

3 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 four changes to treatment types in 2020/21. This is due to P-dosing being installed on the sites to improve effluent quality. The sites are summarised in the table below:

WRC Name	Size Band	Load (kg/BOD/day)	Treatment Type APR-20	New Treatment Type
ALLINGTON STW	3	52	SB	TB2
BRIGSTOCK STW	3	86	SAS	TA2
ELMSWELL STW	4	441	SB	TB2
LEADENHAM STW	3	69	SB	TB2

4 The loads received volumes in lines 7D.1-7D.7 include non-resident population, but exclude the tankered imports from septic tanks and cesspools. This is consistent with our approach to reporting historically and in line with previous Ofwat guidance JR08/004 and RAG 4.09. Due to Covid-19 restrictions being imposed at several points throughout the reporting year, we have reduced the number of non-resident population visiting the region. Domestic population and trade load distributions were unaffected, as domestic customers were already assigned to their home works, and trade loads are based on what we have billed in the period, so would cover any reduction in outputs caused by temporary closure of businesses.

5 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.

Works Name	APR-21 PE	Ownership	Treatment Type	Load kg/BOD/day
ALKBOROUGH STW	543.84	Severn Trent	SCB	32.63
BRENTWOOD NAG HEAD LN STW THAM	6274.59	Thames	TB1	376.48
CHEVELEY PARK STW	20.82	Private	PRM	1.25
STANSTED MOUNTFICHET STW	2301.36	Thames	TB1	138.08
STEVENAGE STW	1542.84	Thames	TA2	92.57
GT WHELNETHAM-STANFLD RD STW	7.52	Private	SCB	0.45
HALSE STW	1280.85	Thames	SCB	76.85
SEVERN TRENT STW	264.19	Severn Trent	SCB	15.85
WINGRAVE STW	5229.09	Thames	SCB	313.75

Load received from trade effluent customers at treatment works (7D.8)

6 The population equivalent (PE) emanating from trade effluent customers has fallen by approximately 88,000PE (12 per cent decrease) compared to 2019/20. We ascribe this reduction to the national lock-downs aimed at controlling the spread of Covid-19, which forced many companies to cease operations for a period of time.

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. 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 Six sites had new / tightened P permits applied in 2020/21 (Allington WRC, Brant Broughton WRC, Brigstock WRC, Leadenham WRC, Elmswell WRC and Attleborough WRC).

9 These were all delivered earlier than the original WINEP obligation date.

Current population equivalent served by STWs with tightened/new N consents (7D.18)

10 We have no new N permit conditions scheduled in the AMP7 WINEP.

Current population equivalent served by STWs with tightened/new sanitary parameter consents (7D.19)

11 One UWWT scheme was delivered in 2020/21 (Sutterton Wigtoft STW resulted in a tightening of the BOD permit. This was delivered earlier than the original WINEP obligation date.

Current population equivalent served by STWs with tightened/new UV consents (7D.20)

12 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)

13 In 2020/21 there was no additional population equivalent capacity added. This year focused purely on risk identification and design, with construction to start in the next year.

Current population equivalent served by STW with tightened / new consents for chemicals (7D.22)

14 There are no new or tightened chemicals consent obligations in year one of the WINEP (2020/21).

Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity (7D.23)

15 There are no FFT obligations in year one of the WINEP (2020/21).

Additional storm tank capacity provided at STWs (7D.24)

16 There are no storm tank capacity obligations in year one of the WINEP (2020/21).

Table 7E - Wastewater network+ - Energy consumption and other data for the 12 months ended 31st March 2021

Line description	Units	Input
Other		
1 Total sewerage catchment area	km ²	4,221
2 Designated coastal bathing waters	nr	48
3 Number of intermittent discharge sites with event duration monitoring	nr	229
4 Number of monitors for flow monitoring at STWs	nr	52
5 Number of odour related complaints	nr	3,311
Energy consumption		
6 Energy consumption - sewage collection	MWh	110,515.703
7 Energy consumption - sewage treatment	MWh	239,755.096
8 Energy consumption - wastewater network +	MWh	350,270.799

Total sewerage catchment area (7E.1)

1 The figure quoted for the sewerage catchment area covers the aggregate area of all our sewerered areas.

Designated bathing waters (7E.2)

2 The figure represents the number of designated bathing waters in 2020 which is 48. This has dropped from 49 which were previously designated due to the de-designation of Clacton Groyne 41 at the end of 2019. The designation of new bathing waters is undertaken by Local Authorities and Anglian Water has no control over designations.

Number of intermittent discharge sites with event duration monitoring (EDM) (7E.3)

3 Event Duration Monitors (EDM) were installed at 229 locations. This enabled 263 obligations in the Environment Agency's Water Industry National Environment Programme (WINEP) to be met. At some locations one, or more, EDM were able to be used to meet multiple obligations.

Number of monitors for flow monitoring at STWs (7E.4)

4 We have delivered 52 schemes to monitor FFT at WRCs in year one of the WINEP (2020/21).

Number of odour related complaints (7E.5)

5 The number of odour related complaints for this year are 3,311. This is slightly down from 2019/20 due to Covid-19 travel restrictions.

Energy consumption - sewage collection, sewage treatment and wastewater network plus (7E.6-8)

6 These are new APR lines for 2020/21, albeit included in the previous APR table 4U, line 13. The difference is that an allowance for administrative buildings and head office function is now required in Table 8C, lines 1 and 6 for bioresources so a lower allocation has therefore been applied to table 7E, lines 6-8.

7 The total energy consumption across both lines 7E.6 and 7E.7 was 350,271 MWh. The equivalent number for 2019/20 was 350,970 MWh so there has been a marginal decrease of 699 MWh or 0.2 per cent. For sewage collection there has been an increase of 1,749 MWh (1.6 per cent) and for sewage treatment the decrease is 2,448 MWh (1 per cent).

8 The main component of this reduction is a reduction in consumption under the transport heading, due to a reduction in miles travelled and therefore fuel consumption. Transport mileage is reduced due to less driving in the Covid-19 pandemic lockdowns while fuel was affected by deliveries of gas-oil which were also lower year-on-year. Given that gas-oil is used for standby generation and exports from this generation were slightly higher, this reduction is likely to be due to the running down of higher inventories being held from the previous year due to Brexit stockpiling. Countering this was the consumption of electricity across both collection and treatment to deal with the high volumes of the very wet year.

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 water recycling 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).
- An assumption has been made that 90 per cent of gas oil delivered to water recycling sites is used for CHP boilers so 10 per cent has been allocated to the rest of water recycling in line with the approach taken by our management accountants.
- 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 biosolids haulage fleet which has been allocated entirely to bioresources.
- Transport for company cars is collected as mileage. We have converted mileage into kWh through using BEIS' greenhouse gas reporting condensed conversion factors for 2020.
- For electric vehicles we have made the assumption that the mileage claimed relates to charging at home, rather than using the charging points at the offices as most office-based employees were working from home during the Covid-19 pandemic. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption totals just 8,455 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. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and AW infrastructure.

Table 8A - Bioresources sludge data for the 12 months ended 31st March 2021

	Line description	Units	Total
1	Total sewage sludge produced, treated by incumbents	ttds/ year	147.0
2	Total sewage sludge produced, treated by 3 rd party sludge service provider	ttds/ year	0
3	Total sewage sludge produced	ttds/ year	147.0
4	Total sewage sludge produced from non-appointed liquid waste treatment	ttds/ year	3.1
5	Percentage of sludge produced and treated at a site of STW and STC co-location	%	28.47
6	Total sewage sludge disposed by incumbents	ttds/ year	85.6
7	Total sewage sludge disposed by 3rd party sludge service provider	ttds/ year	0
8	Total sewage sludge disposed	ttds/ year	85.6
9	Total measure of intersiting 'work' done by pipeline	ttds*km/year	0
10	Total measure of intersiting 'work' done by tanker	ttds*km/year	1,933
11	Total measure of intersiting 'work' done by truck	ttds*km/year	4,208
12	Total measure of intersiting 'work' done (all forms of transportation)	ttds*km/year	6,141
13	Total measure of intersiting 'work' done by tanker (by volume transported)	m ³ *km/yr	798,113,46
14	Total measure of 'work' done in sludge disposal operations by pipeline	ttds*km/year	0
15	Total measure of 'work' done in sludge disposal operations by tanker	ttds*km/year	0
16	Total measure of 'work' done in sludge disposal operations by truck	ttds*km/year	4,252.96
17	Total measure of 'work' done in sludge disposal operations (all forms of transportation)	ttds*km/year	4,252.96
18	Total measure of 'work' done by tanker in sludge disposal operations (by volume transported)	m ³ *km/yr	0
19	Chemical P sludge as % of sludge produced at STWs	%	48.61

Total sludge produced, treated by incumbents (8A.1)

1 The number reported was calculated in the same way as in 2019/20. This is at the point of treatment (e.g. thickened blended sludge entering sludge treatment such as the advanced digestion 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 2020/21 there were none; in previous years we have imported sludge from Yorkshire Water and Severn Trent.

2 We have invested at sites to include and improve dry solids monitoring at the point of treatment at a number of our sludge treatment centres (STCs). The monitor is a new type capable of operating at a higher dry solids range more suited to our operating parameters. We continue to monitor instrument performance and accuracy and, if successful, will consider further roll-out of the technology to our remaining STCs.

3 The amount of sludge treated fell slightly on the prior year (down 2.1 thousand tonnes dry solids, ttds). This was primarily due to the extreme wet weather during the final quarter which restricted tankering of liquid sludges as tankers were diverted to flood relief work. However, we treated an extra 2.1 ttds through advanced anaerobic digestion (AD) and reduced the amount limed by 66 per cent, consistent with our long-term sludge strategy. This reflects the improvement in the operational management of our STCs, including the creation of a separate sludge management team in April 2019.

4 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)

5 We had 2.2 ttds of sludge limed at March WRC by our framework liming contractor. As this is a managed contract 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. Therefore, all sludge was treated wholly in-house.

Total sewage sludge produced from non-appointed liquid waste treatment (8A.4)

6 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 (405.0 thousand wet tonnes) and applying the average Total Suspended Solids (TSS) of randomly sampled loads at the receiving WRCs (7580.12 mg/l, n=497) in a similar manner to 2019/20.

Percentage of sludge produced and treated at a site of WRC and STC co-location (8A.5)

7 We have included the percentage of sludge produced on a co-located WRC and STC only when sludge treatment is present (i.e. not raw dewatering sites). We have therefore counted our nine advanced AD sites and one conventional AD site (Chelmsford). The one operational lime plant (at March WRC - operated for liming by Singleton Birch from March 2020 to July 2020) has not been included as the WRC has no dewatering and limes imported raw cake only. March WRC's own indigenous sludge is transported by tanker elsewhere for treatment.

