Thames Water

Annual Performance Report

2021/22

Contents

Introduction

This is our Annual Performance Report (APR). It's where you can find out more about how we've performed during our 2021/22 financial year (1 April 2021 to 31 March 2022) against the targets we have agreed with our regulator, Ofwat.

These targets are tied to our purpose to deliver life's essential service, so our customers, communities and the environment can thrive.

We're here to make sure our millions of customers have clean, fresh drinking water every day, and that we're recycling waste without our customers having to worry.

We want to help you, our customers and stakeholders, to understand what our priorities are and what we're doing to turn Thames Water around.

Click here to go to our Annual Report and Sustainability Report ('Annual Report') for 2021/22.

Throughout this report we will use these boxes, so you have extra information to help you understand this report.

You can also find a Glossary of terms and acronym used in our reporting on our website.

We know that being truly open and transparent is important as we continue to build trust with our stakeholders, so, we are changing the way we communicate to tell our story in a more straightforward way.

To make information as accessible as we can, we have:

- Separated our Annual Performance Report from our Annual Report and Sustainability Report;
- Split our Annual Performance Report into sections for easier reference;
- Added section tabs on the right-hand side throughout this document;
- Provided an index of where you can find information on individual performance commitments on page 15; and
- Provided a look up for all our regulatory statements and disclosure on page 67.

The external documents and websites we refer to in some parts of this APR are for information only. They do not form part of the report.

About us and our Business model

As the biggest water company in the UK, we look after over 15 million customers in the South East of England.

Who we are

We're here to deliver life's essential service, so our customers, communities and the environment can thrive.

We supply clean and safe drinking water to 10 million customers every day, and we treat the wastewater of 15 million.

We put waste to good use to generate energy to power our operations.

And we are continuing to innovate to maximise the potential of waste to support energy transition in the UK.

Where we operate

Our area follows the River Thames and stretches from Gloucestershire to Essex covering countryside, villages, towns and our capital city.

About us

We employ over
7,000
employees

We serve over
15 million
customers across London and the Thames Valley

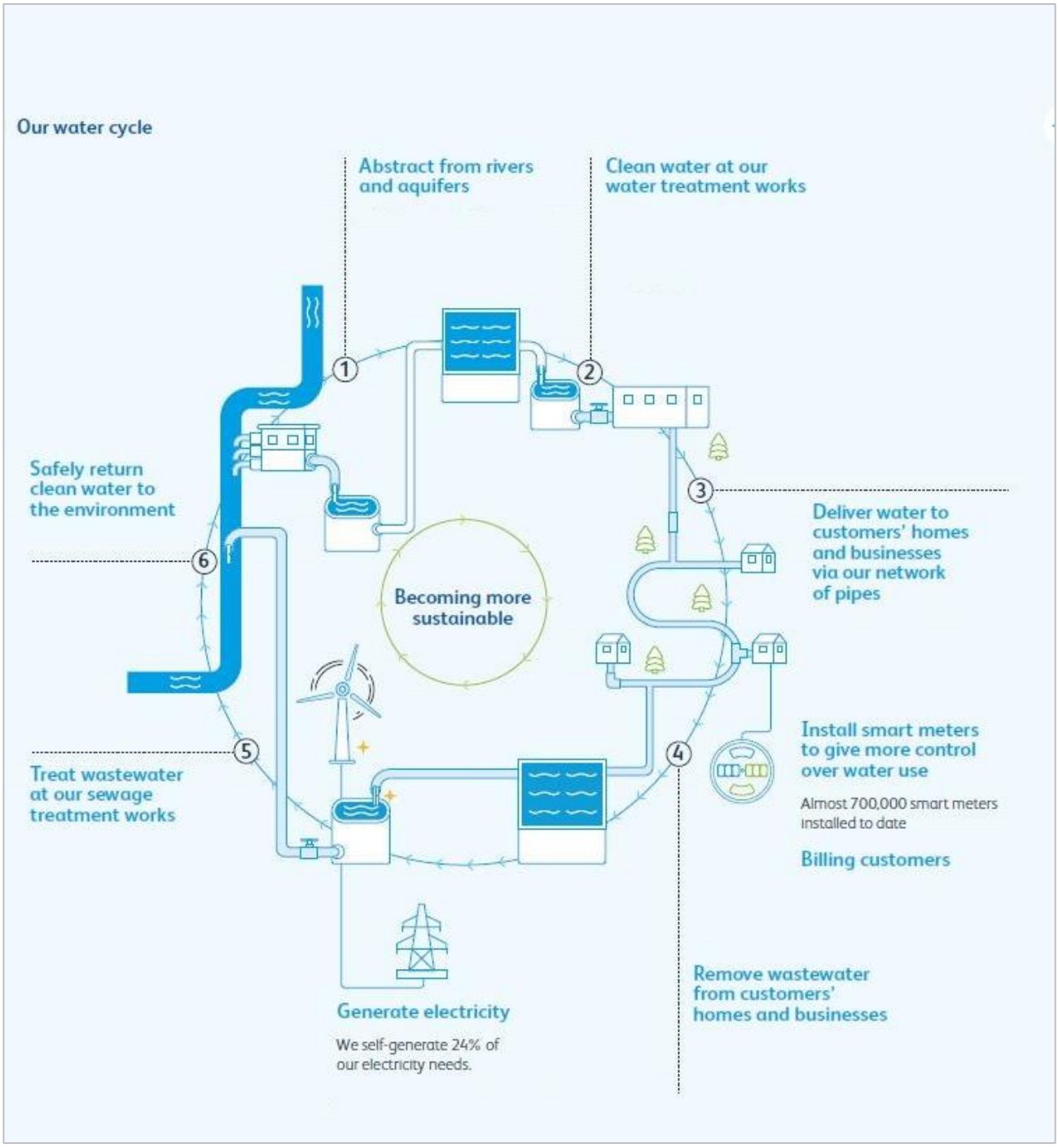
We supply
2.5 billion
litres of water and process

We treat
4.6 billion
litres of wastewater every day

We have
97
water treatment works and
353
sewage treatment works

We generate
510
gigawatt hours of renewable electricity per year

How we create value through the water cycle



Statements from Our CEO and Board

Q&A with Sarah Bentley, our CEO

"We want future generations to look back at this period and know that we 'got things right' this time."

Where are you after year one of the turnaround plan?

As I'm sure the rest of Team Thames will agree, it's been a really busy and challenging first year of the turnaround.

We always knew it would be a difficult year, with such a big task ahead, and that was before the unexpected impact of spikes in energy and chemical prices, as well as the extreme climate events including London's flooding.

Despite all of that, thanks to the determination and focus of Team Thames, we've made some promising progress.

We've secured a huge reduction in our total complaints, a 39% reduction in supply interruptions in the last two years and we've met our leakage target for the third year in a row.

However, we're only at the start of a very long journey, and the success of the plan relies on continued ruthless prioritisation to drive performance and significant investment in our infrastructure, as well as working together brilliantly with our customers, communities and stakeholders.

It was just over a year ago that I launched our turnaround plan and, since then, I've recruited an almost completely new Executive team to deliver it.

Together, over the last twelve months, we've achieved some really critical milestones to improve our service to customers. Most recently, we announced our revised business plan for 2020 to 2025, increasing our expenditure to £11.5 billion compared to the £9.6 billion in our final determination supported by new equity.

To support the plan our shareholders will subscribe an initial £500 million of new equity this financial year, and we're working with them on plans to provide a further £1.0 billion of equity funding, which will be subject to certain conditions.

Another significant milestone was the launch of a new way of running our operations by restructuring two dedicated teams in London and the Thames Valley and Home Counties, to get closer to what our customers and communities want and need. We're also on track to bring the management of our water network into Thames Water so that we can have more control over the decisions that affect our performance.

While it's still very much early days, the new set up will give us the opportunity to be more 'local' in how we look after our customers, so we can really live our Purpose, to deliver life's essential service, so our customers, communities and the environment can thrive.

While we've made a good start, we have a long way to go to make sure we're ready to respond to short-term shocks, as well as longer-term challenges like climate change. Our customers and our performance, particularly our waste metrics, were severely affected by the high rainfall through the year and the devastating flash flooding in July 2021.

We know that eight years sounds like a really long time, but we have a lot of longstanding problems to fix, as well as fixing the basics across the business.

So, we are taking our time to do things thoroughly, as we want future generations to look back at this period and know that we 'got things right' this time.

What's on your mind as you head into year two?

Fixing the basics is still right at the top of my to-do list. It's going to take time to get back on track and make sure we consistently meet our targets in our key metrics.

Only then can we really start speeding up the other areas of our plan. We're already a few months into year two and we're fully focused on building on the strong foundations we put in place during year one.

We're lucky to have incredibly passionate people in Team Thames, who strive to do their best every single day. My role, and that of our other leaders, is to make sure we're serving our customer facing colleagues, so they have the right support and tools to look after our customers brilliantly.

As part of fixing the basics, we launched a programme to reconnect everyone across Team Thames with our values and behaviours, to support our Purpose. Living our values is so crucial to the long-term success of Thames, and every day I see and hear stories of how people in Team Thames are doing just that.

One of our values is to 'take care'. After two long years of a pandemic and being in the early stages of an eight-year plan, looking after our people is one of our most important focuses in the coming year.

As part of that we're increasing our focus on improving our health and safety and have put some new processes and initiatives in place. Making sure everyone goes home safe and well is absolutely our biggest priority.

Looking after our mental health is just as important as our physical health, which is why I became a mental health first aider, and we're increasing our focus on supporting mental wellbeing too.

There's been a lot of change within the business over the last year as we get ready for the future. Building the resilience of our team, and creating an environment where our colleagues feel happy, safe and supported to do their best is absolutely crucial.

I'm passionate about taking care of our customers. We've been increasing our support for customers finding themselves in vulnerable financial circumstances during the year, as the cost of living increases. As part of that we've set up a new customer 'Extra Care' team, to bring together our support and make sure customers are getting the help they need, and we've provided £46 million in support through discounts to bills.

What's been the biggest challenge?

It's hard to pinpoint just one. It's certainly been a turbulent year of challenge. In the last year alone, as well as the pandemic, our customers have faced some of the worst flooding our region has experienced in recent history, as well as skyrocketing energy prices and crippling increases to the cost of living.

It's a really difficult time for many customers and communities, and a challenging time for businesses as inflation soars.

While weather is out of our control, we know that climate change is only going to have a bigger impact on us in the future, and we need to make sure we're ready to tackle it head on. To help reduce the threat of flooding in our region, we're joining forces with others responsible for drainage to come up with bigger and better solutions to protect our customers.

I love the idea of creating 'storm roads' like they do in Copenhagen, and maybe we need to look at something similar in London. To really make a difference, we need to think big and bold, and embrace innovative ideas.

We already have a lot to do within a really tight budget. With the added external pressures we've been facing over the last year, the budget has become even tighter. That means there have been some really tough choices to make, and we are having to drive efficiency hard.

We want to be able to move forward at pace, but we're having to be absolutely ruthless in our prioritisation to make sure we deliver brilliant outcomes for customers and the environment in everything we do but we can't do it all at once.

Where does river health fit into your plans?

Like many of you, I care passionately about the health of rivers. As well as providing a wonderful home for so many species, they provide an escape from the intensity of everyday life. That's why it's so important that we're taking a progressive stance to clean up them up.

When I spoke at the Rivers Trust Spring Conference in March, I made some really important commitments to reduce spills of untreated sewage into rivers. But we know it's not just about making commitments. Actions speak far louder than words. And we're absolutely taking action to protect our beautiful waterways.

On top of the significant investment programme already underway in our waste network and sites, we're also investing an additional £120 million at 41 of our sewage treatment works to reduce the risk of spills, and an additional £20 million as part of programme of improvements at nine of our most polluting works.

After a successful pilot in the Oxford area, we're on track to send live alerts by the end of the year from all 468 permitted locations within an hour of discharges starting and stopping. Port Meadow has also been awarded designated bathing water status. I'm delighted we were able to work so collaboratively with stakeholders in Oxford to secure this elevated status. This won't stop sewage entering rivers, but transparency is really important as we build trust, and we expect you to hold us to account.

And, with the tunnelling now complete, we're just18 months away from a hugely important milestone in London and the River Thames' history. That's when a massive feat of engineering and the biggest ever spills reduction project will go into operation. The landmark Thames Tideway Tunnel, which runs for 25km under London, will divert millions of tonnes of sewage away from the River Thames. You can find more in our Annual Report and Sustainability Report about our work to clean up rivers.

What about water scarcity?

We all know that water is essential for life, and as the population grows, there's going to be a massive gap in what the world has and what we need. Water scarcity is a key concern for our region and beyond, and we need to move it up the agenda, just like we have with carbon.

Through our engagement, we know many of you agree, which is why it's one of the

themes of our Vision for 2050, and we're calling for a national water target that drives reductions in demand throughout society and across industry.

We all have responsibilities to look after water and reducing leakage continues to be a really important part of our plans. It's also one of our biggest challenges, with so many ageing pipes in our network and their sensitivity to changes in weather, but we've been making progress over the last few years.

That said, to be able to really make a difference, we need to replumb the London network. Clearly that's not practical from a cost or disruption point of view, but the new conditional allowances mechanism is a great step forward for our sector. With shareholders matchfunding additional investment, it unlocks increased investment in critical infrastructure.

As well as reducing leakage, we're helping protect life's essential ingredient in other ways too. We're running the UK's largest smart metering programme and, as part of that programme, we're supporting our customers to reduce their water use, which helps them save water and money too.

We're also seeking new ways of supplying water to our region through our joint plan with five other water companies in the South East as part of the Water Resources South East partnership.

How important is collaboration?

We can't do anything without it! We know Thames has been seen as an arrogant company in the past and there's absolutely no room for that kind of behaviour in today's Thames. We need to actively listen to what you're telling us, and that's why I love getting out and about on sites with colleagues and stakeholders.

There are some really difficult things to hear, but we need to hear them. That way we can improve and engage with you about what we're doing. And when we have to change priorities, we need to be really clear why. It's the only way to rebuild trust and understanding.

Just last month, some of the senior team went along to meet some stakeholders at a public demonstration about river health. Old Thames may have shied away from something like that, but we don't want to be a 'faceless' organisation. By listening and engaging, we can channel our passion with that of stakeholders to make a positive difference to our region.

Partnership working brings together energy, support and challenge and we need all of those things to be able to deliver more for our customers, communities and the environment.

The power of collaboration has led to some brilliant outcomes over the last year, with just one example being the Oxford Rivers Project. We absolutely wouldn't be where we are now on our river health journey without the insight and collaboration of partners and river users in the area.

Our smarter water catchments initiative has collaboration at its heart too, and we're moving forward on three joint plans for the beautiful Rivers Chess, Crane and Evenlode. This pioneering approach to looking after catchments brings together river communities to make more of a difference to river health. It focuses on nature based solutions and partnerships instead of concrete.

We know that together we can make bigger and better improvements than we can as individual groups or organisations, focused on our individual pieces of a much larger jigsaw.

I'm really excited about what we're going to deliver with our partners in our joint plans and this is just the beginning. This approach could be the future of the way we view and look after catchments.

What are you most excited about?

While we remain absolutely focused on fixing the basics, we also have such a great opportunity to really shape the future, which is why it's one of the pillars of our turnaround plan. I'm passionate about the water industry. It's in my genes, as my great grandfather was a well-borer for the Metropolitan Water over 100 years ago, and, as a mum of five, it's so important to me that we leave a positive legacy for future generations. We have the opportunity to make such a difference by cleaning up rivers, securing future water supplies, creating wonderful natural spaces in disadvantaged communities and providing meaningful careers as an 'employer of the future'.

We know we only have the right to be part of conversations about the future if we focus on fixing the basics now. There's no getting away from us being at the bottom of the league table for customer service and being behind target in other metrics, and it's going to be another challenging year of driving further performance improvement. We're starting to see glimmers of progress and I can't wait to see the continued improvements as we take another step forward in our eight-year turnaround plan.

So, what I'm most excited about is continuing along our turnaround journey and working with you, our stakeholders, and my colleagues across Team Thames, as we shape a brilliant future together.

Sarah Bentley
Chief Executive Officer

> "We don't want to be a faceless organisation. By listening and engaging, we can channel our passion with that of stakeholders to make a positive difference to our region."

A statement from our Board

As a Board, we're focused on making sure Thames Water is a Purpose-led organisation – delivering life's essential service, so our customers, communities and the environment can thrive.

Ian Marchant on behalf of the Board

It's been a positive first year of Thames Water's turnaround plan, and we've made good progress despite a really challenging external environment. Some of the challenges, including the increase in energy and chemical prices were unknown at this time last year, and they've had a significant impact on our business. That said, we've met some significant milestones as the business goes through a reset and builds crucial foundations on which to deliver our eight-year plan. It's a strong plan and will ultimately enable us to really deliver our Purpose.

Our Purpose

This year, the Board has been overseeing the Executive team's rollout of a 'Living our Values' programme to reconnect the business with our values. It's a really important part of fixing the basics, as part of the turnaround plan, and underpins the delivery of our Purpose. As a Board, we attended a dedicated programme session, where we shared stories that brought the values to life.

With pandemic restrictions easing, we've been able to get out and about on sites, to talk to teams on the frontline, get closer to operational challenges and see our Purpose in action. I've personally spent time on sites hearing about our new workforce management system, how we're tackling supply interruptions and investment at sewage works to reduce spills, as well as engage with teams on our plans to protect customers from water scarcity and the increasing impact of climate change. Ian Pearson, our Workforce lead non-executive director, has also continued to engage with teams across the business as part of a structured engagement programme to hear more about culture and the changes we need to make.

The Board and its Committees receive regular updates on the turnaround plan, the results of workforce surveys and feedback, and our risk environment. Combined with our engagement, this flow of information helps us assess how behaviours across Thames Water are in line with our values and Purpose and where additional management action may be needed to address any issues.

Leading with Purpose

Our Purpose is to deliver life's essential service, so our customers, communities and the environment can thrive

Doing things in the right way is just as important as what we do. And, right across the business, from the Board to the frontline, we're focused on being Purpose-led.

Strategy

To be truly Purpose-led, we need to turn around our performance and get Thames Water in the right position for the future, so our customers, communities and the environment can thrive. We've launched an eight-year turnaround plan. As we embed our plan and focus on what we need to deliver on our journey to 2029, we've also been developing our strategic roadmap.

While our previous strategic ambitions are still crucially important themes – to deliver brilliant customer engagement, to invest in resilient assets and systems and to generate public value – we're refining our strategy. It will help ensure that what we do really aligns with why we do it – our Purpose – and will bring together our ambitions under our turnaround plan, our longer-term water and drainage plans (our Water Resources Management Plan and Drainage and Wastewater Management Plan), and our Vision for 2050.

Over the last year, we've been fully focused on embedding the themes of our turnaround plan, and making sure all our activity delivers against one of each of those themes – to fix the basics, raise the bar and shape the future. That's why we've structured this year's Annual Report and Sustainability Report around the three pillars of our turnaround plan.

Values and behaviours

Our values were developed in 2014 by Team Thames, and in 2020 we relaunched these values with a set of refreshed behaviours to really bring them to life. As part of our turnaround plan, we've rolled out a new programme to reconnect Team Thames with our values and behaviours, so we can deliver our Purpose and create a great place to work.

→ **See how we're embedding our values and behaviours to support our Purpose on page 36**

Take care
We put the health, safety and wellbeing of our colleagues, our customers, our communities and ourselves above all else

Passionate about everything we do
We do everything with energy and enthusiasm, taking a can-do approach

Be respectful and value everyone
We challenge prejudice, discrimination, and unacceptable behaviours wherever we see them

Reach higher, be better
We support each other to be the very best we can be by listening, learning and trying new ideas

Take ownership
We keep our promises and take action where it's needed to support our colleagues and our customers

Be proud, be blue
We always work together as Team Thames to do the best possible job for our customers

Sustainability and ESG metrics

Being Purpose-led goes hand in hand with being more sustainable and delivering on Environment, Social and Governance (ESG) metrics. Our Purpose directly focuses on ESG outcomes with its reference to enabling customers, communities and the environment to thrive.

We have a longstanding approach to sustainability and over the last few years we've been evolving to respond to the changing impacts on our business and the needs of our customers, communities and the environment. We'll keep doing that as we move forward to shape a brilliant future for our region.

Vision 2050

The water industry operates in five-year regulatory cycles, but we all know customers are going to need water forever, and that our environment needs us to behave in a responsible way.

The nature of our business means we need to make decisions today that will benefit generations for many years to come. That's why we've been working to define our Vision for 2050, so we can make sure our Purpose rings true, now and in the future.

We've been talking to lots of different stakeholders about our Vision and aspirations for the future, which we've focused on five themes – customer, water resources, waste and rivers, energy transition and community impact. You'll hear more about our Vision as we move through 2022/23.

Governance

As a Board, we follow the UK Corporate Governance Code, with some minor exceptions as set out in the Compliance section, and the Ofwat Principles on Board Leadership, Transparency and Governance. You can find full details about our structure, compliance, and corporate governance arrangements in our Annual Report and Sustainability Report.

In 2021/22, we saw a few changes to the Board composition. Brandon Rennet stepped down as CFO in September 2021 and was replaced by Alastair Cochran. Paul Donavan and Greg Pestrak, two of our non-executive directors, resigned in October 2021 and December 2021 respectively. They will be replaced by two new investor directors in the next year, following which we plan to review the Board skills matrix and composition of the Committees, to make sure we're set up in the right way to support the delivery of the turnaround plan and to maintain the highest levels of governance.

We've also supported the appointment of new members of the Executive team, which, together, bring a strong skillset and wealth of experience to our leadership team. You can read more about their individual skills, experiences and backgrounds in our Annual Report and Sustainability Report.

We have supportive shareholders who recognise the need for our turnaround plan and the long-term nature of it. In June 2022, we announced an ambitious business plan for the remaining years of this regulatory period which provides a firm foundation for the turnaround plan and allows us to meet our regulatory obligation sand improve service to our customers.

The revised business plan sets out a £11.5 billion programme of expenditure to improve operating performance, a £2 billion increase compared to the £9.6 billion Final Determination for 2020 to 2025.

They have not received a dividend for the fifth consecutive year, underlining their commitment to our long-term financial resilience and reflecting our overall delivery for customers in 2021/22.

The only dividend paid during 2021/22, in October 2021, was used solely to service group debt obligations and minor working capital. Further details can be found in our Annual Report and Sustainability Report.

Operational commitments and performance

We're now at the end of the second year of our current regulatory period and the end of the first year of our turnaround plan. Performance is not where we want it to be but we're broadly on track with where we expected to be. This year, we met 29 of our 52 performance commitments (of which 47 have an annual target).

You can find more information about our key performance indicators in our Annual Report and Sustainability Report and throughout this document.

Driving Environmental, Social and Governance (ESG)

Doing things in the right way is critical to the success of Thames Water, and our approach to ESG is something we, as a Board, consider in all our decisions.

The health and safety of Team Thames and our customers is our number one priority, and the Board has spent a lot of time understanding our performance to make sure colleagues go home safe and well after every day at work. You can read more about our performance, and the new situational awareness programme being rolled out, in our Annual Report and Sustainability Report.

The Board has also been very engaged in the changing conversation on river health,

and we fully support Sarah and the team's approach to being open and honest about the challenges we face. We absolutely agree that all discharges of untreated sewage into rivers are unacceptable. The Board had two deep dives on rivers during the year, to understand the scale of the issues and monitor the action that the business is taking.

The Section 172 Statement in our Annual Report and Sustainability Report explains how the Board and Directors consider various ESG issues, and you can find more information in the Corporate Governance Report. You can also read more about how we are performing in our Sustainability Report and in our ESG Statement on our website.

Business resilience and long-term aspirations

With new and heightening external pressures, we've spent a lot of time during the year focusing on our risk management (see our Annual Report and Sustainability Report for more detail). Our energy prices alone have increased by £43 million during the year, and it's a cost we have absorbed – increasing the pressure to operate even more efficiently.

Climate change has and will continue to intensify and the way we respond to it is crucial. In July, severe flash flooding affected our customers across London and since then we've commissioned an independent report into what happened. The review's recommendations will inform the scoping of a surface water management strategy and plan for London being jointly led by ourselves, the Greater London Authority, Transport for London, Environment Agency and London Councils. In February, Storm Eunice, was another test of our resilience. Our robust approach to preparing for the storm meant there was limited impact on our customers and the environment.

Over the next year, we'll continue to support the Executive team as they deliver the turnaround plan and work collaboratively with our stakeholders and other water companies to balance our long-term goals and the short-term needs of our region. We look forward to continued, steady progress as we make a real difference to the business in a sustainable way.

Our Performance

Index of our performance commitments

For ease, we have provided an alphabetical index of where you can find details on our 52 performance commitments.

About our performance commitments

The water industry works in five-year regulatory periods, otherwise known as an Asset Management Plan (AMP) period. AMP7 covers the period from 1 April 2020 to 31 March 2025.

We have 52 Performance commitments in total.

Ofwat defined 15 common performance commitments and our performance in these is benchmarked against other companies.

In addition, we have 37 bespoke performance commitments which we have designed to help us focus on key customer priorities.

If we perform better than the targets that we have been set, we can earn a financial reward. When we fail to meet a target, we incur a financial penalty. These will be applied in later years and will adjust customer revenue collection for water, wastewater and retail services.

Our performance in 2021/22 means we have incurred both penalties and rewards.

Not all our performance commitments have a financial reward or penalty attached to them. We also have some reputational performance commitments.

As well as this report, we provide regular reports to other stakeholders, including our Customer Challenge Group (CCG) and the Consumer Council for Water (CCW). By doing this, our customers and other stakeholders can understand, challenge and hold us to account for our performance.

As a long-term business we look beyond the five-year AMP period so that we're planning into the future.

What are performance commitments?

Performance commitments (PC) are a way for us to show how we are delivering against our targets.

When planning for AMP7, we worked with our customers, stakeholders and regulators to identify what mattered to them most.

We used this research to define performance commitments which we measure ourselves against.

Snapshot of our performance in 2021/22

This year, we met 29 of our 47 annual targets. Five performance commitments do not have a target for this year.

2021/22

Type	Met	Not met	No target	Total
Common	6	7	2[1]	15
Bespoke	23	11	3	37
Total	**29**	**18**	**5**	**52**

2020/21

Type	Met	Not met	No target	Total
Common	7	6	2	15
Bespoke	21	13	3	37
Total	**28**	**19**	**5**	**52**

Our performance this year means that we have incurred both penalties and rewards.

The amount we incur is also known as outcome delivery incentives (ODI) and depends on how far we've missed or exceeded the target for an individual financial performance commitment, and specific calculation rules set by Ofwat.

Some ODIs are calculated for the regulatory year, others are end of AMP calculations.

Rewards in £m

PC	21/22	20/21
Mains repairs	8.714	-
Sewer collapses	0.166	0.030
Leakage	-	2.671
Reducing risk of lead	0.429	0.015
Empty business props.	0.497	0.549
Renewable energy	0.725	-
Empty household properties	0.617	-
	11.148	**3.265**

Penalties in £m

PC	21/22	20/21
Water quality compliance	(1.262)	(0.898)
Per Capita Consumption	-	-[2]
Water supply interruptions	(6.956)	(10.12)
Mains repairs	-	(1.058)
Pollution incidents	(1.433)	(2.739)
Sewer flooding See Note a	(28.831)	(10.560)
Unregistered household properties	(0.211)	(0.211)
Empty household properties	-	(0.308)
Clearance of blockages	(6.410)	(5.223)
Renewable energy produced	-	(1.370)
Treatment works compliance	(0.123)	-
Environmental measures delivered See Note b	(0.667)	-
	(45.893)	**(32.487)**

Note a: Includes the impact of the London flooding of July 2021, a 1 in 200-year weather event. If this was excluded our penalty would be c.£20m less.
Note b: Includes 103 measures submitted to, but not yet approved by, the EA (although we are satisfied that they meet the approval criteria).

Penalties and rewards for customer satisfaction measures, C-MeX (£17.2m) and D-MeX (£1.2m), are calculated differently.

If we add these penalties our performance this year has resulted in a net penalty of about £53m (2020/21: £47m*).

*Included £18m for C-Mex and D-Mex

[1] C-MeX and D-MeX performance results are an industry ranking.

[2] Last year we included a penalty of £2.65m for PCC. However, due to Covid, we have restated this as it is now an end of period ODI.

Detailed review of our performance in 2021/22

In this section, we explain how we have performed against our targets and, where a target has not been met what we are doing to improve.

We have grouped our commitments into three categories according to how they impact on:

- Customers
- Assets
- Public value

We talk more about our turnaround plan in our Annual Report and Sustainability Report.

We also provide analysis of how we have performed against our Thames Tideway Tunnel (TTT) commitments. TTT is a landmark construction project which will divert millions of tonnes of sewage away from the River Thames when it goes into operation later this decade.

We know there's a long way to go to get to where we want to be but, with our turnaround plan, we've started on our journey to fix the basics, raise the bar and shape the future.

You can read more about our turnaround plan in our CEO's statement on page 5 and in our Annual Report and Sustainability Report.

We have placed the following keys against each performance commitment to clearly show how we have done.

Performance achieved:

- ▲ At or above target
- ▼ Within the range allowed without a penalty (the "deadband") if defined or, if not, within 5% of our committed performance level
- ■ Below the deadband (if defined) or more than 5% adverse to our committed performance level
- ◆ Performance information not applicable

Not all of our performance commitments are linked to penalties and rewards. We also have reputational ones and we have used the key below to identify the different types.

Performance commitment category:

O=Reward	U=Penalty
A=End of AMP	C=Common
B=Bespoke	R=Reputational

Customer driven performance commitments

C-MeX AR01

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Out of 100	68.86	N/A	72.91	(£17.20m)

About this measure

This is a measure of customers experience that Ofwat introduced in AMP7. It is based on two equally weighted monthly customer surveys (customer experience and customer satisfaction).

All 17 of the largest water companies in the industry take part in these surveys, and the results are used to calculate rewards or penalties based on the relative performance of the company.

Reducing complaints isn't a standalone performance commitment.

However, it is one of our KPIs and contributes to our C-MeX score, so we explain more about our complaints' performance on page 58.

How we've done

We remain 17th in the industry for 2021/22 and therefore we will receive the maximum 12% penalty of our residential retail revenues c.£17.2m. Feedback shows that we are not consistently providing our customers with the service that they want.

We have set up a C-MeX Taskforce, sponsored by our Retail Director to accelerate our turnaround plan. Our plan has three parts:

- Customer experience plan – we have prioritised funding to enable more regular and broader communications with our customers;
- Customer service plan – we have a mixture of transformation, continuous improvement, and performance drives to turn the dial on and better meet our customer's needs; and
- Customer obsession – it's clear that we need to do more to 'Live our Values' and put the customer at the heart of all we do. We have a strong focus on how to make this real and speed up the shift in how we work.

We confirm that we comply with the C-MeX reporting requirements with regard to the provision of at least five channels (including three online) for customers to contact us through.

Customers are able to contact us through letter, telephone, email, using online forms on our website, social media and webchat. We are always looking at ways in which we improve the ways in which our customers can contact us and to embrace new methods as they become available.

D-MeX AWS01

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Out of 100	79.64	N/A	77.56	(£1.154m)

About this measure

This is a measure of developer services customers experience that Ofwat introduced in AMP7. 50% of the measure is a monthly qualitative customer satisfaction survey. The remaining 50% measures our performance against selected Water UK [3] service level targets.

All 17 of the largest water companies take part in these surveys with rewards or penalties calculated based on relative performance.

How we've done

Last year we said that we expected to see an improvement in our score for 2021/22, and this has been the case.

However, we remain 14th in the industry rankings. In response to the issues highlighted in last year's audit, improvements were made to the data capture processes at the start of the year which have been adopted into business as usual throughout the year.

All reporting systems and the monthly audit processes have the date received into the business as the start of the reporting period. This negates the risk associated with delays in the logging on process.

We also made changes to processes to enable the reporting of late data for the new connections' metric (W4.1) within the monthly submissions for D-MeX.

BSI for fair, flexible inclusive services AR07

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Achieved / maintained	Maintained	Maintained	Achieved	N/A

About this measure

This commits us to achieving, then maintaining, verification against the British Standard Institute's (BSI) vulnerability standard BS18477.

How we've done

We have maintained our accreditation in 2021/22.

We are dedicated to having a service that is available to all, regardless of personal circumstances.

[3] *Water UK is the trade association representing the water companies of the United Kingdom.*

Priority services – customers in vulnerable circumstances AR06 ▲

Type: C, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Reach	5.0%	4.0%	3.5%	
Actual contacts	45.4%	35.0%	18.3%	N/A
Attempted contacts	93.4%	90.0%	56.8%	

About this measure

This is the % of all households in our region that are on the Priority Service Register (PSR), known as 'Reach', and our how often we contact them.

How we've done

We are ahead of our target, and we continue to grow the number of our customers accessing priority services through targeted email and social media campaigns, our work with third sector partners, data sharing partnerships and our proactive over 80s campaign.

We attempted to contact customers through two campaigns this year. Our first targeted customers on the PSR for over two years through automated 'check in' outgoing letters and emails, with top up manual letters and e-mail. Our second campaign targeted a subset of this group to improve the data held with customers on legacy needs codes.

Our actual contacts have been driven by our 'check-in' campaigns as well as our ongoing contact with customers.

Households registered by service type:

Service	Number
Communication	19,592
Support with mobility and access restrictions	281,610
Support with supply interruption	327,661
Support with security	9,816
Support with other needs	23,198
Total households registered [4]	661,877

Register movements in year:

	Individuals	Households
At Mar 2021	198,343	197,324
Additions	127,353	126,945
Removals	(34,561)	(39,890)
At Mar 2022	291,135	284,379

Our PSR helps us to help our customers by giving a clear view of who might need extra help when they're dealing with us.

Click on the link here to see if you are eligible for priority services.

[4] *A household may be registered for more than one service.*

Satisfied vulnerable customers AR05

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage of customers satisfied	85%	91%	85%	N/A

About this measure

This measures the satisfaction levels of customers who are on our priority services register.

How we've done

We missed our target this year.

This is reflective of general customer service issues that we experienced during the year.

We're making improvements to training and quality monitoring to improve the experience for our customers in vulnerable circumstances.

We're also working across the business to make improvements to our customer service experience, which should have a positive impact on our performance against this metric.

Households on the Thames Water social tariff ER03

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number of households on tariff	267,033	137,000	210,731	N/A

About the measure

This is the number of households that receive affordability support from our social tariff.

You can find out more on our social tariffs in Table 2N on page 150.

How we've done

Our WaterHelp social tariff has seen further significant growth of 27% since 1 April 2021, adding 56,302 households.

This growth includes our final tranche of LAHA (Local Authority Housing Association) households moving to direct billing.

This targeted campaign means that over 100,000 previously LAHA billed households now receive 50% off their entire water bill.

Proactive customer engagement AWS02

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number (cumulative over the AMP)	101,210	160,000	37,095	N/A

About this measure

This is the number of times we proactively contact customers.

We also agreed with Ofwat that we will publish a net promoter score (NPS) based on customers' answers on how likely they would be to recommend the company to friends or colleagues. The score is the proportion of consumers that answer 9 or 10 (promoters) less the proportion that answers between 0 and 6 (detractors).

How we've done

While we have missed our target for the year, we have:

- Delivered significantly Smarter Home, Wastage, and Smarter Business visits in 2021/22 due to the relaxing of Covid-19 restrictions;
- Signed up more customers to Greenredeem due to increased Smarter Home visits; and
- Delivered fewer virtual Smarter Home visits as the relaxing of Covid-19 restrictions has allowed physical visits to be carried out.

The Greenredeem scheme motivates customers to reduce water consumption, through behaviour change, by winning prizes, donating to charities and redeeming gift cards.

Table of contact by type:

Activity	20/21	21/22
Smarter home visits	4,986	20,993
Smarter business visits	1,813	3,688
Smarter home wastage visits	569	2,293
LAHA[5] visits	341	-
Proactive smart CSL repairs	1,599	2,183
Greenredeem	5,488	8,622
NHH fat, oil and grease (FOG) visits	3,692	7,874
School visits	0	173
Digital smarter home visits	7,905	3,667
Digital education visits	45	126
Digital portal engagements	Due to start in 2022/23	
Proactive led pipe replacements	10,657	14,496
TOTAL 101,210	37,095	64,115

Since our Final Determination, C-MeX has replaced NPS as the customer satisfaction measure. We are investigating how to extend NPS across all AWS02 activities.

[5] *Local Authority Housing Associations (LAHA) - discontinued after year 1.*

Per Capita Consumption (PCC) (three-year average) BW05

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Litres per person per day (l/p/d)	147.5	142.6	148.3	£0.000m
Percentage reduction	-1.0%	2.3%	-1.6%	

About this measure

This performance commitment measures the average reduction in the water usage of household customers.

How we've done

We have not met our target for the year.

This year PCC has improved against AR21, with less warm weather and reducing impacts of Covid-19 and the associated restrictions, with people spending less time at home for pleasure and work.

Our three-year rolling average PCC performance is 147.5 Ml/d. This is 1% above the baseline and an underperformance against the 2021/22 target.

In a normal year the biggest influence on PCC is weather, with hotter drier summers leading to increases in demand particularly in unmeasured households.

We've also been continuing to roll-out smart meters across our region, which help customers monitor their water use, encouraging them to be more water efficient.

During the year, we installed 150,000 digital smart meters, and also carried out 26,000 smarter home visits. Our three-year rolling average performance is 147.5 Ml/d. This is 1% above the three-year rolling average performance [target] level, and an underperformance against the 2021/22 target. In a normal year the biggest influence on this performance commitment is weather, with hotter drier summers leading to increases in demand, particularly in unmeasured households

Empty (void) household properties ER02

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
% Household properties classed as void	3.42%	3.50%	3.70%	£0.617m

About this measure

This metric measures the number of empty properties as a percentage of our overall household property base within our billing system.

How we've done

We have met our target.

The % of void households has decreased this year due to stabilisation of our reporting processes following our migration to a new billing system last year.

Unregistered household properties ER01

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Completed/not completed	Process not completed	Process completed	Process not completed	(£0.211m)

About this measure

This measures whether we are delivering our planned programme to identify households where our services are being used and not billed.

Accurately recording the status of these properties reduces the amount of incorrect billing, meaning less bad debt, and unaccounted for water.

This leads to fairer billing for all customers.

How we've done

We have not met our target this year.

Due to the decommissioning of the billing system (CIS) used in our data matching tool and the need to improve the quality of data to reduce the number of false leads, this process was not completed across the four quarters.

We are enhancing existing data/property data models to improve the quality of data matching going forward. In particular, we are setting up of subsidiary properties where multiple properties are served by one meter, but where not all properties served by the meter are set up.

We are also taking steps to enable data matching against the new Billing Engine (SAP IS-U) with support from a 3rd party, which will continue into 2022/23.

Empty business properties EWS08

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or Reward
Number of empty business properties	4,362	0	5,690	£0.497m

About the measure

This is the number of non-household properties that we have billed after identifying that they were incorrectly shown on our systems as 'empty'.

How we've done

We have exceeded our FD target for 2021/22.

Asset driven performance commitments

Mains Repairs BW01 ▲

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or Reward
Number of repairs per 1,000km of mains	223.3	262.2	269.6	£8.714m

About the measure

This is the number of repairs we make to our network.

How we've done

Performance this year has been consistently within target as reflected in our year end position. Reactive repairs have been better than target throughout the year and the mild weather during the last quarter of the year helped our speed of recovery from cold weather-related episodes.

In 2021/22 we completed 4,139 proactive repairs (130.0 per 1,000km) as a result of Active Leakage Control or leak detection activity and 2,970 reactive repairs (93.3 per 1,000km) as a result of customer contact via any channel. This is an increase of 11% on last year's number, reflecting our continuing focus on work to find and fix leaks to help reduce leakage.

This measure provides us with information about the condition of our water network.

A lower number of repairs shows better performance against this measure.

Unplanned outages BW02 ▲

Type: C, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
% of peak week production capacity	2.24%	5.09%	1.76%	£0.000m

About the measure

This is water we were unable to supply to our customers because of an unforeseen deterioration or failure of the assets we use to source and treat the water.

How we've done

The outperformance against target for this PC reflects prompt operational responses to events. Substantial work was undertaken at AR20 to standardise the process used to report and collate the performance data used to calculate our performance against this PC. This included adding new features to operational reporting systems and a dedicated training programme for controllers.

We are continuing to deliver a targeted capital maintenance programme and are operationally achieving longer-term improvements through asset criticality assessments, regular site trip reporting and response review, and a tool to assist with alarm management. These improve our operational response to asset events to manage the system and keep customers in supply.

Water supply interruptions BW03

Type: C O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Average minutes lost per customer for >= 3hrs interruption	00:11:03	00:06:08	00:13:39	(£6.956m)

About the measure

This is the average number of minutes our customers don't have water, for interruptions lasting three hours or more.

How we've done

We have improved our performance this year by 2 minutes and 36 seconds, but four significant events during the year caused us to fall short of our target. The significant events were:

- Trunk mains burst at Westside, NW4 (December 2021) (impact 03:01): Two trunk main bursts affecting an area at the edge of our supply area that caused significant supply interruption. The repair was complex as the first burst also damaged a neighbouring wastewater pipe. We used our Direct Reservoir refill strategy to limit impact to our customers.
- Netley Mill, GU (February 2022) (impact 01:05): Storm Eunice caused widespread power cuts in this area affecting Netley Mill water treatment works, the boreholes which supply it and some of our monitors. As reservoir supplies ran out this caused interruptions to our customers.
- Trunk mains burst at Rosendale Road, SE21 (June 2021) (impact 00:23): A trunk main burst on a main feed into one of our reservoirs for this area of the network, causing immediate supply interruption to c.4,500 properties. Pumps feeding the reservoir had to be carefully adjusted before the main could be isolated and repaired.
- Earls Path, IG10 (June 2021) (impact 00:20): A burst on the direct main feed into this part of our network caused immediate supply interruption to c.2,800 customers. Once the burst was isolated an alternative feed was opened to restore supplies.

If the impact of the most significant event at Westside was excluded, overall outturn would have been 8 minutes and 2 seconds. Underlying performance without these four events was 6 minutes and 14 seconds, just above the target level.

Key initiatives to improve our performance. include:

- Greater operational control;
- Use of large new tankers to keep customers on supply;
- Creation of a Supply Interruptions Specialist Desk 24/7 to respond to problems as they occur and immediately deploy tankers; and
- Network checks and maintenance programs focused on our highest risk trunk mains and network areas.

This performance commitment incentivises us to minimise the number and duration of supply interruptions for customers.

Leakage BW04 ▲

Type: C, O/U Re-baselined for AR22	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
3-year average in Ml/d	605.6	605.6	639.0	£0.000m
Percentage reduction	10.2%	10.2%	5.2%	

About the measure

This is how much we have reduced leakage using a 3-year average from the 2019-20 baseline.

This year we have improvements to our methodology and data accuracy and have restated our historic reported leakage position to maintain consistency and comparability of reporting.

How we've done

Leakage reduction is an extremely important part of our plans to manage the balance between supply and demand. Consequently, we have challenging targets to deliver a 20.4% reduction in our base level of leakage (as a 3-year rolling average) by 2024/25 and a goal to reduce leakage by 50% (of 2017/18 levels) by 2050.

This year we have met our 3-year average leakage performance target of 10.2% reduction against the baseline.

We faced a number of challenges during 2021/22 in part due to colder than average weather at the end of 2020/21 as well as resource challenges due to Covid-19 and market conditions. As a result, we reviewed our initial leakage delivery plan for 2021/22 and created an enhanced plan to deliver additional leakage activity to recover the leakage position over the year.

Overall leakage delivery through the year exceeded our initial plan but fell short of our enhanced leakage delivery plan. We repaired a total of 61,671 leaks during the year with an average of 1,186 leaks a week compared to an uplifted target of 1,414 leaks a week. Visible leak repairs, for the year as a whole were lower than forecast, at 92%, aided by the milder weather conditions through the winter months of 2021/22.

During 2021/22 we created a Leakage Reporting and Insight Improvement Programme (LRIIP) which was designed to improve confidence in our data quality and processes, improve resilience, provide greater accuracy and consistency of reporting through assurance, and demonstrate how we will use insight to effectively deliver improved leakage performance expected by our customers and stakeholders.

As part of this, this year we have incorporated some minor improvements to our leakage reporting methodology as we work towards become fully compliant with the Ofwat common guidance. So that our current performance is reported on a consistent basis, we have applied these improvements to our previously reported performance and have reset the 2019/20 baseline (from 671.8 Ml/d at AR21 to 674.4 Ml/d at AR22). Although this has meant we've had to revise our reported leakage for last year, this remains ahead of our revised target for 2020/21.

As outlined in LRIIP, data quality and reporting methodology improvements will continue in 2022/23. It is therefore likely that we will recalculate both our baseline and leakage outturn next year as we seek to provide the most accurate and complete view of our leakage performance.

Acceptability of water to consumers BW08 ▲

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number of consumer contacts per 1,000 population	0.49	0.60	0.54	£0.000m

About the measure

This measure assesses the number of times we're contacted by customers about their water. The contact might be in relation to the taste, odour or cloudiness of their water, or a report of an illness due to our drinking water.

How we've done

We exceeded our target for this measure.

This measure was influenced by a lower number of consumer contacts in 2020 and 2021 during the Covid-19 period as a result of a reduction in network activities that can lead to localised consumer acceptability issues, such as the appearance of water due to discolouration through disturbance of water supplies.

The forecast, based on the last five years of reporting data, currently indicates that performance will be maintained below the target of 0.60 during the AMP.

Number of properties at risk of receiving low pressure BW07 ▲

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number of properties	5	34	15	£0.000m

About the measure

This is the number of properties receiving, or at risk of receiving, pressure below the low-pressure reference level.

Low water pressure affects our customers by slowing the amount of water coming out of the tap so that even simple things like filling a glass with water takes longer.

How we've done

Over the past year we have resolved low-pressure issues, exceeded our 2021/22 target and shown a significant improvement on our 2020/21 position.

We resolved nine properties on the register at the end of 2020/21 through the installation of booster pumps (six properties) and by installing a new main to transfer them onto a different supply area (three properties). A further property was removed due to better information being available to verify that it was no longer receiving low pressure.

Of the remaining five properties, two are excluded under Section 65 of the Water Industry Act and three experience low pressure due to local operational impacts. In the latter cases, we plan to replace the current main with a larger one upstream of the booster, to resolve the impact to these properties.

Water quality compliance BW06a

Type: C, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Compliance risk index (CRI)	2.59	0.00	2.42	(1.262m)

CRI shows the risks arising from treated water compliance failures.

It aligns with the current risk-based approach to regulation of water supplies used by the Drinking Water Inspectorate (DWI).

When a failure occurs, the cause is investigated and assigned a score between 0 and 5.

The individual failures are aggregated into an annual score.

About the measure

This is our CRI score for the year.

How we've done

We did not achieve our target.

Our performance was significantly impacted by two single coliform detection failures at Swinford (0.52) and Kempton (0.90). Both sites supply very large volumes of water (which in turn influences the CRI score applied).

Our CRI performance continues to be monitored at a senior level within the business, with action plans under development to drive improved performance in this area.

Our final performance for this measure will be published in the DWI Chief Inspector's Report in July 2022.

Number of water quality events BW09

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number of events	6	9	5	£0.000m

About the measure

This is the number of water quality 'events' that impact on our customers by us issuing a notice to restrict use of our water or through direct contact from our customers.

How we've done

We had six events, which was well below our target for the year. These events impacted customers through loss of supply leading to discolouration or a restriction advice message being issued to the customer.

The positive position with our performance is due to several improvements that have been made to risk management and risk assessment processes which should also mitigate similar events in the future.

Based on the last five years' performance, we expect to stay below target for the rest of the AMP.

Reducing risk of lead BW10 ▲

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or Reward
Cumulative number of pipes replaced	25,869	21,534	10,919	£0.429m

About the measure

This is the cumulative number of lead communication pipes we will replace in the 2020/25 period.

Our water mains aren't made of lead, but some older properties have a lead communication pipe between our water main and the outside stop valve.

As small amounts of lead may dissolve into your water, we are gradually replacing lead pipes.

How we've done

We accelerated our lead pipe programme this year exceeding our annual external target and further increasing our cumulative AMP performance.

In our targeted programme we prioritised water quality derived priority water supply zones mainly across ten London Boroughs and approximately 1,300 streets.

We achieved this despite the substantial challenges brought by teams transferring to other utilities in the water and gas industries, together with the stringent restrictions Covid-19 presented.

Responding to major trunk mains bursts BW11 ■

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Average number of minutes without water	00:03:44	00:01:39	00:05:15	N/A

About the measure

This is the average number of minutes our customers don't have water, for 3 hours or more, because of bursts on our largest mains.

How we've done

We have failed to hit the annual target for this measure.

Our performance was significantly impacted by the Westside, NW4 trunk main burst in December 2021, which was mentioned in the commentary to BW03 above.

While we had eight qualifying incidents in the year, at 3 minutes 1 second, the Westside incident accounts for 81% of the year-end total.

Risk of severe restrictions in a drought DW01

Type: C, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage of customers	88.5%	77.0%	88.5%	N/A

About the measure

This measures the percentage of customers in our region who are at risk of severe water restrictions due to supply and demand issues during a 1-in-200-year drought.

How we've done

For AR22, the percentage of Thames Water customers who are at risk of severe restrictions during a 1-in-200-year drought remains at 88.5%, against a forecast target of 77.0%.

This variance reflects a change to the position of the Swindon and Oxfordshire (SWOX) Water Resource Zones (WRZ), compared to Water Resources Management Plan (WRMP19).

In WRMP19, we forecast that SWOX would not be in deficit, however the level of demand seen in the zone over the past year has far exceeded what was forecast, resulting in a supply-demand deficit.

While London and SWOX WRZs are in supply-demand deficit under 1:200 drought conditions, all other WRZs are in surplus.

Security of supply index (SoSI) DW02

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Index	100	100	100	£0.000m

About the measure

This measure rates our ability to maintain a water supply, particularly during a drought.

How we've done

As all WRZs across London and Thames Valley are in surplus under both annual average conditions and critical period conditions, SoSI for annual average and critical period conditions in 2021/22 is 100.

SoSI is a measure of the actual water available for supply in the reporting year compared to forecast demand in a dry year.

Our WRMP sets out how we plan to meet this target.

Abstraction incentive mechanism EW01 ▲

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
AIM number	(32.2)	0.0	(31.8)	£0.000m

AIM is an Environment Agency measure.

It incentivises water companies to reduce the environmental impact of abstracting water at environmentally sensitive sites in low flow periods.

About the measure

This is our Abstraction Incentive Mechanism (AIM) number.

Our calculation methodology is the same as that defined by the Environment Agency.

We have included five sites in this measure: Pangbourne groundwater source, and the pumping stations of New Gauge, Axford, Pann Mill, and North Orpington.

How we've done

In 2021/22, AIM was only triggered for the Axford source (between 22 July 2021 and 3 February 2022). As abstraction was maintained below trigger levels for the majority of the year, we met our overall AIM target.

Treatment works compliance CS01 ▼

Type: C, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Percentage of compliance	98.96%	100%	99.74%	(£0.123m)

About the measure

This is the percentage of our treatment works that have experienced a failure of their permit conditions.

How we've done

We have had four failures in the year. These were at:

- Little Marlow STW (15 May 2021);
- Fobney WTW (19 Jul 2021);
- Mortimer (Stratfield) STW (10 Aug 2021); and
- Theydon Bois STW (15 Sep 2021).

Senior incident reviews have been conducted for each of these failures and actions agreed to mitigate the risk of similar occurrences. Each review identified different causes.

Progress on the agreed actions is reviewed at the monthly compliance and pollution steering group which is chaired by the Operational Leadership team.

Installing new smart meters in London M01 ▲

Type: B, U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Cumulative number installed over AMP	164,078	160,000	53,129	£0.000m

About the measure

This is the cumulative number of new, smart meters that we have installed in London since 1 April 2020.

How we've done

In 2021/22 we installed 110,949 meters, which is an increase of 109% from the previous year. We have recovered from the slow start that we made to our metering programmes in 2020/21 which was the result of having to suspend work in the first quarter of 2020 due to Covid-19. We are now ahead of the cumulative target for the first two years of AMP7.

We have worked effectively with our supply chain and delivery partners to address and overcome several challenges including a shortfall in securing additional resources in line with our plan and the constrained availability of smart meters and Local Communications Equipment (LCEs) caused by the global microchip shortage.

Smart meters give customers greater control over their water use and bills, while the data they provide is helping us to reduce leakage.

While starting in London, by 2025 we plan to extend the roll out of smart meters to the Thames Valley.

Replacing existing meters with smart meters in London M02 ▲

Type: B, U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Cumulative number replaced over AMP	60,461	52,000	20,470	£0.000m

About the measure

This is the cumulative number of basic meters that we have replaced with smart meters in London since 1 April 2020.

How we've done

This year we replaced 39,721 meters, (an increase of 92% from the previous year).

As for M01 we have recovered the shortfall from last year and are now ahead of our cumulative year 2 target AMP7.

We successfully managed challenges this year including a shortfall in resources against our plan and the reduced availability of smart meters and LCEs (Local Communications Equipment).

Due to these challenges, the replacement programme slowed, and all household proactive replacement activity was paused for February and March to mitigate potential stock shortages.

Internal sewer flooding CS03

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Incidents per 10,000 sewer connections	3.46	1.63	2.31	(28.831m)

About the measure

This is the number of internal sewer flooding incidents.

How we've done

For 2021/22, with a total of 2,103 flooding incidents for the year (normalised at 3.46), we exceeded our FD target of 995 (1.63).

However, whilst this outturn is disappointing, it does not accurately represent our underlying performance as 37% of the total floods (779 incidents) resulted from extreme weather events on 12 and 25 July 2021.

An independent review commissioned by Thames Water (here) has estimated the return period of the storms at nearly 1-in-200 years, further intensified by a high-tide that coincided with the peak of the storm, preventing the combined sewer overflows from spilling into the Thames, so causing the overloaded sewers to back up through the network.

Our penalty includes the impact of these storms. If this was excluded our penalty would be c.£20m less.

The current figure of 779 floods related to the July storms, is accurate as of 18 May 2022, though we believe there are further customers who have flooded. We are working to capture unreported properties by:

- Attending nine public meetings, where we have asked customers to report their flooding through our sewer flooding questionnaire (SFQ);
- We have made submitting our SFQ easier by providing an online version; and
- We have written to c.1,500 properties we think may have flooded to see if they were affected by the July storms.

We think the number of properties reported as flooded will continue to increase in the calendar year and we will need to update the 2021/22 outturn when this work has concluded.

When reviewing the number of properties flooded through the year on a month-by-month basis and removing the July flooding events, we identified that the rainfall in October also had an impact on performance as 15% of the year's floods were experienced in this month.

We believe it is helpful to identify the work that has been carried out and is ongoing:

- Sewer rehabilitation: Our programme will deliver up to 50km of proactive rehabilitation of the highest risk sewer lengths across the AMP (24.2km delivered in year 2);
- Interceptor removal: This year, we developed a data led programme to prioritise hotspot areas to visit and collect data (and clean where necessary) from these assets;
- Customer Education: We are utilising modern media and 'push' advertising to focus key messages into blockage and pollution hotspots;
- Network Protection: This provides on-site advice and guidance on the legal obligations of food service

establishments to dispose of grease appropriately. Although severely interrupted by Covid-19, we have ramped up activities in this area;

- Prosecutions: This year we successfully brought three non-household prosecutions for sewer abuse. In 2022, we will expand our reach to include household customers;
- Rising Mains: Over the remainder of the AMP, we will deliver a proactive capital programme that replaces/rehabilitates our highest risk rising mains; and
- Smart Waste Programme: Next year, we will embed this new tool into our day-to-day operations to build up data insight.

Sewer collapses CS02 ▲

Type: C, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or Reward
Collapses per 1,000km of all sewers	3.78	4.00	3.96	£0.166m

About the measure

This is the number of sewer collapses or breaks which have impacted our customers or the environment, and where we have replaced or repaired the pipe.

How we've done

We have met the target for this performance commitment for the second successive year with reductions in the numbers of both gravity sewer collapses and rising mains bursts. Gravity sewer collapses in 2021/22 (331) decreased by 1% against 2020/21.

This consistent level of performance follows the implementation of the new collapse reporting definition in year 1 of AMP7 and an increased planned sewer rehabilitation programme in AMP7.

Rising main bursts in 2021/22 (82) decreased by 15% against 2020/21. This year's performance is a return to a similar level seen in the three years from 2017/18 to 2019/20 (after the transfer of private sewage pumping stations (SPS) and their associated rising mains).

Failures occurred to pipes that resulted in either a customer contacting us or an unplanned escape of wastewater that resulted in a spot repair or relining on 2,302 occasions.

Risk of sewer flooding in a storm DS01 ▲

Type: C, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage of population at risk	10.25%	10.25%	10.25%	N/A

About the measure

This is the percentage of the population at the risk of sewer flooding in a storm from a 1 in 50-year storm.

How we've done

The reported performance for this measure is the same as we reported last year.

The key factor that may change our reported performance in this AMP will be as a result of the opening of the TTT. Other than that, we have no major flooding schemes planned.

We calculate this measure using the Ofwat methodology which is a combination of modelled outputs and desktop vulnerability assessments for non-modelled catchments.

Drainage and wastewater management plans (DWMP) DWMP ▲

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Cumulative % of catchments	0	0	0	N/A

About the measure

DWMP is a long-term strategic planning framework issued by Water UK in 2019 that will be used to support our business plans for AMP8.

This measures the development of our voluntary drainage and wastewater management plans.

How we've done

DWMP progress is on track. We expect to meet our delivery date of 31 December 2022.

Clearance of blockages CS04

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number of sewer blockages	74,569	70,000	76,223	(£6.410m)

About the measure

This is the number of blockages we've cleared from the network.

A lower number of blockages means we have fewer issues with the operation of the sewer network.

The aim is for this number to be lower than our target each year.

How we've done

For Q1, blockages were, on average 17%, higher than target, but we reduced them every month from April to October, when the monthly blockages dropped below target for the first time this year. From November 2021 onwards blockages were, on average, 3% above the monthly targets.

This improvement in performance through the year was due to the delivery of the planned intervention programmes (sewer cleaning, asset surveys, customer education, and network protection), including the introduction of a new interceptor inspection programme, which was trialled in Q2 and rolled out in Q4, with over 3,000 manholes visited and over 600 blockages proactively identified.

Moreover, the development of the Smart Waste Network approach and increase of real-time monitoring and analytics has increased the number of blockages proactively identified from sewer depth monitors from an average of 115 per month in Q1 to an average of 348 per month in Q4.

The end of year performance is 74,569 blockage clearances, 6% above target.

Sewage pumping station availability CS05 ▲

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Percentage of average annual asset availability	97.7%	96.6%	98.2%	£0.000m

About the measure

This measures the average percentage of our sewage pumping stations, and pumps, that are available for us to use at any one time.

Our pumping stations are essential to the smooth running of our network, allowing us to move millions of tonnes of waste around our network safely.

How we've done

Despite hitting our target for the year, we have seen a 0.5% reduction in our annual performance.

The reasons for this are:

- Periods of severe adverse weather in 2021/22, peaking at 205 pumps out of service in reporting week 21 February 2022; and
- Our programme to upgrade 91 sites impacting the availability of assets through the commissioning period.

Improvements in our information gathering process in the year means that we no longer have to separately identify pumps that are out for long term maintenance.

We are beginning to see reporting improvements as we start to migrate to a database hosted system. These additional reporting features add further insight to the delivery of our proactive repair and preventive maintenance delivery.

Surface water management DS02

Type: B, O/U (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number of hectares	0.11	10.00	0.00	£0.000m

About the measure

This is the size of the area where surface water is disconnected from the public sewer system, or the flow of surface water is reduced.

This measure encourages us to work with our partners to identify and develop solutions that are sustainable, cost-effective, reduce flooding and pollution risk and enhance network resilience.

How we've done

We have missed our target this year.

The programme has had a slow start due to the impact of Covid-19 on some of our delivery partners and, in 2021/22, we delivered 0.11 hectares across three projects. During the year we have built a strong foundation for partnership delivery and are in discussions to form agreements that reduce flooding and pollution risk and enhance network resilience. We have:

- Progressed the forming of strategic delivery partnerships with three local authorities:
  - LB Lambeth;
  - LB Hounslow; and
  - Oxfordshire, Cherwell and Vale of White Horse Tri-Authority partnership.
- Hosted two public project calls which received over 100 applications for funding; and
- Continued to develop a pipeline of projects with our partners, with a reduced overall forecast for the rest of the regulatory period (2020 to 2025).

In October 2021 we received confirmation from Ofwat that all sewer types are included in the definition for the PC, which has unlocked project opportunities.

Pollution incidents ES01

Type: C, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number per 10,000km of the wastewater network	24.87	23.74	26.67	(£1.433m)

About the measure

This is a calendar-year measure of the number of pollution incidents caused by a leak or spill of a contaminant from a site or our network that poses a danger to the environment.

Our pollution incident reduction plan is available on our website.

How we've done

Our 2021 year-end position has been confirmed as 271 incidents which, while still missing our FD target, represents a reduction of 7% on the previous year (292).

So despite our improved performance, we incurred a penalty for our 2021/22 performance.

During the year, our pollution performance associated with treatment operations marginally increased to 66 incidents (59 in 2021). By contrast, we have seen a reduction of 12% in the number of pollutions associated with network and pumping station assets (205 against 233 in 2021).

We had 12 serious pollution incidents in the year, one less than last year.

Under the Environment Agency Environmental Performance Assessment (EPA) this performance will be recorded as an amber metric.

To reduce the number of future incidents, we are refreshed our Pollutions Incident Reduction Plan, which includes:

- Completing correctly optimised routine maintenance, so that more assets available across our estate;
- Providing locally led capital investment to improve the performance and build higher levels of resilience in our assets;
- Increasing our capability to exploit key data sets to allow for data-led proactive interventions that reduce the risk of service interruptions; and
- Using this data to improve our day-to-day visibility of asset performance, reducing dependencies on alarms or reactive remediation.

Sludge treatment before disposal ES03 ▲

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Percentage of sludge treated	99.2%	97.2%	99.6%	£0.000m

About the measure

This is the amount of sludge that we treat before disposal.

Sewage sludge is a product of the wastewater treatment process.

The higher our levels of treated sludge, the lower the environmental impact as fewer vehicles leave sludge centres and more energy is recovered.

How we've done

During 2021/22, 99.2% of sludge was treated before disposal. This is better than our target.

The majority of the remaining untreated 0.8% was a result of ongoing optimisation at our Oxford digestion plant, and additional capacity needs at East Hyde. A proportion of sludge from Little Marlow was sent to land (restoration) as there is currently insufficient cake reception capacity (amount of dewatered sludge which a site can hold before storage is full).

The volume to restoration was lower than expected because some of the sludge expected to go to this outlet was sent for on-farm lime treatment instead.

Overall, there were lower sludge volumes due to the impact of Covid-19 restrictions on the population in the region.

Power resilience DWS01 ■

Type: B, U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number of sites (cumulative in AMP)	4	18	2	£0.000m

About the measure

This is the cumulative number of our key power-dependent sites that we make resilient to power disturbances or interruptions over three hours.

Over the AMP, there are 47 sites in the scope for this commitment.

How we've done

We remain behind target for this performance commitment. This year we delivered at Swindon Nine Elms and Heathwall sewerage pumping stations, bringing our AMP total to four.

We continue to develop our plans to increase resilience at our remaining key sites, but their delivery will be dependent on a wider business prioritisation exercise.

Securing our sites (2020-25 projects) DWS02 ▲

Type: B, U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage compliance of specified sites with SEMD requirements	28.6%	25.0%	0.0%	£0.000m

Security and Emergency Measures directives (SEMD) are notices sent by Defra on national security or the need to mitigate the effects of a civil emergency.

These are issued under Section 208 of the Water Industry Act 1991.

About the measure

This is the percentage of 28 borehole sites that we have made SEMD compliant by installing security measures that deter and detect malicious actions and delay perpetrators from reaching critical assets.

Full compliance is assessed against criteria established by Defra.

How we've done

In 2021/22, we delivered eight sites (target of seven).

The whole programme was successfully tendered during the year.

Securing our sites (legacy projects) DWS03 ▲

Type: B, U, (A):	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage compliance of specified sites with SEMD requirements	39.4%	27.0%	34.5%	£0.000m

About the measure

This is the percentage completion of the 264 SEMD legacy projects agreed in the last AMP, but which remained outstanding at the start of the 2020/25 period.

Full compliance is assessed against criteria established by the Department of Environment, Food & Rural Affairs (Defra).

How we've done

In 2021/22, in line with our project plan, we delivered 12 service reservoirs.

During this year, we established new contracts (aligned to our Capital Delivery model) that will deliver the remaining outstanding legacy projects.

Understanding the risk of flooding and level of resilience within the Counters Creek catchment CC

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Met or not met	N/A	N/A	N/A	N/A

Counters Creek was a river that ran through London, rising north of Kensal Green Cemetery and joining the tidal Thames south of the old Cremorne Gardens.

The watercourse was incorporated into the sewer system when the Victorian sewers were constructed in the late 1800s.

About the measure

This requires us to undertake studies so that we can better understand the risk of flooding and level of resilience within the Counters Creek catchment.

How we've done

In addition to our annual Counters Creek Study, as part of the performance commitment requirements, we have engaged a delivery team to work with us on a technical report due for completion before AR23.

We have included an additional element to the report requirements to cover the flooding that occurred in summer 2021.

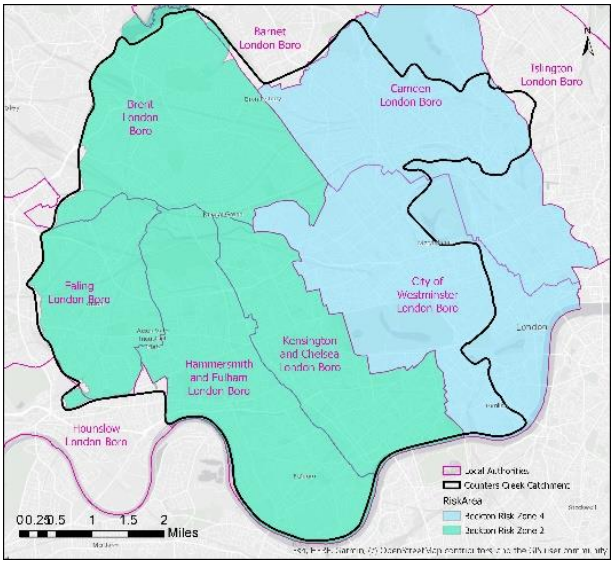
Counters Creek Study 2021/22

This is our annual report to demonstrate how we are managing our network to manage long-term resilience and reduce flood risk for customers who live in the Counters Creek Catchment.

It outlines the activities undertaken between April 2021 and March 2022.

The London Sewer system does not have a conventional branch like structure and so flow routes can vary depending on rainfall locations and intensities.

The coloured map below shows the area where rainfall has the ability to affect flow in the Counters Creek sewer.



Our report covers DWMP and reported sewer flooding.

Drainage Waste Management Plan

Counters Creek falls within DWMP risk zones 2 and 4 for the Beckton Catchment.

Our DWMP will provide a strategic plan to mitigate the impact of growth and climate change on spills and flooding caused by hydraulic incapacity over the next 25 years. It is iterative and will be repeated and updated every five years.

Our Baseline Risk and Vulnerability Assessment (BRAVA), which is Step 3 of the DWMP process, has identified the property level flood risk (for a 2025 baseline with the London Tideway Tunnels in operation) for a 1-in-30-year rainfall event as:

Zone	Internal Property Risk	External Property Risk
2	2.9% of residential homes (8,689 properties)	4.1% of residential homes (12,078 properties)
4	0.2% of residential homes (369 properties)	0.3% of residential homes (816 properties)

Solutions have been proposed for zone 2 only as zone 4 is below the threshold for Solution Development for this first iteration of the DWMP.

In Optioneering (Step 4) we have identified that to reduce the flood risk to it would require 905 ha of SuDS installation as well as 162km of additional sewer.

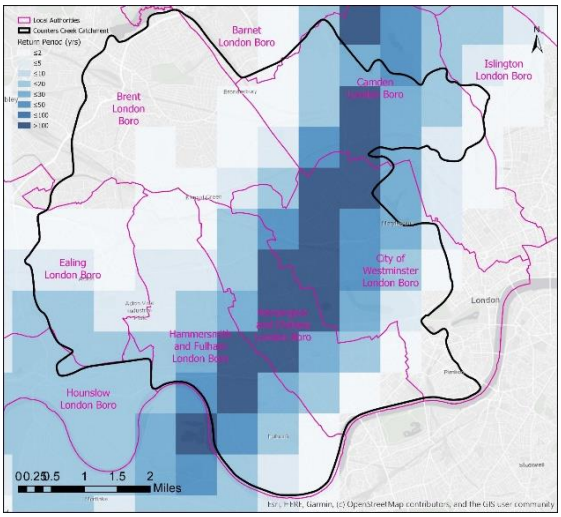
As part of Programme Appraisal (Step 5), we have profiled this investment to start in 2030 and continue until 2050.

More details of strategic plans for this region are contained in the Beckton Catchment Strategic Plans which we published for consultation on 30 June 2022.

Reported sewer flooding

Significant flooding occurred across London in the summer of 2021 with Counters Creek affected on 12 July. The map shows the rainfall for the catchment with many areas experiencing exceptionally high rainfall that coincided with a high tide that restricted some of the combined sewer outflows (CSO), most noticeably the Northwest Storm Relief sewer that passes through the Counters Creek Catchment.

This intensified the flooding as the sewers were not able to freely discharge into the Thames and flows backed up in the network.



In response to the flooding we:

- Undertook an internal review into our response during and directly after the event;
- Commissioned an external independent review of the flooding; and
- Supported the Lead Local Flood Authorities with their statutory Flood and Water Management Act Section 19 duties to investigate flooding.

Public value performance commitments

WINEP Delivery NEP01

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Met or not met	Not met	Met	Not met	N/A

About the measure

This measures whether we have delivered our schemes as set out in the Water Industry National Environment Programme (WINEP), published by Defra.

How we've done

We did not meet our target in 2021/22 as one scheme, Frensham Great Pond, was not signed off by the Environment Agency as we did not meet the measure specification form.

We have submitted an updated report, but we cannot confirm this scheme as delivered until we receive sign off.

We were also unable to meet the sign off criteria for four monitor installations as more remedial works are required so that the monitor records the flows accurately.

These missed outputs also impact the ES02 measure.

WINEP is a list of actions that the Environment Agency (EA) has requested all water companies operating in England and Wales complete in AMP7 to contribute to meeting their environmental obligations.

Environmental measures delivered ES02

Type: B, U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Cumulative number of 'green' WINEP schemes	433	446	187	(£0.667)

About the measure

This is the cumulative number of WINEP original 'green' schemes included in our FD that we complete in the AMP.

How we've done

We narrowly missed the target for 2021/22 performance.

Our year end position of 433 includes 103 schemes which we have verified as 'complete' and which have been submitted to the EA for their final approval. In the unlikely event that these 103 schemes are not approved, our penalty would be c.£6m.

At the time of this report, we have not received approval from the EA but are confident that they have been completed to their requirements, hence the position we have reported.

Some of the schemes listed in our Final Determination have been amended by the EA. For example, 23 schemes have been granted date extensions, two schemes have been removed from the WINEP, and the event duration monitor installation programme is being re-profiled.

We are engaging with Ofwat to agree how to better align this performance commitment with the WINEP delivery requirements to protect customers' interest.

Renewable energy produced EWS03

Type: B, O/U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or Reward
Gigawatt hours (GWh)	510	501	476	£0.725m

About the measure

This is the amount of renewable energy we produce.

How we've done

In 2021/22, we made significant improvement to our renewable energy generation through energy efficiencies and better data collection, allowing us to exceed our target for the year.

We have increased our renewable generation from sludge by 13 GWh to 317 GWh and increased our renewable heat generation by 21 GWh to 180 GWh.

Together with our other renewables (Wind and Solar Photovoltaics (PV)), we have increased our energy generation by 34 GWh to 510 GWh.

As per the FD reporting requirements, the calculation used to covert energy into GWh was to divide the KWh by 1 million.

As well as electricity generated from renewable sources, this measure includes other energy sources, such as bio-gas, which are exported to the national grid.

Smarter Water Catchment Initiatives EWS02 ▲

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
Number of catchments	3	3	0	£0.000m

About the measure

This AMP, we have committed to delivering smarter water catchments initiatives in three river catchments (Chess, Crane, and Evenlode). These whole river interventions will address multiple environmental issues.

How we've done

In 2021/22, we delivered 123 actions across the three catchments satisfying the requirements of this commitment.

Where changes were made to the published plans, the appropriate change request process was followed and signed off by all relevant stakeholders.

We will be working in partnership to deliver the actions set out in each subsequent year.

The latest version of our plans can be found on our website.

Natural capital accounting EWS04 ▲

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
% of company's landholdings	100.0	40.0	100.0	N/A

About the measure

This is the % of the company's landholdings where natural capital stocks are assessed and reported publicly.

These sites add significant value to our local communities, wider society, and people's wellbeing beyond our core business activities.

How we've done

As we met our target to complete the assessment of 100% of our landholdings in 2020/21, this year we have focused on the development, testing and enhancement of the new Nature Tool for Urban and Rural Environments (NATURE tool).

This year, we updated and improved our initial natural capital asset data and ecosystem services scores for the estate based on the NATURE Tool model and scoring system. In addition, we have developed case studies for three sites to inform our understanding of the potential natural capital impacts of projects and to provide guidance on how natural capital benefits could be enhanced.

We will continue to explore how to use our natural capital information to inform business decision making.

We have over 6,500 hectares of sites including treatment works, recreational sites and nature reserves.

Enhancing biodiversity EWS01

Type: B, O/U, (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Cumulative number of net gains in biodiversity units	302	982	97	£0.000m

About the measure

This looks at the number of natural habitats we've created and enhanced at 61 of our Sites of Biodiversity Interest.

Under the Water Industry's Code of Practice on Conservation, Access and Recreation 2000, we have a statutory duty to protect, and where possible enhance, biodiversity and landscapes of natural beauty.

How we've done

We have delivered 302 units so far in the AMP with Year 2 delivering enhanced biodiversity at 29 sites (equating to 205 biodiversity units) from changes to grassland management to new habitat creation at sites including Dorney, Aylesbury and Netley Mill.

We have completed a baseline recalculation in line with the Defra tool to remove areas of land that have been sold and to remove heavily modified waterbodies (reservoirs) where biodiversity enhancements cannot be made. These changes are currently being prepared into a corrigenda document for Ofwat.

Assuming that this is approved by Ofwat, we would have met our year 2 target. The revised target for the year would be 122 habitat biodiversity units per year with a 5% net gain being achieved by the end of the AMP.

Thames Tideway Tunnel (TTT)

TTT Effective stakeholder engagement score ET02

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Score 1 to 6	4.9	5.0	5.1	N/A

The TTT will tackle the problem of overflows from the capital's Victorian sewers for at least the next 100 years and enable the UK to meet environmental standards.

It is being constructed by Bazalgette Tunnel Limited, known to the public as Tideway.

However, we are responsible for the connection works to our existing network.

The revenue and costs associated with this part of the project are shown in the TTT price control unit in the regulatory accounting tables.

These performance commitments relate to our responsibilities.

About the measure

This measures how well we're engaging with stakeholders as the TTT project progresses. It is assessed using a single survey of multiple questions asking how well we have engaged with senior members of key stakeholder organisations.

How we've done

We commissioned an external research company, Yonder, to carry out interviews with key stakeholder organisations to get independent feedback on the effectiveness of our stakeholder engagement.

They used a qualitative in-depth interview approach, including some structured measures as this provides the best blend of open-ended questions, to find out what participants 'really' think, as well as structured ''scores'' for key aspects of engagement that could be compared (between organisations) and repeated and tracked over time.

We attained a score of 4.9 out of 6, slightly down on the target, it has been recognised that providing some information to external stakeholders has caused issues and may have affected the score. To mitigate this, new meetings have been introduced to improve confidence that output needs will be met as projects transition to the next phase. Overall, we are still performing 'quite well' and marginally below 'very well'.

TTT Establish an effective system operator ET05 ▲

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Percentage completion	48%	0% [6]	19%	N/A

About the measure

This monitors our readiness to operate the London Tideway Tunnel when it is commissioned (currently planned for October 2023). The activities relate primarily to establishing a fully trained team to operate the tunnel with adequate procedures and externally accredited management systems.

How we've done

As the System Commissioning Commencement Date (SCCD) has been deferred from October 2022 to October 2023, delivery of the system is required later than originally expected. We are on track to deliver this performance commitment in line with this new date.

Our annual performance for 2021/22 is 48% completion. A revised method for System Commissioning Plan development has been created in this period.

TTT Maximising the value of land sales ET06 ▲

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
£m	0.0	0.0	0.0	N/A

About the measure

This is the total net profit or loss that we make on land parcels purchased to enable the completion of the Thames Tideway Tunnel.