8 As in previous submissions, we have adhered to the updated definition following clarification from Ofwat in 2019, namely:

9 "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".

Total sewage sludge, disposed by incumbents (8A.6)

10 The number reported was calculated in the same way as in 2019/20 in line with the definition, based on treated material hauled to agricultural land (but not necessarily spread), into composting (zero this year) and into land reclamation (zero this year) 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. The amount of sludge disposed was similar to the prior year (1.6 ttds increase). The amounts disposed in 2019/20 and 2020/21 are lower than what we would regard as normal due to two wet autumn and winters, which restricted recycling to land. Furthermore, we have continued to maximise digestion of sludge and reduced liming.

Total sludge disposed by third party sludge service provider (8A.7)

11 We did not have any sludge disposed of by a third party sludge service provider in 2020/21. We would include here any amounts of sludge transferred to third parties for activated sludge or digester plant seeding, if material.

Truck and tanker distances (8A.10, 11, 13, 15 and 16)

12 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)

13 We measure tankering work volumetrically, so to convert cubic meters to ttds we have used an average percentage of dry solids of 2.42 per cent. This is the average of measured data for the 2018/19 period. Table 8A, line 13 is unadjusted for dry solids content equivalent number.

Total measure of intersiting 'work' done by truck (8A.11)

14 We have included all raw cake transfers between dewatering centres and STCs in this line.

15 We see a 17 per cent reduction in this line compared to 2019/20. Our STC availability to accept liquid sludge improved in 2020/21, so a greater proportion of our overall sludge production was hauled direct to STC's as liquid rather than via intermediate dewatering sites and conversion to raw cake.

Total measure of 'work' done in sludge disposal operations by tanker and by volume transported (8A.15 and 8A.18)

16 We have not passed any liquid sludge to third parties in the reporting year and as our entire disposal to agricultural land, land reclamation (when applicable) and composting (when applicable) is completed as cake, these are zero entries.

Total measure of 'work' done in sludge disposal operations by truck (8A.16)

17 Treated cake that is transferred to intermediate storage, as well as from STC direct to the landbank, has been included. This number has reduced by 16 per cent in comparison to 2019/20. We have increased the amount of treated cake which is back-hauled (that is, transferred to intermediate storage before recycling to local landbank) in order to take advantage of otherwise empty trucks once they have off-loaded raw cake at the STCs. This allows us to access landbank around former STCs (now raw dewatering sites) and overall reduces haulage to land distance, as these lorries would be returning in any case. In 2020/21 we back-hauled 7.18 ttds of treated cake. This equates to 466 ttds*km.

Chemical P sludge as percentage of sludge produced at STWs (8A.19)

18 The number reported was calculated in the same way as in 2019/20 in line with the definition.

19 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 removing P biologically and we do not dose chemicals there. Similarly, we do not include iron salt dosing at Clacton WRC which is for enhanced settlement.

Table 8B - Bioresources operating expenditure analysis for the 12 months ended 31st March 2021

	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	-	-	-	-
6	Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-
7	Other operating expenditure excluding renewals - direct	£m	0.003	14.419	-	14.422
8	Other operating expenditure excluding renewals - indirect	£m	-	4.037	-	4.037
9	Total functional expenditure	£m	0.006	18.456	-	18.462
10	Local authority and Cumulo rates	£m	-	0.064	-	0.064
11	Total operating expenditure (excluding 3rd party)	£m	0.006	18.520	-	18.526

Line description	Units	Untreated Sludge	Raw Sludge liming	Conventional AD	Incineration of raw sludge	Incineration of digested Sludge	Proctoring/ composting	Advanced Anaerobic Digestion	Other	Total
Sludge treatment type										
12 Power	£m	-	0.060	(0.061)	-	-	-	(0.990)	-	(0.991)
13 Income treated as negative expenditure	£m	-	-	(0.039)	-	-	-	(6.718)	-	(6.757)
14 Discharge consents	£m	-	-	0.001	-	-	-	0.087	-	0.088
15 Bulk discharge	£m	-	-	-	-	-	-	-	-	-
Other operating expenditure										
16 Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-	-	-	-
17 Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-	-	-	-
18 Other operating expenditure excluding renewals - direct	£m	-	0.489	0.244	-	-	-	23.347	-	24.080
19 Other operating expenditure excluding renewals - indirect	£m	-	0.106	0.044	-	-	-	4.404	-	4.554
20 Total functional expenditure	£m	-	0.655	0.189	-	-	-	20.130	-	20.974
21 Local authority and Cumulo rates	£m	-	0.076	0.030	-	-	-	3.090	-	3.196
22 Total operating expenditure (excluding 3rd party)	£m	-	0.731	0.219	-	-	-	23.220	-	24.170

Line description	Units	landfill, raw	landfill, partly treated	land restoration/ redamation	sludge recycled to farmland	Other	Total
Sludge disposal route							
23 Power	£m	-	-	-	-	-	-
24 Income treated as negative expenditure	£m	-	-	-	(2.200)	-	(2.200)
25 Discharge consents	£m	-	-	-	-	-	-
26 Bulk discharge	£m	-	-	-	-	-	-
Other operating expenditure							
27 Renewals expensed in year (Infrastructure)	£m	-	-	-	-	-	-
28 Renewals expensed in year (Non-Infrastructure)	£m	-	-	-	-	-	-
29 Other operating expenditure excluding renewals - direct	£m	-	-	-	6.652	-	6.652
30 Other operating expenditure excluding renewals - indirect	£m	-	-	-	2.005	-	2.005
31 Total functional expenditure	£m	-	-	-	6.457	-	6.457
32 Local authority and Cumulo rates	£m	-	-	-	0.028	-	0.028
33 Total operating expenditure (excluding 3rd party)	£m	-	-	-	6.485	-	6.485

1 Please see table 4E for commentary on Bioresources expenditure

Table 8C - Bioresources energy and liquors analysis for the 12 months ended 31st March 2021

Line description	Electricity	Heat	Biomethane	Total	Electricity	Heat	Biomethane	Total
	MWh	MWh	MWh	MWh	£m	£m	£m	£m

Energy									
1	Energy consumption - bioresources	-	-	-	-	-	-	14.719	
2	Energy generated by and used in bioresources control	31,172	180,064	103,981	315,217	3.491	5.298	0	8.789
3	Energy generated by bioresources and used in network plus control	54,826	0	182,883	237,709	6.14	0	0	6.140
4	Energy generated by bioresources and exported to the grid or third party	29,064	0	96,949	126,013	1.606	0	0	1.606
5	Energy generated by bioresources that is unused	0	0	0	0	-	-	-	-
6	Energy bought from grid or third party and used in bioresources control	36,945	44,404	0	81,349	4.624	1.306	0	5.930

	Income from renewable energy subsidies	Unit	Value
7	Income claimed from Renewable Energy Certificates (ROCs)	£m	5.114
8	Income claimed from Renewable Heat Incentives (RHIs)	£m	-
9	Income claimed from [other renewable energy subsidy (1)]	£m	0.004
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	5.118
13	% of total number of renewable energy subsidies due to expire in the next 2 financial years	%	0
14	This year's value of renewable energy subsidies due to expire in the next 2 financial years	£m	-

	Bioresources liquors treated by network plus	Unit	Value
15	BOD load of liquor or partially treated liquor returned from bioresources to network plus	kg/d	41,358
16	Ammonia load of liquor or partially treated liquor returned from bioresources to network plus	kg Amm-N/d	5,386
17	Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors	£m	11.807

Energy generation and use - bioresources (8C.1-6)

MWh columns

Electricity

1 These are new APR lines for 2020/21, while the line about energy consumption in bioresources in the previous APR (4U.14) has been removed. An allowance for administrative buildings and head office function is now required in lines one and six. This was previously all allocated to water recycling network plus.

2 For information and consistency with 2019/20 4U.14, the total energy consumption by bioresources (including fuel and transport) was 143,414 MWh. The equivalent number for 2019/20 was 140,912 MWh so there has been an increase of 2,502 MWh or 1.8 per cent. This is all of the energy consumed by bioresources and not the total of table 8C.2 and 8C.6 which covers electricity only.

3 The main reason for the increase is not electricity usage in sludge treatment – an increase in the consumption of CHP power on the sites is almost matched by a reduction in the consumption of grid energy – but rather the increase in the consumption associated with transport of 1,954 MWh or 4.1 per cent. There has been a significant reduction in consumption due to business travel in company and private cars (down 848 MWh or 22.0 per cent), due to employees travelling less during the Covid-19 pandemic lockdowns. However, there was an increase of 2,802 MWh (6.40 per cent) in the consumption of diesel for the bioresources haulage fleet. The fleet was employed extensively in the relief of flooding during the high rainfall event of winter 2020/21.

4 Electricity generated by bioresources through CHP and used in bioresources was 31,172 MWh which was higher than in 2019/20 at 29,377 MWh (8C.2). More of the CHP electricity was also used by water recycling network plus – 54,826 MWh versus 51,398 MWh in 2019/20 (8C.3). More usage of the generation on site has resulted in a lower export of electricity to the grid – 29,064 MWh in 2020/21 compared to 32,512 in 2019/20 (8C.4). None of the generated electricity was unused, as in 2019/20 (8C.5). Finally, slightly less electricity was imported from the grid to bioresources in 2020/21 – 36,945 MWh compared to 38,621 MWh in 2019/20 (8C.6) – although this reduction offsets the increased usage of CHP generated electricity already mentioned (8C.2).

5 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 water recycling 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).
- An assumption has been made that 90 per cent of gas oil delivered to water recycling sites is used for CHP boilers in line with the approach taken by our management accountants.
- 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 fleet 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 BEIS' greenhouse gas reporting condensed conversion factors for 2020.
- For electric vehicles we have made the assumption that the mileage claimed relates to charging at home, rather than using the charging points at the offices as most office-based employees were working from home during the Covid-19 pandemic. We believe this assumption to be safe and not capable of skewing the overall figures since (i) electric car consumption totals just 8,455 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. We are looking to improve our processes in order to better capture consumption by electric cars charged at home and AW infrastructure.
- Electricity figures used in 8C.2-6 – grid import, CHP generation and export – are all metered so there is a high confidence in them.

Heat and biomethane

6 All energy generated by bioresources is from biomethane, which is –

- Converted into electricity and heat in CHP engines
- Converted into heat in boilers, or
- Flared.

7 We do not export any biogas to network plus (line 3) and all heat generated by bioresources is used by bioresources. Electricity generated is used by bioresources and network plus first with any surplus being exported to the grid (8C.4).