How we've done

No land parcels have been sold in this period.

In preparation for eventual disposal of these sites in AMP7, we have been developing strategies to deliver best value and are engaging with key stakeholders, including local authorities and landowners, who hold option or pre-emption rights to re-acquire the sites.

This year, we completed a Royal Institution of Chartered Surveyors 'Red Book' valuation of the sites to establish values at May 2021 which we will use to inform regulatory accounting and business planning/strategy development.

In addition, we have regular meetings with Ofwat and its advisors to provide ongoing progress updates.

[6] Due to the change in SCCD our year 2 target has been updated from 100 to 0 in line with the Final Determination

TTT Managing early hand back of Tideway project land ET07 ▲

Type: B, O/U (A)	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number of months early	0 [7]	0	3	£0.000m

About the measure

This measures our readiness to take back land related to the Thames Tideway Tunnel project, so that we avoid project delays or cost overruns that would negatively impact customers.

How we've done

We work jointly with Tideway to monitor the Thames Tideway Tunnel construction programme, with the aim of receiving the land as early as possible.

TTT Readiness to receive tunnel flow at Beckton STW ET01 ◆

Type: B, U	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty
No. of full months after System Commissioning Commencement Date (SCCD)	N/A	N/A	N/A	£0.000m

About the measure

This measure is designed to make sure that upgrades to the inlet works at Beckton Sewage Treatment Works are ready to receive flows from the Thames Tideway Tunnel.

How we've done

As the start of the commissioning process for the tunnel isn't due until October 2023, this performance commitment doesn't apply to this year.

TTT Critical asset readiness ET04 ◆

Type: B, R	Actual 2021/22	Target 2021/22	Actual 2020/21	Penalty or reward
Number of full months reported as 'insufficient readiness', after SCCD	N/A	N/A	N/A	£0.000m

About the measure

This makes sure our connecting works, and associated infrastructure, are ready in time for the commission of the Thames Tideway Tunnel.

How we've done

As the start of the commissioning process for the tunnel isn't due until October 2023, this performance commitment doesn't apply to this year.

[7] Tideway did not hand back a completed land parcel to us in 2021/22. We have met our target.

About complaints

About Complaints

Overall, our complaint volumes in 2021/22 were 43.8%* lower than in 2020/21 at 105,155 compared to 186,969 in the previous year.

The number of telephone complaints we received fell. In Q4 2021/22 we received 10,165 complaints compared to 20,372 for the same quarter in the previous year – representing a 50.1% reduction.

We have increased the use of our manager call back process to improve our handling of calls from dissatisfied customers. In 2021/22 we completed nearly 18,000 first line manager call backs compared to 1,066 in 2020/21– resolving significantly more issues on the day.

Our increased web chat capabilities have helped us to reduce volumes of billing calls to 1.5 million billing calls in 2021/22 from 2.1 million billing calls in the previous year. We are now handling between 8,000 and 10,000 chats per week. The use of web-chat on our web pages to promptly help customers has also resulted in fewer customers needing to email or write to us.

We have also made strides in reducing operational customer wait times (both for water and wastewater) within our Operations Contact Centre. Answering calls quicker, has reduced the number of customers who have resorted to writing or emailing us to complain.

Disappointingly, in spite of the increased availability of real time contact channels, our written complaints have increased by 1% across the year totalling 40,060 compared to 39,530 in 2020/21.

We have made several key improvements in the year:

- Following the success in our customer billing teams last year, we embedded a new real-time escalation team within our Operations Contact Centre and enhanced our manager call back process to help reduce repeat complaints from customers.
- Enhanced the automation of our complaint letter allocation process to reduce, by 25%, the time taken for a case manager to receive new correspondence, which in turn helps us to contact customers sooner.
- Introduced improved insight and analytics which has helped us identify root causes of customer complaints. One recent example is increased insight into the propensity to complain after customers receive their annual bills.
- Implemented a new customer management system in our Wastewater business, and we have seen the benefits of providing a more joined up approach to our customer journeys. We will be moving additional business units onto this system in the 2022/23 reporting year.

We recognise that there is more to do to coordinate and improve the customer experience from first point of contact to attendance and we have started by improving how quickly we arrive at our customers' homes when they have a problem.

* Last year in January 2021 the CCW methodology by which complaints are reported changed to align the industry, removing the automatic categorisation of repeat contacts as complaints. Therefore, comparisons cannot be fully drawn between our FY 2020/21 and 2021/22 performance outturn.

London and Thames Valley performance

London and Thames Valley performance

We define our regions in this way:

Water: London Water Resources Zone for water.

Wastewater: Area covered by the eight large London sewage treatment works.

These broadly cover the Greater London Authority (GLA) area.

As part of our business plan for 2020 to 2025, we've been asked by Ofwat to report on London performance, so that we, and our stakeholders, can better understand the challenges faced in London. We've decided to report Thames Valley specific performance data too.

By separating the data out, we can see how we're performing in each area, and our targets and plans can be adapted to focus on the most urgent priorities for each region.

We're also reporting separately on these regions because we want to be transparent about our performance and demonstrate the different opportunities and challenges, we have in the two areas, particularly relating to geography and the differing ages of our network.

We engaged with our Customer Challenge Group and the GLA over the measures that we would report. As a result, we're reporting on our London and Thames Valley performance for 18 performance commitments which have been chosen because of:

- Our ability to collect the data in this way;
- The benefits of the data to be able to make decisions; and
- How useful the information is to our customers and stakeholders if they want to understand our performance at a regional level.

We have explained how the total company level performance commitment is calculated in the section above.

Map of our water resource zones

Leakage (Annual average)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
430.7	449.2	163.2	144.0

We have been able to keep leakage levels below forecast in London in 2021/22 as a result of our continued focus on leakage detection and repair productivity. London also continues to benefit from the rollout of smart meters.

Leakage remains above forecast in the Thames Valley. In this area the level of activity has fallen short of that needed to offset leakage recurrence.

These areas are a complex mix of urban towns/cities surrounded by large rural areas where customer demands fluctuate significantly in the summer, exacerbated by changes in demand patterns due to Covid-19 related restrictions.

The Thames Valley region was most impacted by the resource and performance challenges faced during 2021/22, with repair performance in Thames Valley falling 26% short of our enhanced leakage plan.

As part of our insourcing plan over the coming year, the repair teams in Thames Valley are planned to transition across first (during August 2022) to drive an improvement in performance as early as possible.

Unplanned outage (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
2.50	1.97	1.35	1.02

The unplanned outage measure is very sensitive to the size of works that has an outage. The figure in London is higher than in Thames Valley as London has a higher number of complex and large production plants.

Thames Valley has a greater number of smaller and less complex works so an outage at a Thames Valley site tends to have a smaller impact on overall performance.

Priority services for vulnerable customers (Reach) (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
5.8	4.2	2.5	3.7

We know there is a larger proportion of water only companies (WOC) households in Thames Valley, which has resulted in the lower % of PSR customers in the Thames Valley region compared to London.

Satisfied vulnerable customers (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
86	86	84	85

There is no material difference in performance between London and the Thames Valley.

Treatment works compliance (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
100.00	100.00	98.87	99.72

All four of our treatment works compliance failures were in the Thames Valley.

Clearance of blockages (Nr.)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
43,782	44,723	30,787	31,500

The higher number of blockages in London compared to Thames Valley is reflective of the longer length of sewer network in London (67,138km in London (61% of total), 42,095km in Thames Valley (39% of total)).

Per Capita Consumption (annual average)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
144.4	152.2	145.9	155.2

We have seen reductions in PCC in both regions (influenced by both weather and relaxation of Covid-19 lockdown and restrictions) with the largest impacts seen in Thames Valley where demand is more susceptible to the impacts of weather

Responding to major trunk mains bursts (hh:mm:ss)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
00:04:50	00:06:50	00:00:05	00:00:00

The majority of our trunk mains are contained within the London supply area.

Of the eight incidents contributing to the overall measure, two of these were in Thames Valley with the remaining six in London.

Sewer collapses (Nr.)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
3.11	3.11	4.84	5.32

The overall improvement in sewer collapse performance has been driven by a reduction in collapses in the Thames Valley area, reducing from 224 in 2020/21 to 204 in 2021/22.

In London, sewer collapse performance has remained stable with the same number of collapses (209) reported in 2020/21 and 2021/22.

Acceptability of water to consumers (Nr.)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
0.44	0.46	0.66	0.83

The biggest cause of contacts for both London and Thames Valley regarding the acceptability of water to consumers is about the appearance of water. Contacts about illness generate the smallest volumes.

There are no obvious trends for the difference between the regions.

Mains repairs (per Km)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
311.1	372.6	118.9	146.6

We've fixed more pipes in London compared to the Thames Valley due to a higher number of bursts in the capital during the year. The main reasons why bursts in London are more frequent are:

- The age of the network in London – there are a significant number of old cast iron mains, many of them over 100 years old;
- Soil conditions – in London, about 40% of soil is highly or very highly corrosive to iron mains and about 40% of soil is highly or very highly shrinkable, making it more susceptible to movement through changes in conditions; and
- The pressure of additional traffic – increased traffic has an impact on pipes due to forces created by increased tonnage, braking and acceleration.

The regions behaved similarly during the colder weather in Q4. In London, 35% of the mains repairs were undertaken in this quarter, while the figure for Thames Valley was 32%.

Over a two-week period, the initial drop in temperature followed by the lowest weekly temperature of the winter saw a temporary spike in proactive repairs.

As a result, there was in an increase in the weekly average number of repairs in both London (102%) and Thames Valley (112%).

Security of supply index (Score)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
100	100	100	100

As all water resource zones (WRZ) across London and Thames Valley are in surplus under both annual average conditions and critical period conditions, SoSI for annual average and critical period conditions in 2021/22 is 100.

Water supply interruptions

(hh:mm:ss)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
00:08:48	00:09:57	00:18:29	00:25:56

Thames Valley has higher supply interruption hours per property than London due to three factors:

- Reduced network connectivity limiting alternative supplies;
- Larger ground height variations affecting pressure levels; and
- More rural, increasing travel time and speed of identification.

There was one significant event in the Thames Valley in the year: Netley Mill, GU5. If this were excluded, the underlying Thames Valley performance would have been 00:13:48.

A large proportion of the London performance is from the Westside, NW4 burst. If this were excluded, the underlying London performance would have been 00:05:47.

Internal sewer flooding

(Nr. incidents per 10,000 connections)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
4.53	2.50	1.67	1.99

This year, we have reported 1721 incidents in London compared to 382 incidents in Thames Valley.

Our 2021/22 performance in London was significantly affected by the July 2021 extreme weather incidents but had little, or no impact on the Thames Valley region.

In year one, both regions were equally impacted by the storm events in August and October 2020.

Risk of severe restrictions in a drought (% FD consistent calculation)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
100.0	100.0	47.8	47.9

The WRZs of London and SWOX are in supply-demand deficit under 1 in 200 drought conditions, but all other WRZs are in surplus under 1-in-200 drought conditions.

Risk of sewer flooding in a storm (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
5.49	5.49	19.83	19.83

Based on the way this measure is calculated, the risk of sewer flooding in a storm is significantly higher in Thames Valley than in London.

However, we do not believe there is a difference in this metric for London and the Thames Valley because:

- It does not take account of the impact upon high rise buildings where flats are impacted – only the ground floor occupants are considered;
- Basement properties are not considered as part of this assessment – these basement properties are at a high risk of sewer surcharge, which may not extend to ground level, meaning that, as no surface flooding has occurred, they would not feature in this assessment; and
- Based on the prescribed method, catchments that are not modelled and have been deemed vulnerable have their entire population deemed as at risk, where a modelled catchment would select only a proportion of the catchment population at risk. While all of the London catchments are modelled, this is not the same for the Thames Valley

.

Empty household properties (void properties) (%)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
3.71	4.02	2.95	3.16

Voids continue to be heavily weighted towards London and unmeasured properties, reflecting the higher levels of customer transiency in the capital and the greater density of flats, which have presented access difficulties over the last couple of years.

Pollution incidents (Nr. of incidents per 10,000km)

London		Thames Valley	
2021/22	2020/21	2021/22	2020/21
11.80	8.03	45.66	56.37

Thames Valley had 192 pollution incidents in the year.

London has fewer pollution incidents (79) as there are not as many routes for potential pollutions to access a watercourse.

The disparity between the regions is magnified further by the greater sewer lengths in London (67,000km) compared with Thames Valley (42,000km).

Our regulatory statements

Statements and disclosures we make to Ofwat

As part of our Annual Reporting process, we make statements and disclosures to Ofwat. This table tells you where you can find this information in our 2021/22 submissions.

Disclosure requirement	Where you can find it	Reference
Accounting methodology summary	https://www.thameswater.co.uk/about-us/investors/our-results	RAG 3
Accounting policy note for price control units	Price control segments, page 128	RAG 3
Audit and assurance reports x2	Auditors' and assurance reports, page 153 and page 168	RAG 3
Board statement on accuracy and completeness of data and information	Risk and compliance statement, page 80	RAG 3
Long term viability statement	Page 112	RAG 3
Narrative disclosure: analysis of debt	Net debt analysis, page 121	RAG 3
Narrative disclosure: common performance measures	Page 15-page 56	RAG 3
Narrative disclosure: costs	Throughout this Report	RAG 3
Narrative disclosure: current tax analysis	Table 1A. Income statement, page 113	RAG 3
Narrative disclosure: current tax reconciliation	Current tax reconciliation, page 135	RAG 3
Narrative disclosure: financial flows	Table 1F, Financial flows, page 122	RAG 3
Narrative disclosure: interest	Interest analysis, page 115	RAG 3
Narrative disclosure: outcomes	About our performance commitments, page 16	RAG 3
Narrative disclosure: retail	Table 2C. Cost analysis – Retail, page 140	RAG 3
Narrative disclosure: return on regulatory equity	Table 1F, Financial flows, page 122	RAG 3
Narrative disclosure: social tariffs	Use of social tariffs, page 150	RAG 3
Narrative disclosure: supply demand balance and metering	Section 6, Table 6D, page 213 - page 214	RAG 3
Narrative disclosure: TOTEX	Section 4, Table 4C. Impact of price control performance to date on RCV, page 175	RAG 3
Narrative disclosure: wholesale revenues	Table 2M, revenue reconciliation, wholesale page 149	RAG 3
Note on bad debt policy	Bad Debt, page 132	RAG 3
Note on capitalisation policy	Capitalisation, page 134	RAG 3
Note on revenue recognition	Revenue recognition, page 129	RAG 3
RAG 3/5 Transfer pricing disclosures	Page 97	RAG 3
Ring-fencing certificate	Directors' Ring-Fencing Certificate, page 69	RAG 3
Risk and compliance statement	Risk and compliance statement, page 80	RAG 3
Statement as to disclosure of information to auditors;	Disclosure of information to auditor, page 105	RAG 3

Disclosure requirement	Where you can find it	Reference
Statement explaining out/under performance of the return on regulatory equity (Financial Flows and RORE);	Table 1F, Financial flows, page 122	RAG 3
Statement explaining the variance on infrastructure network reinforcement charges;	Infrastructure network reinforcement charges, page 112	RAG 3
Statement on differences between statutory and RAG definitions;	Differences between statutory and RAG definitions, page 114	RAG 3
Statement on dividend policy and explanations of dividends paid	Dividend policy for the appointed business, page 107	RAG 3
Statement on executive pay and performance;	Executives' pay and performance page 106, with further information in the Annual Report and Sustainability Report	RAG 3
Statement on innovation competition.	Innovation competition, page 112	RAG 3
Tax strategy for the appointed business	Tax strategy, page 111	RAG 3
Transactions with associates and the non-appointed business (principles)	Transactions with associates and the non-appointed business, page 97	RAG 5
Excel version of APR tables on website	https://www.thameswater.co.uk/about-us/investors/our-results	IN 22/01
Green Economic recovery Performance commitment requirements	https://www.thameswater.co.uk/about-us/investors/our-results	IN 22/01
How we have worked flexibly during Covid-19 pandemic	Throughout our Annual Report and Sustainability Report	IN 22/01
Leakage reporting additional information	Our Compliance with Ofwat common guidance. page 91	IN 22/01
Water efficiency campaigns included in PCC commentary	PCC performance commitment, page 25	IN 22/01
Reporting Criteria	https://www.thameswater.co.uk/about-us/investors/our-results	IN 22/01
Voluntary sharing arrangements - affordability support schemes	N/A	IN 22/01
Further guidance on reporting of greenhouse emissions – embedded emissions SWOT analysis (voluntary)	Section 11, Greenhouse gas emissions, page 243	IN 22/01
Compliance with sanctions against Russia and Belarus related to the conflict in Ukraine	Page 101	IN 22/01
Board leadership. transparency and governance principles - annual reporting	Risk and Compliance Statement, page 80	IN 22/01

Directors' Ring-fencing Certificate Under Condition P of the Company's Instrument of Appointment

This is to certify that at their meeting on 29 June 2022, the Directors of Thames Water Utilities Limited ("the Appointee") resolved that, in their opinion, for at least the next 12 months and with specific regard to the material issues or circumstances disclosed in the table of factors below:

- The Appointee will have available to it sufficient:
  - financial resources and facilities;
  - management resources;
  - systems of planning and internal control; and
  - rights and resources other than financial resources.

  enabling it to carry out the Regulated Activities necessary to fulfil the Appointee's obligations under the Instrument of Appointment without being dependent upon the discharge by another person of any obligation under, or arising from, any agreement or arrangement under which that other person has agreed to provide any services to the Appointee in its capacity as a Relevant Undertaker.
- The Appointee will 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 Appointee in accordance with the purposes of the special administration order.
- All contracts entered into between the Appointee and any Associated Company include the necessary provisions and requirements in respect of the standard of service to be supplied to the Appointee, to ensure that it is able to carry out the Regulated Activities; and
- Any issues or circumstances that may materially affect the Appointee's ability to carry out its Regulated Activities are noted below and/or within the Risk and Compliance Statement on page 80.

This Ring-fencing Certificate is an annual requirement under Condition P of the Instrument of Appointment (also known as the 'Licence').

The Board notes that the latest Ofwat guidance set out in IN20/01 for completion of the Ring-fencing Certificate requires the Board to state its opinion on whether the Appointee has 'sufficient' resources to deliver its regulated activities for at least the next 12 months. Condition P of our Licence requires that we have 'adequate' resources in place. The Board is satisfied that its stated opinion set out above regarding the sufficiency of the Appointee's resources also addresses its Licence obligation to maintain 'adequate' resources.

The Licence also requires a statement of the main factors which the Board has taken into account in giving its opinion for the Ring-fencing Certificate.

In providing this opinion, the Directors have considered many factors as part of their enquiries prior to signing this certificate, including but not limited to:

1. Financial resources and facilities

- The Appointee's Final Determination for the 2020 to 2025 regulatory period, accepted by the Company in February 2020. See section on 'material issues or

circumstances' below for further discussion and latest position;

- The Appointee's available cash resources and borrowing facilities of c.£2.6bn (at June 2022), which include significant undrawn bank facilities and taking into account the Appointee's projected net cash flow for the next 12 months;
- The Appointee's investment grade ratings, as shown on page 187 of this report which retain at least one full notch headroom over minimum investment grade;
- The Appointee's compliance with its financial covenants as disclosed our Annual Report and Sustainability Report;
- The Appointee's dividend policy and that it does not impair the Appointee's ability to finance the Appointed Business and takes into account the impact on all stakeholders and having regard to the need to continue to attract equity capital;
- The preparation of the Appointee's statutory accounts on a going concern basis and its long-term viability as disclosed on page 112 of this report and in our Annual Report and Sustainability Report;
- The shareholder commitment to provide £500m of equity, to be drawn in March 2023 (subject to limited conditions in relation to no insolvency, special administration, nationalisation, shareholder funding illegality or breach of obligations by TWUL);
- Shareholder support to hold investment committee meetings (of their respective institutions) as a path to obtaining approval (in the discretion of the relevant investment committee) for funding their pro rata share of conditional commitments in respect of a further £1 billion of additional equity which is assumed in the Appointee's business plan, the latter unanimously approved by shareholders; and
- That the Shareholders acknowledge that the turnaround of the Appointee will continue into AMP8 and that the PR24 business plan that the Appointee will prepare and submit to Ofwat in April 2023 to achieve a regulatory determination that supports the turnaround will likely require the provision for further equity support to increase financial resilience. See section on 'material issues or circumstances' below for further discussion and the latest position in relation to equity funding.

2. Management resources

- The Appointee's People Strategy and People Plans which aim to ensure that the Appointee has continued access, having regard to current labour market challenges in respect of recruitment and retention, to personnel which will enable it to deliver its regulatory obligations. In particular:
  - The Appointee's leadership and organisational structure, operating model and human resources (succession) planning strategy;
  - The Appointee's ongoing process to streamline and simplify its organisational design, taking opportunities to improve efficiency and effectiveness while mitigating risk to service delivery during the change process;
  - The Appointee's training and development programme for all employees enabling its people to gain skills appropriate to their roles;
  - The Appointee's recruitment, reward and recognition strategy to attract high calibre candidates and retain

employees with appropriate skills and experience; and

- The Appointee's ongoing commitment to diversity and inclusion enables attraction and retention of diverse talent and allows it to harness the unique skills, experiences and backgrounds that each individual brings - for more detail see our Annual Report and Sustainability Report.

- The Appointee's confirmation, as shown in our Annual Report and Sustainability Report, of how it seeks to meet the Board leadership, transparency and governance objectives set out in its Instrument of Appointment. This includes:
  - The independence of the Appointee's Board from management; and
  - Continued review of its Board committees, their scope and composition, noting that updated terms of reference for these committees was approved by the Board in March 2022.
- The Appointee's comprehensive programme of Board and Executive meetings, including specific 'deep dives' on key risks and processes, supported by appropriate reports and information to enable high quality decision making.

3. Systems of planning and internal control

- The Appointee's corporate risk register, enterprise risk management and assurance process, which reviews, monitors and reports on exposure to, and mitigating controls over, risks and uncertainties as disclosed in our Annual Report and Sustainability Report;
- The Appointee's performance in respect of its Performance Commitments as disclosed in tables 3A-E on page 159 to page 163 of this report and made reference to in the Risk and Compliance Statement on page 80;
- The Appointee's generation and use of relevant, quality information in support of the functioning of internal control;
- The Appointee's business continuity planning process, including plans for loss of people, corporate sites, systems and supply chain. See section on 'material issues or circumstances' below for further discussion on significant key continuity risks;
- The Appointee's incident management processes in place which include incident command structure, roles and responsibilities and hazard briefs. These arrangements are supported by incident management training, audits, learning and an Executive led incident management and business resilience committee. See section on 'material issues or circumstances' below for further discussion on how the Appointee has responded to, and learned from, the London flooding events in the summer of 2021 during which customers experienced unacceptable levels of service;
- Reducing pollutions is a key priority for the Appointee, any sewage pollution is unacceptable, no matter what the circumstances. Making the necessary changes will take time and collaborative working to achieve, but the Appointee is determined to deliver on its target to reduce pollutions by a minimum of 30% over the 2020 to 2025 period. The Appointee's Pollution Incident Reduction Plan (PIRP) seeks to enable delivery of this target. Steps include the installation of additional sewer monitors, impact of weather studies and focus on combined sewer overflows (CSO) on the network and discharges from sewage treatment works. The Appointee is also developing its first 25-year Drainage and

Wastewater Management Plans (DWMPs), to enable it to collaborate most effectively with other organisations to improve drainage, environmental water quality and to reduce instances of storm overflows. See section on 'material issues or circumstances' below for further discussion on the Appointee's potential non-compliance with its environmental permits;

- The Appointee's commitment to integrity and ethical values. Its policies to prevent fraud and other unethical behaviour, mandatory training for employees on ethical matters and an anonymous whistleblowing hotline which has been supported by a proactive campaign to raise awareness;
- The Appointee's ability to meet its legal obligations. Legally binding undertakings, commitments and other actions in progress to address historic and current exceptions to this relating to leakage, smart metering, non-household market data and compliance with the Wholesale Retail Code together with work to address potential non-compliance with environmental permits are set out in the material issues or circumstances section below; and
- The Appointee is aware of the hardening UK sanctions in respect of Russia and Belarus, and Ofwat's letter of 6 May 2022 provides a timely reminder of this. The Appointee has processes in place to deal with UK sanctions and to carry out a range of targeted and proportionate due diligence in relation to counterparties where this is necessary. It is also aware of the effect of such sanctions in terms of the identity of investors in, and financiers of, the Appointee.

4. Rights and resources other than financial resources

- The Appointee's purpose, strategy, values and behaviours, which set the 'tone from the top' and a clear direction for everyone across the business for the 2020 to 2025 regulatory period, and its development of policies including health and safety. The Appointee's Board engaged on the development of each component and how they align as Thames Water's 'big picture' to inspire employees and drive the right outcomes. Culture transformation is an integral part of the turnaround plan. The values and behaviours have been defined and launched through companywide 'Living Our Values' events. A Code of Conduct publicly expresses the Appointee's approach to business activities, covering both what and how work is done, providing a clear legal and ethical framework for employees, customers and stakeholders;
- The Appointee's digital strategy and design principles are supporting transformation of IT performance and resilience – including significant investment in modernisation of underlying infrastructure. This is underpinned by IT policies which seek to ensure the operation and security of the technology assets essential to service provision. See section on 'material issues or circumstances' below for further discussion on cyber security;
- The Appointee's ability to be resilient by anticipating, coping with, recovering from and learning from disruptive events in order to maintain and improve quality of services for its customers and protecting the natural environment both now and in the future;

- The Appointee's integrated planning systems and development of a systems thinking approach;
- The Appointee's asset maintenance policies, systems, data analytics and modelling to monitor asset health, which are enabling it to act with intelligence using data from customers, operations and the environment, to make accurate and proactive business decisions that improve productivity, help to manage risk of asset deterioration and to improve the service that it provides to its customers; and
- The Appointee's insurance programmes, including terms, counterparties and cover limits, which have been reviewed by an independent insurance adviser and approved by the Board.

5. Contracting

- The Appointee's procurement and contract management arrangements, whereby all trading arrangements, including those with associates, are appropriate for the appointee to meet its regulatory requirements, enabled through a suite of key operational and capital contracts, framework agreements and delivery partners for AMP7;
- Transactions between the Appointed Business and any Associated Company being at arm's length, as made reference to in this report within the Regulatory Statements (relating to RAG5) and related party disclosures on page 97 ;
- The Appointee neither gives nor receives any cross-subsidy from any other business or activity; and
- The Appointee has no agreements or other legal instruments incorporating a Cross-Default Obligation.

6. Material issues or circumstances

Turnaround plan

In accepting the Final Determination ("FD") for the 2020 to 2025 regulatory period the Appointee said that it did not necessarily expect to be able to operate within the cost and service thresholds set out in the FD. The Appointee's central expectation was that it would incur net overspends and net penalties. In accepting, the Appointee's Board did so fully understanding the challenge presented by the FD (including regard to externally assured financial forecasting of key metrics and likely impact on covenants and credit ratings) and the support provided by the shareholders in making its decisions.

The Board recognises that the position has deteriorated further with significant forecast performance penalties and costs beyond those anticipated when the FD was accepted including significant inflationary headwinds in core areas of expenditure (including labour, energy prices and chemicals) and that the Appointee has some way to go to deliver what its customers and stakeholders rightly expect. This is why, in March 2021, the Board and Executive developed a turnaround plan to transform the performance of the Appointee through 'fixing the basics', 'raising the bar' and 'shaping the future'. The plan's initial focus is to deliver compliance with the Appointee's regulatory obligations as highlighted within this Certificate over the remainder of AMP7.

With core foundations now in place, the Appointee will be stepping up the pace of delivery in 2022/23 with transformation of customer service, bringing contact centres back on-shore and in-house and aligning its operational teams onto a more local, regional basis to drive improved performance for customers and the environment. Nevertheless, the task of 'fixing the basics' is bigger than originally

anticipated, at a time when the macro-economic environment has deteriorated alongside an ongoing risk of more extreme weather events. Additional controls and capability within the retail function are leading to improved cash collection performance during 2021/22. The Appointee has a comprehensive plan in place which aims to continue collections process improvement and mitigate some impacts of the cost-of-living crisis.

As the turnaround plan progresses, the risks within the Appointee's business are becoming clearer. This, and further headwinds on cost, combine to mean that additional shareholder funding will be needed, over and above that already envisaged at the time the FD was accepted. The TWUL Board has approved a business plan for the remainder of AMP7, which is designed to enable the Appointee to deliver its regulated activities and address the factors referenced in this Certificate over the remainder of AMP7.

The TWUL Board is satisfied that this plan is capable of being delivered by the Appointee, taking account of the capability improvements already delivered and in train as part of the turnaround plan.

The business plan approved by the TWUL Board for the remainder of this AMP is supported by financeability assessment and long-term viability analysis, which confirms that the Appointee maintains appropriate credit metrics consistent with the requirements of its covenants and investment grade rating, but with limited headroom (above minimum investment grade) for event risk expected over the longer term.

The Board continues to closely monitor progress under its turnaround plan and will not hesitate to adjust and refine that plan so that it remains appropriate to achieve a material reduction in potential compliance risk and continue to deliver its regulatory obligations.

The TWUL Board notes that the business plan it has approved for the remainder of this AMP, and on the basis of which this RFC is provided, has assumed £1.5 billion of equity to, amongst other things, accelerate compliance spending, invest in improving operational performance and increase financial resilience.

The current business plan, developed by the newly appointed executive team, has the full backing of the Appointee's shareholders (the "Shareholders"), with the plan being unanimously approved by the Board of Kemble Water Holdings Limited on 30 June 2022.

To support the Appointee in the delivery of this plan, the Shareholders have provided an Equity Commitment Letter where the Shareholders have agreed to contribute, or cause to be contributed, an aggregate of £500m in equity (the "Initial Equity"), available to be drawn in full by the Appointee in March 2023. This is subject to limited conditions as to no insolvency, special administration, nationalisation, Shareholder funding illegality or breach of obligations by TWUL.

With the Initial Equity drawn in March 2023, and with specific regard to the material issues or circumstances disclosed in this certificate, in the Directors' opinion the Appointee will have available to it sufficient financial resources and facilities to enable it to fund the Regulated Activities necessary to fulfil the Appointee's obligations under the Instrument of Appointment which must be discharged in the next 12 months.

Shareholders have further evidenced their support for the Appointee and its business plan through an Equity Support Letter where the Shareholders have committed to hold investment committee meetings (of their respective institutions) as a path to obtaining approval (in the discretion of the

relevant investment committee) for funding their pro rata share of conditional commitments in respect of the further £1 billion of additional equity which is assumed in the Appointee's business plan (the "Additional Equity"):

(i) the Equity Support Letter is not a legal commitment to fund or a legal commitment to fund subject to conditions, any such commitment would be subject to investment committee approval by each Shareholder on a several basis, not a joint and several basis;

(ii) should a commitment to fund subject to conditions be agreed, the Equity Support Letter sets out various conditions that the drawdown of any funds will be subject to, including, performance conditions, qualitative assessment of the PR24 submission and continuity of the leadership team at the time of each drawdown; and

(iii) the provision of funds, including in respect of raising funds through the issuance of further equity, could be vetoed by a Shareholder or Shareholders under the governance arrangements between the Shareholders.

The Appointee and its Shareholders are currently engaged in a collaborative process to agree and facilitate such equity commitments, with Shareholders agreeing in the Equity Support Letter to work in good faith, transparently and constructively to progress and achieve approvals for the Additional Equity and to undertake due diligence and hold investment committees during the fourth quarter of the 2022 calendar year as a path to obtaining approval (in the discretion of the relevant investment committee) for funding the Additional Equity.

The Directors considered that the Equity Support Letter provided welcome assurances from Shareholders and, especially when taken together with the approval of the current business plan by the Shareholders, the Initial Equity to be provided under the Equity Commitment Letter, a discussion between the Board and the Shareholders on 24 June 2022 and the process which is ongoing to facilitate commitments in respect of the Additional Equity, provided sufficient comfort at this time for the Board to consider that sufficient resources are or would be available to progress its current business plan.

The TWUL Board will carefully monitor the intentions of the shareholders in respect of the support for the turnaround of the Appointee, progress towards achieving funding under the Equity Support Letter and the ability to meet, or sufficiently develop, the conditions (in particular around PR24) at all times, including, at the half-year results review in November 2022, following the Shareholder investment committees during the fourth quarter of the 2022 calendar year and in respect of the development of business plans.

The Directors further noted that the Shareholders acknowledge that the turnaround of the Appointee will continue into AMP 8 and that the PR24 business plan that the Appointee will prepare and submit to Ofwat in April 2023 to achieve a regulatory determination that supports the turnaround will likely require the provision for further equity support to increase financial resilience.

The Directors noted that in the scenario where sufficient equity commitments and/or funding were not forthcoming, the Appointee, at that point, could revise its business plan to fit with then available funding, and adjust total expenditure down accordingly. Implementing a revised business plan would deliver less for customers, communities and the environment and, at that time, may result in the Appointee not having available to it sufficient financial resources and facilities to

enable it to fund the Regulated Activities necessary to fulfil in full the Appointee's obligations under the Instrument of Appointment.

The Directors recognise that should they become aware of any circumstances which would change their opinion on the matters considered in this certificate, or other matters, such that they would not give the opinion contained in this certificate or which would materially affect the Appointee's ability to carry out its regulated activities, the Appointee must inform Ofwat of this.

Although the turnaround plan will require further work so that performance continues to improve over the coming years, the Board is confident that its plan remains on track. On that basis, the Board confirms that it has sufficient resources and systems of planning and internal control to make reasonable progress in reducing potential compliance risk and delivering its regulatory obligations over at least the next 12 months.

Leakage

The Appointee's 3-year annual average leakage for 2021/22 was 605.6 Ml/d, so meeting its leakage performance target of a 10.2% reduction against the baseline. In January 2021 Ofwat confirmed that no specific actions remain outstanding for six of the undertakings under Section 19 of the Water Industry Act. The Appointee also delivered its continuing commitments under Section 19 and will continue to develop and build on these activities to improve the management and delivery of its AMP7 leakage reduction targets, including:

- Regular leakage performance updates on its website with the ability for customers to leave feedback;
- Regular updates to its stakeholders and direct engagement with customers; and
- Regular updates to Ofwat and its customers on the Appointee's Leakage Reporting and Insight Improvement Programme (LRIIP), which has been established to address issues regarding leakage reporting to improve assurance checks and processes, and to provide the insight required to effectively deliver improved leakage performance expected by its customers and stakeholders. The LRIIP comprises 21 key deliverables of which 19 have been completed, with two remaining open relating to digitalisation of distribution input and distribution leakage and an upgrade to its leakage management system targeted for delivery in the latter half of 2023.

Commitments relating to smart metering

The Appointee will provide sufficient resources to deliver on the formal commitments which were accepted by Ofwat on 31 March 2022 in relation to the provision of access to smart meters and digital data services following an Ofwat investigation into compliance with the Competition Act 1998. The commitments have either been completed or are on track to be concluded by 31 December 2022 (subject to Ofwat's confirmation). Ofwat has accepted that the Appointee's final commitments address the competition concerns, which it had identified and provide a good outcome for business customers. Ofwat has therefore closed its investigation and made no final decision as to whether or not the Appointee's conduct amounted to an infringement of the Act.

Undertakings relating to data accuracy

The Appointee will continue to provide sufficient resources to deliver the formal undertakings accepted by Ofwat on 6 December 2021 under Section 19 of the Water Industry Act 1991 regarding data accuracy in the non-household market to secure compliance with Condition P of its Licence and its obligations under the Wholesale Retail Code. Specifically, the

Appointee is, and will continue, to take action to:

- Identify and correct all market opening data errors and make relevant refunds to non-household customers and retailers;
- Strengthen and formalise internal governance arrangements in respect of the investigation, escalation, and management of complaints;
- Ensure the correct processes and controls are in place over data quality;
- Provide transparency to the business retail market on how it maintains data accuracy; and
- Provide regular updates to Ofwat that demonstrate compliance with the undertakings.

The undertakings have either been completed or are on track to be concluded by 31 December 2022 (subject to Ofwat's confirmation).

London flooding events

In the Appointee's response to David Black's letter on 26 October 2021 related to the extreme (nearly 1-in-200 year) flooding events in London it recognised that it failed to meet customers' expectations and the levels of service they received was unacceptable. It established a London Flooding

programme with oversight by the Health, Safety and Environment Committee to identify learning, drive improvements and address customer concerns. This comprises six workstreams covering stakeholder engagement, development with partners of community flood plans and a surface water management strategy for London, a sewer flooding resilience programme to reduce risk of flooding at highest risk properties, an internal review (results published in November 2021 with 9 of 14 identified actions now delivered and the remainder in progress) and an Independent Review which is expected to issue its final report in July 2022.

Business continuity

As part of its business continuity planning the Appointee is focused on two key areas:

- 'Loss of People': acute shortage of skilled resources, including drivers and field staff. This is being addressed through the Appointee's skills strategy including apprenticeship schemes and supply chain engagement; and
- 'Loss of Systems': cyber security - in light of global tensions and political climate the Appointee has established a Gold Command structure with Executive and Board oversight to mitigate risk of system loss. The Appointee is prioritising its cyber defences, threat intelligence and access control with special emphasis on incident management, detection and recovery processes.

Emergency and unplanned events

Following its response to Ofwat's information request in December 2021 on emergency and unplanned event management, the Appointee completed in April 2022 the improvement actions it identified as being necessary to achieve full compliance with various terms of the Wholesale Retail Code (parts D and E).

Flow to full treatment permit conditions

The Appointee is potentially non-compliant with flow to full treatment permit requirements at a number of its wastewater treatment sites. It has produced a 'compliance-first' plan, which includes significant investment in flow monitoring to enable it to better understand the potential risk of non-compliance at each site. Delivery of that plan and any associated corrective actions at sites would reduce the number of sites at potential risk of non-compliance to around 20 by the end of AMP7, with the remainder to be addressed in AMP8. This

'compliance-first' plan is part of the business plan for the remainder of AMP7 that has been approved by the TWUL Board, as referred to above.

The Board has confidence that this plan will address the risks of non-compliance identified and will closely monitor progress, adjusting the plan as necessary to ensure that it remains appropriate for reducing TWUL's potential compliance risk.

The Appointee remains under investigation by the EA with regard to its compliance with these environmental permits and by Ofwat with regard to its compliance with Section 94 of the Water Industry Act.

WINEP programme

The Appointee's business plan for the remainder of AMP7, as approved by the TWUL Board and referred to above, will enable substantial delivery of its WINEP programme for AMP7 to support compliance with its environmental permits and other obligations. For between 10 and 28 schemes at complex sites, deliverability constraints may mean that outputs will be completed in AMP8.

As part of its turnaround plan the Appointee is strengthening its internal governance. This includes enhancing its approach to environmental compliance risks to further strengthen the line of sight of its environmental permit compliance risks through the Executive Risk Committee, into the Audit, Risk and Reporting Committee (ARRC) and ultimately its Board.

Asset resilience risk

The Appointee's commitment to improving the management of asset resilience risk and the avoidance of critical asset failure. Following development of an asset strategy aligned to its long-term vision and design of a new operating model, the Appointee will continue to develop its management systems and to bring further capability back in-house. The Appointee is reducing its asset risk through ongoing investment in tunnel, shaft and reservoir integrity alongside its conditional allowance programmes for London, within which investment to improve asset resilience and performance is progressing through a gated approval process with Ofwat.

SEMD

The Appointee has sufficient systems and resources in place for at least the next 12 months to comply with its obligations under SEMD to ensure that water and sewerage services are provided in accordance with its duties if an unplanned or emergency event were to occur. The Appointee has identified a material risk through its enterprise risk management process relating to potential changes which could take effect in 2025 (beyond the time period of this Certificate), which would effectively treble the population for which the Appointee would be required to plan for alternative supplies. This is beyond the Appointee's current capability and it is therefore exploring options to address or mitigate this risk.

In addition to taking all of the above into account, the Directors:

- Procured a 'Review and Recommend' report from PwC, as part of the Directors' Water Industry Act Section 19 Undertaking, to help inform them on their ability to sign the Directors' Ring-fencing Certificate set out in the 2021/22 Annual Performance Review;
- Procured a report from PwC, as the Appointee's auditor, stating whether they were aware of any inconsistencies between this Ring-fencing Certificate and the financial statements or any information obtained in the course of their work; see pages 153-158 for PwC's audit report on the Annual Performance Report and the PwC report on the Ring-fencing Certificate has been provided separately to Ofwat; and

- Undertook quarterly reviews and enquiries during 2021/22 of compliance with the Ring-fencing Certificate included in the 2020/21 Annual Performance Review, to assess the appropriateness of the factors, risk exposure and associated disclosures on an ongoing basis.

Therefore, the Directors have resolved that, in their opinion, and with specific regard to the material issues or circumstances disclosed in the table of factors above, the Appointee will have available to it, for at least the next 12 months, sufficient resources to enable it to carry out and meet its regulatory obligations, as set out in the Company's Instrument of Appointment. The Directors will continue to formally monitor the factors quarterly during the coming 12 months.

Board approval

This certificate was approved unanimously at the Board meeting on 29 June 2022.

Signed by the Board of Thames Water Utilities Limited:

Ian Marchant

Chairman

Alastair Cochran

Chief Financial Officer

Catherine Lynn

Independent Non-Executive

Ian Pearson

Independent Non-Executive

David Waboso

Independent Non-Executive

Michael McNicholas

Non-Executive

Sarah Bentley

Chief Executive Officer

Nick Land

Deputy Chairman and Senior Independent Non-Executive Director

Hannah Nixon

Independent Non-Executive

Jill Shedden

Independent Non-Executive

John Morea

Non-Executive

Risk and Compliance Statement

This statement sets out the processes we have in place to demonstrate to our customers, to Ofwat and to our other stakeholders, our compliance with relevant statutory, licence and regulatory obligations, where Ofwat is the relevant enforcement authority. The obligations pertinent to our functions as a statutory Water and Sewerage Undertaker are primarily set down in the Water Industry Act 1991 and our Instrument of Appointment – our "Licence"[8]. The Licence also requires us to perform duties imposed under any other statutory and regulatory guidelines as necessary to fully discharge our obligations.

Our approach to achieving compliance with our statutory, licence and regulatory obligations is based on establishing sound governance, risk management and system of internal controls.

This statement covers the reporting year and is set out in the following sections.

1. Understanding and meeting our customers' expectations

We are committed to understanding our customers' needs and expectations and responding to them in our ongoing operations and long-term plans. Our programme of customer engagement is led by our Retail Director and overseen by the Customer Service Committee and, for our long-term planning, the Regulatory Strategy Committee (both sub-Committees of our Board).

In order to understand what customers want, we have a customer engagement programme that continuously gathers insights into customers' needs and behaviours. Our insights are gained from working with diverse customer groups, using a wide variety of techniques. This includes bespoke research into specific topics, continuous surveys on brand perception and service satisfaction, analysing complaints and listening to social media.

Customers' overarching expectations are clear:

- Deliver a dependable water and wastewater service, now and in the future;
- Provide an effortless customer service;
- Behave responsibly, in how we treat water, the environment and our communities; and
- Deliver a value for money service, where we share costs fairly and support customers who struggle to pay.

[8] *Licences and licensees - Ofwat*

Our performance commitments are a response to customer expectations and provide a transparent way of demonstrating the extent to which we are delivering for customers (provided in Section 3 on page 159). For our household customers, the Customer Measure of Experience (C-MeX) is the key measure Ofwat uses to evaluate customer satisfaction and compare water companies (with D-Mex the equivalent measure for developer customers). The C-MeX survey uses small samples and does not give us the depth of insights we need to improve our service, so we also monitor and manage our performance against three internal measures. These are: a) Service Survey Customer Satisfaction, b) Brand Perception Survey Net Promotor Score (NPS, a widely used measure of customer advocacy), and c) Complaints.

We are ranked 17th, at the bottom of the industry league table for C-MeX performance, and our aim remains to improve our service, move up the table and reduce the gap between us and the industry median. We have begun this journey by focussing on fixing the basics, for example by getting our complaints down and responding to them more quickly (complaints performance is summarised in the Section on 'About Complaints' on page 58). However, there is still much more to do, and this is reflected in our plans to transform our key customer journeys.

Central to our plans is to empower Team Thames to deliver exceptional customer service. We have relaunched our values and intend to embed behaviours throughout our organisation to ensure customers are at the heart of all we do in every role.

Key areas of focus in the last year to meet our customer expectations and drive improvements in customer satisfaction, brand perceptions and complaints include:

Deliver a dependable water and wastewater service, now and in the future

- Significantly improved water service interruptions (a 19% improvement);
- A 17% reduction in low pressure complaints by resolving customer issues quicker and proactively resolving low pressure risks before they occur;
- A second year of record-breaking sewer cleaning (more than 1,500km);
- Installed 5,000 new Sewer Depth Monitors to bring the total number close to 10,000 and trebled the number of blockages per month proactively identified by our monitors;
- Reduced sewer floods caused by operational issues by 9%; and
- Reduced pollutions from our sewer network by 12% and by 7% from all assets, building on a 10% reduction last year.

Provide an effortless customer service

- Digitised more of our communications to improve channel choice;
- Partnered with Plain Numbers on the continuing re-design of our bill to make it clearer and more transparent;
- Created new videos to help customers needing a new water connection to understand the process;
- Formed a real time escalations team to help resolve issues when customers first contact us;
- Increased the number of individuals on our priority services register from 198,343 to 291,135. Achieved through secure sharing of vulnerable customer data with other organisations to help us reach those most in need, including UK Power Networks, the London Fire Brigade and Dorset & Wiltshire Fire Service;

- Continued to deliver a more inclusive service, achieving BSI 18477 accreditation. Improvements included: Dementia UK training for key frontline teams and British Sign Language video interpretation over live video stream for three key phone lines; and
- Implemented a new workforce management system for our wastewater teams (awarded Digital Transformation Project of the Year at the UK IT Industry Awards) to help them deliver a better service.

Behave responsibly, in how we treat water, the environment and our communities

- Engaged with over 62,000 children through our schools programme on topics such as the water cycle, water treatment and water saving;
- Offered 100 Kickstart placements to support unemployed young people back into work;
- Run a 'Bin it - don't block it' campaign to help reduce plastic pollution in rivers;
- A record number of new members at our nature reserves, alongside the launch of our #LiveWild campaign promoting the wellbeing benefits of green outdoor spaces;
- Run awareness sessions across our region on our extra care services and partnered with organisations such as Sense, Berkshire Vision and Age UK; and
- Supported the Oxford Rivers Project to obtain designation of a stretch of the River Thames, at Port Meadow, as an official river bathing water location by;
    - Providing funding for the project co-ordinator;
    - Supporting citizen science sampling; and
    - Providing local sewage spill alerts.

Deliver a value for money service, where we share costs fairly and support customers who struggle to pay

- 267,033 customers benefitting from our social tariff;
- Introduced further affordable payment schemes for those in financial hardship;
- Trust Fund of £0.5 million this year to support customers in hardship; and
- Payment matching scheme, where we match money paid towards water debts, continues to help break the cycle of debt and improve lives.

2. Processes and the assurances we have in place to achieve compliance with our obligations

The Board is accountable and responsible for the prosperity of Thames Water for the benefit of customers, regulators, investors and other stakeholders. Our Executive develop and deliver our strategy and make day-to-day financial, operational and regulatory decisions. This includes responsibility for maintaining sound systems of planning, risk management, internal control and performance management.

The Board and Executive are provided with a range of information sources and evidence, which enable them to broadly assess our overall compliance with our obligations. This includes the determination of the nature and extent of risk it is willing to take to achieve its strategic objectives, and for ensuring that an appropriate risk culture has been embedded throughout the organisation. Our risk environment includes compliance with our obligations.

The Company reports to its stakeholders primarily through the Annual Report and Sustainability Report, and Financial Statements . This is where we publish our approach to risk management, principal risks and uncertainties and our Long-Term Viability Statement. Together these set out the material risks the Company is currently facing, together with mitigation steps it is taking.

Our internal control environment (or 'system of internal control') has been designed to:

- Align and be integrated with our risk management approach;
- Fully consider best practice such as Committee of Sponsoring Organisations of the Treadway Commission Internal Control – Integrated Framework; and
- Fully consider Financial Reporting Council Guidance on Risk Management, Internal Control and Related Financial and Business Reporting.

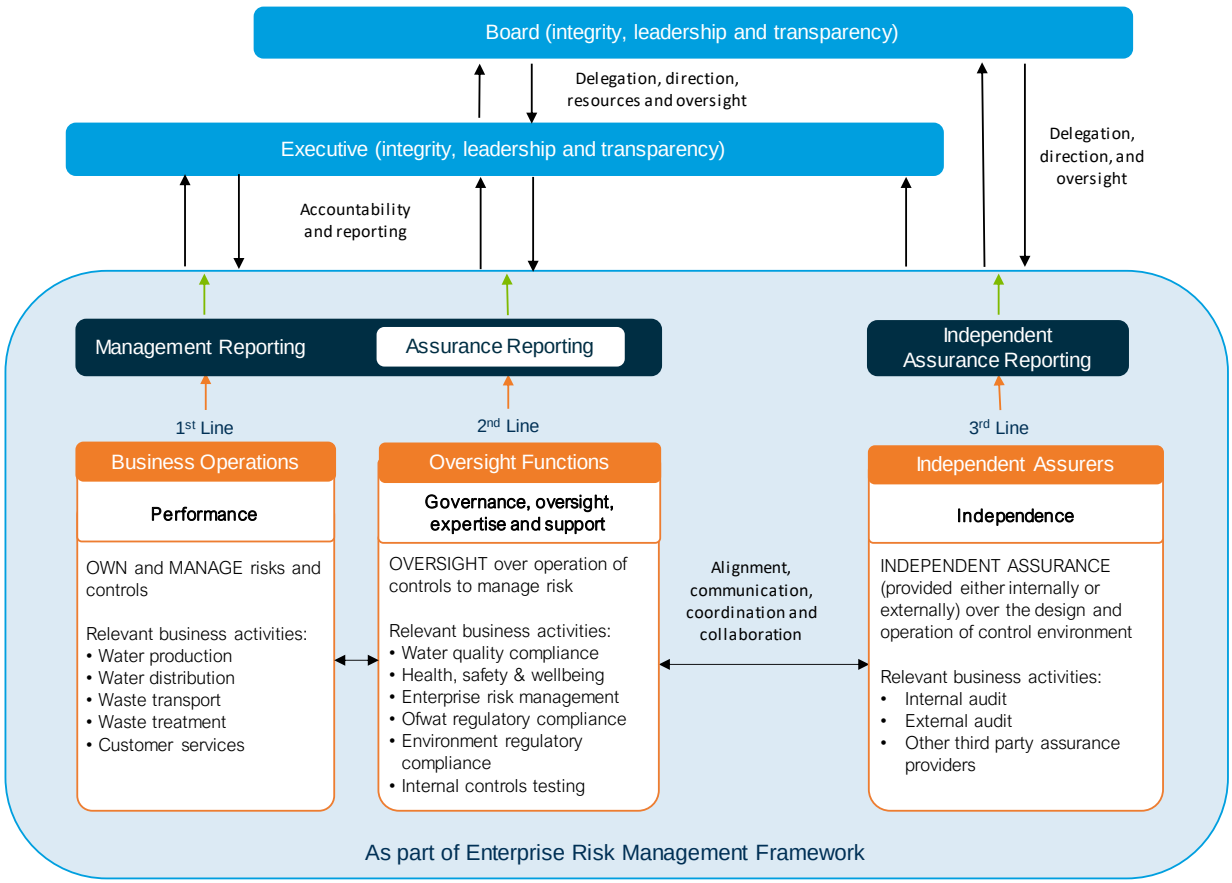
We are continuing to further a risk-based 'three lines' assurance model throughout our business. This distinguishes between first line processes and controls, second line oversight and third line independent assurance.

We employ relevant expertise to ensure that we understand our statutory, regulatory and licence obligations and can translate them into policies and procedures for colleagues to apply.

This expertise includes, but is not limited to, legal, financial, regulatory, health and safety, asset and process engineers and environmental professionals. We also draw upon additional external expertise, where necessary, to ensure that any new, or changes to our existing, obligations are appropriately interpreted and applied. Management and oversight teams monitor compliance with approved policies and procedures on an ongoing basis

Notably, in view of the recent hardening of UK sanctions in respect of Russia and Belarus, we have put in place new processes to deal with these and to carry out a range of targeted and proportionate due diligence in respect of counterparties where this is necessary. We are also aware of the effect of such sanctions in terms of the identity of investors in, and financiers of, Thames Water and its related group companies. We have sought independent external advice on such sanctions and have looked to the Water UK network to understand what other companies in the sector are doing in terms of sanctions compliance.

Three lines model



Source: Thames Water

The diagram above demonstrates how this structure is being applied within several areas of our business.

3. The processes and assurance we have in place to ensure accuracy and completeness of our data and information

Our external reporting process is designed to ensure we provide our customers and stakeholders with information that is easy to understand, provides transparency and can be relied on to build trust and confidence in our reporting. To achieve confidence over the quality of the information we publish, including our regulatory submissions, we again apply our "three lines" assurance model discussed above. This best practice approach means that we, and our customers can have a good level of assurance that our publications are accurate, complete and have been prepared properly.

The approach we take is also guided by our external regulatory reporting policy. This

establishes the principles against which we determine the assurance checks and balances that need to be in place prior to

submission to ensure that our response is on time and of quality. For example, those submissions with the highest risk require approval of the Board and external independent assurance. In all instances we use a structured approach to the roles and responsibilities of a submission to increase our confidence in the accuracy and completeness of our reported data and information.

4. Exceptions to our compliance, data and information

We set out below material exceptions to our compliance with our statutory, licence and regulatory obligations. In addition, our annual Control Self-Assessment process, by which all senior leaders across the business confirm their awareness and compliance with our obligations, has not identified any other incidences of material non-compliance for reporting.

Duty or obligation	Disclosure	Actions being taken to improve
Environmental permitting regulations and section 94 of the Water Industry Act 1991, general duty to provide sewerage system	In May 2021 we were fined £4m after untreated sewage escaped from sewers polluting park, woodland and the Hogsmill river in the Kingston area between 2016 and 2019. In November 2021 we were fined £4m for discharging raw sewage into the Seacourt and Hinksey streams in Oxford in July 2016. In November 2021 Ofwat and the EA announced investigations into all water and wastewater companies to assess if companies were complying with environmental permits in respect of the operation of their wastewater treatment works, particularly with respect to discharges from their storm infrastructure. The EA has used its formal powers under s108 Environment Act 1995 to require that information is provided. To date, the information requests have covered the majority of TWUL's sewage treatment sites/ combined sewer overflows and cover EDM (event duration monitoring) and FFT (flow-to-full treatment) data. In March 2022, we were one of five water companies to have an enforcement case opened by Ofwat. In TWUL's case this took the form of a formal request under s203 Water Industry Act 1991. As part of	We've developed a turnaround plan which focuses on significantly improving performance, with an unprecedented amount of investment directed towards safeguarding the environment. We are fully supporting Ofwat and EA with their investigation. In addition, we have produced a 'compliance first' plan, which includes significant investment in flow monitoring to enable better understanding of the potential risk of non-compliance with flow to full treatment permits at each site. For more information, see the Directors' Ring-fencing Certificate.

Duty or obligation	Disclosure	Actions being taken to improve
	our initial information disclosure, we identified that we could have a number of locations that have potentially breached their permits. TWUL remains under investigation by the EA with regard to its compliance with these environmental permits and by Ofwat with regard to its compliance with Section 94 of the Water Industry Act.	
Wholesale retail code – Data accuracy in NHH market	Ofwat launched an investigation after receiving a complaint which raised concerns about the accuracy of data provided by Thames Water into the NHH market. In particular, that the data which Thames Water had submitted to CMOS had the effect of: • Removing discounts which customers had previously benefited from for their sewerage services; and • Incorrectly calculating water usage at unmetered premises which was used to calculate some customers' bills. Ofwat found that data used to calculate the invoices for nearly 14,000 water supply points were incorrect.	We have agreed a set of formal undertakings with Ofwat covering incorrect charging of customers, improving governance arrangements in respect of investigations, escalations and complaints, improvements to processes and controls over data quality and improving retail market effectiveness.
Wholesale retail code – unplanned and emergency events	In December 2021 Ofwat asked companies to check and confirm their understanding of and compliance with their obligations regarding unplanned and emergency events in the retail market. Our assessment identified partial compliance against some of our obligations, including the identification of sensitive customers and managing health related site-specific arrangements.	We completed in April 2022 the improvement actions which we put forward in response as being necessary to achieve full compliance with various terms of the Wholesale Retail Code (parts D and E).
Complaints performance reporting to CCW	During our end of year reporting assurance process we identified an error in some new logging and reporting processes of customer 'update calls' (call backs) in our wastewater contact centre team. This has meant that our quarterly updates to CCW modestly overstated the improvement in our complaints figures.	The errors have been corrected for annual reporting. In addition, we have already taken action to ensure accurate categorisation of customer update calls.

Duty or obligation	Disclosure	Actions being taken to improve
	Although our quarterly updates are provided to CCW on the basis that the data is unassured we expect close alignment between management and assured figures.	
Performance commitments	For 2021/2022, we failed to achieve 18 of our 52 performance commitments. Full details on our performance can be found our detailed review of our performance in 2021/22 from page 15 onwards. We note that we are not fully compliant with the Ofwat common methodology for leakage, PCC and Supply Interruptions (see page 91). Furthermore, we note that we are waiting for EA final approval for some schemes against Environmental Measures Delivered, ES02 (see page 50).	Our performance is tracked by management, supported by monthly reporting to our Board and Shareholders, enabling prompt and timely corrective action.

Update on Competition Act investigation

On 8 July 2019, Ofwat wrote to TWUL advising that Ofwat had commenced an investigation under the Competition Act 1998 in relation to TWUL's policy of smart meters and access to data. The investigation relates to TWUL's approach when installing digital smart meters, the impact this had on providers of data logging services and their customers, the accuracy of data about customers that TWUL made available to retailers at the time of opening of the business retail market and the fairness of certain contractual credit terms which TWUL applies to retailers.

In March 2022, Ofwat closed its investigation accepting that the Appointee's final commitments address the competition concerns which it had identified, and which provide a good outcome for business customers. It made no final decision as to whether or not TWUL's conduct amounted to an infringement of the Act.

Update on Water Industry Act investigation

On 24 November 2020, Ofwat opened an investigation under the Water Industry Act to investigate concerns over the accuracy of data made available to retailers at the opening of the business retail market, and whether TWUL had put in place appropriate management resources and systems of planning and internal control to ensure it was able to carry out its new regulated activities.

Ofwat found TWUL in breach of its duties. To address the problems identified in the investigation, TWUL offered a package of undertakings, including a compensation package of £11.3 million that will refund non household customers for any overcharging and compensate retailers for the harm caused by the data errors. On 6 December 2021, Ofwat confirmed it would accept these undertakings and imposed a nominal penalty of £1 to close the Water Industry Act investigation with the view that the above compensation will offer greater

benefits to customers than a large penalty. Delivery of these undertakings underpin TWUL's ability to ensure compliance in these matters.

We set out below material exceptions to the accuracy or completeness of our reported data and information:

Source data for leakage reporting

Following disclosures in prior years on our leakage reporting, in conjunction with Ofwat, we have set up a Leakage Reporting & Insights Improvement Programme. One of the core themes has been improving and strengthening our data quality in readiness for annual reporting.

Event duration monitoring data

We provide event duration monitoring data to the Environment Agency annually. To ensure reliance can be placed on our data we continually review and look to improve the operation of our underlying monitors and reporting processes.

A consequence of this has been the identification of improvements to the 2020 data we originally submitted to the Environment Agency. Subsequently, we will be providing an updated submission to the Environment Agency.

5. Board Assurance Statement

The Board of Thames Water Utilities is satisfied that we have, except where otherwise detailed:

- Taken appropriate steps to understand and meet the expectations of our customers;
- A full understanding of, and have complied, in all material respects, with our statutory, licence and regulatory obligations;
- Appropriate systems and processes in place to identify, manage and review our material risks;
- Sufficient processes and systems of internal control to deliver our services to customers and meet our obligations; and
- Provided data and information to Ofwat which is accurate and complete in all material respects.

We also confirm that we have:

- Committed to maintain robust standards of corporate governance, following the requirements of both the UK Corporate Governance Code and Ofwat's Board Leadership, Transparency and Governance Principles (further details can be found in our Annual Report);
- Provided Ofwat with assurance that we have sufficient financial and management resources to enable us to carry out our regulated activities for at least the next 12 months (as detailed within our Ring-Fencing Certificate on page 69);
- Sufficient rights and resources to enable a special administrator to run our Company if such an order were to be made (as detailed within our Ring-Fencing Certificate);
- Made sure that all trade with associated companies in the year has been at arm's length, as set out in Regulatory Accounting Guidance (RAG 5 – Guideline for transfer pricing and RAG3.11 – Transactions with associates and the non-appointed business as found within the Supply of Trade disclosure on page 97;
- Maintained investment grade credit rating (as detailed in page 185);
- A principles-based dividend policy in place (details of which can be on page 107);
- Considered the financial impact of a range of severe, but plausible risk scenarios materialising to enable us to

provide reasonable assurance that we will be able to continue in operation and meet our liabilities as they fall due over the next ten years, to 2032, as set out in our Long-Term Viability Statement;

- Explained how we link Directors' pay to standards of performance as set out in section 35A of the Water Industry Act 1991 (further details can be found in the Directors' Remuneration Report in our Annual Report and Sustainability Report);
- Made our auditors aware of all relevant information (as required under the Companies Act 2006);
- Engaged and challenged management on their data and information assurance approaches through, for example, review and approval of the Statement of Risks, Strengths and Weaknesses and Final Regulatory Reporting Assurance Plans;
- Taken action to ensure that any exceptions and weaknesses in the data and information assurance approaches have been addressed, such as through the use of external independent assurance;
- Satisfied ourselves that the assurance approaches have appropriately identified and addressed any risks to the provision of accurate and complete data through reports from management and Director deep dive sessions, predominantly with the Chairman and/or members of the Audit, Risk and Reporting Committee; and
- Reported in Section 4 where we have not achieved the level of performance agreed in our final determination. Further information is available within our 'Detailed review of performance in 2021/22' on page 18.

During the course of its work, our independent assurer, PwC is required to report if there are any material inconsistencies between the Regulatory Accounting Statements and other information contained with the Annual Performance Report; this includes the information contained within this Risk and Compliance statement. PwC has not identified anything to report in respect of this responsibility. A copy of the Independent Auditors' Report is provided on page 166.

Signed by the Board of Thames Water Utilities:

Ian Marchant
Chairman

Alastair Cochran
Chief Financial Officer

Catherine Lynn
Independent Non-Executive

Ian Pearson
Independent Non-Executive

David Waboso
Independent Non-Executive

Michael McNicholas
Non-Executive

Sarah Bentley
Chief Executive Officer

Nick Land
Deputy Chairman and Senior Independent Non-Executive Director

Hannah Nixon
Independent Non-Executive

Jill Shedden
Independent Non-Executive

John Morea
Non-Executive

Our Compliance with Ofwat common guidance on leakage, PCC and supply interruptions

This appendix has been produced in accordance with the Ofwat and UKWIR reporting guidelines.

The elements of each component to be assessed separately based on the following rules:

Compliance for elements is reported against:

Red	Not compliant with the guidance and having a material impact on the annual average leakage.
Amber	Not compliant with the guidance and having no material impact. For example, a material impact might be assessed as more than 1% of the reported value.
Green	Fully compliant with the guidance.

An overall RAG to be assigned for each component based on the following rules:

Compliance for overall components is reported against:

Red	There are one or more red elements in the component, or the combined effect of amber elements is considered to produce a material impact.
Amber	Half or more of the elements in the component are amber and the combined effect of the amber elements is considered not to produce a material impact.
Green	More than half of the elements in the component are green.

Summary of our compliance position in 2021/22

- Leakage: 65 out of 76 elements are rated as green. Of the remainder, seven are amber and four are red.
- PCC: 21 out of 24 elements are rated as green. Of the remainder, two are amber and one is red.
- Supply Interruptions: 12 out of 14 elements are rated as green. The two remaining elements are amber.

Below is commentary for each of the amber and red elements in order to provide a clear explanation of our: reasons for noncompliance for the reporting year; actions we are taking to become compliant; and current view on when we expect our reporting to be compliant with the reporting definitions.

In our 2021/22 submission, we have also included updated leakage and PCC figures for 2017/18, 2018/19 and 2019/20 to maintain consistency with our current reporting approach and to make sure that our baselines and associated targets are consistent.

Compliance with Ofwat guidance – leakage

2 – Availability – Overall Amber

Expectation on when it will become compliant: AR23

Element	Reason for noncompliance	Actions we are taking to become compliant
2a – At least 90% of all properties within continuous night flow monitoring networks available for reporting night flow data through the year.	This year we have made significant improvements to our zonal availability (increasing from an average of 86.43% in 2020/21 to an average of 89.823% in 2021/22) but fell just short of the target. The largest cause of unavailability of our zones is intermittent drop out of telemetry signals. This is followed by network zonal breaches.	The Ofwat definition of Zonal Availability is now monitored and reported to senior management weekly. Improvements are gradually being made, with particular focus on resolving long standing issues. Maintenance is constantly required to offset the failure rates experienced.

5 – Household night use – Overall Red

Expectation on when it will become compliant: AR23

Element	Reason for noncompliance	Actions we are taking to become compliant
5a – The time period for Household night use (HHNU) is the same time period as used for night flow and Non-Household night use (NHHNU).	HHNU still uses the period 3:30-4:30am, except for bulk metered areas (BMAs) which use the new 3:00-4:00 fixed hour. Our night flow monitoring (NFM) period is 3:00am-4:00am.	As per last year, we have reverted back to using TestDWUS allowances for all except flat in large blocks. The TestDWUS allowances were based on the period 3:30-4.30am. Flats in large blocks are assessed using BMAs and these use the 3:00-4:00am fixed hour. Work has been completed during the year to improve the analysis of smart meters. We have also installed approximately 3000 meters on buildings (typically terrace houses converted into flats) which cannot be individually metered (due to plumbing arrangements). We are now starting to analyse this data to determine both day and night use for these property types. We have also analysed night use for blocks of flats that are billed as measured. All this data is helping us to build up a better understanding of night use across our supply area. We hope to complete the analysis of all this data that will then give us the opportunity to restate HHNU in AR23 for the period 3:00-4:00am. To date most of our smart metering has been in London. We have therefore specifically targeted smart meter installs in areas outside London to allow updates in our other water resource zones.
5d – Evidence that survey is representative (based on demography, property type or other factors) of the company as a whole.	Due to a problem with our smart meter data we have reverted back to old TestDWUS allowances for all except Flats in large blocks (which use BMAs to assess night use). However, TestDWUS allowances are considered old and therefore may not represent the current mix of measured properties	
5e – Sample size is sufficient to capture continuous and intermittent night use with reasonable confidence	As per AR21, we have reverted back to using TestDWUS allowances plus BMAs. Our sample size, especially for metered properties, is considered on the low side.	
5f – Continual monitoring and maintenance of individual household monitors (IHMs) and small area monitors (SAMs)	IHM are monitored and maintained in Thames Valley, and SAMs in London for flats in large blocks (FLBs). However, as we had moved to using smart meters in London, DWUS in London was removed to avoid inconsistent customer messaging.	

12 – Measured Consumption – Overall Green

Expectation on when it will become compliant: AR23-AR24

Element	Reason for noncompliance	Actions we are taking to become compliant
12c – Inclusion of any leakage allowance is included where a rebate has been applied to a customer's bill	Even though a refund is given to HH customers, the "volume" of BMV still includes the SPL element. This component of SPL is presently estimated.	We have developed reporting of rebate volumes in our billing system. We are continuing to assure this data prior to inclusion in the water balance.

13 – Unmeasured Consumption – Overall Green

Expectation on when it will become compliant: AR23

Element	Reason for noncompliance	Actions we are taking to become compliant
13a – Monitors follow principles set out in the UKWIR Report 'Best Practice for unmeasured per- capita consumption monitors 1999' and the more recent report 'Future Estimation of Unmeasured Household Consumption', UKWIR 2017	We have not maintained our IHM in London due to the roll out of our Progressive Metering Programme and the plan to start using the smart meters. However, due to the problem with the timestamp issue discovered in early 2021 we are presently using results from our IHM in AR20, and using the smart metered properties to estimate change in consumption between 2019/20 and 2021/22. This is showing us that measured consumption in 2021/22 is similar per property to 2019/20. Unmeasured consumption would need to move by about 30 Ml/d to make leakage change by 1%. Note this does not affect flats in large blocks.	As per AR21 we are presently using results from our IHM in AR20, and using the smart metered properties to estimate change in consumption between 2019/20 and 2021/22. Further work is being completed over the coming year to address concerns with the smart meter data to allow it to be used to estimate unmeasured consumption. To pick up properties that cannot be metered through the PMP programme, (e.g. where a terrace house has in the past been converted to flats), meters are being installed on the shared supply to the building to understand the consumption. DWUS is being maintained in our supply areas outside London to allow associated unmeasured consumption to be estimated. BMAs continue to be used for flats in large blocks
13f – There is continual monitoring and maintenance of IHMs and SAM monitors		

14 – Company own water use – Overall Green

Expectation on when it will become compliant: To be confirmed

Element	Reason for noncompliance	Actions we are taking to become compliant
14a – All sewage treatment sites and other sites and assets supplied downstream of the DI meters using	Some of the smallest usage sites are unmetered or have meters unread.	This year we are focusing on improving the processes around reading the available meters. We will then revisit the need to meter any outstanding unmetered sites. Our

Element	Reason for noncompliance	Actions we are taking to become compliant
greater than 10m3/d (0.01 Ml/d) are metered.		focus has been on the sites with the highest consumption.

16 – Water Balance and MLE – Overall Red

Expectation on when it will become compliant: To be confirmed. With our current negative water balance, we have retained 8% so as not to benefit post-MLE leakage

Element	Reason for noncompliance	Actions we are taking to become compliant
16b – Mainly measured with some estimated adjustments have a range from 2.5% to 5%	The confidence interval for measured non-household water delivered remains at 8%.	We are working with the non-household retailers to reduce the magnitude of the estimation in the settlement files along with more accurate use of the vacant flag. We have provided Retailers with meter reads and evidence of occupation, e.g. we find that approximately 50% of void properties are occupied. However, work is still ongoing with the Retailers to enable accurate billing and consumption.

Expectation on when it will become compliant: Improving the water balance discrepancy remains a key area of focus for the continuation of our LRIIP through 2022/Late23.

16e – Water balance discrepancy <2% = G >2% and <3% = A >3% = R	Our AR22 water balance gap is -3.5%. The large negative water balance shows that we are over accounting for customer use and/or leakage. For AR20 we were green on this measure.	This year we have undertaken deep dives into all the major components of the water balance. Small improvements have been made, with greater levels of assurance now in place, and an improvement from -4.5% in AR21 to -3.5% this year. This year we also completed the replacement of a DI meter on one of our largest water treatment works (Kempton). This coming year we will continue to further investigate the discrepancy as part of our LRIIP. We presently believe that we are continuing to over report leakage due to the use of old household night use allowances. We are working on these for AR23 as described under element 5 above.

Compliance with Ofwat guidance – PCC

3 – Measured household consumption (Based on leakage PC RAG elements) – Overall Green

Expectation on when it will become compliant: AR23-AR24

Element	Reason for noncompliance	Actions we are taking to become compliant
3c – Average SPL deductions for externally metered households using company own data updated annually.	Total leakage is updated each year and a fixed proportion is then subtracted from meter consumption for supply pipe leakage of externally metered properties. SPL rebates are financial in our HH billing system and their associated consumption is not presently consistently available to use.	We have recently moved to a new household billing system, and we have now developed reporting of rebate volumes. We are continuing to assure this data prior to inclusion in the water balance, with further work over the coming year to look at the rebates process and assure the water volume values for use in the water balance.

4 – Unmeasured household consumption (Based on leakage PC RAG elements) – Overall Red

Expectation on when it will become compliant: AR23

Element	Reason for noncompliance	Actions we are taking to become compliant
4a – Monitors follow principles set out in the UKWIR Report 'Best Practice for unmeasured per- capita consumption monitors 1999' and the more recent report 'Future Estimation of Unmeasured Household Consumption', UKWIR 2017	We have not maintained our IHM in London due to the roll out of our Progressive Metering Programme which is metering our panel properties. We had planned to start using the PMP properties to estimate consumption but, due to the problem with the timestamp issue discovered in early 2021, we are presently using results from our IHM in AR20, and using the smart metered properties to estimate change in consumption between 2019/20 and 2021/22. This is showing us that measured consumption in 2021/22 is similar per property to 2019/20. We cannot confidently use the smart metered data as a base for this estimation, resulting in noncompliance for these elements. For flats in large blocks we continue to use our SAM monitor and for properties outside London we continue to maintain and use our IHM. Unmeasured consumption would need to move by about 15 Ml/d to make PCC change by 1%.	Work has been completed during the year to improve the analysis of smart meters with particular focus on how to correctly separate out continuous flows into customer side leakage and plumbing losses. We have also installed approximately 3000 meters on buildings (typically terrace houses converted into flats) which cannot be individually meters (due to plumbing arrangements). We are now starting to analysis this data to determine both day and night use for these property types. Our IHM is being maintained in our supply areas outside London to allow associated unmeasured consumption to be estimated. Our SAMs continue to be used to assess consumption in large blocks of flats (our largest group of unmeasured properties) and this panel continues to be expanding to increase its robustness and reduce the uncertainty in the estimated consumption.
4f – There is continual monitoring and maintenance of IHMs and SAM monitors		

Compliance with Ofwat guidance – supply interruptions

2 – Start time – Overall Green

3 – Stop time – Overall Green

Expectation on when it will become compliant: n/a

Element	Reason for noncompliance	Actions we are taking to become compliant
2c – Treatment of blocks of flats 3c – Treatment of blocks of flats	We treat all properties within multi-story buildings as if they were on the ground floor. As noted in the horizontal audit report by KPMG & Jacobs it was apparent that many companies report in this way and it has no material impact on the measure	We are not proposing any changes to the way we approach this element.

Other statements and disclosures

Transactions with associates and the non-appointed business

We have disclosed transactions with both associated companies and our non-appointed business in accordance with the guidance provided in RAG 5.07.

Although our appointed business applies IFRS, an associated company for the purposes of this disclosure is any company within the Group or a related company as defined by Financial Reporting Standard 102.

The following disclosures comply with RAG 3.13. (The Group means the group of companies headed by Kemble Water Holdings Limited, the ultimate parent company).

During the year there were no single contracts in excess of 0.5% (£10.6 million) of the Company's appointed income with any subsidiary of the Kemble Group of companies or related companies.

The Company has also chosen to voluntarily disclose all transactions with companies for which there is a common Director. The Directors of the Company and their connection to other Group companies is shown on the Directors' interest table.

The dividend paid during 2021/22 to the parent company Thames Water Utilities Holdings Limited of £37.100 million was used solely to service group debt obligations and minor working capital.

Services provided to the Company by associated companies

Associate Company	Company principal activity	Service Provided	Turnover of Associate during 2021/22 £'000s	Terms of supply 2021/22	Value £'000s
Thames Water Property Services Limited	Property Company	Payroll Costs	193.7	No market - actual costs recharged	232.6
Thames Water Utilities Holdings Limited	Holding Company	Group Relief	-	No market – actual costs	3,932.0
Dunelm Energy Limited	Management consultancy company	Administrative services	N/A - small company exemption	Negotiated	15.0
					4,179.6

Services provided by the Company and recharged to associated companies

Associate Company	Company principal activity	Service Provided	Turnover of Associate during 2021/22 £'000s	Terms of supply 2021/22	Value £'000s
Thames Water Limited	Holding Company	Director costs, Treasury, Insurance, Tax and Financial Control support services	-	No market - costs allocated by time	1,300.0
Kennet Properties Limited	Property Company	Director costs, Treasury, Insurance, Tax and Financial Control support services	1,014.7	No market - costs allocated by time	6.1
Kennet Properties Limited	Property Company	Payroll Costs	-	No market - costs allocated by time	24.0
Thames Water Commercial Services Limited	Commercial Company	Support Services	-	No market - costs allocated by time	19.6
					1,349.7

Payments to companies with common Directors

Company	Common Director	Service Provided	Terms of supply 2020/21	Value (£'000)
Cadent Gas Limited	Perry Noble	Liquid and Gas Distribution services	Negotiated	147.9
Energy Networks Association Limited	John Morea	Memberships & Subscriptions	Mandatory Fee	4.7
Omers Infrastructure Europe Limited	Alastair Hall	Plant upgrade	Negotiated	192.0
SGN Commercial Services Ltd	Michael McNicholas, Guy Lambert and Peter McCosker	Liquid and Gas Distribution services	Negotiated	2,748.4
Water UK	Sarah Bentley	Memberships & Subscriptions	Mandatory Fee	941.6
Arqiva Limited	Paul Donovan (Director of Parent)	Smart Metering	Negotiated	21,427.4
Lloyds Bank plc	Sarah Bentley	Agency/Utilisation Fees & Interest payments	Mandatory Fee	484.0
				25,496.0

Note that as Non-Executive Directors are not deemed to exercise control, as such they have not been included in the above analysis.