8 Gas is only flared if CHPs and / or boilers are offline or the biomethane supply exceeds the capacity of the CHP and boilers (8C.5). Volumes are taken from on-site readings (There are no readings for both Chelmsford and Cambridge.) Flared gas accounts for 7 per cent of total biogas production by MWh.

9 All boilers are topped up with either bought-in gas oil or natural gas (8C.6).

10 For electricity we have recorded the MWh of electricity generated by each CHP and measured by an output meter.

11 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 tDS throughput to give a KWh/tDS. This is then multiplied by total tDS to give a total heat generated.

12 To calculate the MWh value of the biogas we initially calculate total biogas volume. This is done as a estimate because measurement of biogas through flow meters is difficult due to biogas properties causing inaccuracies in flowmeters and therefore subject to error. We have used two estimation methods:

1. We assume a fixed volume of biogas per tonne of sludge treated, estimated on a site-specific basis. (e.g. 450 m³ per tds for our best performing HPH sites based on conversion rate (MWh/tDS)).
2. Based on the assumption that each 1 KWh of electricity produced by the CHP engine requires 2.1 m³ of biogas.

13 For all sites except Cambridge we used the average of the figures from these two methods. For Cambridge we used method (1) alone because missing data meant we could not use method (2).

14 We then convert biogas volume to calorific value by assuming that each cubic metre of biogas has a calorific value of 6.7 KWh. This based on an average calorific value of the biogas of 21.5MJ/m³ at 60 per cent methane content (www.biogas-info.co.uk).

15 Having calculated the total energy value of the biomethane produced we allocate it across 8C.2-4 pro rata to the energy value of the electricity that is generated for each of those lines.

16 The sum of figures for electricity and heat in 8C.2-4 is less than the total calorific value of the biogas for those lines because of inefficiency in the CHP engines and boilers.

£m columns

17 In the £m columns we have reported the value of the electricity we have generated and the imported heat we have saved from our use of biomethane. We have not reported a financial value for the biomethane to avoid double-counting and over-stating the financial value obtained from the biogas produced.

18 To calculate the value of the electricity generated in bioresources and used by bioresources or network plus (8C.2 and 8C.3), we have multiplied the MWh of electricity generated by the internal rate we use to charge network plus.

19 The value of the electricity generated in bioresources and sold to the grid (8C.4) is the revenue received from these sales.

20 The value of the electricity purchased from the grid and from third parties (8C.6) is calculated from the volume supplied from the grid to bioresources sites (including a proportion of the volume supplied to administration sites) multiplied by the average rate paid, plus the value of the solar power supplied to bioresources.

21 The total value of energy consumption in bioresources is made up of the value of electricity and heat recorded in 8C.2 and 8C.6 plus the cost of energy used in bioresources transport.

Income claimed from bioresources (8C.7 to 8C.14)

22 These are new APR lines for 2020/21. They capture the income for the bioresources function from the sale of Renewable Obligation Certificates (ROCs), from the Renewable Heat Incentive (RHI) and from any other Renewable Energy (RE) subsidies.

23 The income for the period April 2020 to March 2021 totals £5.118 million, consisting of £5.114 million from ROCs and £0.004 million from Renewable Energy Guarantees of Origin (REGOs). This is £0.489 million lower than the equivalent figure for 2019/20. The decrease is due to the lower price of ROCs in 2020/21: £50.05 per ROC versus £55.70 per ROC. This price drop was caused by lower demand for ROCs by electricity suppliers following a large drop in the amount of electricity being supplied in the UK due to the Covid-19 pandemic.

24 The number of ROCs generated in 2020/21 was 2,114 higher (+2.07 per cent) than in 2019/20; this was from increased generation at bioresources sites. Also, we gained £0.004 million (£4.09k) by selling the REGOs associated with the exported power from the Combined Heat and Power (CHP) engines on our bioresources sites.

25 We earned no income through RHI as we do not have any facilities at bioresources sites which are registered for RHI. No other RE subsidies were applied for nor obtained.

26 Because Ofgem issues ROCs and REGOs three months in arrears, the ROCs and REGOs for February and March 2021 have yet to be issued at the time of writing. Instead, we have used the values of ROCs and REGOs that we have already applied to Ofgem for on the basis of the metered records of electricity generated and exported. Normally, any differences in values between applied for and issued certificates are only very small and due to rounding.

27 No RE subsidies expire on any bioresources sites in the next two financial years so 8C.13 and 8C.14 are reported as zero.

BOD load of liquor or partially treated liquor returned from bioresources to network plus (8C.15)

28 This is a new line for 2021. We have sampled bioresources liquor returns and applied volumetric data to estimate a BOD load tonnage returned per annum across our business. We have then converted this number to a daily load in kilograms for reporting.

29 Note at present BOD load is Total BOD, but we will look to change this to 1 hour settled samples during 2021/22.

30 Following the publication of Ofwat's Final Decisions on 'Reporting of Sludge Liquor Treatment Costs' in April 2021, we will review the way in which these samples are taken with the aim of ensuring that we are working towards the required frequency and coverage of samples during 2021/22 for both BOD and ammonia.

Ammonia load of liquor or partially treated liquor returned from bioresources to network plus (8C.16)

31 This is a new line for 2021. We have sampled bioresources liquor returns and applied volumetric data to estimate an ammonia load tonnage returned per annum across our business. We have then converted this number to a daily load in kilograms for reporting.

Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors (8C.17)

32 In the table we have reported a figure using the new methodology proposed by Jacobs and now introduced to the APR for the first time. The following paragraphs set out how we have done this. Had we adopted the methodology we have used in previous years, our reported number would have been £6.6m.

33 Commentary for 8C.15 and 8C.16 explains how we estimated the quality of the returned sludge liquors. To calculate the costs incurred by network plus to treat these liquors we first converted the BOD strength of the liquors into population equivalent (PE) then calculated this as a percentage of the total load treated by the water recycling centre (WRC) (also measured as PE), including the load of the incoming waste water. We used this percentage to allocate a share of relevant WRC costs to liquor treatment. Relevant WRC costs are those incurred by the assets of the WRC downstream of the point where liquors are returned.

34 The methodology for converting BOD liquor strength to PE was this -

- BOD of the liquor load (tonnes/annum) divided by 1000000 to convert to grams per annum
- Then divided by 365 to convert to grams per day
- Then divided by 60 g BOD/person per day (industry standard from Metcalf and Eddy) to give PE of returned BOD liquor load.

35 This is how we estimated the fraction of costs that should be in scope for liquor treatment.

Capital costs: MEAV allocation of upstream and downstream assets.

36 We used our asset cost models to produce a percentage split of WRC assets upstream and downstream of the liquor return point:

- Using the known assets on site, a gross replacement value was produced using our asset management cost estimate system

- Gross modern equivalent asset value (MEAV) was used for the allocation as it is easier to obtain from current analysis without having to make broad assumptions on asset lives
- All known assets on site were then categorised into upstream, downstream or allocated (such as fences, buildings, etc). This allowed percentage split of assets to be calculated.

37 The capex element of the costs in scope is the annualised cost of capital and depreciation on the net MEAV of the assets. It also includes a fraction of the cost of capital and annual depreciation on shared assets.

38 This is how we estimated the cost of capital of the relevant assets:

- Net Book Value (NBV) of historic assets
- Inflated using RPI
- Multiplied by per cent assets downstream
- Multiplied by per cent Population Equivalent (PE) allocation
- Multiplied by Weighted Average Cost of Capital (WACC)

39 This is how we estimated the depreciation charge attributable to the relevant assets:

- Current year depreciation of the historic cost assets at site level
- Inflated using RPI
- Multiplied by per cent assets downstream
- Multiplied by per cent PE allocation

Operating costs

40 The opex element of the costs in scope is the annual operating cost of the assets in scope, including overheads.

41 This is how we estimated the opex attributable to the relevant assets:

- Total direct opex costs for WRCs with sludge liquor returns (the opex costs of upstream assets were assumed to be immaterial)
- Addition of allocated proportion of central overhead (OH) costs
- Multiplied by per cent PE allocation

42 We recognise that in the time available we have not been able to estimate our sludge liquor recharge in full accordance with the shadow methodology. Steps we will make to improve our estimate for 2021/22 include the following:

- Improve our characterisation of sludge liquor (e.g. through using settled BOD rather than total BOD, taking more samples across all of our sites and including liquors from thickening assets)
- Improve our estimate of the proportion of costs that should be attributable to liquor treatment, using information on BOD and ammonia loads entering WRCs rather than BOD converted into PE
- Checking whether liquors are returned to the WRCs at points other than the inlet works and confirming whether there are material opex costs upstream of this point that should be excluded
- Estimating the cost of capital using net MEAV rather than indexed Net Book Value.

43 These steps may lead to a material change in our estimated cost from our 2020/21 estimate.

Table 8D - Bioresources sludge treatment and disposal data for the 12 months ended 31st March 2021

	Line description	Units	By incumbent	By 3rd party sludge service providers
Sludge treatment process				
1	% Sludge - untreated	%	0	0
2	% Sludge treatment process - raw sludge liming	%	1.5	0
3	% Sludge treatment process - conventional AD	%	1.8	0
4	% Sludge treatment process - advanced AD	%	96.7	0
5	% Sludge treatment process - incineration of raw sludge	%	0	0
6	% Sludge treatment process - other (specify)	%	0	0
7	% Sludge treatment process - Total	%	100.0	0.0
(Un-incinerated) sludge disposal and recycling route				
8	% Sludge disposal route - landfill, raw	%	0	0
9	% Sludge disposal route - landfill, partly treated	%	0	0
10	% Sludge disposal route - land restoration/reclamation	%	0	0
11	% Sludge disposal route - sludge recycled to farmland	%	100	0
12	% Sludge disposal route - other (specify)	%	0	0
13	% Sludge disposal route - Total	%	100.0	0.0

Sludge treatment process

1 We can confirm that the percentages reported in lines 1 to 7 (inclusive) relate to the sludge production figures reported in table 8A, lines 1-3.

% Sludge - untreated (8D.1)

2 We would include here raw sludge that was disposed to land reclamation without treatment. However, in 2020/21 there was no such activity carried out.

% Sludge – raw sludge liming (8D.2)

3 Occasional peak lopping of raw sludge cake loads is still undertaken by liming and, as such, 1.5 per cent was limed in 2020/21 compared with 4.4 per cent, 7.3 per cent and 16.1 per cent in 2019/20, 2018/19 and 2017/18 respectively.

% Sludge treatment process - conventional AD (8D.3)

4 1.8 per cent of our total sludge production was conventionally digested in 2020/21. In February 2021 we completed the commissioning of a new pasteurisation and digestion process at Chelmsford STC. This process is 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 would not consider this process to be advanced anaerobic digestion (AD).