Directorships held in Group Companies

The Company discloses the following information as part of its compliance with RAG 5.07, listing those Directors of the Company who are also Directors of the following Group companies during the year ended 31 March 2021 and up to the date of signing this report:

Director R – resigned A – appointed	Thames Water Utilities Limited	Thames Water Utilities Holdings Limited	Thames Water Limited	Kemble Water Finance Limited	Kemble Water Eurobond PLC	Kemble Water Holdings Limited	Thames Water Commercial Ventures	Thames Water Commercial Ventures Holdings Limited
Executive Directors								
Sarah Bentley	✔							
Brandon Rennet	R 30/09/2021						R	R
Alastair Cochran	A 27/09/2021							
Non-executive Directors								
Michael McNicholas	✔	✔	✔	✔	✔	✔		
John Morea	✔							
Paul Donovan	R 01/10/2021							
Gregory Pestrak	R 03/12/2021							
Independent Non-Executive Directors								
Ian Marchant	✔							
Nicholas Land	✔							
Catherine Lynn	✔							
Ian Pearson	✔							
Jill Shedden	✔							
David Waboso	✔							
Hannah Nixon	✔							

Borrowings and loans

All borrowings from our wholly owned subsidiaries are disclosed in note 40 of our Annual Report and Sustainability Report. All loans to our wholly owned subsidiaries are disclosed in note 36 of the Annual Report and Sustainability Report.

Transfer of assets by or to the appointee

There were no transfers of assets or liabilities by or to our Company in excess of the materiality limit (2021: £Nil).

Guarantees or other forms of security by the appointee

The Company, as part of the Whole Business Securitisation ('WBS') capital structure, guarantees unconditionally and irrevocably all the borrowings and derivatives of Thames Water Utilities Finance plc.

Omissions of rights

There were no omissions of rights during the year (2021: none).

Waiver of any consideration, remuneration or other payment by the appointee

There were no waivers of any consideration, remuneration or other payments by the appointee during the year (2021: none).

Our group structures

Strategic and operational oversight of Thames Water is led by our Board. The Board's primary responsibility is to promote the company's long-term success for the benefit of our customers, employees, shareholders, and other stakeholders.

Kemble Water Holdings Limited ("KWH") is our ultimate parent company. Its primary activity is to act as a holding company.

Approval of certain matters is specifically reserved for the Board of KWH, including approval of the annual budget, significant investment, material transactions such as major acquisitions and divestment and certain strategic decisions.

You can find the full list on our website.

The group structure chart in our Annual Report and Sustainability Report sets out the ownership of Thames Water and our subsidiary.

Compliance with sanctions against Russia and Belarus related to the conflict in Ukraine

Thames Water recognises the increasing extent and reach of sanction legislation following the Russian invasion of Ukraine. Following the imposition of sanction legislation, we obtained advice from our legal advisers on the steps that need to be taken to comply with these sanctions, both from a supply chain and customer perspective. This advice has been circulated to the appropriate senior managers around the business and is being acted upon. Assurance work around compliance has also been carried out. This confirmed initial sanctions screening had been completed across the business including for New Appointments and Variations (NAVs), Non-Household (NHH) Retailers, and for our suppliers. We continue to monitor both the sanctions legislation and our compliance with this legislation.

SWOT analysis of our approach to reducing embedded carbon (voluntary disclosure)

Strengths	Weaknesses
• We are working to align our approach for understanding embodied carbon emissions to PAS2080. • We are working in parallel towards Net Zero. We have learned from operational carbon, and we have established an embodied carbon task force to support the UK target of total net zero by 2050. • We are building on learning from AMP6 to embed the use of carbon tools to calculate embedded carbon from 'cradle to built asset'.	• Our carbon recording tool is vulnerable to a growth in reporting needs and requires updating and development. • There is no consistent approach to embodied carbon reporting and baselines. • There is a lack of data available from suppliers and manufacturers about the embodied carbon of their products and services. • The approach does not currently consider the materiality of the type or source of embodied carbon emissions. • There is a significant potential for double accounting in the context of the UK where suppliers scope 1 & 2 emissions are restated in embodied carbon emissions.
Opportunities	**Threats**

• Greater focus on embodied carbon has helped us to identify a number of technologies and approaches to reduce it including:
  ○ Low carbon concrete
  ○ Materials bank to reduce waste and increase reuse
  ○ No-dig techniques
  ○ Carbon capture
  ○ Development of catchment nature-based solutions.
• We are improving our insights on emissions from enhanced data quality and granularity.
• We will implement a robust training plan to increase our level of awareness and technical knowledge.
• We will work with our procurement teams to develop opportunities to integrate embodied reporting requirements into contracts.
• We will engage with Ofwat and others through a workshop and other ongoing mechanisms to evolve the embodied carbon reporting process in an appropriate, timely and beneficial way consistent with other mandatory reporting requirements.
	• There are concerns that different reporting requirements could become inconsistent with other regulatory reporting criteria, such as the Task Force on Climate-related Financial Disclosures and Streamlined Energy and Carbon Reporting. Not all data is currently available both within the business and from external sources to complete the reporting task and improvements. This may take time to resolve.
	• There is a lack of clear and timely guidance for reporting.
	• Some technologies/goods to reduce embodied carbon come at a higher cost
	• Uncertainty around timing and availability of funding to support the UK 2050 total net zero goal.
	• Large one-off projects can distort reported emissions profile.
	• There is a risk around consistency and coordination with supply chains.

Our regulatory accounts

Our 2021/22 Regulatory accounts

Contents

Our regulatory accounts

Definitions of appointed and non-appointed business

Our appointed business (an appointee) comprises the regulated activities we provide as a monopoly supplier. This includes functions and duties necessary to provide water and sewage services to our customers. This is detailed in Condition A of our licence of appointment and relates to the duties defined within the Water Industry Act 1991.

In addition to our duties as an appointed business, we also carry out certain non-appointed activities. All of these activities are conducted on an arm's length basis from the appointed business. These activities include third-party discharges to sewage treatment works and other commercial activities, including property searches and cess treatment (treatment of waste from private receptacles not linked to our network).

The results of the non-appointed business include payment of charitable donations. These donations are made out of external shareholder interests and are not funded by customers.

Statement of Directors' Responsibilities

In addition to the requirements of Company law, our 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.

Separately our Directors are also required to comply with Condition P of the Instrument of Appointment of the Company as a water and sewerage undertaker under the Water Industry Act 1991. The purpose of this condition is to ensure that:

- Appointed Business is conducted as if it is substantially the Appointee's sole business, and it is a public limited company separate from any other business carried out by the Appointee;
- The Appointee retains sufficient rights and assets and has in place adequate financial resources and facilities, management resources and systems of planning and internal controls;
- Any transfers or transactions entered into by the Appointee do not adversely affect the Appointee's ability to carry out the Regulated Activities; and
- The Appointee demonstrates that it is complying with the requirements of this Condition.

These responsibilities are additional to those already set out in our Annual Report and Sustainability Report. For further details of the additional responsibilities, refer to the Ring-fencing Certificate and the Risk and Compliance Statement.

Disclosure of information to auditor

The Directors who held office at the date of approval of this report confirm that:

- So far as they are each aware, there is no relevant audit information of which the Company's auditor is unaware
- Each Director has taken all the steps that they ought to have taken as a Director to make themselves aware of any relevant audit information and to establish that the Company's auditors are aware of the information.

Executive pay and performance

We are committed to transparent reporting within our Annual Reports as appropriate and in accordance with legal and regulatory requirements, including Ofwat's Board leadership, transparency and governance principles. This also includes a commitment to reporting any changes in policy and the underlying reasons.

Our Remuneration Committee determines our policy on remuneration of Executive Directors and Non-Executive Directors. Our Remuneration Committee Report within our Annual Report and Sustainability Report provides a description of the link between Directors' pay and standards of performance (as required by section 35A of the Water Industry Act 1991) and disclosures required under Regulatory Accounting Guidelines.

Our remuneration policy ensures that executive remuneration has a clear alignment to Thames Water's performance and long-term success, in the interests of customers. It is designed to be stretching and also provide sustained and long-term value creation for shareholders and other stakeholders.

Non-Executive Directors

The Chairman and Non-Executive Directors do not participate in any performance related arrangements (i.e., Annual Management Bonus or Long-Term Incentive plan ('LTIP')) and do not participate in the Thames Water pension plans. They are paid Directors' fees only.

Executive Directors

Executive Directors' remuneration includes a mix of fixed and variable pay comprising basic salary plus performance related incentives. Through the Annual Management Bonus and LTIP, Executive Directors receive remuneration linked to the achievement of the critical priorities in our business plan. The 2021/22 Annual Management Bonus plan was based on keeping our people safe, customer service, customer and environmental delivery, strategic programmes and financial performance, over a performance period of one financial year.

The LTIPs 2019/22, 2020/23 and 2021/24 outcomes are measured over a three-year period, with a focus on delivering critical elements of our stretching business plan. This includes an overarching 'Integrated Performance Assessment' measured using the Return on Regulated Earnings (RORE). This assessment provides a measure of successful delivery for customer, the environment, and shareholders since it is impacted by all aspects of our business plan. To provide increased focus on customer and the environment, the LTIP also includes targets for customer service, leakage, water quality and pollutions.

For 2021/22, we have retained the focus on delivery for customer and the environment with our performance-related incentive plans, with these elements making up the majority of targets for both the short-term Annual Management Bonus and the LTIP. We have also strengthened the linkage between on-target performance outcomes.

In determining the outcome of the incentive schemes, performance is assessed by the Remuneration Committee to ascertain whether targets have been achieved.

The Committee also considers relevant reports from Ofwat in assessing the achievement of performance. Full details are included in our Annual Remuneration Report in our Annual Report and Sustainability Report.

Dividend policy for the appointed business

TWUL's overall objective is to pay a progressive dividend commensurate with the long-term returns and performance of the business, after considering the business's current and expected regulatory and financial performance, regulatory restrictions, management of economic risks and debt covenants.

In assessing the dividend to be paid, the Directors are required to ensure that:

- Payment of a proposed dividend should not impair short term liquidity or compliance with our covenants;
- Payment of a proposed dividend should not impair the longer-term ability to finance the Company's business, including access to both debt and equity capital;
- An assessment is made to determine if the payment of a dividend reflects the Company's performance against the final determination for AMP7 and its commitments to customers and other stakeholders;
- An assessment is made of the impact that payment of the dividend may have on its commitments and obligations to customers and other stakeholders as a supplier of essential services, which includes customer commitments, environmental commitments, community commitments, employees and pension members; and
- An assessment of the long-term financial resilience of the Company.

Dividends paid will be adjusted both upwards and downwards relative to the Ofwat's 4% dividend yield guidance reflecting the company's performance in meeting its commitments and obligations to customers and other stakeholders.

If a gross dividend is declared above Ofwat's 4% dividend yield guidance, applied to Ofwat's notional company, the Board will consider whether the additional returns result from performance (including progress towards degearing) that has benefited customers and may therefore be reasonably applied to finance a dividend.

2021/22 dividend payments

Our shareholders take seriously their commitments and obligations to customers and other stakeholders (including the environment, communities, employees and pension members) as a supplier of essential services. They also recognise the need to turnaround performance and the long-term nature of the Executive's plan to deliver this objective.

Our external shareholders did not receive a dividend in the 2021/22 financial year, the fifth consecutive year, underlining their commitment to re-investing cash flow into delivering improved performance for customers. Notwithstanding this, TWUL's overall objective is to pay a progressive dividend commensurate with the long-term returns and performance of the business, after considering the business's current and expected regulatory and financial performance, regulatory restrictions, management of economic risks and debt covenants.

The Board made an assessment, having regard to our updated dividend policy whether it was appropriate to make dividend distribution to shareholders in 2021/22. The table below sets out the key factors, with commentary that the Board considered when making this assessment.

Dividend policy consideration	Conclusions
Payment of a proposed dividend should not impair short term liquidity or compliance with our covenants.	Based on our going concern assessment outlined in our Annual Report and Sustainability Report, we believe Thames Water has the ability pay a dividend whilst allowing the business to maintain sufficient liquidity and compliance with our covenants. However, in light of continued high levels of capital investment and high forecast levels of gearing, the Board concluded to not pay a dividend to our external shareholders, whilst paying a distribution in October 2021 to service the debt obligations of our ultimate holding company, Kemble Water Finance Limited, and group related costs.
Payment of a proposed dividend should not impair the longer-term ability to finance the Company's business, including access to both debt and equity capital.	The payment of internal dividends to service the debt obligations of our ultimate holding company, Kemble Water Finance Limited ("KWF"), plays a key role in maintaining access to equity capital provided by shareholders by underpinning lender and credit rating agency confidence. Consequently, there is a risk that not paying a dividend could negatively impact planned refinancing activity, the Group's credit rating outlook and the capacity of KWF to raise incremental equity capital that is factored into TWUL's business plan to pay down debt and manage gearing covenant headroom. Consequently, the Board concluded that it was both responsible and reasonable to approve a payment of a dividend solely to service holding company debt in October 2021. However, the Board concluded that a final dividend payment for the year ended 31 March 2022 to service holding company debt could not be justified given the level of surplus liquidity, particularly at a time when financial resilience is under scrutiny. To help maintain long term financial resilience, the Board also concluded to not pay external distributions to shareholders throughout the year. These decisions considered the Group's current capital structure and was consistent with its legal and regulatory obligations to ensure that TWUL is a financially resilient business with ready access to debt and equity capital.
An assessment is made to determine if the payment of a dividend reflects the Company's performance against the final determination for AMP7 and its commitments to customers and other stakeholders.	The Board assessed overall company performance in the round. In considering the company's performance against the final determination for AMP7 the Board specifically noted that whilst overall performance in 2021/22 was aligned with expectations, it was still short of where we want it to be. The Board noted that ODI rewards stood at £11.1 million (£3.3 million in 2020/21), but penalties stood at £45.9 million (£32.5 million in 2020/21). This was largely due to internal sewer

Dividend policy consideration	Conclusions
	flooding[9] and blockages arising from extreme weather, as well as our C-MeX outturn for the year (where we remain 17th out of 17) despite a significant year on year reduction in complaints. The Board also noted the inflationary pressure that currently exists in the UK, including the exceptional increase in energy prices in 2021/22 and the pressure on real incomes. The Board therefore concluded to restrict external distributions to shareholders whilst maintaining some internal distributions.
An assessment is made of the impact that payment of the dividend may have on its commitments and obligations to customers and other stakeholders as a supplier of essential services, which includes customer commitments, environmental commitments, community commitments, employees and pension members.	The Board also considered the impact of dividend payments in the 2021/22 financial year on our 8-year turnaround plan, the revised business plan, and our commitments and obligations to customers and other stakeholders. These plans have been designed to significantly improve Thames Water's operational performance, deliver on its regulatory obligations, improve river heath, increase resilience and deliver better outcomes for its customers, communities and the environment. Limiting internal distributions in 2021/22 to £37 million, a yield materially below Ofwat's guidance of 4%, was considered unlikely to have a material impact on our commitments and obligations to customers and other stakeholders as a supplier of essential services. Furthermore, the Board did not expect this dividend to have a material impact on employees and pension members. The Board noted that in 2020/21, an exceptional £69.7 million payment was made relating to the deficit repayment plan during that year, which covered the remaining deficient payments agreed with the pension trustees for AMP7.
An assessment of the long-term financial resilience of the Company.	Based on our long term viability statement, outlined in our Annual Report and Sustainability Report, we believe Thames Water has the ability pay a dividend and this would not be expected to impair our long term viability. The Board considered its current credit ratings and ratings outlook, forecast compliance with debt covenants and long term liquidity forecasts. In particular, it noted that it had been assigned a CreditWatch negative outlook by S&P in

[9] It should be noted that the ODI penalties include the impact of the London flooding of July 2021, a 1 in 200-year weather event. If this was excluded the penalty would be c.£20m less.

Dividend policy consideration	Conclusions
	December 2021 and that forecast covenant metrics had declined in the year. It also noted increasing high levels of capital investment planned for the rest of the current AMP7 regulatory price control period. To support delivery of our new business plan and increasing levels of investment, an initial £500 million of new equity will be subscribed by shareholders in March 2023. The Executive team is working with shareholders on plans to provide a further £1.0 billion of equity funding, which will be subject to certain conditions, to drive Thames Water's turnaround over the remainder of the current regulatory period and establish a solid foundation for Thames Water's long term growth. The Executive team will continue to reflect the ongoing turnaround in its next business plan for the five-year regulatory period starting in 2025. A focus of that business plan will be to maximise the likelihood that Thames Water receives a PR24 regulatory determination that supports the turnaround. As part of this, Thames Water shareholders acknowledge that further shareholder support may be required to improve financial resilience. Considering the factors, the Board concluded to restrict external distributions to shareholders whilst maintaining some internal distributions.

Having regard to all the factors outlined above, the Board concluded that it was not appropriate to declare an external dividend to shareholders for 2021/22, the fifth year in succession.

An internal distribution in 2021/22 was made to service the debt obligations of our ultimate holding company, Kemble Water Finance Limited ("KWF") and group related costs. £37 million was paid on 4 October 2021 for solely this purpose. The total interest paid by KWF in 2021/22 was £67 million, £35 million was funded by the dividend payment after taking into account £2 million of group related costs and the remainder was paid from cash reserves within KWF.

The Board concluded that it was both reasonable and responsible to approve the payment of the internal dividend, which represents a yield of 1.2%, (materially below Ofwat's guidance) having regard to the Group's revised dividend policy, current capital structure, and was consistent with its legal and regulatory obligations to ensure that Thames Water Utilities Limited is a financially resilient business with ready access to debt and equity capital.

Tax strategy

Our aim is to be clear and transparent over our approach to tax and our tax profile to ensure we're a responsible business. Our tax strategy is straightforward and underpinned by five key principles, which are unchanged from the previous year:

- We comply with all tax legislation at all times, both within the letter and spirit of the law;
- We do not use tax avoidance schemes or aggressive tax planning;
- We engage fully and transparently with HMRC and other Governmental bodies, and seek to resolve disputes in a co-operative manner;
- We adopt a conservative approach to tax risk management and apply a strong tax governance framework; and
- We accept only a low level of risk in relation to taxation.

You can find more detail on our tax strategy on our website at:

https://www.thameswater.co.uk/media-library/home/about-us/governance/our-policies/tax-strategy-and-policy.pdf

Long-term Viability Statement

The assessment of our long-term viability can be found in our Annual Report and Sustainability Report. The Directors have conducted this assessment over a ten-year period to 31 March 2032, taking into account the Company's current position and principal risks. Based on this assessment, the Board has a reasonable expectation that the Company will be able to operate within its financial covenants, maintain an investment grade credit rating and maintain sufficient liquidity facilities to meet its funding needs over the assessment period, based on the underlying assumptions outlined in the assessment.

Innovation competition

Amounts have been collected from customers relating to a newly established industry wide innovation fund as disclosed in our table 9A. In the current year Annual Report we have provided for the full value of funding we have collected from customers – recognising that we have an obligation to either deliver projects to this value or compensate other companies which win competition funding. In the Annual Performance Report these provisions are excluded in line with direction from Ofwat. As of the year end no projects awarded through the competition process have yet commenced. The funding we have collected has been ring-fenced within our accounting records and will only be used to deliver innovation competition projects, it will not fund business as usual activities / spend. The total amount collected to date and included in the 1C.11 cash balance is £14.288 million.

Infrastructure network reinforcement charges

Total infrastructure charge revenue has exceeded expenditure £5.0 million in the year resulting in an increase to the overall variance carried forwards to £15.0 million. The Company reviews its infrastructure charge rates annually and revisions are made as necessary to align to our long-term projection of network reinforcement expenditure.

Separately disclosed regulatory information

We've chosen to publish the 2021/22 regulatory tables 4B, 4L, 4M, 6F, 7B and 7F as a separate document to this Annual Performance Report due to the size of the tables. These have been prepared in line with regulatory guidelines and follow the principles set out in this Annual Performance Report. You can view these tables on our website.

Consolidated results

In completing all tables – we have included all debt relevant to the regulated company. Figures therefore include both Thames Water Utilities Limited (TWUL) and its direct 100% owned financing subsidiary Thames Water Utilities Finance plc (TWUF).

The data tables that follow are copies of what we have submitted to Ofwat as part of our APR submission.

Section 1: Regulatory financial reporting

Table 1A: Income statement for the 12 months ended 31 March 2022

This table takes the information from the statutory income statement and shows the adjustments made in order to arrive at the regulatory income statement for the appointed business.

The adjustments include both differences between the International Financial Reporting Standards and the Regulatory Accounting Guidelines and the removal of non-appointed income and costs.

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Revenue	2,176.894	56.481	107.502	-51.021	2,125.873	1A.1
Operating costs	-1,843.405	-22.039	-20.020	-2.019	-1,845.424	1A.2
Other operating income	95.702	-85.478	3.404	-88.882	6.820	1A.3
Operating profit	429.191	-51.036	90.886	-141.922	287.269	1A.4
Other income	0.000	71.988	0.896	71.092	71.092	1A.5
Interest income	128.770	0.000	0.000	0.000	128.770	1A.6
Interest expense	-513.280	-110.647	0.000	-110.647	-623.927	1A.7
Other interest expense	0.000	-4.700	0.000	-4.700	-4.700	1A.8
Profit before tax and fair value movements	44.681	-94.395	91.782	-186.177	-141.496	1A.9
Fair value gains/(losses) on financial instruments[10]	-895.549	0.000	0.000	0.000	-895.549	1A.10
Profit before tax	-850.868	-94.395	91.782	-186.177	-1,037.045	1A.11
UK corporation tax	-10.814	0.000	-6.882	6.882	-3.932	1A.12
Deferred tax	-111.641	0.000	-0.076	0.076	-111.565	1A.13
Profit for the year	-973.323	-94.395	84.824	-179.219	-1,152.542	1A.14
Dividends	-37.100	0.000	-16.123	16.123	-20.977	1A.15
Tax analysis						
Current year	12.544	0.000	6.882	-6.882	5.662	1A.16
Adjustment in respect of prior years	-1.730	0.000	0.000	0.000	-1.730	1A.17
UK corporation tax	10.814	0.000	6.882	-6.882	3.932	1A.18
Analysis of non-appointed revenue						
Imported sludge			0.000			1A.19
Tankered waste			7.112			1A.20
Other non-appointed revenue			100.390			1A.21
Revenue			107.502			1A.22

[10] *The amount includes the fair value of £317.7 million accreted on index linked swaps during the year.*

Differences between statutory and RAG definitions

Adjustments are made to the statutory numbers to ensure compliance with the Ofwat guidance detailed in RAG 3.13 and 4.10.

The most significant include:

- Reclassification of current year bad debt from revenue to operating costs (£57.1 million);
- Borrowing costs capitalised within fixed assets in the statutory accounts are recognised as interest expense for regulatory purposes (£115.3 million). The associated depreciation of borrowing costs is recognised in operating costs (£7.9 million); and,
- Reclassification of certain costs and incomes to align with regulatory presentation requirements.

Full reconciliations of the differences between statutory and regulatory figures are provided on the following pages:

- Revenue – page 129
- Operating profit, other income, and profit before tax – page 134

Non-appointed activities include revenue of £84.9 million and operating costs of £0.6 million relating to Bazalgette Tunnel Limited ('BTL'). BTL is an independent company unrelated to Thames Water Utilities Limited and was appointed in 2015 to construct the Thames Tideway Tunnel.

The dividend presented in the non-appointed column is a notional dividend moving the non-appointed profit, excluding profit related to BTL, to the appointed business. This is not an equity dividend and therefore has not been included in the 'equity dividend' line in table 1D.

The arrangement with BTL means that the Company has included construction costs of the Thames Tideway Tunnel within its bills to wastewater customers during the year ended 31 March 2022. As cash is collected, these amounts are subsequently paid to BTL within a maximum of 50 business days under 'pay when paid' principle.

Accounting standards require the Group to present the amounts billed as revenue in our financial statements, and with an associated cost representing bad debt on amounts billed. This also gives rise to reporting profit which is taxable.

Non appointed activities also include our tankered waste and property searches businesses.

Interest analysis

1A.7	£m
Interest on external debt	-380.828
Interest on intra-group debt	-0.007
RPI accretion on debt	-229.601
Amortisation of debt issuance costs, premium and discounts	-7.422
Interest in relation to leases	-3.238
Other financing costs	-2.831
Per Reg 1A.7	-623.927

1A.8	
Net interest expense on defined benefit obligation	-4.700
Per Reg 1A.8	-4.700

Table 1B: Statement of comprehensive income for 12 months ended 31 March 2022

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Profit for the year	-973.323	-94.395	84.824	-179.219	-1,152.542	1B.1
Actuarial gains/(losses) on post-employment plans	-22.900	0.000	0.000	0.000	-22.900	1B.2
Other comprehensive income	69.391	0.000	0.000	0.000	69.391	1B.3
Total Comprehensive income for the year	-926.832	-94.395	84.824	-179.219	-1,106.051	1B.4

The statement of comprehensive income shows all of the changes to our statement of financial position reserves from the statutory accounts, adjusting for the differences between IFRS and the RAGs as well as excluding the results of the non-appointed business.

Table 1C: Statement of financial position for the 12 months ended 31 March 2022

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Non-current assets						
Fixed assets	17,045.605	-725.150	5.521	-730.671	16,314.934	1C.1
Intangible assets	284.825	-11.424	0.271	-11.695	273.130	1C.2
Investments - loans to group companies	1,693.422	0.000	0.000	0.000	1,693.422	1C.3
Investments - other	354.350	0.000	308.817	-308.817	45.533	1C.4
Financial instruments	169.239	-80.939	0.000	-80.939	88.300	1C.5
Retirement benefit assets	12.000	0.000	0.000	0.000	12.000	1C.6
Total non-current assets	19,559.441	-817.513	314.609	-1,132.122	18,427.319	1C.7
Current assets						
Inventories	12.974	0.000	0.000	0.000	12.974	1C.8
Trade & other receivables	658.095	0.000	23.572	-23.572	634.523	1C.9
Financial instruments	22.874	-18.543	0.000	-18.543	4.331	1C.10
Cash & cash equivalents	424.957	0.000	5.175	-5.175	419.782	1C.11
Total current assets	1,118.900	-18.543	28.747	-47.290	1,071.610	1C.12
Current liabilities						
Trade & other payables	-825.480	18.839	-63.946	82.785	-742.695	1C.13
Capex creditor	0.000	-174.294	0.000	-174.294	-174.294	1C.14
Borrowings	-755.415	73.472	0.000	73.472	-681.943	1C.15
Financial instruments	-102.966	102.846	0.000	102.846	-0.120	1C.16
Current tax liabilities	0.000	0.000	0.000	0.000	0.000	1C.17
Provisions	0.000	-5.507	0.000	-5.507	-5.507	1C.18
Total current liabilities	-1,683.861	15.356	-63.946	79.302	-1,604.559	1C.19
Net Current assets/(liabilities)	-564.961	-3.187	-35.199	32.012	-532.949	1C.20
Non-current liabilities						
Trade & other payables	-831.796	849.607	0.000	849.607	17.811	1C.21
Borrowings	-12,604.590	-498.230	0.000	-498.230	-13,102.820	1C.22
Financial instruments	-2,238.699	549.092	0.000	549.092	-1,689.607	1C.23
Retirement benefit obligations	-257.300	0.000	0.000	0.000	-257.300	1C.24
Provisions	-184.980	13.091	0.000	13.091	-171.889	1C.25
Deferred income – grants & contributions	0.000	-529.102	0.000	-529.102	-529.102	1C.26

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Deferred income - adopted assets	0.000	-290.479	0.000	-290.479	-290.479	1C.27
Preference share capital	0.000	0.000	0.000	0.000	0.000	1C.28
Deferred tax	-1,046.400	0.000	0.026	-0.026	-1,046.426	1C.29
Total non-current liabilities	-17,163.765	94.029	0.026	94.003	-17,069.762	1C.30
Net assets	1,830.715	-726.671	279.436	-1,006.107	824.608	1C.31
Equity						
Called up share capital	29.000	0.000	0.000	0.000	29.000	1C.32
Retained earnings & other reserves	1,801.715	-726.671	279.436	-1,006.107	795.608	1C.33
Total Equity	1,830.715	-726.671	279.436	-1,006.107	824.608	1C.34

Explanation of reconciling items:

Adjustments are made to the statutory numbers to ensure compliance with the Ofwat guidance detailed in RAG 3.13 and 4.10. The most significant include:

- Capitalised interest of £752.8 million for borrowing costs is removed from fixed assets, offset by a £27.6 million adjustment to write back depreciation on capitalised borrowing costs;
- Capital creditors of £174.3 million are disclosed separately;
- A reclassification is made from current borrowings of £159.1 million to trade and other payables in respect of accrued interest.
- A reclassification is made from financial instruments to non-current borrowings due to derivative financial liabilities (see below reconciliation); and,
- The non-appointed business shows retained earnings of £316.4 million relating to BTL.

Borrowings reconciliation

Appointed Activities (£m)	
Current liabilities	
Current borrowings included in statutory accounts	749.232
Difference between statutory and regulatory definitions:	
Lease Liability	6.183
Accretion moved to borrowings from financial instruments	84.149
Accrued interest taken to trade and other payables	-159.102
FX loss moved to borrowings from financial instruments	1.481
Current borrowings included in regulatory accounts (per Table 1C)	681.943
Non-current liabilities	
Non-current borrowings included in statutory accounts	12,547.524
Difference between statutory and regulatory definitions:	
Lease Liability	57.066
Accretion moved to borrowings from financial instruments	514.511
FX loss moved to borrowings from financial instruments	-16.281
Non-current borrowings included in regulatory accounts (per Table 1C)	13,102.720
Total borrowings included in statutory accounts	13,296.756
Total borrowings included in regulatory accounts (per Table 1C)	13,784.763
Add: Unamortised debt issuance costs, discount and IFRS 9 transition adjustment	55.885
Total borrowings included in regulatory accounts (Table1E)	13,840.648

Table 1D: Statement of cashflows for the 12 months ended 31 March 2022

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Operating activities						
Operating profit	429.191	-51.036	90.886	-141.922	287.269	1D.1
Other income	0.000	71.988	0.896	71.092	71.092	1D.2
Depreciation	685.000	-7.859	0.978	-8.837	676.163	1D.3
Amortisation – Grants & contributions	0.000	0.000	0.000	0.000	0.000	1D.4
Changes in working capital	44.636	-13.092	-90.206	77.114	121.750	1D.5
Pension contributions	-1.500	4.700	0.000	4.700	3.200	1D.6
Movement in provisions	41.300	0.000	0.000	0.000	41.300	1D.7
Profit on sale of fixed assets	-1.400	0.000	0.000	0.000	-1.400	1D.8
Cash generated from operations	1,197.227	4.701	2.554	2.147	1,199.374	1D.9
Net interest paid	-157.300	-120.047	0.000	-120.047	-277.347	1D.10
Tax paid	-4.200	0.000	0.000	0.000	-4.200	1D.11
Net cash generated from operating activities	1,035.727	-115.346	2.554	-117.900	917.827	1D.12
Investing activities						
Capital expenditure	-1,344.000	115.347	0.000	115.347	-1,228.653	1D.13
Grants & Contributions	0.000	0.000	0.000	0.000	0.000	1D.14
Disposal of fixed assets	1.295	0.000	0.000	0.000	1.295	1D.15
Other	0.000	0.000	0.000	0.000	0.000	1D.16
Net cash used in investing activities	-1,342.705	115.347	0.000	115.347	-1,227.358	1D.17
Net cash generated before financing activities	-306.978	0.001	2.554	-2.553	-309.531	1D.18
Cashflows from financing activities						
Equity dividends paid	-37.100	0.000	0.000	0.000	-37.100	1D.19
Net loans received	274.600	0.000	0.000	0.000	274.600	1D.20
Cash inflow from equity financing	0.000	0.000	0.000	0.000	0.000	1D.21

Line description Units: £m	Statutory	Adjustments			Total appointed activities	RAG 4 Ref
		Differences between statutory and RAG definitions	Non-appointed	Total adjustments		
Net cash generated from financing activities	237.500	0.000	0.000	0.000	237.500	1D.22
Increase (decrease) in net cash	-69.478	0.001	2.554	-2.553	-72.031	1D.23

Differences between statutory and RAG definitions

This table takes the information from the statement of cashflows from the statutory accounts and adjusts for the differences between IFRS and the RAGs as well as removing the cash flows of the non-appointed business to show the cash flows of our regulated business.

Explanation of reconciling items:

- The cash flow has been prepared to align with the regulatory reporting format. As a result, the net cash position by activity (operating, investing and financing) does not agree to what has been presented in the statutory statement of cash flows;
- The difference is primarily due to the classification of all interest related balances including amounts capitalised in the statutory statement of financial position to the 'Net interest paid' category and interest costs relating to pensions; and
- The movement in non-appointed working capital relates to cash paid over to BTL.

Table 1E: Net debt analysis (appointed activities) at 31 March 2022

Line description	Units	Fixed rate	Floating rate	Index linked		Total	RAG 4 Ref
				RPI	CPI/CPIH		
Borrowings (excluding preference shares)	£m	5,663.372	415.230	7,762.046	0.000	13,840.648	1E.1
Preference share capital	£m					0.000	1E.2
Total borrowings	£m					13,840.648	1E.3
Cash	£m					-8.247	1E.4
Short term deposits	£m					-411.535	1E.5
Net Debt	£m					13,420.866	1E.6
Gearing	%					80.649%	1E.7
Adjusted Gearing	%					80.600%	1E.8
Full year equivalent nominal interest cost	£m	207.686	16.975	821.627	0.000	1,046.288	1E.9
Full year equivalent cash interest payment	£m	207.686	16.975	87.330	0.000	311.991	1E.10
Indicative weighted average nominal interest rate	%	3.667%	4.088%	10.585%	0.000%	7.560%	1E.11
Indicative weighted average cash interest rate	%	3.667%	4.088%	1.125%	0.000%	2.254%	1E.12
Weighted average years to maturity	nr	8.546	1.587	16.460	0.000	12.885	1E.13

Notes for this table

- Instruments which change from fixed to floating during their life have been classified according to their interest rate characteristics as at 31 March 2022.
- Where a derivative has been used as a hedge, the maturity date of the underlying debt instruments has been used for compiling weighted average years to maturity.
- Adjusted gearing is the percentage of the Net debt (covenant basis) to the RCV. It is the measure used when assessing TWUL Group's gearing against the level stipulated in the whole business securitisation covenants.

Table 1F: Financial flows for the 12 months ended 31 March 2022 and for the price review to date (2017-18 financial year average CPIH)

The tables show the various components of actual returns achieved for the current financial year and the average for AMP 7 to date. The actual return has been benchmarked against the allowed return permitted under the regulatory regime.

All figures quoted are in 2017/18 real CPIH terms unless otherwise stated.

Due to rounding, numbers presented may not add up precisely to the totals provided.

		12 months ended 31 March 2022						Average 2020-25						RAG 4 Ref
Line description		Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	
Regulatory equity	£m	5,859.229	5,859.229	2,771.919				2,929.634	2,929.634	1,385.979				1F.1
Return on regulatory equity	%	3.86%	0.00%	3.86%	0.000	0.000	0.000	3.85%	0.00%	3.85%	0.000	0.000	0.000	1F.2
Impact of movement from notional gearing	%		3.86%	1.79%		0.000	49.626		3.85%	1.73%		0.000	48.038	1F.3
Gearing benefits sharing	%		0.26%	0.56%		15.472	15.472		-0.20%	-0.43%		-11.801	-11.801	1F.4
Variance in corporation tax	%		-0.07%	-0.14%		-3.932	-3.932		-0.12%	-0.26%		-7.148	-7.148	1F.5
Group relief	%		0.00%	0.00%		0.000	0.000		0.00%	0.00%		0.000	0.000	1F.6
Cost of debt	%		1.57%	4.47%		91.714	123.797		0.39%	1.08%		22.768	29.821	1F.7
Hedging instruments	%		1.32%	3.75%		77.089	104.056		1.67%	4.86%		98.033	134.673	1F.8
Return on regulatory equity including Financing adjustments	%	3.86%	6.94%	14.29%	0	180.343	289.019	3.85%	5.59%	10.83%	0.000	101.852	193.583	1F.9
Operational Performance														
Totex out / (under) performance	%		2.13%	4.50%		124.810	124.810		1.26%	2.66%		73.646	73.646	1F.10
ODI out / (under) performance	%		-0.65%	-1.38%		-38.154	-38.154		-0.60%	-1.26%		-35.012	-35.012	1F.11
C-Mex out / (under) performance	%		-0.28%	-0.60%		-16.659	-16.659		-0.14%	-0.30%		-8.329	-8.329	1F.12
D-Mex out / (under) performance	%		-0.03%	-0.07%		-1.861	-1.861		-0.02%	-0.03%		-0.93	-0.93	1F.13

		12 months ended 31 March 2022						Average 2020-25						RAG 4 Ref
Line description		Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	Notional returns and notional regulatory equity	Actual returns and notional regulatory equity	Actual returns and actual regulatory equity	
Retail out / (under) performance	%		-0.71%	-1.50%		-41.566	-41.566		-1.01%	-2.13%		-58.949	-58.949	1F.14
Other exceptional items	%		-0.67%	-1.42%		-39.353	-39.353		-0.30%	-0.63%		-17.555	-17.555	1F.15
Operational performance total	%		-0.22%	-0.46%		-12.783	-12.783		-0.80%	-1.70%		-47.129	-47.129	1F.16
RoRE (return on regulatory equity)	%	3.86%	6.72%	13.83%	0.000	167.56	276.236	3.85%	4.78%	9.13%	0.000	54.723	146.454	1F.17
RCV growth	%	7.42%	7.42%	7.42%	434.755	434.755	205.676	4.22%	4.22%	4.22%	123.631	123.631	58.488	1F.18
Voluntary sharing arrangements	%		0.00%	0.00%		0.000	0.000		0.00%	0.00%		0.000	0.000	1F.19
Total shareholder return	%	11.28%	14.14%	21.25%	434.755	602.315	481.912	8.07%	9.00%	13.35%	123.631	178.354	204.942	1F.20
Dividends														
Gross Dividend	%	1.79%	0.58%	1.23%	104.88	34.186	34.186	2.90%	1.12%	2.37%	84.959	32.806	32.806	1F.21
Interest Receivable on Intercompany loans	%		0.13%	0.27%		7.621	7.621		0.34%	0.73%		10.069	10.069	1F.22
Retained Value	%	9.49%	13.43%	19.74%	329.875	560.508	440.105	5.17%	7.54%	10.26%	38.671	135.479	162.067	1F.23
Cash impact of 2015-20 performance adjustments														
Totex out / under performance	%		-0.02%	-0.05%		-1.268	-1.268		-0.02%	-0.05%		-0.625	-0.625	1F.24
ODI out / under performance	%		-0.58%	-1.22%		-33.862	-33.862		-0.82%	-1.74%		-24.165	-24.165	1F.25
Total out / under performance	%		-0.60%	-1.27%		-35.130	-35.130		-0.85%	-1.79%		-24.790	-24.790	1F.26

Notes for table 1F

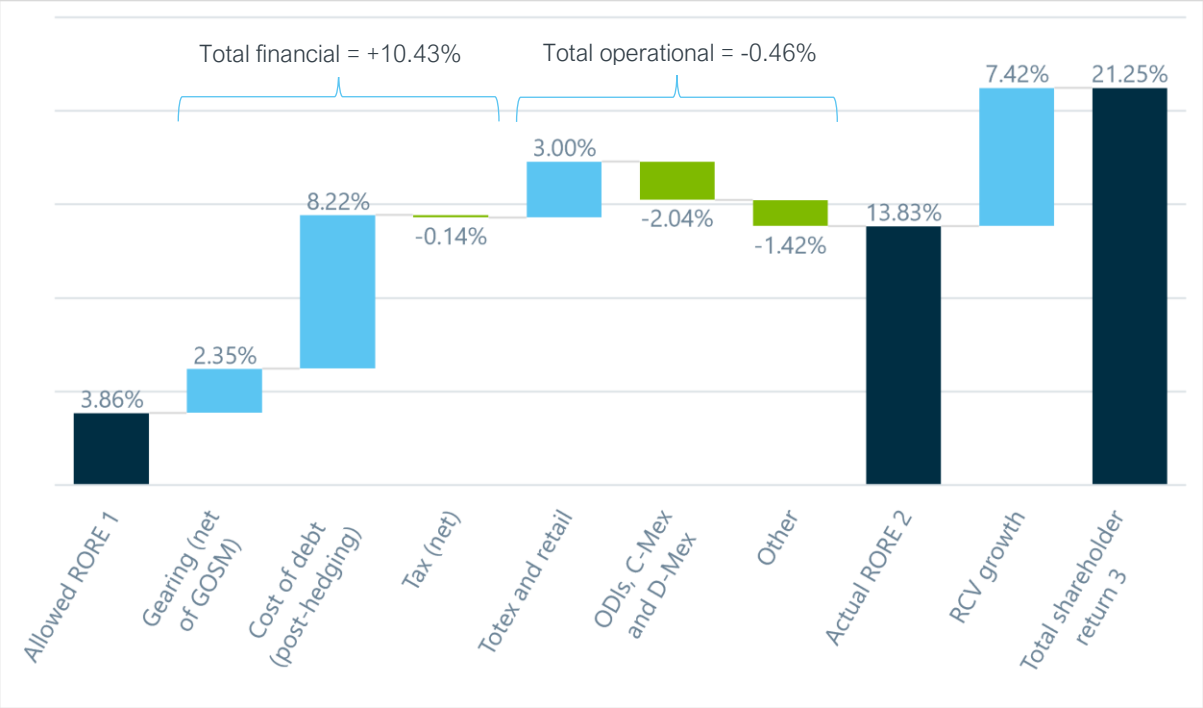
- 1F.5/1F.6: As per the Final Determination, the tax allowance for 2021/22 is nil, applicable to the appointed business of TWUL. The current tax charge for the year arises on the taxable profits of Thames Water Utilities Finance plc ("TWUF"), which are included in the financial results for the appointed business. TWUF will buy group relief for the current year, paid for at the standard tax rate of 19%, from Thames Water Utilities Holdings Ltd at a cost of £5.662 million. The appointed business within TWUL has a prior year credit of £1.730 million, resulting in a net current tax charge, including prior year adjustments, of £3.932 million.

- 1F.19: Thames Water does not have any voluntary sharing arrangements for AMP7.

- 1F.22: Relates to the interest income receivable by TWUL on the loans due from its immediate parent company, TWUHL. In 2021/22, no dividends were paid by TWUL to fund the interest payable by TWUHL. £3.6 million of the interest was paid to TWUL by TWUHL during 2021/22 using cash received by TWUHL on the settlement of group relief related outstanding balances from TWUL and TWUF. For further details see note 13 of our Annual Report and Sustainability Report.

Breakdown of 2021/22 actual return

Due to rounding, numbers presented may not add up precisely to the totals provided.



Notes to the diagram

1. Based on notional capital structure.
2. Based on actual capital structure.
3. The Company does not have any voluntary sharing arrangements for AMP7.

Our revenues are set according to a very detailed regulatory process which allows for the recovery of efficient costs plus a return for investors in the business.

The purpose of financial flows is to provide greater transparency about the financial returns to our shareholders. The financial flows information allows a comparison between the returns under our actual capital structure and the returns set by the regulator under a notional capital structure which is 60% geared.

The total actual return to external shareholders is generally comprised of the base return set in the Final Determination, outturn financial and operational performance compared to our allowances and targets, any retrospective adjustment set in the Final Determination to reflect actual performance over 2015 to 2020, growth in the RCV arising from inflation and any voluntary sharing arrangements.

Overall total shareholder returns amount to 21.25% for 2021/22. 19.74 percentage points were retained in the business, with 1.23 percentage points being distributed to cover debt financing costs elsewhere in the group and the remaining 0.27 percentage points relating to the interest income is due to TWUL from its immediate holding company, TWUHL.

Note that no dividends were paid out to TWUHL to fund this interest income to TWUL. Furthermore, for completeness, no dividends were paid by any group companies to our external shareholders.

The actual RORE to shareholders of 13.83% is based on our actual capital structure and can be calculated by taking the allowed RORE (based on notional capital structure) and adjusting for the above financial and operational performance which amount to 10.43% and -0.46% respectively.

A breakdown of these components is set out in further detail below:

- For 2021/22, the Final Determination has set our base return at 3.86% applicable to Ofwat's notional capital structure with a gearing of 60%;
- Our financing activities increased returns by 10.43% and can be attributed to the following elements:
  - Our cost of debt (adjusted for hedging instruments) was lower than the allowance set by the Final Determination, in real terms. This is mainly due to a large portion of our debt is fixed in nominal terms, which provides the benefit of lower interest expense in a high inflation environment than it otherwise could have been had the debt not been fixed. The impact of hedging instruments presented in Table 1F is consistent with financial derivatives set out in Table 4B which includes various inflation linked swaps and interest rate swaps. The cost of debt (unadjusted for hedging instruments) includes the impact of cross currency swaps;
  - Our average gearing of 80.99% during the financial year is higher than the 60% assumed by Ofwat for a notional company. The higher gearing amplifies the percentage return to external shareholder, because debt has a lower required return than equity on a notional basis. Another impact of higher gearing levels is that it increases the volatility of external shareholder returns, which become proportionately more sensitive to levels of out- or under-performance. We are responsible for financing our business as efficiently as possible. Our financing structure, the Whole of Business Securitisation, offers additional protections to debt investors enabling us to have higher levels of debt than would otherwise be the case without reducing our credit-worthiness. These investor protections place clear limits on permitted operational and financing activities undertaken by the Company and also protect customers' interests. All additional risk associated with having a higher level of debt remains with our external shareholders and is not transferred to customers. In AMP 7, Ofwat introduce a Gearing Outperformance Sharing Mechanism which has the effect of sharing the benefits of higher gearing with customers. This significantly reduces the returns arising from our actual capital structure. For FY22, our outturn cost of debt, calculated under Ofwat's methodology, exceeded the allowed cost of equity, in nominal terms. This was due to the higher rate of outturn inflation than forecast under the Final Determination. As a result, the GOSM produced a reward of £15.4 million. To date for AMP 7, the overall gearing impact net of the Gearing Outperformance Sharing Mechanism has increased returns by 1.31%; and
  - Taking the overall net tax performance, returns have decreased by 0.14% mainly due to our variance to the Final Determination allowance of nil for 2021/22. A tax charge has arisen due to the inclusion of profits from TWUF, the financing subsidiary which forms part of the accounts for the appointed business, net of a prior year credit in TWUL.
- Our operational performance decreased returns for the financial year by 0.46% which is due to various factors:
  - We out-performed our Wholesale TOTEX largely due to the timing of our expenditure under our two water resilience conditional allowance programmes and water resources

development spend. We expect these to materially ramp up over the remaining years of AMP 7 in-line with the timings agreed with Ofwat under our gateway reviews. After adjusting for customer sharing, this increased returns by 4.50%;

- Our retail cost to serve expenditure was lower than 2020/21 levels which reflects the delivery of efficiencies in the context of ongoing cost of living uncertainty. It remains above our allowance as we continue to invest in service improvement. As this additional spend is not shared with customers, this reduced returns by 1.50%. On a net basis after customer sharing, the impact of wholesale TOTEX and retail spend increased returns by 3.00%;
- Over the remainder of AMP7 we continue to plan to spend materially above the levels set under our Final Determination as we continue to strive to improve our customer service which would materially reduce actual RORE versus allowed RORE, all else being equal;
- Whilst the business performed well in some areas such as mains replacement, material ODI penalties of £38.2 million were incurred as we under-performed overall against the challenging targets set by the Final Determination, particularly in relation to sewer flooding, clearance of blockages and water supply interruptions. This reduced returns by 0.65%;
- Whilst we have seen ongoing improvements, we continue to lag the industry on customer measures, C-Mex and D-Mex. There was an overall penalty amount of £18.5 million which has reduced returns by 0.67%; and
- Other exceptional items relate to land sales, pollution fines and customer compensation claims. Refer to Table 2L for further details of land sales.

- Inflation, namely the average yearly growth in CPIH, increases RCV growth by 7.42%;
- We do not have any voluntary sharing arrangements for AMP 7; and
- The 2015-20 adjustment reflects the true-ups under the Final Determination for the total out-/under-performance in AMP 6 for TOTEX and ODIs, which are reflected in our allowed revenues for AMP 7. The reduction of 1.27% is predominantly driven by the leakage rebate levied as a result of our leakage under-performance in AMP 6.

Average return for AMP 7 (2020/21 to 2021/22)

Our average RORE for AMP 7 to date is 9.13% compared to the allowed RORE of 3.85%, with the uplift largely driven financing out-performance.

Accounting policies

Basis of preparation

Our disclosures in this Annual Performance Report have been prepared on a going concern basis and in accordance with the Regulatory Accounting Guidelines ("RAGs") issued by Ofwat, which are based on International Financial Reporting Standards ("IFRS") as adopted by the UK Endorsement Board, as applied in our Annual Report.

The following are key differences between Regulatory Accounting Guidelines and accounting policies reported in our Annual Report, these are explained further in the policy notes:

- Revenue recognition (IFRS 15) in relation to bad debts; and
- Capitalisation of borrowing costs (IAS 23).

Price control segments

Price controls relate to specific products and services which we provide to customers. The following price controls are applicable during the financial year:

- Water network plus: transport and storage of raw water, treatment and distribution of water to our customers through our water network;
- Wastewater network plus: our sewer network, treatment of sewage and treatment of sludge liquors;
- Water resources: abstracting raw water;
- Bioresources: the transport, treatment and disposal of sludge;
- Retail Household: provides certain customer-facing activities including billing and revenue collection for household customers;
- Retail Non-Household: On 1 April 2017, we transferred our non-household customers to Castle Water Limited, and ceased to act as non-household retailer, however we continue to recognise wholesale revenue from these customers via third-party non-household retailers. There are a small number of non-household activities which continue to be allocated to the retail non-household price control, these amounts relate to activities which are performed by developer services; and
- Thames Tideway Tunnel: responsible for the construction of interface works to the Thames Tideway Tunnel.

We allocate all costs either directly or indirectly in accordance with 'RAG2 – Guideline for classification of costs across the price controls'. The full details of how costs have been allocated is within our Accounting Methodology Statement which can be found on our website

There are no significant changes in our allocation methodology in the current period.

Financial information within our finance system (SAP) is recorded by expenditure type within specific cost centres. Where possible, operating costs are attributed at the lowest level within the cost centre hierarchy i.e., the relevant process level appropriate to the type of cost and price control. However, certain costs are recorded at a higher level in the cost centre hierarchy where they do not specifically relate to a process or if the cost is a support related cost.

We use a cloud-based business modelling and planning application (SAP Analytics Cloud) to produce the operating expenditure component of our regulatory tables. SAP remains the primary financial accounting and management tool used by the business and is the source of the data used in SAP Analytics Cloud.

Where possible, capital expenditure and associated depreciation are directly attributed to one of the price controls. Where this is not possible, as an asset is used by more than one of the price controls, the capital expenditure and depreciation are reported in the price control where the service of principal use occurs with a recharge for use, equivalent to depreciation, being made to the other price controls reflecting the proportion of the asset used by them.

Revenue recognition

Revenue represents income receivable from regulated water and wastewater activities. For regulatory reporting purposes, Ofwat requires a deviation from IFRS 15 whereby revenue for amounts billed and deemed uncollectable in the current year are recognised within operating costs in the Annual Performance Report (instead of a direct reduction to revenue as required by IFRS15).

The difference between the amount recorded as revenue in the statutory accounts and the amount recorded as revenue in the regulatory accounts was £56.481 million for the year ended 31 March 2022, as shown in the below table.

The differences between revenue reported in the Annual Report and the Annual Performance Report (Table 1A) can be summarised as follows:

	£m
Statutory Revenue	2,176.894
Bad debt reclassified to Opex	57.160
Reclassification of sludge cake sales to Opex	-0.762
Reclassification of Grants & Contributions to other income	-1.912
Reclassification of third-party revenue	1.995
Non appointed income	-107.502
Appointed revenue	2,125.873

Revenue includes an estimate of the amount of water and wastewater charges unbilled at the year end. This accrual is estimated using a defined methodology based on a measure of unbilled water consumed by tariff, calculated from historical billing information. There are no material changes to the methodology applied in the current period.

Occupied household properties policy

An occupier is any person who owns a premises or who has agreed with the Company to pay water and sewerage services in respect of the premises. No bills are raised in the name of "the occupier", other than in the circumstances outlined in the 'Unoccupied properties policy' section below. The property management process is followed to identify whether the property is occupied or not. The property management process consists of the following:

- Mailings;
- Customer contacts;
- Meter reading for metered properties;
- Land registry checks; and
- Credit reference agency data.

Unoccupied household properties policy

Revenue is not recognised in respect of unoccupied properties. Properties are classified as unoccupied when:

- A new property has been connected but is unoccupied and unfurnished;
- We have been informed that the customer has left the property;
- It is unfurnished and not expected to be reoccupied immediately;
- It has been disconnected following a customer request;
- The identity of the customer is unknown; and
- We have been informed that the customer is in a care home, in long term hospitalisation, in prison or overseas long-term.

The Company only raises bills in the name of the 'occupier' when it has evidence that a property is occupied but cannot confirm the name of the occupier. When the Company identifies the occupant, the bill is cancelled and re-billed in the customer's name. If the Company has not identified an occupant within six months the bill is cancelled, and the property is classified as empty.

When a property is classified as unoccupied, a defined process is followed to verify when the property becomes occupied and/or obtain the name of the customer in order to initiate billing. The residency confirmation process comprises a number of steps which include using external and internal information for desk-top research to confirm the property status (occupied/empty) and, where possible, to identify the occupier's name.

The property will only cease to be classified as unoccupied when a named customer is identified and billed.

The Company does not recognise income in respect of empty properties. If the Company has turned off the supply of water at the mains to a property at a customer's request, then water supply charges are not payable.

A customer may request the supply to be turned off in instances such as the property is to be demolished or where a house previously converted into flats (and additional supplies made) is to be converted back into a house.

If the occupier's name is not obtained at this point, the property will remain classified as unoccupied, and the residency confirmation process will be re-started after one to six months. If these steps confirm that a property appears to be empty, then the supply may be turned off.

The following activities are undertaken to check properties classified as unoccupied are in fact not occupied:

- Where the customer has left a property and it is expected to be occupied by someone else, a welcome letter is sent to the property explaining to the occupier how to register as the new account holder;
- Where there is no response to the welcome letter within two months a further letter is sent to the property explaining that the property has been classified as void and may be scheduled for disconnection as a result;
- Meter readings are taken for metered unoccupied properties and where consumption is recorded a letter is sent to the property; and
- Inspections are organised throughout the year to check for occupancy status.

New household properties

All new properties are metered. Charges accrue from the date at which the meter is installed. The developer is billed between the date of connection and first occupancy, and this is recognised as revenue. If the developer is no longer responsible for the property and no new occupier has been identified, the property management process referred to above is followed to identify the new occupier. Until the new occupier has been identified the property is treated as unoccupied and is not billed.

Household disconnections policy

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. However, the following provisions do apply in respect of any disconnections:

- 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 Unmeasured 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 found subsequently that the premises were occupied for any period when we were advised that the premises would be unoccupied, the appropriate Sewerage Unmeasured Tariff will then apply to that period and appropriate retrospective bills are raised, and revenue recognised at that point; and
- 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 the 'Occupied properties policy' 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).

Metered sales accrual reconciliation: Retrospective review of household measured income accrual

Appointed income for the year ended 31 March 2021 included a measured income accrual of £185.9 million. The value of billing subsequently recognised in the year ended 31 March 2022 for consumption in the prior year was £185.4 million. This has resulted in a decrease in the current year's revenue due to the over-estimation of the prior year's measured income accrual:

	£m
Base Accrual	181.404
Less billing estimate	-4.926
Additional accruals:	
New accounts	2.887
Covid-19 management judgement	6.557
Total metered accrual as at 31 March 2021	185.922
Subsequent unwind:	
Matched & Unwound	173.902
Additional subsequent billing, including property movements	11.523
	185.425
Net over-wind	0.497

Bad debt

The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables, contract assets and insurance claims receivable. The Group's assessment for calculating expected credit losses is explained below. In addition, management has considered the ongoing cost of living challenges, and has increased the provision to reflect the expected adverse impact on customers' ability to pay their water and wastewater bills, than otherwise would be the case.

During the year ended 31 March 2022, we have seen a decrease in our overall bad debt cost. The decrease is primarily due to benefits from our continuing debt transformation activities, and the reduced impact of Covid-19 on our current year cash collections. Our total bad debt charge equates to 3.0% (31 March 2021: 4.1%) of total gross revenue.

Directly billed

A bad debt model is used to calculate the provision for directly billed customers. This uses performance in the year to determine the level of provision required. The model takes the closing receivables balance and then deducts the amounts that are expected to be collected or cancelled based on performance in the year. The amount that remains will be uncollectable and therefore needs to be covered by a bad debt provision. Debt that is older than 5 years is fully provided for. There are also provisions to cover billing that is cancelled and not rebilled and also the collectability of any rebilling and a bad debt provision against unbilled debtors i.e., debts that have not been billed yet but are part of the metered sales accrual. Using the output of the model together with management's judgement of expected performance in the future, a management judgement is formed regarding the level of provision required for future credit losses

Directly Billed Write Off Policy

Our bad debt write off policy has remained unchanged and has been consistently applied in the current year. Debt is only written off after all available economic options for collecting the debt have been exhausted and the debt has been deemed to be uncollectable. This may be because the debt is impossible, impractical, inefficient or uneconomic to collect.

Situations where this may arise and where debt may be written off are as follows:

- Where the customer has absconded without paying and strategies to trace their whereabouts and collect outstanding monies have been fully exhausted;
- Where the customer has died without leaving an estate or has left an insufficient estate on which to levy execution;
- Where the value of the debt makes it uneconomic to pursue – all debts of less than £5 are written off;
- Where the age of the debt exceeds the statute of limitations – all debts of greater than 6 years old are written off, taking into account usual business rules;
- Where county court proceedings and attempts to recover the debt-by-debt collection agencies (multiple in some cases) have proved unsuccessful including where the customer does not have any assets/has insufficient assets on which to levy execution; and
- Where the customer has been declared bankrupt, is in liquidation or is subject to insolvency proceedings or a debt relief order and no dividend has been or is likely to be received.

For debt to be written off there must be a legitimate charge against the debtor and no reasonable expectation of recovery. Disclosure is made for information regarding financial assets that are written off but are still subject to enforcement activity.

WOCs

A provision is also made against debts held by Water Only Companies ("WOCs") who bill their customers for sewerage services on behalf of the Group. Since detailed information about the debt held on our behalf by the WOCs is limited, we use an average of two data points when calculating the provisions – WOC Statutory Accounts and TW directly billed ("DB") provision rates - taking a single data point is not appropriate as collection rates, write-off and provisioning policies, differ from company to company. Where provision rates have been provided by the WOCs this has been used as it accurately reflects the provision required to cover future write-offs. In addition, Management has considered the impact of cost of living increases and has created a provision to reflect the expected adverse impact on customers' ability to pay their water and wastewater bills, than otherwise would be the case.

BTL

The arrangement with BTL means the Group has included construction costs of the Thames Tideway Tunnel within its bills to wastewater customers. As cash is collected, these amounts are subsequently paid to BTL. This arrangement gives rise to the recognition of revenue within the Group and associated bad debt. The bad debt methodology is consistent with directly billed customers.

Non-Household

The Group has assessed the risk of credit losses for non-household customers to be low and therefore no bad debt provision has been made. The Group has assessed specific debts held in respect of non-household customers which are subject to query by those customers and made a revenue loss provision on those debts within accrued income based on historical collections experience.

Appointed profit before tax reconciliation

Operating profit:	£m
Statutory operating profit	429.191
Reclassification of grants and contributions to other income	-63.409
Reclassification of rental income to other income	-8.579
Capitalised borrowings depreciation	7.859
Derecognition of innovation fund provision	13.091
Non appointed	-90.876
Appointed operating profit	287.277
Other income:	
Statutory other income	
Reclassification of grants and contributions to other income	63.409
Reclassification of rental income to other income	8.579
Non appointed	-0.897
Appointed other income	71.091
Profit before tax:	
Statutory profit before tax	-850.869
Capitalised borrowings	-107.488
Derecognition of innovation fund provision	13.091
Non appointed	-91.773
Regulatory profit before tax	-1,037.039

Capitalisation

The regulatory accounts policy on Property, Plant and Equipment ("PP&E") follows the statutory accounting policies with the exception of borrowing costs. No changes have been made to this policy since the prior reporting period.

In the statutory accounts, borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the associated asset. All other borrowing costs are included as finance expenses within the income statement.

For regulatory reporting purposes borrowing costs may not be capitalised. The regulatory approach, which differs from IAS 23, results in an additional £115.3 million being recognised in interest expense and £7.9 million decrease in depreciation within the regulatory accounts for 2021/22.

Current tax reconciliation 2021/22

Line description Units: £m	Total	Non-appointed	Appointed
Profit / (loss) before tax and fair value movements	44.681	91.782	-47.101
Differences between statutory and regulatory definitions - mainly interest not shown as capitalised	-94.395	-	-94.395
Profit/(loss) on ordinary activities before taxation as shown for regulatory purposes	-49.714	91.782	-141.496
Tax at 19%	-9.446	17.439	-26.885
Charge / (Credit) effects of:			
Depreciation on assets that do not qualify for relief	4.451	-	4.451
Disallowable expenditure [11]	8.288	-	8.288
Non-taxable income [12]	-5.355	-	-5.355
Property disposals	0.043	-	0.043
Capital allowances less than/(in excess of) depreciation for year [13]	81.674	-0.083	81.757
Capitalised borrowing costs allowable for tax [14]	-21.916	-	-21.916
Losses / (profits) on financial derivatives [15]	110.835	-	110.835
Pension cost charge (lower than)/ in excess of pension contributions	0.608	-	0.608
Other short term timing differences	-4.418	-	-4.418
Differences between statutory and regulatory definitions - mainly capitalised interest	17.935	-	17.935
Differences between statutory and regulatory definitions - Fair value gains/(losses) on financial instruments	-170.155[16]	-	-170.155
Group relief not paid at standard rate[17]	-	-10.474	10.474
Charge(credit) in respect of group relief for the year	12.544	6.882	5.662
Adjustments in respect of prior periods – group relief	-1.730	-	-1.730
Total current tax charge/(credit) on profit/(loss) on ordinary activities	10.814	6.882	3.932
Current tax for current year	12.544		
Current tax for prior year	-1.730		
Total current tax	10.814		

[11] Disallowable expenditure primarily relates to fines included in operating expenses.

[12] Non-taxable income relates primarily to income from new service connections. This income is reflected in the accounts as non-taxable income under IFRS principles, while the cost of the new service connections fixed assets is not eligible for capital allowances.

[13] Capital allowances claimed in the current year are lower than depreciation because of a reduction in taxable profits caused by an increase in accounting losses for the year.

[14] Capitalised borrowing costs are eligible for a full tax deduction in the year.

[15] Accounting fair value profits and losses arising on our derivatives are predominantly non-taxable and non-deductible respectively, as instead they are usually taxed as the cash flows arise. Deferred tax is provided on all temporary differences.

[16] Fair value losses on financial instruments of £895.549 million are booked in the statutory accounts but are not included in "Profit/(loss) on ordinary activities before taxation as shown for regulatory purposes" above

[17] The appointed business is sharing tax losses worth £10.474m with the non-appointed business, for which no payment is made, as both are within the same company.

Tax charged in the income statement Units £m	Total £m	Non-appointed £m	Appointed £m
UK Corporation tax charge/(credit)	10.814	6.882	3.932
Deferred tax charge/(credit) including impact of tax rate change	111.641	0.076	111.565
Tax charge/(credit) on profit on ordinary activities	122.455	6.958	115.497

Reconciliation to total current tax charge allowed in price limits Units: £m			Appointed
Current tax charge allowed in price limits			0.000
Charge(credit) in respect of group relief for the year			5.662
Credit in respect of group relief for prior years			-1.730
Total current tax charge/ (credit) on profit on ordinary activities			3.932

Group relief of £10.814 million is required in the year to cover taxable profits in the Group, of which £3.932 million arises in the appointed business, which all relates to Thames Water Utilities Finance Plc ("TWUF"), and £6.882 million which arises in the non-appointed business in TWUL.

This group relief will be bought by each company from Thames Water Utilities Holdings Limited ("TWUH") at the standard rate of tax.

Section 2: Price review and other segmental reporting

Table 2A. Segmental income statement for the 12 months ended 31 March 2022

This table provides information of our appointed business split by the price control units defined by Ofwat.

Further information regarding performance by price control units can be found in table 2C (retail cost analysis), 4D/4E (wholesale totex) and our Accounting Methodology Statement on our website.

Line description Units: £m	Residential retail	Business retail	Water resources	Water Network+	Wastewater Network+	Bio-resources	TTT	Total	RAG 4 Ref
Revenue - price control	135.733	1.337	92.621	839.180	817.057	166.560	52.495	2,104.983	2A.1
Revenue - non price control	0.000	0.000	0.000	13.562	7.328	0.000	0.000	20.890	2A.2
Operating expenditure - excluding PU recharge impact	-166.796	-2.476	-66.929	-415.189	-442.870	-71.025	-3.977	-1,169.261	2A.3
PU opex recharge	-3.928	0.000	-0.750	-7.850	10.058	2.471	0.000	0.000	2A.4
Operating expenditure - including PU recharge impact	-170.724	-2.476	-67.679	-423.039	-432.812	-68.554	-3.977	-1,169.261	2A.5
Depreciation - tangible fixed assets	-4.288	0.000	-7.105	-323.652	-215.771	-70.198	-1.580	-622.594	2A.6
Amortisation - intangible fixed assets	-15.132	0.000	-0.349	-7.938	-26.091	-4.059	0.000	-53.569	2A.7
Other operating income	5.366	0.130	0.064	0.191	0.744	0.191	0.134	6.820	2A.8
Operating profit	-49.045	-1.009	17.552	98.304	150.455	23.940	47.072	287.269	2A.9
Surface water drainage rebates									
Surface water drainage rebates								2.266	2A.10

Table 2B. Totex analysis for the 12 months ended 31 March 2022 – wholesale

This table shows the breakdown of the wholesale totex expenditure from table 2A into the wholesale price control units and cost categories required to be reported on by Ofwat.

Line description Units: £m	Water resources	Water Network+	Wastewater Network+	Bio-resources	TTT	Total	RAG 4 Ref
Base operating expenditure							
Power	21.398	63.274	98.338	-10.313	0.000	172.697	2B.1
Income treated as negative expenditure	-0.173	-0.122	-0.029	-15.842	0.000	-16.166	2B.2
Service charges/ discharge consents	17.003	0.000	6.377	0.533	0.000	23.913	2B.3
Bulk Supply/Bulk discharge	4.075	0.000	3.252	0.000	0.000	7.327	2B.4
Renewals expensed in year (Infrastructure)	0.000	89.721	78.694	0.000	0.000	168.415	2B.5
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	2B.6
Other operating expenditure (including Location specific costs & obligations)	16.887	202.698	204.585	87.468	3.977	515.615	2B.7
Local authority and Cumulo rates	4.752	49.743	25.771	6.335	0.000	86.601	2B.8
Total base operating expenditure	63.942	405.314	416.988	68.181	3.977	958.402	2B.9
Other operating expenditure							
Enhancement operating expenditure	1.558	8.382	7.513	0.000	0.000	17.453	2B.10
Developer services operating expenditure	0.000	6.432	7.022	0.000	0.000	13.454	2B.11
Total operating expenditure excluding third party services	65.500	420.128	431.523	68.181	3.977	989.309	2B.12
Third party services	2.179	2.911	1.289	0.373	0.000	6.752	2B.13
Total operating expenditure	67.679	423.039	432.812	68.554	3.977	996.061	2B.14
Grants and contributions							
Grants and contributions - operating expenditure	0.000	2.860	4.898	0.000	0.000	7.758	2B.15
Capital expenditure							
Base capital expenditure	21.573	373.246	314.026	84.640	0.745	794.230	2B.16
Enhancement capital expenditure	20.157	116.180	89.791	12.655	32.159	270.942	2B.17
Developer services capital expenditure	0.000	63.091	16.870	0.000	0.000	79.961	2B.18
Total gross capital expenditure excluding third party services	41.730	552.517	420.687	97.295	32.905	1,145.134	2B.19
Third party services	0.000	5.658	5.989	0.000	0.000	11.647	2B.20
Total gross capital expenditure	41.730	558.175	426.676	97.295	32.905	1,156.781	2B.21

Line description Units: £m	Water resources	Water Network+	Wastewater Network+	Bio-resources	TTT	Total	RAG 4 Ref
Grants and contributions							
Grants and contributions - capital expenditure	0.000	40.303	23.206	0.000	0.000	63.509	2B.22
Net totex	109.409	938.051	831.384	165.849	36.882	2,081.575	2B.23
Cash expenditure							
Pension deficit recovery payments	0.000	0.000	0.000	0.000	0.000	0.000	2B.24
Other cash items	0.000	0.000	0.000	0.000	0.000	0.000	2B.25
Totex including cash items	109.409	938.051	831.384	165.849	36.882	2,081.575	2B.26

Table 2C. Cost analysis for the 12 months ended 31 March 2022 – retail

This table breaks down the retail operating costs included in table 2A into the cost categories required to be reported on by Ofwat.

Line description Units: £m	Residential	Business	Total	RAG 4 Ref
Operating expenditure				
Customer services	72.346	0.000	72.346	2C.1
Debt management	18.904	0.000	18.904	2C.2
Doubtful debts	65.970	0.000	65.970	2C.3
Meter reading	7.771	0.000	7.771	2C.4
Services to developers		2.442	2.442	2C.5
Other operating expenditure	1.474	0.001	1.475	2C.6
Local authority and Cumulo rates	0.331	0.033	0.364	2C.7
Total operating expenditure excluding third party services	166.796	2.476	169.272	2C.8
Depreciation				
Depreciation (tangible fixed assets) on assets existing at 31 March 2015	0.153	0.000	0.153	2C.9
Depreciation (tangible fixed assets) on assets acquired after 1 April 2015	4.135	0.000	4.135	2C.10
Amortisation (intangible fixed assets) on assets existing at 31 March 2015	0.000	0.000	0.000	2C.11
Amortisation (intangible fixed assets) on assets acquired after 1 April 2015	15.132	0.000	15.132	2C.12
Recharges				
Recharge from wholesale for legacy assets principally used by wholesale (assets existing at 31 March 2015)	0.000	0.000	0.000	2C.13
Income from wholesale for legacy assets principally used by retail (assets existing at 31 March 2015)	0.000	0.000	0.000	2C.14
Recharge from wholesale assets acquired after 1 April 2015 principally used by wholesale	3.928	0.000	3.928	2C.15
Income from wholesale assets acquired after 1 April 2015 principally used by retail	0.000	0.000	0.000	2C.16
Net recharges costs	3.928	0.000	3.928	2C.17
Total retail costs excluding third party and pension deficit repair costs	190.144	2.476	192.620	2C.18
Third party services operating expenditure	0.000	0.000	0.000	2C.19

Line description Units: £m	Residential	Business	Total	RAG 4 Ref
Pension deficit repair costs	0.000	0.000	0.000	2C.20
Total retail costs including third party and pension deficit repair costs	190.144	2.476	192.620	2C.21
Debt written off				
Debt written off	73.916	2.018	75.934	2C.22
Capital expenditure				
Capital expenditure	20.828	0.000	20.828	2C.23
Other operating expenditure includes the net retail expenditure for the following household retail activities which are part funded by wholesale				
Demand-side water efficiency - gross expenditure	3.868			2C.24
Demand-side water efficiency - expenditure funded by wholesale	3.868			2C.25
Demand-side water efficiency - net retail expenditure	0.000			2C.26
Customer-side leak repairs - gross expenditure	6.925			2C.27
Customer-side leak repairs - expenditure funded by wholesale	6.925			2C.28
Customer-side leak repairs - net retail expenditure	0.000			2C.29
Comparison of actual and allowed expenditure				
Cumulative actual retail expenditure to reporting year end	403.203			2C.30
Cumulative allowed expenditure to reporting year end	297.015			2C.31
Total allowed expenditure 2020-25	759.827			2C.32

Total operating costs for Retail household are £190.1 million in 2021/22. This is £37.1 million higher than the allowed residential expenditure adjusted for property numbers although £24.0 million lower than 2020/21.

Expenditure levels reflect the impact of Covid-19 and investment in customer services and debt collections activities but also demonstrate improvement from prior year with stabilisation and enhanced operational grip across customer services and strong collections performance.

Household customer figures in region have increased from 5.587 million in 2020/21 to 5.616 million in the current year. We saw an increase in our proportion of metered customers as a result of the installation of 21,006 new smart optant meters and 94,454 new smart selective meters.

The non-household price control includes developer services for the provision of information and administration for new connections as well as general support activities. TW transferred ownership of its Retail non household customers to Castle Water on market opening (1 April 2017).

Table 2D. Historic cost analysis of tangible fixed assets at 31 March 2022

This table shows the changes in the fixed assets across our price control units. Our accounting policies with relation to fixed assets and depreciation are set out in full in our Annual Report.

Line description Units: £m	Residential Retail	Business Retail	Water resources	Water Network+	Wastewater Network+	Bio-resources	TTT	Total	RAG 4 ref
Cost									
At 1 April 2021	121.429	0.091	343.481	10,656.108	8,744.987	1,642.744	1,227.527	22,736.367	2D.1
Disposals	0.742	0.000	-0.940	-153.315	-10.545	-5.357	0.000	-169.415	2D.2
Additions	-0.016	0.000	41.280	544.512	387.604	89.067	32.905	1,095.352	2D.3
Adjustments	-10.776	-0.091	-14.357	100.973	-89.772	-10.523	0.000	-24.546	2D.4
Assets adopted at nil cost	0.000	0.000	0.000	16.552	52.401	0.000	0.000	68.953	2D.5
At 31 March 2022	111.379	0.000	369.464	11,164.830	9,084.675	1,715.931	1,260.432	23,706.711	2D.6
Depreciation									
At 1 April 2021	-94.674	0.055	-75.462	-3,337.202	-2,712.668	-728.817	-10.084	-6,958.962	2D.7
Disposals	-0.742	0.000	0.320	150.339	9.938	9.047	0.000	168.902	2D.8
Adjustments	16.402	0.055	-0.661	16.902	-12.862	1.041	0.000	20.877	2D.9
Charge for year	-4.288	0.000	-7.105	-323.652	-215.771	-70.198	-1.580	-622.594	2D.10
At 31 March 2022	-83.302	0.000	-82.908	-3,493.613	-2,931.363	-788.927	-11.664	-7,391.777	2D.11
Net book amount at 31 March 2022	28.077	0.000	286.556	7,671.217	6,153.312	927.004	1,248.768	16,314.934	2D.12
Net book amount at 1 April 2021	26.755	0.036	268.019	7,318.906	6,032.319	913.927	1,217.443	15,777.405	2D.13
Depreciation charge for year									
Principal services	-4.288	0.000	-7.105	-323.355	-215.381	-70.198	-1.580	-621.907	2D.14
Third party services	0.000	0.000	0.000	-0.297	-0.390	0.000	0.000	-0.687	2D.15
Total	-4.288	0.000	-7.105	-323.652	-215.771	-70.198	-1.580	-622.594	2D.16

The net book value includes £2,428.1 million in respect of assets in the course of construction.

Note: The opening cost balance for the TTT price control is £27.679 million in excess of the closing cost reported in the 2020/21 APR. This is due to an addition that was not included within 2D within the prior year APR. The capital expenditure was correctly disclosed within the published 1C, 2B, 4C and other underlying totex tables, and as such there is no impact on cost sharing or financial flow analysis.

Table 2E. Analysis of 'grants and contributions' for the 12 months ended 31 March 2022 – water resources, water network+ and wastewater network+

This table shows information on capital contributions made by organisations and the related cost of assets constructed.