5 For a number of years we have digested a small amount of sludge at Caister WRC (Great Yarmouth) but we shut down the digesters there permanently in February 2021. All sludge from Caister WRC is now treated offsite, predominantly at Whitlingham STC.

% Sludge treatment process - advanced AD (8D.4)

6 Our continued focus on active management of STC performance has reaped benefits, 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.

% Sludge treatment process - incineration of raw sludge (8D.5)

7 We do not incinerate any sludge.

Sludge disposal route

8 We can confirm that the percentages reported in 8D.8-13 relate to the sludge production figures reported in 8A.6-8.

% Sludge disposal route - sludge recycled to farmland (8D.11)

9 All our sludge was recycled to farmland in 2020/21.

% Sludge disposal route - other (8D.12)

10 We would 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 in the report year.

Table 9A - Innovation competition

Line description	Units	Current year
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Allowed	£m	4.449
1 Allowed innovation competition fund price control revenue	£m	4.449

Revenue collected for the purposes of the innovation competition	£m	4.449
2 Price control revenue collected from customers	£m	4.449
3 Non-price control revenue (e.g. royalties)	£m	0.000
4 Revenue collected from customers and transferred into the innovation competition fund	£m	4.449

Line description	Bids accepted and awarded funding for innovation competition	Forecast expenditure on innovation projects funded through the innovation competition	Actual expenditure on innovation projects funded through the innovation competition in year	Difference between actual and forecast expenditure	Cumulative spend on innovation projects	Allowed future expenditure on innovation projects funded through the innovation competition	Expenditure on innovation projects funded by shareholders
Units	nr	£m	£m	£m	£m	£m	£m

5 Innovation project 1	0	0	0	0	0	0	0
6 Innovation project 2	0	0	0	0	0	0	0
7 Innovation project 3	0	0	0	0	0	0	0
8 Innovation project 4	0	0	0	0	0	0	0
9 Innovation project 5	0	0	0	0	0	0	0
10 Innovation project 6	0	0	0	0	0	0	0
11 Innovation project 7	0	0	0	0	0	0	0
12 Innovation project 8	0	0	0	0	0	0	0
13 Innovation project 9	0	0	0	0	0	0	0
14 Innovation project 10	0	0	0	0	0	0	0
15 Innovation project 11	0	0	0	0	0	0	0
16 Innovation project 12	0	0	0	0	0	0	0
17 Innovation project 13	0	0	0	0	0	0	0
18 Innovation project 14	0	0	0	0	0	0	0
19 Innovation project 15	0	0	0	0	0	0	0
20 Total	0	0.000	0.000	0.000	0.000	0.000	0.000

Administration	Units	Value
21 Administration charge for innovation partner	£m	0

1 This is the first year of the innovation fund. We do not receive any royalties. All funding has been recovered through main charges.

2 No funds or projects were awarded in 2020/21 and subsequently no administration fee or project costs. Winners for the first round of the innovation fund will be announced in 2021/22.

Reporting of greenhouse gas emissions

1 In this section we provide additional voluntary reporting of our greenhouse gas emissions, in accordance with Ofwat Information Notice IN 21-02 (April 2021). We also provide information on this subject in our Annual Integrated Report for 2020/21, available via our website.

Operational Carbon

Operational greenhouse gas reporting				
Focus	Water (tCO2e)		WasteWater (tCO2e)	
Scope 1 emissions				
Direct emissions from burning of fossil fuels	2,929		10,168	
Process and fugitive emissions	7,461		75,548	
Transport: Company owned or leased vehicles	4,500		16,404	
Total scope one emissions	14,890		102,120	
Total scope one emissions by GHG type	CO2	7,336	CO2	39,345
	CH4	4	CH4	22,977
	N2O	7,540	N2O	39,787
Scope 2 emissions				
Grid electricity used by company (including combined heat and power (CHP) electricity purchase) Location-based method	79,141		72,682	
Scope 3 emissions				
Business travel on public transport and private vehicles used for company business	70		70	
Outsourced activities	6		13,794	
Purchased electricity – Transmission and Distribution	6,806		6,251	
Sum of scope 3	6,882		20,115	
Total scope three emissions by GHG type	CO2	6,820	CO2	19,867
	CH4	20	CH4	20
	N2O	41	N2O	228
Gross operational emissions (Scope 1,2 and 3)				
By area (water and/or wastewater)	100,913		194,917	
Overall total	295,830			
Exported renewables (generated onsite and exported)	-6,776			
Emissions reduction from purchased renewables energy (market based carbon accounting benefit)	n/a			

Operational greenhouse gas reporting				
Focus	Water (tCO2e)		WasteWater (tCO2e)	
Scope 1 emissions				
Total net operational emissions	289,054			
Ratio values				
Annual operational GHG intensity ratio values	231	kgCO2e/MI	224	kgCO2e/MI
GHG emissions in relation to turnover	219		tCO2e per £m turnover	

2 The numbers in the table above are reported as location based emissions. Anglian Water has historically reported our emissions numbers using this mechanism. However, the Net Zero Carbon 2030 routemap to which all English Water companies committed, will be reported in and have a baseline (2018-19) calculated in, market based emissions.

3 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 particular electricity supplier, in the case of Anglian Water, 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.

4 As discussed, Anglian Water has historically reported emissions using the location based mechanism and the Zero Carbon 2030 routemap requires emissions to be reported using the market based mechanism against this standard. Therefore, going forward Anglian Water will be reporting our emissions using both location based and market based mechanisms.

Strengths

5 We measure our operational carbon emissions using the 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 through the Carbon Reduce Scheme (formally CEMARS) with Platinum Status for continuous carbon reduction against this standard.

6 We have performance commitments for carbon reduction that aligns with the AMP period. This ensures ongoing senior management focus.

7 The AW Board has made prominent commitments to Carbon reduction and attaches high priority to this goal.

8 We have well established energy optimisation processes which has proved successful. We will continue to improve our performance in this area.

Weaknesses

9 A challenging area for 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 underway into the quantification and reduction of this emissions source. Recommendations from phase 1 of the review led to a change in accounting for N₂O loading in the CAWv15, increasing emissions from wastewater treatment.

10 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 to achieving net zero carbon.

Opportunities

11 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 is to be followed by an Anglian Water specific net zero Routemap in July 2021. This Routemap will contain more detail on the approaches we will undertake to reach our net zero goal.

12 There are a host of initiatives currently underway 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 PV, and a parallel programme of developing energy storage solutions to maximise renewable electricity consumption.

13 We are currently planning to export biogas into the gas network from one of our water recycling centres (WRC). This will result in carbon savings over and above those which could be achieved through CHP energy generation.

14 Our optimisation programme will continue, driving out inefficiencies using increased understanding achieved through improved data quality.

15 We have commenced a programme to introduce electric vehicles (EV) into our fleet, with a programme of annual replacement of conventional (ICE) vehicles to EV. This programme currently concentrates on our smaller fleet where EVs with adequate range are available. It is hoped that as the market matures and larger EVs become available, we can achieve further uptake. With regards our larger vehicles and HGV fleet, we are working towards the introduction of biodiesel vehicles in the coming years and likely Hydrogen powered HGVs when they become available, possibly close to 2030.

16 We have introduced a programme to replace fossil fuels with HVO in our back-up generators therefore reducing carbon emissions.

17 We also plan to introduce natural capital solutions for the treatment of water to reduce operational energy as well as deliver the associated natural benefits.

18 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 large scale carbon sequestration opportunities are identified.

Threats

19 As discussed above, process emissions from wastewater treatment are not currently well understood and subject to further studies to better understand emissions. It is possible that, following the conclusion of these studies, emissions factors for process emissions will increase further, leading to a requirement for larger carbon reductions.

20 Population continues to grow in our region, with a forecast of approximately 1 million new homes to be built in the next 25 years. This will increase water demand and therefore the energy required to supply water and treat waste.

21 In addition, the lockdowns associated with the Covid-19 pandemic have led to an increased water demand as large numbers of people work from home. It is currently unclear how work patterns will evolve over the coming years, but it appears likely that there will be more homeworking than pre-pandemic, potentially increasing water demand.

22 The extremely wet weather in parts of our region around Christmas 2020 saw increased energy consumption. It is likely that further extreme weather events because of climate change will have an increasing impact on energy consumption into the future.

23 The Environment Agency's proposed interpretation of Farming Rules for Water (Rule 1) to restrict biosolids recycling to land and/or extend storage on AW sites will have an effect in increasing our in-scope emissions. Joint work is currently underway with Defra, EA, ADAS, CLA, NFU and Water UK to change the EA's interpretation but this issue presents a risk to emission increases.

24 There are also threats associated with national policies and regulations. The mandatory labelling of taps, showers, dishwashers and washing machines would 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.

25 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.

26 Abstraction licence caps being imposed by the EA to protect sensitive environments can result in greater movement of water and therefore the possible construction of more infrastructure and the use of more energy to move water over longer distances.

27 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.

Capital Carbon

28 We are supportive of the approach being outlined by Ofwat in the reporting of greenhouse gas emissions. The approach aligns with our purpose of bringing environmental and social prosperity to the region we serve through our commitment to Love Every Drop.

29 We use the term capital carbon to refer to the emissions associated with the creation of an asset, aligning with the definitions within the HMT Infrastructure Carbon Review (2013). This is measured from cradle to 'as built' in line with the UKWIR framework on whole life carbon reporting.

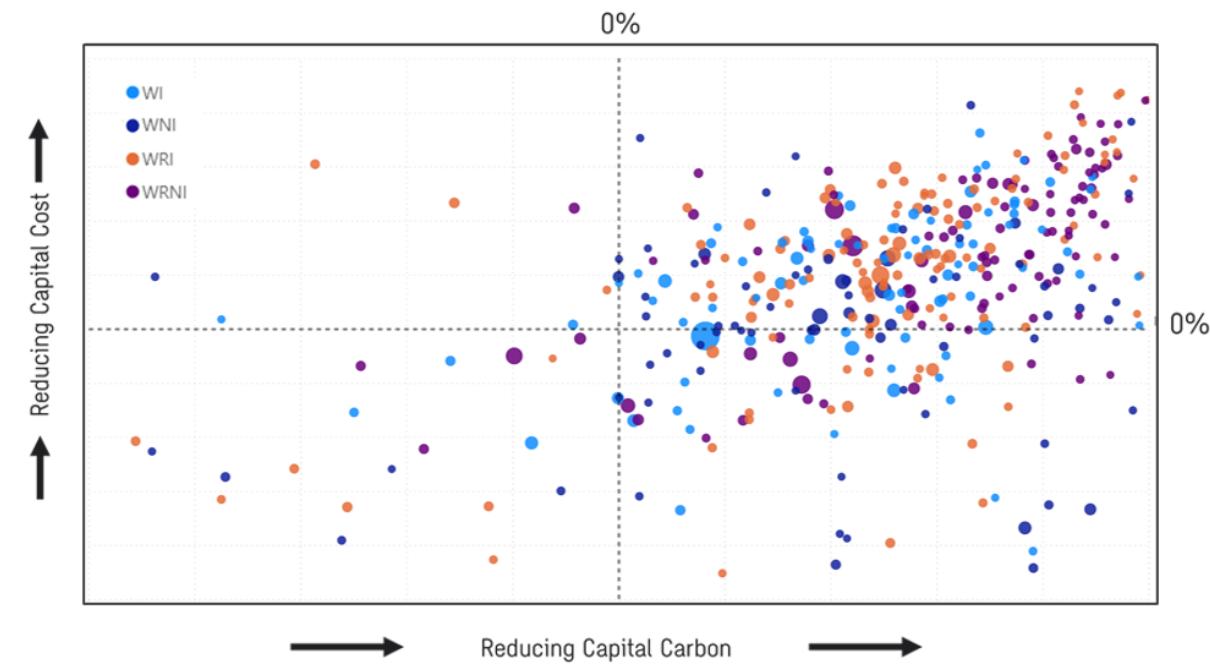
30 Since 2015 we have reported annual capital carbon performance to Ofwat through an agreed ODI (Outcome Delivery Incentive). This is based on a percentage reduction annualised figure compared to a 2010 baseline. The 2010 baseline has been retained, recognising the behaviours required around leadership and challenge. In 2020/21 capital carbon reductions were 61.2 per cent against a performance commitment level of 61 per cent, with an end of AMP7 target of 65 per cent.

Strengths

31 Since 2010, we have publicly stated our capital carbon targets, firstly to halve capital carbon by 2015 from a 2010 baseline. These targets have been updated every five years with the ambition to reduce capital carbon by 70 per cent from a 2010 baseline by 2030. As part of our Net Zero strategy being launched in July 2021, we are committing to develop a routemap for capital carbon with ambitions beyond 2030.

32 In 2016 we became the first organisation globally to be externally verified (through 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.

33 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.



34 We have over 1,300 carbon models. This not only allows us to be consistent with baselines but also allows our alliances to identify areas of high carbon and to optioneer lower carbon solutions.

35 The models contain a consistent data set sourced from the Inventory of Carbon and Energy, CESSM workbook, Defra emission factors and direct data from a number of product and material suppliers.

Weaknesses

36 There is currently a fragmented approach within the water sector in terms of approaches to capital carbon, ranging from players with limited experience through to others with 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.

37 Additional carbon savings from the use of new materials such as low carbon concretes is progressing slowly. The low carbon concrete group is developing a routemap through BEIS and the Green Construction Board. 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.

Opportunities

38 Through utilising historical information and leveraging our experience of reducing carbon, we recognise that there are different opportunities in finding carbon reductions between above ground and below ground assets and schemes. Information such as this can help us identify areas of greater challenge. The table below illustrates this with actual data from 2020/21.

High Level performance

	Actual	Target
Percentage reduction against baseline	61%	61%

Detailed Performance

	Actual	Target
Water Infra	54%	61%
Water Non-Infra	63%	61%
Water Recycling Infra	61%	61%
Water Recycling Non-Infra	76%	61%

39 Additional use of data sets enables the focus on sustainable materials by helping us understand carbon / cost tipping points.

40 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 is highlighted by our being the first utility to issue a sterling green bond in 2017. This leading position in the finance and investment community has been further re-enforced with the issue of sustainability-linked bonds, with KPI's on both Net Zero carbon and capital carbon.

Threats

41 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.

42 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.

Accounting, performance and transfer pricing disclosures

RAG 3.12 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

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 123-143).

Statement on disclosure of information to auditors

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

There were no dividend payments in the year (2020: £60.2 million). Based on the available free cash flow there was capacity to pay a dividend of £203.6 million. In June 2021 a final dividend of £96.3 million was approved and paid.

These dividends do not represent dividends paid to our ultimate shareholders; at this time there is no proposal to pay a dividend to shareholders of Anglian Water Group Limited (AWGL), the ultimate parent company. No dividends were paid to the shareholders of AWGL in the year (2020: £nil).

This decision is in combination with an equity injection of £110.0 million in April 2021 in line with our de-gearing target. In addition, the Group is implementing a new financing structure in order to enable a substantial equity injection into the Company, leading to a future reduction in gearing. Through these capital injections the company continues to benefit from the strong support of shareholders, who have foregone dividends since June 2017 for the long-term benefit of the company and its customers, in line with our purpose.

The Board has an approved dividend policy, under which dividend payments will be aligned to the performance of the business, taking into account commitments to customers and other stakeholders and ensuring that it can finance its operations. Anglian Water aims to attract long-term shareholders who support its long-term ambitions. The support of our shareholders is critical to the success of our business and to securing the investment that Anglian Water needs. Therefore, our shareholders are entitled to an appropriate return on their investment. This is delivered partly through long-term capital growth and partly through dividends.

The company's dividend policy is to identify the cash available for distribution, allowing for the business's liquidity requirements in respect of funding its operations and the capital programme, and servicing its debt for the next 18 months. When considering a dividend, the Directors will consider the Business Plan, have regard to Anglian Water's purpose and to their duties under the company's Articles of Association.

An assessment will be completed by the Board to determine if the payment or part payment of the dividend reflects and/or would compromise the long-term social, financial and operational commitments made to our stakeholders. Following this assessment and depending on the actual performance of Anglian Water the Board can decide to increase or decrease any dividend payment from the base position. In assessing the dividend payment, the Directors review the business performance forecasts (currently to the end of the AMP period of 31 March 2025) and give consideration to the potential impact of external factors in the economy and regulatory environment on the company's forecast cash flows.

The dividend policy is also based on ensuring that there is adequate headroom in relation to all of Anglian Water's obligations to lenders, including commitments to comply with certain financial covenants. In particular, Anglian Water has committed to lenders that it will only pay dividends when key financial ratios are satisfied. Additionally, the policy sets out to ensure that key credit rating agency credit metrics required to support the capital structure as determined by the Board can be satisfied.

In its Articles of Association, the company has committed to conduct its business and operations for the benefit of members as a whole while delivering long-term value for its customers, the region and the communities it serves and seeking positive outcomes for the environment and society. In making decisions (including decisions in relation to dividend payments), directors are required to act in the way that is considered most likely to promote the purpose of the company. In doing so, Directors must have regard (among other things) to the likely consequences of any decision in the long term, the interests of the company's employees, relationships with suppliers, customers and others and the impact of the company's operations on the community and the environment.

The Board will therefore consider if the payment or part payment of the dividend reflects or would be consistent with the long-term social, financial and operational commitments made to stakeholders, including customers, employees and pensioners. In considering this issue, the Board will have regard to the suite of Performance Commitments that the Company has made which include targets in relation to:

- performance for customers (including, but not limited, to C-MEX and D-MEX);
- operational commitments which are of importance to customers (including, but not limited to, commitments in relation to Leakage, Per Capita Consumption, Water Quality, Interruptions to Supply and Risk of Low Pressure); and
- wider social and environmental commitments (including, but not limited to, commitments in relation to vulnerable customers, Sustainable abstraction, and Community investment).

The overall amount of the company's ordinary dividends will not exceed the free cash flow (defined as operating cash flow less interest and capital maintenance payments) generated by Anglian Water, and in practice will be limited by its current and forecast financial covenants. Special dividends may also be paid in addition to ordinary dividends, but these too are limited by specific financial covenant constraints. This policy is consistent with condition F of the Licence. The full dividend policy is available on the Anglian Water website.

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 2.07, 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, 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, and therefore no billing is raised and no turnover recognised. The status of a property as vacant/void is confirmed by reading of the meter to ascertain changes in consumption, or in relation to unmeasured properties through providing a questionnaire for completion and return by any occupier, plus an inspection where considered necessary.

ii. Household and non-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.

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 credited 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 agency 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 20 per cent, 40 per cent, 60 per cent and 80 per cent 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). The majority of applicants qualify for the maximum discount of 80 per cent. During 2020/21, following discussions with CCW, we restricted new applicants to a 40 per cent discount in order to provide capacity to fund an expected upsurge in customers seeking support as a result of Covid-19. As a consequence of furlough and other schemes that have protected income during the pandemic, that surge in take-up did not materialise, with take up in the year below the level forecast when we set charges. When setting charges we looked to recover a cross subsidy of £4 for a dual service and £2 for a single service customer. The discount is fully funded by the customer cross subsidy, set following consultation in 2016.

In addition to LITE, we provide other forms of assistance through the Watersure and Aquacare Plus tariffs, and through a range of measures to help customers manage their bills including our (arrears) Forgiveness Scheme, Payment and Charges holidays, and temporary instalment plans.

To promote accessibility for vulnerable customers we offer additional practical support as part of 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. We also provide additional services to help with managing their account, such as bills in alternative formats, translations services, help reading the meter, password schemes and our knock and wait service which can provide extra time for our customers to answer the door. During 2020/21 we increased the number of customers we support through our Priority Service register by 110 per cent (that's nearly 100,000 customers). The increase was as a result of our customer facing teams proactively responding to disclosures of vulnerability, promotional campaigns to increase awareness including newspaper articles, radio interviews, advertisements on pharmacy bags and promotion through our network of more than 100 partners who support those in vulnerable circumstances. We also introduced a dedicated vulnerability team who received extensive training through specialist partners to better understand and support those in vulnerable circumstances. Furthermore we have also worked with our partners to create bespoke communications to check customers are receiving the right support, as well as carrying out research with over a 1000 disabled customers and carers through Scope, a pan disability charity, to understand how we can improve our services and increase awareness amongst those most in need. With the use of speech analytics, we were able to understand the scale and nature of vulnerability disclosures and use data to identify areas of focus. As a result of the analysis we made a number of enhancements to the bereavement support we offer. We introduced a dedicated bereavement line and partnered with Life Ledger (a free tell us one death notification service) and Marie Curie who offered a specialist support for those living or caring for someone with a terminal illness including bereavement support.