Line description Units: £m	Fully recognised in income statement	Capitalised and amortised (in income statement)	Fully netted off capex	Total	RAG 4 Ref
Grants and contributions - water resources					
Diversions - s185	0.000	0.000	0.000	0.000	2E.1
Other contributions (price control)	0.000	0.000	0.000	0.000	2E.2
Price control grants and contributions	0.000	0.000	0.000	0.000	2E.3
Diversions - NRSWA	0.000	0.000	0.000	0.000	2E.4
Diversions - other non-price control	0.000	0.000	0.000	0.000	2E.5
Other contributions (non-price control)	0.000	0.000	0.000	0.000	2E.6
Total grants and contributions	0.000	0.000	0.000	0.000	2E.7
Value of adopted assets	0.000	0.000		0.000	2E.8
Grants and contributions - water network+					
Connection charges	18.555	0.000	0.000	18.555	2E.9
Infrastructure charge receipts – new connections	0.000	9.281	0.000	9.281	2E.10
Requisitioned mains	5.056	0.000	0.000	5.056	2E.11
Diversions - s185	3.239	0.000	0.000	3.239	2E.12
Other contributions (price control)	0.000	0.000	0.000	0.000	2E.13
Price control grants and contributions before deduction of income offset	26.850	9.281	0.000	36.131	2E.14
Income offset	0.000	6.549	0.000	6.549	2E.15
Price control grants and contributions after deduction of income offset	26.850	2.732	0.000	29.582	2E.16
Diversions - NRSWA	0.982	0.000	0.000	0.982	2E.17
Diversions - other non-price control	6.196	0.000	0.000	6.196	2E.18
Other contributions (non-price control)	6.012	0.391	0.000	6.403	2E.19
Total grants and contributions	40.040	3.123	0.000	43.163	2E.20
Value of adopted assets	0.000	16.398		16.398	2E.21
Grants and contributions - wastewater network+					
Receipts for on-site work	0.735	0.000	0.000	0.735	2E.22
Infrastructure charge receipts – new connections	0.000	14.585	0.000	14.585	2E.23
Diversions - s185	0.385	0.000	0.000	0.385	2E.24

Line description Units: £m	Fully recognised in income statement	Capitalised and amortised (in income statement)	Fully netted off capex	Total	RAG 4 Ref
Other contributions (price control)	2.094	0.000	0.000	2.094	2E.25
Price control grants and contributions before deduction of income offset	3.214	14.585	0.000	17.799	2E.26
Income offset	0.000	0.920	0.000	0.920	2E.27
Price control grants and contributions after deduction of income offset	3.214	13.665	0.000	16.879	2E.28
Diversions - NRSWA	0.615	0.000	0.000	0.615	2E.29
Diversions - other non-price control	3.516	0.000	0.000	3.516	2E.30
Other Contributions (non-price control)	6.748	0.347	0.000	7.095	2E.31
Total grants and contributions	14.093	14.012	0.000	28.105	2E.32
Value of adopted assets	0.000	52.171		52.171	2E.33
Movements in capitalised grants and contributions					
b/f	0.000	204.741	318.02	522.761	2E.34
Capitalised in year	0.000	3.123	14.012	17.135	2E.35
Amortisation (in income statement)	0.000	-3.025	-2.306	-5.331	2E.36
c/f	0.000	204.839	329.726	534.565	2E.37

Table 2F. Residential retail for the 12 months ended 31 March 2022

This table shows an analysis of household retail revenues and customer numbers by customer type.

Line description	Revenue £m	Number of customers 000s	Average residential revenues £	RAG 4 Ref
Residential revenue				
Wholesale revenue	1,624.952			2F.1
Retail revenue	135.733			2F.2
Total residential revenue	1,760.685			2F.3
Retail revenue				
Revenue Recovered ('RR')	135.733			2F.4
Revenue sacrifice	0.000			2F.5
Actual revenue (net)	135.733			2F.6
Customer information				
Actual customers ('AC')		5,648.682		2F.7
Reforecast customers		5,616.461		2F.8
Adjustment				
Allowed revenue ('R)	143.244			2F.9
Net adjustment	7.511			2F.10
Other residential information				
Average household retail revenue per customer			24.029	2F.11

Table 2G. Non-household water - revenues by tariff type

This table is only applicable for Welsh companies and therefore have not been included within this report.

Table 2H. Non-household wastewater - revenues by tariff type

This table is only applicable for Welsh companies and therefore have not been included within this report.

Table 2I. Revenue analysis for the 12 months ended 31 March 2022

This table shows an analysis of revenue across our price control units split by revenue streams.

Line description Units: £m	Household	Non-household	Total	Water resources	Water network+	Total	RAG 4 Ref
Wholesale charge – water							
Unmeasured	399.230	7.254	406.484	40.404	366.079	406.483	2I.1
Measured	354.863	170.388	525.251	52.210	473.041	525.251	2I.2
Third party revenue	0.000	0.066	0.066	0.007	0.060	0.067	2I.3
Total wholesale water revenue	754.093	177.708	931.801	92.621	839.180	931.801	2I.4
Wholesale charge – wastewater							
Unmeasured - foul charges	297.228	6.641	303.869	252.413	51.455	303.868	2I.5
Unmeasured - surface water charges	55.839	1.235	57.074	47.409	9.665	57.074	2I.6
Unmeasured - highway drainage charges	34.875	0.736	35.611	29.581	6.030	35.611	2I.7
Measured - foul charges	321.929	121.186	443.115	368.081	75.035	443.116	2I.8
Measured - surface water charges	71.726	15.045	86.771	72.078	14.693	86.771	2I.9
Measured - highway drainage charges	45.095	10.965	56.060	46.567	9.493	56.060	2I.10
Third party revenue	0.000	1.117	1.117	0.928	0.189	1.117	2I.11
Total wholesale wastewater revenue	826.692	156.925	983.617	817.057	166.560	983.617	2I.12
Wholesale charge – TTT							
Unmeasured	20.726	0.460	21.186				2I.13
Measured	23.441	7.868	31.309				2I.14
Total wholesale TTT revenue	44.167	8.328	52.495				2I.15
Wholesale Total	1,624.952	342.961	1,967.913				2I.16
Retail revenue							
Unmeasured	47.732	1.337	49.069				2I.17
Measured	88.001	0.000	88.001				2I.18
Retail third party revenue	0.000	0.000	0.000				2I.19
Total retail revenue	135.733	1.337	137.070				2I.20
Third party revenue - non-price control							
Bulk supplies water			4.641				2I.21
Bulk supplies wastewater			2.785				2I.22
Other third-party revenue - non price control			12.934				2I.23
Principal services - non-price control							
Other appointed revenue			0.529				2I.24
Total appointed revenue			2,125.873				2I.25

Table 2J: Infrastructure network reinforcement costs for the 12 months ended 31 March 2022

This table presents the infrastructure reinforcement costs, as included in totex in tables 4D and 4E by type of system or facility.

Line description Units: £m	Network reinforcement capex	On site / site specific capex	RAG 4 Ref
Wholesale water network+ (treated water distribution)			
Distribution and trunk mains	9.734	0.000	2J.1
Pumping and storage facilities	0.866	0.000	2J.2
Other	0.000	0.000	2J.3
Total	10.600	0.000	2J.4
Wholesale wastewater network+ (sewage collection)			
Foul and combined systems	7.206	0.000	2J.5
Surface water only systems	0.000	0.000	2J.6
Pumping and storage facilities	1.754	0.000	2J.7
Other	0.000	0.000	2J.8
Total	8.960	0.000	2J.9

Table 2K. Infrastructure charges reconciliation for the 12 months ended 31 March 2022

This table compares the revenue and costs of infrastructure charges for new connections.

Line description Units: £m	Water	Wastewater	Total	RAG 4 Ref
Infrastructure charges	9.281	14.585	23.866	2K.1
Discounts applied to infrastructure charges	0.000	0.000	0.000	2K.2
Gross Infrastructure charges	9.281	14.585	23.866	2K.3
Variance brought forward	-1.556	11.479	9.923	2K.4
Revenue	9.281	14.585	23.866	2K.5
Costs	-10.600	-8.960	-19.560	2K.6
Variance carried forward	-2.875	17.104	14.229	2K.7

Disclosed as infrastructure charges within the above table are contributions from other sources that are considered to be their equivalent, though are disclosed on separate lines in Table 2E. This includes £0.7 million non-domestic Network Charges.

Table 2L. Analysis of land sales for the 12 months ended 31 March 2022

This table shows information on income received through the sale of land

Line description Units: £m	Water resources	Water Network+	Wastewater Network+	TTT	Total	RAG 4 Ref
Land sales – proceeds from disposals of protected land	0.000	0.479	0.730	0.000	1.209	2L.1

Table 2M. Revenue reconciliation for the 12 months ended 31 March 2022 – wholesale

This table shows the retail price control difference between the actual revenue recovered and the revenue assumed at the final determination.

Line description Units: £m	Water resources	Water network+	Wastewater network+	Bio-resources	TTT	Total	RAG 4 Ref
Revenue recognised							
Wholesale revenue governed by price control	92.621	839.180	817.057	166.560	52.495	1,967.913	2M.1
Grants & contributions (price control)	0.000	29.582	16.879	0.000	0.000	46.461	2M.2
Total revenue governed by wholesale price control	92.621	868.762	833.936	166.560	52.495	2,014.374	2M.3
Calculation of the revenue cap							
Allowed wholesale revenue before adjustments (or modified by CMA)	95.169	858.485	836.696	170.492	53.595	2,014.437	2M.4
Allowed grants & contributions before adjustments (or modified by CMA)	0.000	41.208	19.769	0.000	0.000	60.977	2M.5
Revenue adjustment	0.000	0.000	0.000	0.000	0.000	0.000	2M.6
Other adjustments	0.000	0.000	0.000	0.000	0.000	0.000	2M.7
Revenue cap	95.169	899.693	856.465	170.492	53.595	2,075.414	2M.8
Calculation of the revenue imbalance							
Revenue cap	95.169	899.693	856.465	170.492	53.595	2,075.414	2M.9
Revenue Recovered	92.621	868.762	833.936	166.560	52.495	2,014.374	2M.10
Revenue imbalance	2.548	30.931	22.529	3.932	1.100	61.040	2M.11

Wholesale revenue for 2021/22 of £2,014.2 million is £61.2 million (3.0%) lower than the amount allowed in Ofwat's PR19 Final Determination (FD).

Wholesale water revenue is £33.5 million (3.4%) and wholesale wastewater revenue (including the Company's delivered element of the Thames Tideway Tunnel) is £27.8 million (2.6%) lower than the FD. The causes of the lower revenue in both cases are:

- Lower core tariff revenue, as a result of metered consumption being lower than originally anticipated and fewer properties de-registered from the non-household market being re-registered as household customers; and
- Lower than forecast capital contributions from connection and infrastructure charge revenue due to the ongoing impact of the Covid-19 pandemic.

The unrecovered revenue in 2021/22 attributable to variances in our customer base between outturn and the forecasts used when tariffs were set will be recovered from customers during the 2023/24 charging year under Ofwat's Revenue Forecasting Incentive ("RFI") mechanism.

Table 2N. Residential retail – social tariffs

This table shows the social tariffs and other forms of assistance we provide to improve affordability and accessibility for vulnerable customers.

Line description	Revenue £m	Number of customers 000s	Average amount per customer £	RAG 4 Ref
Number of residential customers on social tariffs				
Residential water only social tariffs customers		0.230		2N.1
Residential wastewater only social tariffs customers		70.677		2N.2
Residential dual service social tariffs customers		167.975		2N.3
Number of residential customers not on social tariffs				
Residential water only no social tariffs customers		50.213		2N.4
Residential wastewater only no social tariffs customers		1,940.415		2N.5
Residential dual service no social tariffs customers		3,419.173		2N.6
Social tariff discount				
Average discount per water only social tariffs customer			178.261	2N.7
Average discount per wastewater only social tariffs customer			96.566	2N.8
Average discount per dual service social tariffs customer			240.292	2N.9
Social tariff cross-subsidy - residential customers				
Total customer funded cross-subsidies for water only social tariffs customers	0.041			2N.10
Total customer funded cross-subsidies for wastewater only social tariffs customers	6.825			2N.11
Total customer funded cross-subsidies for dual service social tariffs customers	40.363			2N.12
Average customer funded cross-subsidy per water only social tariffs customer			0.813	2N.13
Average customer funded cross-subsidy per wastewater only social tariffs customer			3.394	2N.14
Average customer funded cross-subsidy per dual service social tariffs customer			11.252	2N.15
Social tariff cross-subsidy – company				
Total revenue forgone by company to fund cross-subsidies for water only social tariffs customers	0.000			2N.16
Total revenue forgone by company to fund cross-subsidies for wastewater only social tariffs customers	0.000			2N.17

Line description	Revenue £m	Number of customers 000s	Average amount per customer £	RAG 4 Ref
Total revenue forgone by company to fund cross-subsidies for dual service social tariffs customers	0.000			2N.18
Average revenue forgone by company to fund cross-subsidy per water only social tariffs customer			0.000	2N.19
Average revenue forgone by company to fund cross-subsidy per wastewater only social tariffs customer			0.000	2N.20
Average revenue forgone by company to fund cross-subsidy per dual service social tariffs customer			0.000	2N.21
Social tariff support - willingness to pay				
Level of support for social tariff customers reflected in business plan			8.038	2N.22
Maximum contribution to social tariffs supported by customer engagement			11.789	2N.23

Use of social tariffs (RAG 3, 4.47)

We support our low-income households with the WaterHelp social tariff. If customers qualify, we offer a 50% discount on their whole bill. Further information is available on our website

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Table 2O. Historic cost analysis of intangible fixed assets

This table shows the value of fixed assets across our price control units.

Line description Units: £m	Residential Retail	Business Retail	Water Resources	Water Network+	Wastewater Network+	Bio-resources	TTT	Total	RAG 4 Ref
Cost									
At 1 April 2021	135.475	0.000	1.714	43.904	243.780	9.915	0.000	434.788	2O.1
Disposals	-4.076	0.000	-0.001	-1.776	-0.171	-6.440	0.000	-12.464	2O.2
Additions	20.843	0.000	0.487	6.642	33.083	8.228	0.000	69.283	2O.3
Adjustments	15.045	0.000	-0.097	5.704	-13.127	-5.302	0.000	2.223	2O.4
Assets adopted at nil cost	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2O.5
At 31 March 2022	167.287	0.000	2.103	54.474	263.565	6.401	0.000	493.830	2O.6
Amortisation									
At 1 April 2021	-29.778	0.000	-1.323	-24.673	-102.015	-13.739	0.000	-171.528	2O.7
Disposals	0.683	0.000	0.000	1.226	0.011	2.505	0.000	4.425	2O.8
Adjustments	-0.780	0.000	0.084	1.490	0.039	-0.861	0.000	-0.028	2O.9
Charge for year	-15.132	0.000	-0.349	-7.938	-26.091	-4.059	0.000	-53.569	2O.10
At 31 March 2022	-45.007	0.000	-1.588	-29.895	-128.056	-16.154	0.000	-220.700	2O.11
Net book amount at 31 March 2022	122.280	0.000	0.515	24.579	135.509	-9.753	0.000	273.130	2O.12
Net book amount at 1 April 2021	105.697	0.000	0.391	19.231	141.765	-3.824	0.000	263.260	2O.13
Amortisation for year									
Principal services	-15.132	0.000	-0.349	-7.938	-26.091	-4.059	0.000	-53.569	2O.14
Third party services	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2O.15
Total	-15.132	0.000	-0.349	-7.938	-26.091	-4.059	0.000	-53.569	2O.16

The net book value includes £39.5 million in respect of assets in the course of development.

Independent Auditors' Report to the Water Services Regulation Authority (the WSRA) and the Directors of Thames Water Utilities Limited

Opinion

We have audited the tables within Thames Water Utilities Limited's Annual Performance Report for the year ended 31 March 2022 (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), the financial flows (table 1F) and the related notes; and
- the regulatory price review and other segmental reporting tables comprising the segmental income statement (table 2A), the totex analysis (table 2B), the cost analysis for retail (table 2C), the historic cost analysis of tangible fixed assets (table 2D), the analysis of grants and contributions (table 2E), the residential retail (table 2F), the non-household water revenues by tariff type (table 2G), the non-household wastewater revenues by tariff type (table 2H), the revenue analysis (table 2I), the infrastructure network reinforcement costs (table 2J), the infrastructure charges reconciliation (table 2K), the analysis of land sales (table 2L), the revenue reconciliation for wholesale (table 2M), the residential retail social tariffs (table 2N), the historical cost analysis of intangible fixed assets (table 2O) and the related notes.

We have not audited the Outcome performance tables (3A to 3I) and the additional regulatory information in tables 4A to 4U, 5A to 5B, 6A to 6F, 7A to 7F, 8A to 8D, 9A,10A to 10E and 11A.

In our opinion, Thames Water Utilities Limited's Regulatory Accounting Statements have been prepared, in all material respects, in accordance with Condition F, the Regulatory Accounting Guidelines issued by the WSRA (RAG 1.09, RAG 2.09, RAG 3.13, RAG 4.10 and RAG 5.07) and the accounting policies (including the Company's published accounting methodology statement(s), as defined in RAG 3.13, appendix 2), set out on pages 128 to 136.

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, as defined in RAG 3.13, appendix 2) set out in the statement of accounting policies and under the historical cost convention. The nature, form and content of the Regulatory Accounting Statements are determined by the WSRA. As a result, the Regulatory Accounting Statements may not be suitable for another purpose. It is not appropriate for us to assess whether the nature of the information being reported upon is suitable or appropriate for the WSRA's purposes. Accordingly, we make no such assessment. In addition, we are not required to assess whether the methods of cost allocation set out in the accounting methodology statement are appropriate to the circumstances of the Company or whether they meet the requirements of the WSRA.

The Regulatory Accounting Statements are separate from the statutory financial statements of the Company and have not been prepared under the basis of United Kingdom adopted international accounting standards ("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 113 to 155 have been drawn up in accordance with Regulatory Accounting Guidelines with a number of departures from UK 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:

- Testing the mathematical integrity of the cash flow forecasts and the models supporting the forecasts used by management to support their going concern assumption and reconciling these to Board approved budgets.
- Understanding the key assumptions management have applied in developing their base case and downside scenarios where it was assessed there was sufficient headroom to the event of default threshold. These can be split as those that are more judgemental in nature and those that are less judgemental. For those less judgemental assumptions such as revenue growth, we verified this to published tariffs for FY23 in compliance with Ofwat's policies. For those more judgemental assumptions such as power costs which is a largely non-discretionary cost subject to volatility, we understood the basis on which management had made these assumptions. We challenged various aspects of management's base case and downside scenarios, including how management have created their plausible but severe downside case as a combination of various individual scenarios. We concluded that the base case was reasonable and the downside case appropriately plausible but severe.

- Performing a comparison of budget versus actual for the year ended 31 March 2022 and understanding where variances had arisen. Through this testing we obtained reasonable assurance over management's ability to forecast accurately. The most significant operating cashflow variances noted were in relation to power costs incurred driven by the global volatility in power costs in the year ended 31 March 2022.
- Developing our own scenario based on taking the FY22 operating cashflow and adjusting for those positive cashflow movements we considered to be less judgemental. We then considered the level of additional spend that would need to be incurred in excess of the FY22 actuals for a breach to occur on the PMICR covenant assuming no mitigating actions from management. From this assessment we concluded that it was unlikely that expenditure could be at a level to lead to a covenant breach.
- Verifying liquidity forecasts to the Board approved budget and testing that contractual debt principal and interest payments had been appropriately included within the forecasts. We considered the headroom of expected cash outflows in the going concern period against available liquidity, identifying a reasonable level of expenditure to allow for unexpected spend.
- Obtaining and understanding the terms of the Group's financing and credit facilities, the Whole Business Securitisation, and in particular the financial covenants that the Group must adhere to. We have verified the existence of the facilities in place on which management has based its liquidity forecast for a period of in excess of 12 months from the date of the approval of the 31 March 2022 financial statements (the going concern period).
- Obtaining covenant compliance certificates, confirming that all the key covenants that impact the continued access to finance have been considered over the relevant time periods and verifying the mathematical accuracy, and testing inputs back to either the year-end financial numbers or for forecasted information to the Board approved budget.
- Obtaining the latest credit ratings for the TWUL group and verifying that the group maintained an investment grade rating and therefore taking reasonable assurance that the Group should still be able to access capital markets as required.
- Assessing the disclosure given in the financial statements in respect of going concern and whether it gives a fair and balanced view.

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 105, the directors are responsible for the preparation of the Annual Performance Report in accordance with Condition F, the Regulatory Accounting Guidelines issued by the WSRA and the Company's accounting policies (including the Company's published accounting methodology statement, as defined in RAG 3.13, 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 and internal audit 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, Listing rules, 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:

- Discussions and inquiries of management, internal audit function and legal counsel, including consideration of known or suspected instances of non-compliance with laws and regulation and fraud;
- Evaluation of management's controls designed to prevent and detect irregularities;
- Challenging assumptions made by management in determining significant accounting estimates and judgments. We have tested significant accounting estimates and judgements to supporting documentation, considering alternative information where available along with considering the appropriateness of the related disclosures in the financial statements;
- Identifying and testing a sample of journal entries throughout the whole year, which met our pre-determined fraud risk criteria;
- Reviewing minutes of meetings of those charged with governance and reviewing internal audit reports.
- Performing unpredictable procedures by sampling non-standard payments, the set up of new suppliers, vendor detail changes and posting of journal entries from unexpected users.

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 2022 on which we reported on 05 July 2022 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.

PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
Reading
05 July 2022

Section 3: Performance summary

Table 3A. Outcome performance – Water performance commitments (Financial)[18]

Line description	Ref	Unit	Performance level actual	PCL met?	Out/under performance payment £m	Forecast of total 2020-25 out/under performance payment £m	RAG 4 Ref
Water quality compliance	BW06a	nr	2.59	No	-1.262	-7.080	3A.1
Water supply interruptions	BW03	hh:mm:ss	00:11:03	No	-6.956	-41.181	3A.2
Leakage	BW04	%	10.2	Yes	0.000	2.364	3A.3
Per capita consumption	BW05	%	-1	No	0.000	-6.125	3A.4
Mains repairs	BW01	nr	223.3	Yes	8.714	6.893	3A.5
Unplanned outage	BW02	%	2.24	Yes	0.000	0.000	3A.6
Properties at risk of receiving low pressure	BW07	nr	5	Yes	0.000	-0.105	3A.7
Acceptability of water to consumers	BW08	nr	0.49	Yes	0.000	0.000	3A.8
Water quality events	BW09	nr	6	Yes	0.000	-0.036	3A.9
Reducing risk of lead	BW10	nr	25,869	Yes	0.429	2.112	3A.10
Security of supply index	DW02	score	100	Yes	0.000	0.000	3A.11
Power resilience	DWS01	nr	4	No	0.000	-10.195	3A.12
SEMD - Securing our sites (2020-25 projects)	DWS02	%	28.6	Yes	0.000	-3.115	3A.13
SEMD - Securing our sites (legacy projects)	DWS03	%	39.4	Yes	0.000	0.000	3A.14
Unregistered Household Properties	ER01	text	Process not completed	No	-0.211	-0.633	3A.15
Empty household properties	ER02	%	3.42	Yes	0.617	1.234	3A.16
Abstraction Incentive Mechanism (AIM)	EW01	nr	-32.2	Yes	0.000	0.000	3A.17
Empty business properties	EWS08	nr	4,362	Yes	0.497	1.869	3A.18
Installing new smart meters in London	M01	nr	164,078	Yes	0.000	0.000	3A.19
Replacing existing meters with smart meters in London	M02	nr	60,461	Yes	0.000	0.000	3A.20
Financial water PCs achieved		%		75			3A.27
Overall PCs achieved (excluding C-MEX and D-MEX)		%		63			3A.28

[18] Please note that BW06a – Water quality compliance (CRI), BW08 – Acceptability of water to consumers and BW09 – Water quality events all cover the period with the year ending on 31 December 2021. All other metrics in this table are for the period with the year ending on 31 March 2022.

Table 3B. Outcome performance – Wastewater performance commitments (Financial)[19]

Line description	Ref	Unit	Performance level actual	PCL met?	Out/under performance payment £m	Forecast of total 2020-25 out/under performance payment £m	RAG 4 Ref
Internal sewer flooding	CS03	nr	3.46	No	-28.831	-50.286	3B.1
Pollution incidents	ES01	nr	24.87	No	-1.433	-4.197	3B.2
Sewer collapses	CS02	nr	3.78	Yes	0.166	0.196	3B.3
Treatment works compliance	CS01	%	98.96	No	-0.123	-0.123	3B.4
Clearance of blockages	CS04	nr	74,569	No	-6.41	-22.437	3B.5
Sewage pumping station availability	CS05	%	97.7	Yes	0.000	0.000	3B.6
Surface water management	DS02	nr	0.11	No	0.000	-2.559	3B.7
Environmental measures delivered	ES02	nr	433	No	-0.667	-2.822	3B.8
Sludge treated before disposal	ES03	%	99.2	Yes	0.000	0.000	3B.9
Readiness to receive tunnel flow at Beckton STW	ET01	nr	N/A	-	0.000	0.000	3B.10
Critical asset readiness for the London Tideway Tunnels	ET04	text	N/A	-	0.000	0.000	3B.11
Enhancing biodiversity	EWS01	nr	302	No	0.000	0.000	3B.12
Smarter Water Catchment Initiatives	EWS02	nr	3	Yes	0.000	0.000	3B.13
Renewable energy produced	EWS03	GWh	510	Yes	0.725	5.884	3B.14
Managing early handback of Tideway project land	ET07	mths	0	Yes	0.000	5.120	3B.15
Financial wastewater performance commitments achieved		%		42			3B.19

[19] Please note that ES01 – Pollution incidents and CS01 – Treatment works compliance cover the period with the year ending on 31 December 2021. All other metrics in this table are for the period with the year ending on 31 March 2022.

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

Item	Unit	Value	RAG 4 Ref
Annual customer satisfaction score for the customer service survey	nr	61.00	3C.1
Annual customer satisfaction score for the customer experience survey	nr	76.72	3C.2
Annual C-MeX score (AR01)	nr	68.86	3C.3
Annual net promoter score	nr	-3.50	3C.4
Total household complaints	nr	105,155	3C.5
Total connected household properties	nr	5,879,253	3C.6
Total household complaints per 10,000 connections	nr	178.858	3C.7
Confirmation of communication channels offered	TRUE/ FALSE	TRUE	3C.8

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

Item	Unit	Value	RAG 4 Ref
Qualitative component annual results	nr	68.95	3D.1
Quantitative component annual results	nr	90.32	3D.2
D-MeX score (AWS01)	nr	79.64	3D.3
Developer services revenue (water)	£m	36.131	3D.4
Developer services revenue (wastewater)	£m	17.799	3D.5

Calculating the D-MeX quantitative component

Water UK performance metric	Unit	Reporting period (1 April to 31 March)	Quantitative score (annual)	RAG 4 Ref
W1.1	%	99.65%		3D.W1
W3.1	%	97.08%		3D.W2
W4.1	%	88.56%		3D.W3
W6.1	%	92.99%		3D.W4
W7.1	%	87.50%		3D.W5
W8.1	%	88.95%		3D.W6
W17.1	%	94.29%		3D.W7
W17.2	%	90.91%		3D.W8
W18.1	%	95.65%		3D.W9
W20.1	%			3D.W10
W21.1	%			3D.W11
W23.1	%			3D.W12
W24.1	%			3D.W13
W26.1	%	59.46%		3D.W14
W27.1	%	47.06%		3D.W15
W30.1	%	100.00%		3D.W16
S1.1	%	100.00%		3D.W17
S3.1	%	100.00%		3D.W18
S4.1	%	100.00%		3D.W19
S7.1	%			3D.W20
SN2.2	%	95.65%		3D.W21
SN4.1	%			3D.W22
WN1.1	%	94.92%		3D.W23
WN2.2	%	94.55%		3D.W24
WN4.1	%	100.00%		3D.W25
WN4.2	%	85.71%		3D.W26
WN4.3	%	100.00%		3D.W27
SAM 3/1	%	100.00%		3D.W28
SAM 4/1	%	96.15%		3D.W29
SLPM – S1/2	%	87.30%		3D.W30
SLPM - S2/2a	%	94.55%		3D.W31
SLPM - S2/2b	%	84.62%		3D.W32
SLPM – S3	%	91.57%		3D.W33
SLPM – S4/1	%	82.05%		3D.W34
SLPM – S5/1a	%	100.00%		3D.W35
SLPM – S7/1	%	60.43%		3D.W36
D-MeX quantitative score (for the reporting period)	%	90.32%		3D.7
D-MeX quantitative score (annual)	nr		0.90	3D.8

Table 3E. Outcome performance – non-financial performance commitments

Line description	Ref	Unit	Performance level actual	PCL met?	RAG 4 Ref
Risk of severe restrictions in a drought	DW01	%	88.5	No	3E.1
Priority services for customers in vulnerable circumstances - PSR reach	AR06	%	5.0	Yes	3E.2
Priority services for customers in vulnerable circumstances - Attempted contacts	AR06	%	93.4	Yes	3E.3
Priority services for customers in vulnerable circumstances - Actual contacts	AR06	%	45.4	Yes	3E.4
Risk of sewer flooding in a storm	DS01	%	10.25	Yes	3E.5
Percentage of satisfied vulnerable customers	AR05	%	85	No	3E.6
Proactive customer engagement	AWS02	nr	101,210	No	3E.7
Responding to major trunk mains bursts	BW11	hh:mm:ss	00:03:44	No	3E.8
Households on the Thames Water social tariff	ER03	nr	267,033	Yes	3E.9
Effective stakeholder engagement	ET02	score	4.9	No	3E.10
Establish an effective system operator for the London Tideway Tunnels	ET05	%	48	Yes	3E.11
Maximising the value of Tideway project land sales	ET06	£m	0	Yes	3E.12
Natural Capital Accounting	EWS04	%	100	Yes	3E.13
BSI for fair, flexible inclusive services	AR07	text	Maintained	Yes	3E.14
WINEP Delivery	NEP01	text	Not met	No	3E.15
Delivery of DWMPs	DWMP	%	0	Yes	3E.16
Understanding the risk of flooding in the Counters Creek catchment	CC	text	N/A	-	3E.17
Non-financial performance commitments achieved		%		63	3E.29

Table 3F. Underlying calculations for common performance commitments – water and retail

Performance commitments set in standardised units - Water						
Line description	Unit	Standardising data indicator	Standardising data numerical value	Performance level Actual	Performance level - Calculated (i.e. standardised)	RAG4 Ref
Mains repairs - Reactive	per 1,000km	Mains length in km	31,830.79	2,970	93.31	3F.1
Mains repairs - Proactive	per 1,000km	Mains length in km	31,830.79	4,139	130.03	3F.2
Mains repairs	per 1,000km	Mains length in km	31,830.79	7,109	223.34	3F.3
Per capita consumption (PCC)	l/p/d	Total household population (000s) and consumption (Ml/d)	10,280.54	1,488	144.71	3F.4

Performance commitments measured against a calculated baseline							
Line description	Unit	Performance level actual (2017-18)	Performance level actual (2018-19)	Performance level actual (2019-20)	Baseline (average from 2017-18 to 2019-20)	Performance level actual (2020-21)	Performance level - actual (2021-22)
Leakage	Ml/d	699.4	694.0	629.8	674.4	593.2	593.8
Per capita consumption	lpd	145.8	147.1	144.9	146.0	152.8	144.7

Line description	Unit	Performance level actual (2022-23)	Performance level actual (2023-24)	Performance level - actual (2024-25)	Performance level 3 year average (current and previous 2 years)	Calculated performance level to compare against PCLs	RAG4 Ref
Leakage	Ml/d				605.6	10.2	3F.5
Per capita consumption	lpd				147.5	-1.0	3F.6

Water supply interruptions							
Line description	Unit	Standardising data indicator	Standardising data numerical value	Total minutes lost	Number of properties supply interrupted	Calculated performance level	RAG4 ref
Water supply interruptions	minutes	Number of properties (000s)	3,997.01	44,164,225	91,027	00:11:03	3F.7

Unplanned or planned outage				
Line description	Current company level peak week production capacity (PWPC) Ml/d	Reduction in company level PWPC Ml/d	Outage proportion of PWPC %	RAG4 Ref
Unplanned outage	3,443.80	77.23	2.24%	3F.8

Priority services for customers in vulnerable circumstances				
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
Priority services for customers in vulnerable circumstances	5,647.00	284,379	5.0%	52,367

Line description	Number of attempted contacts over a 2-year period	Attempted contacts %	Number of actual contacts over a 2-year period	Actual contacts %	RAG4 ref
Priority services for customers in vulnerable circumstances	48,927	93.4%	23,794	45.4%	3F.9

Table 3G. Underlying calculations for common performance commitments – wastewater

Performance commitments set in standardised units							
Line description	Ref	Unit	Standardising data indicator	Standardising data numerical value	Performance level actual current reporting year	Calculated performance level	RAG 4 Ref
Internal sewer flooding - customer proactively reported	CS03	Per 10,000 sewer connections	Number of sewer connections	6,085.77	1,972	3.24	3G.1
Internal sewer flooding - company reactively identified (i.e. neighbouring properties)	CS03	Per 10,000 sewer connections	Number of sewer connections	6,085.77	131	0.22	3G.2
Internal sewer flooding	CS03	Per 10,000 sewer connections	Number of sewer connections	6,085.77	2,103	3.46	3G.3
Pollution incidents	ES01	Per 10,000km of sewer length	Sewer length in km	108,980.00	271	24.87	3G.4
Sewer collapses	CS02	Per 1,000km of all sewers	Sewer length in km	109,291.76	413	3.78	3G.5

Table 3H. Summary information on outcome delivery incentives

Line description Units: £m (2017-18 prices)	Initial calculation of performance payments (excluding CMEX and DMEX)	RAG 4 Ref
Initial calculation of in period revenue adjustment by price control		
Water resources	-0.10	3H.1
Water network plus	1.18	3H.2
Wastewater network plus	-36.89	3H.3
Bioresources (sludge)	0.65	3H.4
Residential retail	0.41	3H.5
Business retail	0.00	3H.6
Dummy control	0.00	3H.7
Initial calculation of end of period revenue adjustment by price control		
Water resources	0.00	3H.8
Water network plus	-3.41	3H.9
Wastewater network plus	0.00	3H.10
Bioresources (sludge)	0.00	3H.11
Residential retail	0.00	3H.12
Business retail	0.00	3H.13
Dummy control	0.00	3H.14
Initial calculation of end of period RCV adjustment by price control		
Water resources	0.00	3H.15
Water network plus	0.00	3H.16
Wastewater network plus	0.00	3H.17
Bioresources (sludge)	0.00	3H.18
Residential retail	0.00	3H.19
Business retail	0.00	3H.20
Dummy control	0.00	3H.21

Table 3I. Supplementary outcomes information

Unplanned or planned outage				
Line description	Current company level peak week production capacity (PWPC) Ml/d	Reduction in company level PWPC Ml/d	Outage proportion of PWPC %	RAG 4 Ref
Planned outage	3,443.80	174.31	5.06%	3I.1

Risk of severe restrictions in drought							
Line description	Deployable output	Outage allowance	Dry year demand	Target headroom	Total population supplied	Customers at risk	RAG 4 Ref
Risk of severe restrictions in drought	2,966.50	115.30	2,694.81	108.94	10,384.38	9,194.92	3I.2

Risk of sewer flooding in a storm					
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
Risk of sewer flooding in a storm	15,018,284.00	24,303.00	0.16%	936,720.00	6.24%

	Total pe Option 1b	Percentage of total pe Option 1b	Vulnerability risk grade			RAG 4 Ref
			Low	Medium	High	
			Percentage of total population served			
Risk of sewer flooding in a storm	603,269.00	4.02%	89.75%	0.00%	10.25%	3I.3

Sewer collapses		
Line description	Number of patch repairs or relining undertaken on sewer and not included in reported sewer collapses.	RAG 4 Ref
Sewer collapses	2,302	3I.4

Independent Limited Assurance Report to the Directors of Thames Water Utilities Limited on the Performance Commitments agreed within Ofwat's PR19 Final Determination

The Board of Directors of Thames Water Utilities Limited ('Thames Water') engaged us to obtain limited assurance on the Subject Matter Information as defined below and set out in Tables 3A to 3E in 'section 3 – Performance summary' of the 2021/22 Regulatory Accounts included on pages 159 to 163 in Thames Water's Annual Performance Report 2021-22 (the "Report"). Our assurance conclusion does not extend to information in respect of prior reporting periods or to any other information included in, or linked from, the Report including any images, audio files or videos.

Our limited assurance conclusion

Based on the procedures we have performed, as described under the 'Summary of work performed as the basis for our assurance conclusion' and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Subject Matter Information as defined below and set out in Tables 3A to 3E in 'section 3 – Performance summary' of the 2021/22 Regulatory Accounts included on pages 159 to 163 in the Report has not been prepared, in all material respects, in accordance with the Reporting Criteria.

Subject Matter Information and Reporting Criteria

The Subject Matter Information needs to be read and understood together with the Reporting Criteria, which Thames Water is solely responsible for selecting and applying. The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time. The Thames Water Reporting Criteria 2021-22 (version 2.0) used for the reporting of the Subject Matter Information is as at 31 March 2022 (the "Reporting Criteria").

The scope of our work was limited to assurance over the following information in Tables 3A to 3E in 'section 3 – Performance summary' of the 2021/22 Regulatory Accounts included on pages 159 to 163 in the Report (the "Subject Matter Information"):

- Table 3A (Outcome performance – Water performance commitments (Financial)) – data stated for each metric presented in the table in the column titled – "performance level actual"
- Table 3B (Outcome performance – Wastewater performance commitments (Financial) – data stated for each metric presented in the table in the column titled – "performance level actual"
- Table 3C (Customer measure of experience (C-Mex) table) – data stated for the Annual C-MeX score (AR01/3C.3) metric in the table in the column titled – "Value"
- Table 3D (Developer services measure of experience (D-Mex) table) – data stated for the D-MeX score (AWS01/3D.3) metric in the table in the column titled – "Value"
- Table 3E (Outcome performance – non-financial performance commitments) - data stated for each metric presented in the table in the column titled – "performance level actual"

The Subject Matter Information is presented in Appendix 1 and the Reporting Criteria[20] against which it was assessed is available online at https://www.thameswater.co.uk/about-us/investors/our-results

Inherent limitations

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, evaluation and measurement techniques that can affect comparability between entities and over time.

[20] The maintenance and integrity of Thames Water's website is the responsibility of the Directors; the work carried out by us does not involve consideration of these matters and, accordingly, we accept no responsibility for any changes that may have occurred to the reported Subject Matter Information or Reporting Criteria when presented on Thames Water's website.

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the underlying subject matter and the methods used for determining such information. The precision of different measurement techniques may also vary.