Measured income accrual

We highlight the following comments in respect of turnover for the year:

Appointed turnover for the year ended 31 March 2020 included a measured income accrual of £304.3 million (year ended 31 March 2019: £272.2 million). The value of billing recognised in the year ended 31 March 2021 for the prior year was £306.7 million. This has resulted in a recognition in the current year's turnover of an estimation difference for the prior year of £2.4 million (2020: £0.4 million) representing 0.3 per cent of turnover (2020: 0.1 per cent) 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(k) 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

Management calculates the bad debt provision by firstly evaluating the estimated recoverability of trade receivables and records a provision based on experience, primarily cash collection history, and then adjusts, as necessary, for forward-looking factors such as a change in economic conditions.

Following agreement by the Audit Committee in March 2021, management have enhanced their provisioning methodology to provide better granularity of debt less than one year old. As part of this review management have taken the more prudent view that, whilst not yet billed and substantially offset by payments already received, the measured income accrual carries an element of bad debt risk. Had the previous methodology been applied, the bad debt provision would have been £1.1 million higher. Management continue to take a prudent approach of providing for debt greater than 48 months old in full.

Debt is written off when it falls into one of the following categories.

- The debt is the subject of insolvency proceedings and a claim has been submitted.
- The customer has absconded and subsequent trace activities have proven unsuccessful.
- County Court proceedings and attempts to recover the debt by a collection agency have been unsuccessful.
- The age and value of debt make it uneconomic to pursue.

The debt written off in the current year was £9.4 million (2020: £18.9 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 2020/21 financial year.

Ring-fencing certificate

In accordance with condition P.30 of Anglian Water's licence, the Company has submitted to Ofwat a Ring-Fencing Certificate at the same time as publishing 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 23-29 of this report.

Return on regulatory equity (RORE)

Differences between RORE performance in 2020/21 and base RORE set out at the last price review have been explained in the commentary to Table 1F.

Narrative disclosures on performance

Outcomes

The Company has provided narrative on its 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 the Company has provided to stakeholder groups, such as the Customer Engagement Forum, during the year and with the information published in the Company's Annual Integrated Report.

Totex

The Company has provided narrative on its totex performance in the commentary to tables in section 4 of this report. This narrative includes explanation of

- the difference between actual and allowed totex values
- costs which the Company believes 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

The Company has provided narrative on any material differences between its total operating costs and retail revenues allowed in price limits in its commentary to table 2C.

Wholesale revenues

The Company has provided narrative on differences between its actual and allowed revenue under the wholesale control in its 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 charge 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 before tax per the Annual Performance Report		113.2
Corporation tax charged at 19%		21.5
Depreciation and amortisation		53.6
Capital allowances	(iii)	(67.3)
Items not taxable	(iv)	(5.8)
Items not deductible for tax purposes	(v)	1.9
Capital grants and contributions	(vi)	(3.6)
Pension payments		(8.1)
Change in general provision movements		2.9
Fair value losses on financial instruments (not deductible)		4.4
Adjustments in respect of previous years	(viii)	(5.4)
Current tax (credit) for the year		(5.9)

The table below sets out the reconciliation between the UK corporation tax charge reported in Table 1A to the total current tax charge allowed in price limits.

	Notes	£m
Tax charge allowed in price limits at 19% and in 2017/18 prices		
Retail tax allowance		4.5
Wholesale losses carried forward		(28.7)
	(i)	(24.2)
Tax effect at 19% of and in 2017/18 prices:		
Increase in profits before tax	(ii)	23.0
Increase in disallowable depreciation and amortisation		0.3
Increase in allowable amortisation on intangible assets		(0.5)
Reduction in capital allowances	(iii)	6.3
Increase in pension deductions		(3.2)
Change in general provision movements	(vii)	2.7
Effect of the reduction in corporation tax rate to 19%		0.2
Increase in items not taxable	(iv)	(5.2)
Other		0.2
Adjustments for previous years	(vi)	(5.1)
Current tax (credit) in APR at 2012/13 prices		(5.5)
Indexation up to outturn prices		(0.4)
Current tax (credit) in APR		(5.9)

Notes

- i. The tax credit in price limits reflects a tax loss in wholesale offset by a taxable profit in retail. Although the price limits model carries forward tax losses to be used in future years we have shown these as tax credits on the grounds that they can be surrendered to other group companies.
- ii. The increase in profits before tax mainly reflects a different accounting treatment for grants and contributions and higher revenues achieved to those forecast.
- iii. The reduction in capital allowances reflects a different treatment of Intangible assets and grants and contributions and also differences in the forecast opening pool balances used in the price limits, capital expenditure incurred and allocation between capital allowance pools.
- iv. The items not taxable are income from adopted assets which are included in other income and profits arising on the sale of land.
- v. Items not deductible for tax purposes mainly consists of depreciation on assets not eligible for capital allowances and compliance fines.
- vi. 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 short life asset capital allowance pool.
- vii. The change in general provisions mainly represents an increase bad debt provision against the effects of Covid-19.
- viii. The adjustment for prior years mainly relates to additional capital allowances claimed in 2018/19 to replace reduced losses surrendered from the rest of the group as well as other adjustments due to the agreement of prior year tax computations.

The main rate of corporation tax will increase from 19 per cent to 25 per cent on 1 April 2023.

Interest

The Company has provided analysis of its appointed interest expense and its appointed other interest expense in its commentary to table 1A.

Financial flows

The Company has provided analysis of its financial flows in its commentary to table 1F.

Narrative on costs

Where the Company has allocated costs to the 'freeform' lines in tables 4L and 4M it has provided commentary to explain them.

In table 6A, where the Company has reported water treatment works that have not been used in the year but have not been decommissioned it has provided commentary to explain them.

The Company has explained how it has calculated population and household growth, including how it has taken account of the 2011 census, in the commentary to table 4R.

The Company has explained how it interprets 'structurally refurbished' in its commentary to table 7C. In the same commentary it has explained the methodology and assumptions it has used to estimate the length of rising main that has been replaced or structurally refurbished.

In its commentary to table 8A the Company has explained

- the basis of its 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 it has estimated the road distances travelled in reporting sludge inter-siting and biosolids disposal work done
- how it avoids 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 its estimate of total sewage sludge produced from non-appointed liquid waste treatment.

In its commentary to table 7D the company has reported the the population equivalents served by sewage treatment works (STWs) at which the required output has been delivered primarily by an opex solution.

In its commentary to table 4R the Company has explained its 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 6C.25 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 8.

Common performance measures

There is no shadow reporting of common performance measures in this year's Annual Performance Report.

Board statement on accuracy and completeness of data and information

Our statement is set out on pages 15-16 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.

Social tariffs

We have provided information on the use of social tariffs or the other forms of assistance we provide to improve affordability and accessibility for vulnerable customers in our commentary to 2N.

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 (see note 3).

Non-appointed business activities include legal searches to locate utility infrastructure, domestic emergency and personal accident insurance cover, recreation services, leisure services and the provision of consultancy services. The North Tees water supply agreement to the Huntsman Petrochemical site, which is not in the Anglian Water area, 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 (j) below.

(a) Receivables

Receivables totalling £0.1 million were outstanding from other Group companies at 31 March 2021 (2020: £0.7 million).

(b) Payables

An amount payable of £23.7 million was owed to Anglian Water Services Financing Plc at 31 March 2021 (2020: £48.6 million). Payables totalling £1.2 million were owed to other group companies at 31 March 2021 (2020: £1.3 million).

(c) Borrowings

Sums borrowed, including accrued indexation by the appointee from Anglian Water Services Financing Plc at 31 March 2021, are set out in full in our Annual Integrated Report, note 20, 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 2021 amounted to £7,921.6 million (2020: £8,724.3 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 2021 (2020: £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 2020/21:

Service Provided	Company	Turnover of Associate £m	Terms of supply	Value £m
HR, Payroll, OHS, Regulation	AWG Group Ltd	-	Actual Costs	2.087
Strategic Delivery and Commercial Assurance	AWG Group Ltd	-	Actual Costs	0.049
Strategic Delivery and Commercial Assurance	AWG Land Holdings	-	Actual Costs	1.336
Brand and Communication	AWG Group Ltd	-	Actual Costs	0.143
Finance	AWG Group Ltd	-	Actual Costs	0.208
IT	AWG Group Ltd	-	Actual Costs	0.14
IT	AVH	-	Actual Costs	0.065
Accommodation - Lancaster House	AWG Group Ltd	-	Actual Costs	0.118
Accommodation - Osprey House	AVH	-	Actual Costs	0.189
Land rental	Alpheus Environmental Ltd	-	Actual Costs	0.189
Vehicle Costs	AWG Group and Alpheus Environmental Ltd	-	Actual Costs	0.079
Tide recharge	TIDE	-	Actual Costs	0.021
Total				1.927
Corporation tax group relief surrendered by the regulated business	AWG Group Limited	0	See note 1 below	0.100

Note 1 The losses surrendered to AWG Group Limited are provided for at a rate of 19%. 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 2020/21:

Nature of transaction	Company	Turnover of associated Co	Terms of supply	Value £m
Directors' costs	AWG Group	-	Time apportioned	0.147
CEO costs	AWG Group	-	Time apportioned	1.422
Finance Director services	AWG Group	-	Time apportioned	-
CFO	AWG Group	-	Time apportioned	0.712
Treasury services	AWG Group	-	Time apportioned	0.771
IS services	AWG Group	-	Time apportioned	0.258
Corporate Affairs services	AWG Group	-	Time apportioned	0.141
Health and Safety services	AWG Group		Time apportioned	0.419
Legal services	AWG Group	-	Time apportioned	0.245
HR services	AWG Group	-	Time apportioned	0.444
Property services	AWG Group	-	Time apportioned	0.046
Strategy and Risk	AWG Group	-	Time apportioned	0.253
Internal audit services	AWG Group	-	Direct	0.414
Insurance administration	AWG Group	-	Negotiated	0.750
Group Life Assurance	AWG Group		Pass through	1.429
Income Protection costs	AWG Group	-	Pass through	0.251
Taxation services	AWG Group	-	Direct	0.255
External audit services	AWG Group	-	Direct	0.680
Pension admin, advice and audit	AWG Group	-	Pass through	0.008
Miscellaneous items	AWG Group	-	Pass through	0.075
Building rental	AWG Group	-	Pass through	

Office accommodation - Lancaster House	Ambury developments	0.614	Other market testing	0.505
Bulk purchase of water	Ardleigh reservoir committee	1.489	Actual costs	0.936
				10.161

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	2.571
Others	Key activates include mapping and data services, recreation facilities and wind turbines. The recharge 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 £1.4 million of the reported costs are related to depreciation and financing recharges.	11.121
Total non-appointed operating costs		13.692

(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 19-22 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.
- 3 In April 2021 we published Our Assurance Plan. This document outlined the approach that we intended to take to provide assurance for our 2020/21 performance information. In the plan we set out our assessment of the risks to data quality for the non-financial data of the Annual Performance Report (APR), which is our main performance report of the year. We also set out the controls we intended to apply to our APR financial data.
- 4 In this Data Assurance Summary we confirm the actions we have taken to provide assurance to stakeholders over our reported information.

General assurance processes

- 5 We have an enterprise-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 relevant individuals assigned by the risk assessment rating assigned to each individual line
 - Data may be subject to review by our third party assurance provider, Halcrow, 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 2020/21 performance information

Annual Performance Report (APR) Non-financial data

- 6 Our assurance programme for non-financial aspects of our APR usually comprises two stages being in-year and year-end assurance reviews however, as 2020/21 the first year of the new AMP period, we have chosen the lines that were marked as Medium, High and Critical in our risk assessment to all be subject to external audits and there have been no in-year audits this report year. We documented the results of our risk assessment in Our Assurance Plan 2020/21.
- 7 Where certain lines are subject to assurance from other regulators - such as pollution incidents, bathing waters and treatment work compliance - an external audit has not taken place. We have included the lines that are subject to a mandatory audit following guidance from Ofwat regardless of the risk rating.

8 In May 2021 PWC conducted an internal audit on Managing Void Properties. The audit identified one medium risk finding regarding the likelihood that Ofwat would challenge our over-performance and as such it was recommended that management should ensure there is sufficient analysis and support available to justify this outcome.

Year-end assurance reviews

9 These reviews were all conducted by Jacobs. 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.
- 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.
- Check that data stated in the tables is supported by audit trails which are reliable, accurate and complete.
- Check that suitable commentary is provided which explains performance.
- Confirm that changes from previous submissions have been adequately explained.
- Seek understanding of the upstream processes which generate data and the controls in place for ensuring the reliability of those data. Test where possible.

10 The reviews were carried out between April and June 2021. 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.

11 A summary of the findings of Jacobs' review 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.

Director sign-off

12 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 APR.

13 At the AWS Board on 27 May 2021 the Board delegated authority to certain directors to approve the final versions of the APR including all disclosures a. Final drafts of the APR were approved by the company's Executive Directors on 12 July.

APR Financial data

14 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.

15 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.18 and 1F.23 to 1F.24 of the statement of financial flows (table 1F) and 2A-2O and the related notes and commentaries. 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, 4F, 4H (excluding line 5), 4I, 4J and 4K and the related notes and commentaries.
- 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 4.09). 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.

16 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.

17 The first line of defence against data error lies in the processes that we follow to prepare our regulatory accounts tables. The following table reports the risks we have identified around our processes that could, without controls, result in mis-statement in our APR. It also shows the controls we have implemented for 2020/21 reporting.

Issue	Risk	Controls applied for 2020/21
Spreadsheet based consolidation process	Errors may arise from input errors, formula errors and maintaining version control	<ul style="list-style-type: none"> • Additional validation tests built into APR spreadsheets • Collective reviews of all tables held with table and line owners and Financial Control teams
Internal process has no direct link to Ofwat tables	Ofwat tables and company spreadsheets are both standalone with the risk that data may be copied incorrectly	<ul style="list-style-type: none"> • Detailed review at line item detail and sign off with table/line owners to ensure consistency between spreadsheets and Ofwat return
Comprehensive audit trail required for manual adjustments	Post close adjustments and other adjustments to reported figures have the potential to be done in isolation with the result that the impact may not be correctly reflected in other areas of the return	<ul style="list-style-type: none"> • Spreadsheet tracker of changes made to APR table to be kept for all changes following specified cut-off date.

Issue	Risk	Controls applied for 2020/21
		<ul style="list-style-type: none"> ● Password protection in place on master APR table to ensure all changes are made via Financial Controls team after specified cut-off date ● Defined version control for all key APR tables
Shared spreadsheets	Risk of data corruption and/or data loss due to more fragile nature of shared files	<ul style="list-style-type: none"> ● Back up of spreadsheets taken on a daily basis at key times during the APR process
Continuity of Personnel	Some knowledge centered around a few key individuals with the risk that unplanned absence will lead to lower knowledge base and more risk of error	<ul style="list-style-type: none"> ● Detailed procedure notes updated for all APR tables
Security of access to data and tables	The need to strike a balance between access for all key individuals whilst maintaining security of data and the likelihood of unauthorised changes	<ul style="list-style-type: none"> ● Password protection and restricted access in place for key APR spreadsheets
Robust change management process	The need to ensure that all changes are logged with version control fully functional and a detailed reconciliation between versions	<ul style="list-style-type: none"> ● Password protection in place on master APR table and commentaries to ensure all changes are made via Financial Controls team after specified cut-off date ● Defined version control for all key APR tables
Potential uncertainty or ambiguity in Ofwat APR guidance	Potential ambiguity around some of the Ofwat guidance leading to inconsistencies in the way in which the RAGs are applied, both internally and between other companies.	<ul style="list-style-type: none"> ● Comprehensive commentaries on all the APR tables have been included again this year. By setting out our key assumptions and year-on-year variances, we expect stakeholders will gain a better understanding of our financial and operational performance. There is also an improvement in internal control that comes from the review and explanation of variances
Consistency between submitted tables and APR	Risk that due to manual completion processes, final tables may not be 100 per cent consistent	<ul style="list-style-type: none"> ● Full consistency checks between statutory accounts and APR tables prior to final sign-off of APR, followed by subsequent lock-down of APR table master spreadsheets
Intra-table consistency	Potential lack of consistency between tables showing different versions of the "same" number (e.g. Total operating costs may be shown including or excluding depreciation).	<ul style="list-style-type: none"> ● Separate, off-line tables to reconcile different versions of APR tables that show the 'same thing'
Significant year-on-year variances not identified	Variances which require an explanation in the commentary may be overlooked, giving rise to Ofwat queries	<ul style="list-style-type: none"> ● Data analytics tool developed with our data science team to help identify variances requiring an explanation

Feedback

18 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

19 We undertake to share the feedback we receive and explain how we have responded to it.

Appendix: Summary of assurance reviews carried out in 2020/21

The tables below shows the assurance activities carried out during 2020/21. All of our audits were carried out at year-end by our external assurance provider Jacobs.

Table/Line numbers	Topic	Comments
3A.7	Single Supply	No material issues.
3E.13	Helping those struggling to pay	Recommended a review to the methodology to make this easier to follow.
3E.16	Community investment	Supporting documents held by partners could not be reviewed as this was a remote audit. This should be considered moving forward.
3E.18	Leakage	Mentioned that it will be interesting to see how the benefits of noise logging, fast logging and smart metering data contribute to a better understanding of hard to answer leakage situations.
6D.16, 3A.3/4, 3F.5, 6B.6-11, 6D.17/18, 4A.11	Abstraction	Recommended to consider reviewing the split of water into reservoirs between gravity fed and pumped storage or acquiring meters to track these volumes.
5A.23, 6A.6/31	Average pumping head	No material issues.
3B.1/5, 3G.1-3	Sewer flooding	No material issues.
3B.3, 3G.5, 3I.4, 7C.6/7	Sewer collapses	Recommended to review a query in the database to ensure further data accuracy.
3C.1-8	Customer service	No material issues.
3D.1-3, 3D.6-8	D-MeX	Methodologies required completion.
4Q.1-14, 4R.17	New connections	Work instructions to be updated to reflect the relevant procedure.
4R.1-4, 4R.11, 4R.20, 3A.10	Voids	No material issues.
6B.20-24, 7C.3	Pumping stations	No material issues.
6C.22, 6C.25	Supply-side improvements and interconnectors	Recommended to remind Ofwat that the CMA review has allowed for an increase in capacity and has also allowed for the delivery of other schemes by the end of the AMP. Therefore, AW is no longer late with the delivery of East Ruston.
7B.3, 7B.9, 7D.1-16	PE and sewage treatment works	Methodology requires updating. Should consider works average rather than company average.
6C.1, 6C.5-9, 6C.12-19, 7C.11, 7C.16-22	Length of mains and sewers	No material issues.
8A.1-3, 8A.10, 8A.12-13, 8C.15-16, 8D.2-3	Sludge	No material issues.
8C.17	Liquor cost	Recommended to have a data scientist review the process. Recommended that age data should be collected from site only if there is an independent business case for it.
3E.10	Non-household retailer satisfaction (R-MeX)	Recommended an automated report to record the NPS scores.
3A.2, 3F.7	Water supply interruptions	No material issues.
3A.6, 3F.8, 3I.1	Outage	No material issues.
3C.6, 4R.1-10, 4R.12-13, 4R.15-16, 4R.19,	Pops and Props	Recommended to download a copy of the month end MOSL data for properties throughout the year, this could add to data comparison.

4R.21-22, 4R.24-25		
5A.1-17	Number of sources	No material issues.
7B.4-7	Consents	No material issues.
8C.2-3, 8C.5	Bioresources energy	No material issues.
8C.7-8, 8C.12	Renewable energy incentives	Recommended that any discrepancies between paid ROCS, and calculated ROC should be agreed before audit for APR 2022.
3A.8	Low pressure	No material issues.

Independent Auditors' Report

Independent Auditor's report to the Water Services Regulation Authority (the WSRA) and the Directors of Anglian Water Services Limited

Opinion

We have audited the sections of Anglian Water Services Limited's ("the Company") Annual Performance Report for the year ended 31 March 2021 ("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.18 and 1F.23 to 1F.24 of the statement of financial flows (table 1F) and the related notes;
- the regulatory price review and other segmental reporting tables comprising the segmental income statement (table 2A), the totex analysis for wholesale (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), the 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) and the related notes.

We have not audited lines 1F.4, 1F.9 to 1F.11, 1F.15 to 1F.17, 1F.19 to 1F.22 and 1F.25 of the statement of financial flows (table 1F), the Outcome performance table (tables 3A to 3I) and the additional regulatory information in tables 4A to 4C, 4F to 4G, 4L to 4R, 5A to 5B, 6A to 6D, 7A to 7E, 8A to 8D and 9A.

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 2.08, RAG 3.12, RAG 4.09 and RAG 5.07) and the accounting policies (including the Company's published accounting methodology statement(s), as defined in RAG 3.12, 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

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 Technical Release Tech 02/16 AAF 'Reporting to Regulators on Regulatory Accounts' issued by the Institute of Chartered Accountants in England & Wales.

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

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 3.11, 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. 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.

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.

The Regulatory Accounting Statements on pages 36 to 176 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.

Our opinion is not modified in respect of this matter.

Conclusions relating to going concern

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.

Our evaluation of the directors' assessment of the company's ability to continue to adopt the going concern basis of accounting included:

- 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 the assumptions used in respect of the impact of Covid-19 to independent data sources;
- 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;
- Assessing the amount of headroom in the forecasts (cash and covenants); and
- Evaluating the sensitivity analysis.

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.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Other information

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.

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.

We have nothing to report based on these responsibilities.

Responsibilities of the Directors for the Annual Performance Report

As explained more fully in the Statement of Directors' Responsibilities set out on page 30, 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 3.12, appendix 2).

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.

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

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.

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. The extent to which our procedures are capable of detecting irregularities, including fraud, is detailed below.

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.

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.

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.

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 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 and reviewing any correspondence with HMRC and WSRA.

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

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.

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 2021 on which we reported on 16 June 2021, 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.

Deloitte LLP

London, United Kingdom

15 July 2021

External Assurance Report

Technical Assurance Executive Summary

Terms of Reference and Assurance Approach

Anglian Water Services Limited ('Anglian Water') commissioned Jacobs U.K. Limited to provide independent technical assurance on selected non-financial data tables/lines for its 2021 Annual Performance Report (APR). This information is part of Anglian Water's APR which Ofwat requires all companies to publish by July 2021. The APR is a collection of data and commentary relating to Anglian Water's performance in defined areas, including the Performance Commitments (PCs) for 2020/21 which is the first year of the AMP 75-year period. Anglian Water's PCs are defined in Ofwat's PR19 Final Determination.

Anglian Water updated its risk assessments on data and processes for the PCs and APR information in accordance with its Assurance Framework. The purpose of the risk review was to ensure risks to the quality of information to be presented in Ofwat's APR data tables were assessed such that the appropriate level of external assurance was applied. The audit programme focussed on Ofwat's structure of APR data tables and the information in them that feed the PCs. Refer to Section 3 for a breakdown of the areas audited. As this is the first year of AMP 7, data lines assessed as Medium, High and Critical risk were subject to external assurance. A total of 32 audits were completed in late May and early June 2021. All audits took place remotely using MS Teams. We had access to most corporate systems. Where this was occasionally limited because of remote working, Anglian's teams provided screenshot evidence following the audit.

The purpose of the year end audit was to provide assurance that the processes and systems of control for generating data included in the Company's APR are adequate and that the resulting data can be used for describing performance. Anglian Water issued Terms of Reference for the scope of assurance work which required us 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.
- 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 (copies to be supplied with this terms of reference) and any associated local procedures / work instructions are current, accurate and appropriate.
- Check that data stated in the tables is supported by audit trails which are reliable, accurate and complete.
- Check that suitable commentary is provided which explains performance.
- Confirm that changes from previous submissions have been adequately explained.
- Seek understanding of the upstream processes which generate data and the controls in place for ensuring the reliability of those data. Test where possible.

The technical assurance team comprised technical and operational specialists led by the Assurance Director. We used risk-based samples to trace data to source. Audit results have been documented in Summary Audit Reports (SAR) and RAG rated as Material concerns (R), Minor concerns (A), No concerns (G) and Non-material observation/recommendation (B).

We had full access to Anglian Water's staff and management and acknowledge their collaboration enabling us to complete our assurance activities to the agreed programme.

Audit Opinion and Conclusion

Based on our sample checks, we are satisfied that for the Ofwat APR data lines and PCs we were asked to assure, there is a low risk of material issues with the reported information and the information presents a reasonable account of Anglian Water's performance. We have made observations detailed in Key Findings (identified as 'Amber' and 'Blue'). In our SARs, we highlighted a number of non-material 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.

We noted several areas of good practice or improvements that have been made in the year following investments made by the Company. We noted a small number of methodologies require updating, and reliance on manual processes in two areas that could be automated eliminating the potential for human error. We identified some minor concerns with the calculation of costs of treating bioresources liquors (see Key Findings below).

G D Hindley, Assurance Director

Jacobs UK Ltd

25 June 2021

Key Findings

We identified some issues to which we have alerted the Company at audit and included in the Summary Audit Reports we provided. Key items of note, including exceptional performance, are detailed below. We did not identify other residual material risks or concerns, about which the Company is not already aware.

Audit RAG Key:

No concerns	Minor concerns	Material concerns	Non-material observation or recommendation
Performance Commitment/APR data table	ANH risk rating	Audit RAG	Summary findings by exception and/or good performance
PC Leakage/water balance information Tables 3A, 3F, 4A, 6B, 6D	Critical	Green	Anglian Water's PC for year 1 of AMP 7 is a 1.4% reduction in the three-year average leakage 2019/20 baseline level (194.1 Ml/d), giving a year 1 target of 191.4 Ml/d. We confirmed the three-year average leakage outturn for 2020/21 as 191.1 Ml/d which outperforms the PC by 0.3 Ml/d (attracting a reward). Anglian Water's annual leakage for 2020/21 is assessed at 182.4 Ml/d against the in-year (Company internal) target of 183.1 Ml/d. These are significant achievements considering lockdown temporarily halted leakage operations until a safe approach to delivery was coordinated and the region suffered three challenging freeze-thaw events between December and February. Smart meter data was used to provide more accurate accounting of higher domestic winter use caused by Covid-19 with many people working from home. The leakage team continues to improve the analytical approaches to target leaks and is drawing more insight from an increase in the use of more technologically advanced logger and hydrophone equipment which provide greater intelligence of customers' usage.
Customers & Properties Tables 3C, 4R	Critical	Green	This information is not a PC however it feeds into some PCs and/or is used as a PC denominator and is therefore risk assessed as 'critical'. Anglian Water has a comprehensive procedure to derive data for connected properties, customers and population which has been followed. Information for the Hartlepool region is now held in SAP. The Company now uses Power BI to produce a report for analysis. Non-Household (NHH) information is obtained from MOSL. This information is taken "as is" but the Company reads around 85% of NHH meters as a way of comparing information provided by MOSL. We traced information through the process and replicated the steps that the data provider applies to produce the information. We cross checked the resulting property figures in the working spreadsheets to the numbers reported in Table 4R. The number of NHH properties has been distorted during the year because of Covid-19. Ofwat allowed companies to record some business properties as "temporarily vacant" in the first four months of the report year. This presented a challenge for Anglian Water to derive consistent property numbers because the data is fluid where some businesses have closed temporarily during lockdowns, or permanently. Anglian has therefore used the

			average number of NHH customers for both water and wastewater for this year which is reasonable.
PC Managing Voids Tables 3A, 4R	Critical	Green	Anglian is reporting 0.21% false voids as a percentage of the total number of household properties in the supply area. This compares favourably against the year 1 PC target of 0.5%. This reflects the significant amount of effort that has been deployed to reduce the number of void properties by bringing them into charge. Through these efforts, the number of void properties has been reduced by 12,813 in the year. Anglian has established a robust process to assess a sample of 1,000 properties that are recorded as >6 months as void (as required by the PC). We confirmed reliable audit trails to support the number of properties surveyed for void status. We note up to 1,200 properties are selected because some properties are inaccessible on site. Anglian uses the total number of properties surveyed (1,115) and is not curtailing it at the 1,000 requirement. This adds to the representative nature of the sample and provides confidence that the PC is being complied with.
PC Sewer flooding Tables 3B, 3G	Critical	Green	There is a detailed set of procedures for sewer flooding which describe an appropriate methodology for reporting the number of sewer flooding incidents. The methodology has been improved providing greater confidence in the process. As previously recommended, the team has now introduced additional checks of jobs raised as flooding but without a 'DG5' form, to check for 'false negative' incidents. This included a review of 5,200 work orders to establish if flooding occurred. Of these, 677 additional incidents were identified which have been included in the reported performance.
Length of mains and sewers Tables 6C, 7C	High	Green	This information is not a PC, however it is used as a normaliser for a number of PCs and is therefore risk assessed as 'high'. The methodology is adequate and we have tested the process to confirm that reliable numbers are being produced.
		Blue	While the figures this year are reliable, we question the repeatability of the process where the single member of staff who conducts the process is not available, particularly for the length of sewers where some manual data processing takes place. We recommend considering if it is possible to update the process such that a query run against the source data would generate the final numbers without the need for manual processing. We note the iterative process of obtaining communication pipe replacement details reliant on several individuals to provide data from different sources which could introduce a risk of error. Where appropriate, these numbers should be checked against other reported lines.
PC Internal Interconnection delivery Table 6C	High	Green	The methodologies and processes are robust and improving to allow actual capacities to be recorded on delivery of a scheme as they can sometimes change through the Totex Delivery Workflow. This is where more in-depth investigations confirm the actual capacity. We reviewed progress of the Ludham scheme and its Delivery Execution Plan evidencing when the interconnector was put into service (8 Mar 2021).
		Blue	It would be helpful to reset the PC definitions with Ofwat following the CMA review as Anglian Water can now deliver its schemes to a higher capacity and complete them all by the end of AMP 7.
PC Interruptions to Supply (I2S) Tables 3A, 3F	Med	Green	We confirmed performance of 5 minutes 2 seconds per property which outperforms the PC target of 6 mins 30 secs per property. This is the best ever score recorded for I2S and is in line with performance seen in previous years following the one off event in 2019/20 in Leighton Linslade which had an adverse impact on last year's score. We sampled events which confirmed the I2S investigation process is being diligently followed and has produced an accurate performance for the year. Some events were selected based on press reports of supply interruptions. These were found to be traceable in Operational Log. Information is now hosted on SharePoint and Power BI provides a visual representation of near live data. The use of SharePoint has introduced additional controls that prompt responsible managers to sign off/approve investigation reports, or the modelling team to action model activity.
Sludge Tables 8A, 8C, 8D	High	Amber	The RES liquid transport system logs the weight of each vehicle based on the vehicle size, not the actual loading. In practice, tankers may not always be full. It is therefore likely that the total amount of work done by tankers is being over-reported, increasing Anglian Water's apparent liquid tankering efficiency. A new system (known as RUD) is in development and we understand that this will use weighbridge data for reporting. This is likely to create a step change down in apparent efficiency. The distance for cake transport is based on straight line distance multiplied by a factor, not actual road distance. This is likely to be inaccurate, especially as there has been a trend of operational decentralisation since the factor was calculated. This should be addressed by implementation of the RUD system.

Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors Table 8C	High	Amber	<p>This is a new 'shadow' reporting line for 2020/21, the definition for which was only published in April. The process is complex and while the calculations are generally sound, we identified exceptions in relation to:</p> <ul style="list-style-type: none"> •Liquor cost calculation •Liquor characterisation •Wastewater characterisation •Quality of documentation <p>These are likely to be material to the resulting information. However, Anglian Water has plans in place to improve reporting. Details of the exceptions are in the SAR for this audit and were discussed at length with the team.</p>
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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.

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.

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").

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.