Responsibilities of Thames Water's directors

The Board Assurance Statement on pages 88 and 89 of the Report sets out the Directors responsibilities relating to Thames Water's reporting of performance against targets agreed with their regulator, Ofwat, and any related regulatory reporting and disclosures (which include but is not limited to the Subject Matter Information). For the avoidance of doubt, their responsibilities include:

- determining appropriate reporting topics and selecting or establishing suitable criteria for measuring or evaluating the underlying subject matter;
- ensuring that those criteria are relevant and appropriate to Thames Water and the intended users of the Report;
- the preparation of the Subject Matter Information in accordance with the Reporting Criteria including designing, implementing and maintaining systems, processes and internal controls over information relevant to the evaluation or measurement of the Subject Matter Information, which is free from material misstatement, whether due to fraud or error, against the Reporting Criteria; and
- producing the Report, including underlying information and a statement of Directors' responsibility, which provides accurate, balanced reflection of Thames Water's performance in this area and discloses, with supporting rationale, matters relevant to the intended users of the Report.

Our responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the Subject Matter Information is free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the Directors of Thames Water.

Professional standards applied

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) 'Assurance Engagements other than Audits or Reviews of Historical Financial Information', issued by the International Auditing and Assurance Standards Board.

Our independence and quality control

We have complied with the Institute of Chartered Accountants in England and Wales Code of Ethics, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour, that are at least as demanding as the applicable provisions of the International Ethics Standards Board for Accountants International Code of Ethics for Professional Accountants (including International Independence Standards).

We apply International Standard on Quality Control (UK) 1 and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Summary of work performed as the basis for our assurance conclusion

In carrying out our limited assurance engagement we:

- considered the suitability in the circumstances of Thames Water's use of the Reporting Criteria, as the basis for preparing the Subject Matter Information;
- considered the Subject Matter Information and the Reporting Criteria in the context of Ofwat's Final Determination;
- checked the calculation of the performance level arising against the Reporting Criteria;
- through limited testing on a selective basis, verified the underlying data or supporting information used to calculate the performance level stated within the Subject Matter Information;
- made enquiries of relevant company management, personnel and third parties;
- considered significant estimates and judgements made by management in the preparation of the selected information; and
- considered the disclosure and presentation of the Subject Matter Information.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Other information

The other information comprises all of the information in the Report other than the Subject Matter Information and our assurance report. The directors are responsible for the other information. As explained above, our assurance conclusion does not extend to the other information and, accordingly, we do not express any form of assurance thereon. In connection with our assurance of the Subject Matter Information, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Subject Matter Information or our knowledge obtained during the assurance engagement, or otherwise appears to contain a material misstatement of fact. If we identify an apparent material inconsistency or material misstatement of fact, we are required to perform procedures to conclude whether there is a material misstatement of the Subject Matter Information or a material misstatement of the other information, and to take appropriate actions in the circumstances.

Use and distribution of our report

This report, including our conclusion, has been prepared solely for the Board of Directors of Thames Water in accordance with the agreement between us dated 21 January 2022 (the "agreement"). Our report must not be made available to any other party save as set out in the agreement. To the fullest extent permitted by law, we do not accept or assume responsibility or liability to anyone other than the Board of Directors and Thames Water for our work or this report except where terms are expressly agreed between us in writing.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Chartered Accountants
Reading

05 July 2022

Appendix 1: Subject Matter Information subject to our limited assurance procedures (as presented in 'section 3 – Performance summary' of the 2021/22 Regulatory Accounts included on pages 159 to 163 of the Report).

3A. Outcome performance – Water performance commitments (Financial)

Line description	Ref	Unit	Performance level actual	PCL met?	Out/under performance payment £m	Forecast of total 2020-25 out/under performance payment £m	RAG 4 Ref
Water quality compliance	BW06a	nr	2.59	No	-1.262		3A.1
Water supply interruptions	BW03	hh:mm:ss	00:11:03	No	-6.956		3A.2
Leakage	BW04	%	10.2	Yes	0		3A.3
Per capita consumption	BW05	%	-1	No	0		3A.4
Mains repairs	BW01	nr	223.3	Yes	8.714		3A.5
Unplanned outage	BW02	%	2.24	Yes	0		3A.6
Properties at risk of receiving low pressure	BW07	nr	5	Yes	0		3A.7
Acceptability of water to consumers	BW08	nr	0.49	Yes	0		3A.8
Water quality events	BW09	nr	6	Yes	0		3A.9
Reducing risk of lead	BW10	nr	25,869	Yes	0.429		3A.10
Security of supply index	DW02	score	100	Yes	0		3A.11
Power resilience	DWS01	nr	4	No	0		3A.12
SEMD - Securing our sites (2020-25 projects)	DWS02	%	28.6	Yes	0		3A.13
SEMD - Securing our sites (legacy projects)	DWS03	%	39.4	Yes	0		3A.14
Unregistered Household Properties	ER01	text	Process not completed	No	-0.211		3A.15
Empty household properties	ER02	%	3.42	Yes	0.617		3A.16
Abstraction Incentive Mechanism (AIM)	EW01	nr	-32.2	Yes	0		3A.17
Empty business properties	EWS08	nr	4,362	Yes	0.497		3A.18
Installing new smart meters in London	M01	nr	164,078	Yes	0		3A.19
Replacing existing meters with smart meters in London	M02	nr	60,461	Yes	0		3A.20

- *Please note that BW06a – Water quality compliance (CRI), BW08 – Acceptability of water to consumers and BW09 – Water quality events all cover the period with the year ending on 31 December 2021. All other metrics in this table are for the period with the year ending on 31 March 2022.*

3B. Outcome performance – Wastewater performance commitments (Financial)

Line description	Ref	Unit	Performance level actual	PCL met?	Out/under performance payment £m	Forecast of total 2020-25 out/under performance payment £m	RAG 4 Ref
Internal sewer flooding	CS03	nr	3.46	No	-28.831		3B.1
Pollution incidents	ES01	nr	24.87	No	-1.433		3B.2
Sewer collapses	CS02	nr	3.78	Yes	0.166		3B.3
Treatment works compliance	CS01	%	98.96	No	-0.123		3B.4
Clearance of blockages	CS04	nr	74,569	No	-6.41		3B.5
Sewage pumping station availability	CS05	%	97.7	Yes	0		3B.6
Surface water management	DS02	nr	0.11	No	0		3B.7
Environmental measures delivered	ES02	nr	433	No	-0.667		3B.8
Sludge treated before disposal	ES03	%	99.2	Yes	0		3B.9
Readiness to receive tunnel flow at Beckton STW	ET01	nr	N/A	-	0		3B.10
Critical asset readiness for the London Tideway Tunnels	ET04	text	N/A	-	0		3B.11
Enhancing biodiversity	EWS01	nr	302	No	0		3B.12
Smarter Water Catchment Initiatives	EWS02	nr	3	Yes	0		3B.13
Renewable energy produced	EWS03	GWh	510	Yes	0.725		3B.14
Managing early handback of Tideway project land	ET07	months	0	Yes	0		3B.15

- *Please note that ES01 – Pollution incidents and CS01 – Treatment works compliance cover the period with the year ending on 31 December 2021. All other metrics in this table are for the period with the year ending on 31 March 2022.*

3C. Customer measure of experience (C-Mex) table

Item	Unit	Value	RAG 4 Ref
Annual customer satisfaction score for the customer service survey	Number	61.00	3C.1
Annual customer satisfaction score for the customer experience survey	Number	76.72	3C.2
Annual C-MeX score (AR01)	***Number***	***68.86***	***3C.3***
Annual net promoter score	Number	(3.50)	3C.4
Total household complaints	Number	105,155	3C.5
Total connected household properties	Number	5,879,253	3C.6
Total household complaints per 10,000 connections	Number	178.858	3C.7
Confirmation of communication channels offered	TRUE or FALSE	TRUE	3C.8

3D. Developer services measure of experience (D-Mex) table

Item	Unit	Value	RAG 4 Ref
Qualitative component annual results	Number	68.95	3D.1
Quantitative component annual results	Number	90.32	3D.2
D-MeX score (AWS01)	***Number***	***79.64***	***3D.3***
Developer services revenue (water)	£m	36.131	3D.4
Developer services revenue (wastewater)	£m	17.799	3D.5

3E. Outcome performance – Non-financial performance commitments

Line description	Ref	Unit	Performance level actual	PCL met?	RAG 4 Ref
Risk of severe restrictions in a drought	DW01	%	88.5	No	3E.1
Priority services for customers in vulnerable circumstances - PSR reach	AR06	%	5.0	Yes	3E.2
Priority services for customers in vulnerable circumstances - Attempted contacts	AR06	%	93.4	Yes	3E.3
Priority services for customers in vulnerable circumstances - Actual contacts	AR06	%	45.4	Yes	3E.4
Risk of sewer flooding in a storm	DS01	%	10.25	Yes	3E.5
Percentage of satisfied vulnerable customers	AR05	%	85	No	3E.6
Proactive customer engagement	AWS02	nr	101,210	No	3E.7
Responding to major trunk mains bursts	BW11	hh:mm:ss	00:03:44	No	3E.8
Households on the Thames Water social tariff	ER03	nr	267,033	Yes	3E.9
Effective stakeholder engagement	ET02	score	4.9	No	3E.10
Establish an effective system operator for the London Tideway Tunnels	ET05	%	48	Yes	3E.11
Maximising the value of Tideway project land sales	ET06	£m	0	Yes	3E.12
Natural Capital Accounting	EWS04	%	100	Yes	3E.13
BSI for fair, flexible inclusive services	AR07	text	Maintained	Yes	3E.14
WINEP Delivery	NEP01	text	Not met	No	3E.15
Delivery of DWMPs	DWMP	%	0	Yes	3E.16
Understanding the risk of flooding in the Counters Creek catchment	CC	text	N/A	-	3E.17

Section 4 Additional regulatory information – service level

Table 4A. Water bulk supply information

This table shows the value and volume of bulk supply imported and exported

Line description	Volume	Operating costs	Revenue	RAG 4 Ref
Units	Ml	£m	£m	
Bulk supply exports				
Affinity Water	936.320	0.418	0.128	4A.1
Albion Water	146.179	0.052	0.125	4A.2
Anglian Water	47.000	0.027	0.000	4A.3
Essex & Suffolk Water	35,742.800	1.954	1.300	4A.4
Independent Water Networks	1,967.323	0.787	1.621	4A.5
Leep Utilities	1,821.515	0.709	1.455	4A.6
Severn Trent	7.435	0.004	0.011	4A.7
Wessex	0.000	0.000	0.000	4A.8
Total bulk supply exports	40,668.572	3.951	4.640	4A.26

Line description	Volume	Operating costs		RAG 4 Ref
Units	Ml	£m		
Bulk supply imports				
Northumbrian Water (Essex & Suffolk - Abberton))	25.000	1.446		4A.27
RWE Generation UK	23.000	2.630		4A.28
Total bulk supply imports	48.000	4.076		4A.52

Table 4B. Analysis of debt

We've chosen to publish the 2021/22 regulatory table 4B as a separate document to this Annual Performance Report due to the size of the table.

This table has been prepared in line with regulatory guidelines and follows the principles set out in this Annual Performance Report.

You can view this table on our website

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

Table 4C shows the projected adjustments to the Regulatory Capital Value that are expected at PR24.

Line description	12 months ended 31 March 2022					Price control period to date					RAG 4 Ref
Units: £m	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	
Final determination allowed totex (net of business rates, abstraction licence fees, grants and contributions and other items not subject to cost sharing)	87.736	783.232	810.102	134.272	40.863	168.045	1,621.583	1,551.766	134.272	64.540	4C.1
Actual totex (excluding business rates, abstraction licence fees, grants and contributions and other items not subject to cost sharing)	80.722	868.363	790.903	158.764	36.882	147.539	1,677.652	1,438.973	158.764	88.003	4C.2
Transition expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.620	4C.3
Disallowable costs	0.018	0.865	42.344	10.036	7.553	0.040	1.153	57.258	10.036	41.045	4C.4
Total actual totex (net of business rates, abstraction licence fees and grants and contributions)	80.704	867.498	748.559	148.728	29.329	147.499	1,676.4994	1,381.715	148.728	48.578	4C.5
Variance	-7.032	84.266	-61,543	14.456	-11.534	-20.546	54.916	-170.051	14.456	-15.962	4C.6
Variance due to timing of expenditure	-7.032	84.266	-61,543	14.456	-11.534	-20.546	54.916	-170.051	14.456	-15.962	4C.7
Variance due to efficiency	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4C.8

Line description	12 months ended 31 March 2022					Price control period to date					RAG 4 Ref
Units: £m	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	
Customer cost sharing rate - outperformance	25.00%	25.00%	25.00%	0.00%	42.20%	25.00%	25.00%	25.00%	0.00%	42.20%	4C.9
Customer cost sharing rate - underperformance	67.73%	67.73%	55.78%	0.00%	57.80%	67.73%	67.73%	55.78%	0.00%	57.80%	4C.10
Customer share of totex overspend	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4C.11
Customer share of totex underspend	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4C.12
Company share of totex overspend	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4C.13
Company share of totex underspend	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4C.14
Final determination allowed totex - business rates and abstraction licence fees	17.726	76.636	28.499	9.842	0.000	34.823	150.556	55.988	19.336	0.000	4C.15
Actual totex - business rates and abstraction licence fees	21.755	49.743	32.148	6.868	0.000	42.692	128.777	69.798	7.345	0.000	4C.16
Variance - business rates and abstraction licence fees	4.029	-26.893	3.649	-2.974	0.000	7.869	-21.779	13.810	-11.991	0.000	4C.17
Customer cost sharing rate - business rates	75.00%	75.00%	75.00%	75.00%	57.80%	75.00%	75.00%	75.00%	75.00%	57.80%	4C.18
Customer cost sharing rate -	75.00%	75.00%	75.00%	75.00%	57.80%	75.00%	75.00%	75.00%	75.00%	57.80%	4C.19

Line description	12 months ended 31 March 2022					Price control period to date					RAG 4 Ref
Units: £m	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	
abstraction licence fees											
Customer share of totex over/underspend - business rates and abstraction licence fees	3.022	-20.170	2.737	-2.231	0.000	5.902	-16.334	10.358	-8.993	0.000	4C.20
Company share of totex over/underspend - business rates and abstraction licence fees	1.007	-6.723	0.912	-0.744	0.000	1.967	-5.445	3.453	-2.998	0.000	4C.21
Final determination allowed totex - not subject to cost sharing	17.098	133.157	2.830	0.140	0.000	29.069	234.282	5.834	0.265	0.000	4C.22
Actual totex - not subject to cost sharing	6.941	13.030	2.980	0.373	0.000	14.164	55.930	35.171	8.223	0.000	4C.23
Variance - 100% company allocation	-10.157	-120.127	0.150	0.233	0.000	-14.905	-178.352	29.337	7.958	0.000	4C.24
Total customer share of totex over/under spend	3.022	-20.170	2.737	-2.231	0.000	5.902	-16.334	10.358	-8.993	0.000	4C.25
Total customer share of totex over/under spend	3.022	-20.170	2.737	-2.231	0.000	5.902	-16.334	10.358	-8.993	0.000	4C.26
PAYG rate	59.38%	42.38%	45.04%	34.42%	4.91%	60.86%	43.23%	47.22%	40.74%	3.73%	4C.27

Line description	12 months ended 31 March 2022					Price control period to date					RAG 4 Ref
Units: £m	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	
RCV element of cumulative totex over/underspend	1.227	-11.622	1.504	-1.463	0.000	2.310	-9.273	5.467	-5.329	0.000	4C.28
Adjustment for ODI out or under performance payment						0.000	0.000	0.000	0.000	0.000	4C.29
Green recovery						0.000	0.000	0.000	0.000	0.000	4C.30
RCV determined at FD at 31 March						397.834	7,184.230	5,852.060	1,700.126	1,506.780	4C.31
Projected 'shadow' RCV						400.144	7,174.957	5,857.527	1,694.797	1,506.780	4C.32

Notes for table 4C

At 4C.1, we have amended the allowance figures for Water network plus and TTT, as agreed with Ofwat. This is to remove a double count of conditional allowances expenditure (which is already included under the 'TOTEX not subject to cost sharing' section) and to unwind income associated with TTT land sales and rent, which are not subject to cost sharing.

The RCV element of the Totex over/(under)spend is a calculated value which reflects the customer's share of the difference between allowed and actual Totex, multiplied by (1 – the average AMP7 Pay As You Go Rate)% to arrive at the capitalised portion.

Different customer cost sharing rates are applied to the allowance/actuals variance based on individual price control and type of expenditure (i.e. subject to cost sharing, business rates, not subject to cost sharing). Note that this represents a change from prior year report which was showing the company's share of over/(under)spend. Conditional allowances and relevant totex spend are included in the "totex not subject to cost sharing" totals.

We are not subject to any ODI rewards or penalties with an RCV impact; all are taken through allowed revenues.

We are still early in our capital programme, and as such at this stage have not identified for disclosure any AMP-wide inefficiencies across our price controls. Therefore, all differences between totex and the FD have been allocated to timing.

Wholesale Water

In 2021/22, our actual Totex (net of disallowable costs, business rates, abstraction licence fees and grants and contributions) for water of £948.202 million was £77.234 million higher than the FD allowance of £870.968 million (in 2021/22 prices). Variances to our FD are as follows:

- Increased investment to improve customers and stakeholders needs in key areas of our performance e.g. water quality, leakage and supply interruption
- Increased capital delivery due to material ramp up in FY22, following a slow start noted in FY21 (impact of COVID19 and transition to a more intelligent and efficient delivery model)
- Increased costs due to higher inflation and price rises driven by macroeconomic factors (e.g. power, chemicals)

Disallowable costs include costs associated with customer compensation.

Wholesale Waste

In 2021/22, our total actual Totex (net of disallowable costs, business rates, abstraction licence fees and grants and contributions) for waste of £897.287 million was £47.087 million lower than our FD allowance of £944.374 million (in 2021/22 prices). Variances to our FD are as follows:

- Lower spend in the capital programme due to delays in mobilisation plan on some of our key programmes given the size and complexity (e.g. upgrade of our sewage treatment works to meet our new environmental obligations set by the Environment Agency (the WINEP programme)), offset by;
- Increased costs due to higher inflation and price rises driven by macroeconomic factors (e.g. power, chemicals)

Disallowable costs include costs associated with customer compensation and fines.

Table 4D. Totex analysis– water resources and water network+

This table provides information about the different activities undertaken as part of delivering upstream services with a breakdown of the total expenditure for carrying out the supply of water services.

Line description Unit £m	Water resources	Network+			Treated water distribution	Total	RAG 4 Ref
		Raw water transport	Raw water storage	Water treatment			
Base operating expenditure	63.942	4.738	0.002	99.134	301.440	469.256	4D.1
Enhancement operating expenditure	1.558	0.066	0.066	0.332	7.918	9.940	4D.2
Developer services operating expenditure [21]	0.000	0.000	0.000	0.000	6.432	6.432	4D.3
Total operating expenditure excluding third party services	65.500	4.804	0.068	99.466	315.790	485.628	4D.4
Third party services	2.179	0.223	0.000	0.850	1.838	5.090	4D.5
Total operating expenditure	67.679	5.027	0.068	100.316	317.628	490.718	4D.6
Grants and contributions							
Grants and contributions - operating expenditure	0.000	0.000	0.000	0.000	2.860	2.860	4D.7
Capital expenditure							
Base capital expenditure	21.573	20.130	0.000	89.828	263.288	394.819	4D.8
Enhancement capital expenditure	20.157	1.634	0.000	8.105	106.441	136.337	4D.9
Developer services capital expenditure	0.000	0.000	0.000	0.000	63.091	63.091	4D.10
Total gross capital expenditure excluding third party services	41.730	21.764	0.000	97.933	432.820	594.247	4D.11
Third party services	0.000	0.000	0.000	0.000	5.658	5.658	4D.12
Total gross capital expenditure	41.730	21.764	0.000	97.933	438.478	599.905	4D.13
Grants and contributions							
Grants and contributions - capital expenditure	0.000	0.000	0.000	1.725	38.578	40.303	4D.14
Net totex	109.409	26.791	0.068	196.524	714.668	1,047.460	4D.15
Cash expenditure							
Pension deficit recovery payments	0.000	0.000	0.000	0.000	0.000	0.000	4D.16
Other cash items	0.000	0.000	0.000	0.000	0.000	0.000	4D.17
Totex including cash items	109.409	26.791	0.068	196.524	714.668	1,047.460	4D.18
Atypical expenditure							
Total atypical expenditure	0.000	0.000	0.000	0.000	0.000	0.000	4D.24

[21] RAG 4.10 expects that 4D.3 equals the sum of 4N.6 and 4P.4. 4P is a totex table, only the operating expenditure has been included within 4D.3. The relevant capital expenditure is included in 4D.10

Table 4E. Totex analysis– wastewater network+ and bioresources

This table provides information about the different activities undertaken as part of delivering upstream services with a breakdown of the total expenditure for carrying out the supply of sewerage services.

Line description Unit £m	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total	RAG 4 Ref
	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal		
Base operating expenditure	147.754	27.265	5.126	226.119	10.724	7.300	36.167	24.714	485.169	4E.1
Enhancement operating expenditure	4.680	0.596	0.125	2.112	0.000	0.000	0.000	0.000	7.513	4E.2
Developer services operating expenditure [22]	7.013	0.009	0.000	0.000	0.000	0.000	0.000	0.000	7.022	4E.3
Total operating expenditure excluding third party services	159.447	27.870	5.251	228.231	10.724	7.300	36.167	24.714	499.704	4E.4
Total third-party services	0.548	0.000	0.000	0.741	0.000	0.024	0.345	0.004	1.662	4E.5
Total operating expenditure	159.995	27.870	5.251	228.972	10.724	7.324	36.512	24.718	501.366	4E.6
Grants and contributions - operating expenditure	4.898	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.898	4E.7
Base capital expenditure	165.613	3.306	0.872	144.236	-0.001	0.713	80.655	3.272	398.666	4E.8

[22] RAG 4.10 expects that 4E.3 equals the sum of 4O.12 and 4P.4. 4P is a totex table, only the operating expenditure has been included within 4E.3. The relevant capital expenditure is included in 4E.10

Line description Unit £m	Network+ Sewage collection			Network+ Sewage treatment		Bioresources			Total	RAG 4 Ref
	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Imported sludge liquor treatment	Sludge transport	Sludge treatment	Sludge disposal		
Enhancement capital expenditure	12.885	-0.216	0.000	77.122	0.000	0.000	11.822	0.833	102.446	4E.9
Developer services capital expenditure	16.831	0.039	0.000	0.000	0.000	0.000	0.000	0.000	16.870	4E.10
Total gross capital expenditure excluding third party services	195.329	3.129	0.872	221.358	-0.001	0.713	92.477	4.105	511.993	4E.11
Third party services	5.989	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.989	4E.12
Total gross capital expenditure	201.318	3.129	0.872	221.358	-0.001	0.713	92.477	4.105	523.971	4E.13
Grants and contributions - capital expenditure	19.511	0.000	0.000	3.695	0.000	0.000	0.000	0.000	23.206	4E.14
Net totex	330.904	30.999	6.123	446.635	10.723	8.037	128.989	28.823	997.233	4E.15
Pension deficit recovery payments	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4E.16
Other cash items	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4E.17
Totex including cash items	330.904	30.999	6.123	446.635	10.723	8.037	128.989	28.823	997.233	4E.18
Total atypical expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4E.24

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

This table shows wholesale water major projects operating, and capital expenditure split by purpose category.

Line description Units: £m	Expenditure in report year						RAG 4 Ref
	Water resources	Water network+				Total	
		Raw water transport	Raw water storage	Water treatment	Treated water distribution		
Major project capital expenditure by purpose							
Resilience Conditional Allowance	0.000	0.000	0.000	1.702	1.000	2.702	4F.1
SRO – Effluent Reuse in London	0.000	0.000	0.000	3.430	0.000	3.430	4F.2
SRO – Transfer TW-Affinity Water	0.000	0.579	0.000	0.000	0.000	0.579	4F.3
SRO – Transfer TW-Southern	0.000	0.960	0.000	0.000	0.000	0.960	4F.4
Strategic Resourcing Options – Abingdon Reservoir (SESRO)	2.348	0.000	0.000	0.000	0.000	2.348	4F.5
Strategic Resourcing Options – Severn Thames Transfer	2.277	0.000	0.000	0.000	0.000	2.277	4F.6
London Water Network Conditional Allowance	0.000	0.000	0.000	0.000	1.690	1.690	4F.7
Total major project capital expenditure	4.625	1.539	0.000	5.132	2.690	13.986	4F.11
Resilience Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.12
Strategic Resourcing Options – Effluent Reuse in London	0.000	0.000	0.000	0.000	0.000	0.000	4F.13
Strategic Resourcing Options – Transfer TW-Affinity Water	0.000	0.000	0.000	0.000	0.000	0.000	4F.14
Strategic Resourcing Options – Transfer TW-Southern	0.000	0.000	0.000	0.000	0.000	0.000	4F.15
Strategic Resourcing Options – Abingdon Reservoir (SESRO)	0.000	0.000	0.000	0.000	0.000	0.000	4F.16
Strategic Resourcing Options – Severn Thames Transfer	0.000	0.000	0.000	0.000	0.000	0.000	4F.17
London Water Network Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.18
Total major project operating expenditure	0.000	0.000	0.000	0.000	0.000	0.000	4F.22

Line description Units: £m	Cumulative expenditure on schemes completed in the report year						RAG 4 Ref
	Water resources	Water network+				Total	
		Raw water transport	Raw water storage	Water treatment	Treated water distribution		
Major project capital expenditure by purpose							
Resilience Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.1
Strategic Resourcing Options – Effluent Reuse in London	0.000	0.000	0.000	0.000	0.000	0.000	4F.2
Strategic Resourcing Options – Transfer TW-Affinity Water	0.000	0.000	0.000	0.000	0.000	0.000	4F.3
Strategic Resourcing Options – Transfer TW-Southern	0.000	0.000	0.000	0.000	0.000	0.000	4F.4
Strategic Resourcing Options – Abingdon Reservoir (SESRO)	0.000	0.000	0.000	0.000	0.000	0.000	4F.5
Strategic Resourcing Options – Severn Thames Transfer	0.000	0.000	0.000	0.000	0.000	0.000	4F.6
London Water Network Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.7
Total major project capital expenditure	0.000	0.000	0.000	0.000	0.000	0.000	4F.11
Resilience Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.12
Strategic Resourcing Options – Effluent Reuse in London	0.000	0.000	0.000	0.000	0.000	0.000	4F.13
Strategic Resourcing Options – Transfer TW-Affinity Water	0.000	0.000	0.000	0.000	0.000	0.000	4F.14
Strategic Resourcing Options – Transfer TW-Southern	0.000	0.000	0.000	0.000	0.000	0.000	4F.15
Strategic Resourcing Options – Abingdon Reservoir (SESRO)	0.000	0.000	0.000	0.000	0.000	0.000	4F.16
Strategic Resourcing Options – Severn Thames Transfer	0.000	0.000	0.000	0.000	0.000	0.000	4F.17
London Water Network Conditional Allowance	0.000	0.000	0.000	0.000	0.000	0.000	4F.18
Total major project operating expenditure	0.000	0.000	0.000	0.000	0.000	0.000	4F.22

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

This table shows wholesale wastewater major projects operating, and capital expenditure split by purpose category. No spend is disclosed in relation to this table (4G) as there are no waste-related projects within the Business that meet the RAG 4.09 definition of 'major projects'.

Line description Units: £m	Expenditure in report year									RAG 4 Ref
	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							
Total major project capital expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4G.11
Total major project operating expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4G.22

Line description Units: £m	Cumulative expenditure on schemes completed in the report year									RAG 4 Ref
	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							
Total major project capital expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4G.11
Total major project operating expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4G.22

Table 4H. Financial metrics

This table shows our key financial metrics: measures of financial performance and financial position, revenue earned, earnings before interest, tax, depreciation and amortisation and an analysis of our borrowings in terms of interest payable and the maturity profile of those borrowings.

Line description	Units	Current year	AMP to date	RAG 4 Ref
Net debt	£m	13,420.866		4H.1
Regulatory equity	£m	3,220.164		4H.2
Regulatory gearing	%	80.65		4H.3
Post tax return on regulatory equity	%	-5.07		4H.4
RORE (return on regulatory equity)[1]	%	6.72	4.78	4H.5
Dividend yield	%	0.44		4H.6
Retail profit margin - Household	%	-3.00		4H.7
Retail profit margin - Non household	%	-0.33		4H.8
Credit rating - Fitch	Text	n/a		4H.9
Credit rating - Moody's	Text	BAA2 (Stable)		4H.10
Credit rating - Standard and Poor's	Text	BBB+ (Watch Negative)		4H.11
Return on RCV	%	2.23		4H.12
Dividend cover	dec	-82.21		4H.13
Funds from operations (FFO)	£m	796.077		4H.14
Interest cover (cash)	dec	3.81		4H.15
Adjusted interest cover (cash)	dec	1.28		4H.16
FFO/Net debt	dec	0.06		4H.17
Effective tax rate	%	-4.00		4H.18
Retained cash flow (RCF)	£m	758.977		4H.19
RCF/Net debt	dec	0.06		4H.20
Proportion of borrowings which are fixed rate	%	40.92		4H.21
Proportion of borrowings which are floating rate	%	3.00		4H.22
Proportion of borrowings which are index linked	%	56.08		4H.23
Proportion of borrowings due within 1 year or less	%	4.43		4H.24
Proportion of borrowings due in more than 1 year but no more than 2 years	%	11.93		4H.25
Proportion of borrowings due in more than 2 years but no more than 5 years	%	14.46		4H.26
Proportion of borrowings due in more than 5 years but no more than 20 years	%	46.23		4H.27
Proportion of borrowings due in more than 20 years	%	22.95		4H.28

[1] As disclosed in Table 1F, the calculation of RORE includes other exceptional items relating to land sales, pollution fines and customer compensation claims.

The values included on the table do not include any rounding adjustments.

Additional commentary on Table 4H

In May 2022, Moody's completed a periodic review of TWUL Group ratings, with the Corporate Family Rating ("CFR") for TWUL continuing as Baa2 with a stable outlook (2021: Baa2 with stable outlook) and our securitisation group companies' senior secured (Class A) debt rating continuing as Baa1 with stable outlook (2021: Baa1 with stable outlook) and subordinated (Class B) debt rating continuing as Ba1 with stable outlook (2021: Ba1 with stable outlook).

In December 2021, S&P placed the BBB+ (2021: BBB+) and BBB- (2021: BBB-) issue ratings of Class A and Class B debt respectively issued by the Company, on CreditWatch negative (2021: negative outlook). The negative CreditWatch placement indicates that S&P could lower the issue ratings if strong remedial measures do not enable TWUL Group to maintain certain key credit metrics above specified thresholds.

Breakdown of interest paid

	£m
Net interest paid (1D.10)	-277.347
Income included in net interest paid but should be added back for the interest cover	
Interest received on Intercompany loans	-3.630
Interest received on Money market deposits	-0.157
Other finance income	-0.525
Other finance income on swaps	-11.150
Cost included in the net interest paid but should be reduced for the interest cover	
Interest cost relating to pension	4.700
Facility non-recurring fees	4.388
Other finance cost	0.254
Interest paid on borrowings value used in the calculation for Interest cover (cash) and Adjusted interest cover (cash)	-283.467

Table 4I. Financial derivatives[23]

This table provides an analysis of our portfolio of financial derivatives

Line description Units: £m	Nominal value by maturity (net) at 31 March				Total value at 31 March		RAG 4 Reference
	0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market	
Interest rate swap (sterling)							
Floating to fixed rate	0.000	0.000	150.000	2,100.000	2,250.000	-18.455	4I.1
Floating from fixed rate	0.000	0.000	0.000	1,920.902	1,920.902	123.807	4I.2
Floating to index linked	0.000	0.000	20.000	500.000	520.000	546.868	4I.3
Floating from index linked	95.375	0.000	0.000	0.000	95.375	-3.873	4I.4
Fixed to index-linked	0.000	0.000	940.000	2,158.901	3,098.901	893.984	4I.5
Fixed from index-linked	0.000	0.000	0.000	0.000	0.000	0.000	4I.6
Index-linked to index-linked	0.000	0.000	0.000	0.000	0.000	0.000	4I.7
Total	95.375	0.000	1,110.000	6,679.803	7,885.178	1,542.331	4I.8
Foreign Exchange							
USD	38.681	128.783	443.395	175.095	785.954	-1.853	4I.9
EUR	100.000	453.230	0.000	1,011.347	1,564.577	16.828	4I.10
YEN	0.000	0.000	0.000	153.551	153.551	39.679	4I.11
Other	0.000	0.000	143.554	0.000	143.554	0.111	4I.12
Total	138.681	582.013	586.949	1,339.993	2,647.636	54.765	4I.13
Currency interest rate							
USD	0.000	0.000	0.000	0.000	0.000	0.000	4I.14
EUR	0.000	0.000	0.000	0.000	0.000	0.000	4I.15
YEN	0.000	0.000	0.000	0.000	0.000	0.000	4I.16
Other	0.000	0.000	0.000	0.000	0.000	0.000	4I.17
Total	0.000	0.000	0.000	0.000	0.000	0.000	4I.18
Forward currency contracts							
USD	0.000	0.000	0.000	0.000	0.000	0.000	4I.19
EUR	0.000	0.000	0.000	0.000	0.000	0.000	4I.20
YEN	0.000	0.000	0.000	0.000	0.000	0.000	4I.21
CAD	0.000	0.000	0.000	0.000	0.000	0.000	4I.22
AUD	0.000	0.000	0.000	0.000	0.000	0.000	4I.23
HKD	0.000	0.000	0.000	0.000	0.000	0.000	4I.24
Other	0.000	0.000	0.000	0.000	0.000	0.000	4I.25
Total	0.000	0.000	0.000	0.000	0.000	0.000	4I.26

[23] *Interest rate payable and receivable for floating leg of derivatives has been determined using 31 March 2022 6 month Libor, 3 month Euribor and Sonia.*
Instruments which change from "fixed to index linked" to "floating to index linked" during their life have been classified according to their interest rate characteristics as at 31 March 2022.
Mark to Market is presented from Thames Water's Perspective.
Out-of-the money (liability) positions are presented as positive and in-the-money (asset) positions are presented as negative.

Line description Units: £m	Nominal value by maturity (net) at 31 March				Total value at 31 March		RAG 4 Reference
	0 to 1 years	1 to 2 years	2 to 5 years	Over 5 years	Nominal value (net)	Mark to Market	
Other financial derivatives							
Other financial derivatives	0.000	0.000	0.000	0.000	0.000	0.000	4I.27
Total financial derivatives	234.056	582.013	1,696.949	8,019.796	10,532.814	1,597.096	4I.28

Line description	Total accretion at 31 March £m	Interest rate (weighted average for 12 months to 31 March 2022)		RAG 4 Ref
		Payable %	Receivable %	
Interest rate swap (sterling)				
Floating to fixed rate	0.000	1.933%	0.967%	4I.1
Floating from fixed rate	0.000	0.966%	1.083%	4I.2
Floating to index linked	87.927	10.631%	1.395%	4I.3
Floating from index linked	13.805	0.989%	7.843%	4I.4
Fixed to index-linked	524.538	9.387%	4.357%	4I.5
Fixed from index-linked	0.000	0.000%	0.000%	4I.6
Index-linked to index-linked	0.000	0.000%	0.000%	4I.7
Total	626.270			4I.8
Foreign Exchange				
USD	0.000			4I.9
EUR	0.000			4I.10
YEN	0.000			4I.11
Other	0.000			4I.12
Total	0.000			4I.13
Currency interest rate				
USD	0.000			4I.14
EUR	0.000			4I.15
YEN	0.000			4I.16
Other	0.000			4I.17
Total	0.000			4I.18
Forward currency contracts				
USD	0.000			4I.19
EUR	0.000			4I.20
YEN	0.000			4I.21
CAD	0.000			4I.22
AUD	0.000			4I.23
HKD	0.000			4I.24
Other	0.000			4I.25
Total	0.000			4I.26
Other financial derivatives				
Other financial derivatives	0.000			4I.27
Total financial derivatives	626.270			4I.28

Table 4J. Base expenditure analysis– water resources and water network+

This table shows our base expenditure for wholesale water split by cost categories.

Line description Units: £m	Water resources	Water network+				Total	RAG 4 Ref
		Raw water distribution	Raw water storage	Water treatment	Treated water distribution		
Power	21.398	0.814	0.000	23.234	39.226	84.672	4J.1
Income treated as negative expenditure	-0.173	-0.001	0.000	-0.095	-0.026	-0.295	4J.2
Bulk Supply/Bulk discharge	4.075	0.000	0.000	0.000	0.000	4.075	4J.3
Renewals expensed in year (infrastructure)	0.000	0.000	0.000	0.000	89.721	89.721	4J.4
Renewals expensed in year (non-infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	4J.5
Other operating expenditure	16.887	2.993	0.002	62.933	110.573	193.388	4J.6
Local authority and Cumulo rates	4.752	0.932	0.000	13.062	35.749	54.495	4J.7
Canal & River Trust abstraction charges/ discharge consents	4.075	0.000	0.000	0.000	0.000	4.075	4J.8
Environment Agency / NRW abstraction charges/ discharge consents	12.802	0.000	0.000	0.000	0.000	12.802	4J.9
Other abstraction charges/ discharge consents	0.126	0.000	0.000	0.000	0.000	0.126	4J.10
Costs associated with Traffic Management Act	0.000	0.000	0.000	0.000	25.115	25.115	4J.11
Costs associated with lane rental schemes	0.000	0.000	0.000	0.000	1.082	1.082	4J.12
Statutory water softening	0.000	0.000	0.000	0.000	0.000	0.000	4J.13
Total base operating expenditure	63.942	4.738	0.002	99.134	301.440	469.256	4J.14
Maintaining the long-term capability of the assets - infra	12.015	18.050	0.000	0.240	140.012	170.317	4J.15
Maintaining the long-term capability of the assets - non-infra	9.558	2.080	0.000	89.588	123.276	224.502	4J.16
Total base capital expenditure	21.573	20.130	0.000	89.828	263.288	394.819	4J.17
Projects incurring costs associated with Traffic Management Act (nr to 0 DPs)	0	0	0	0	89,202	89,202	4J.18

Table 4K. Base expenditure – wastewater network + and bioresources

This table shows our base expenditure for wholesale wastewater split by cost categories.

Line description Units: £m	Expenditure in report year									RAG 4 Ref
	Wastewater network+					Bioresources			Total	
	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge Transport	Sludge Treatment	Sludge Disposal		
Power	13.916	2.434	0.435	77.142	4.411	0.024	-10.537	0.200	88.025	4K.1
Income treated as negative expenditure	-0.024	-0.004	-0.001	0.000	0.000	0.000	-15.080	-0.762	-15.871	4K.2
Bulk Supply/Bulk discharge	0.000	0.000	0.000	3.252	0.000	0.000	0.000	0.000	3.252	4K.3
Renewals expensed in year (infrastructure)	65.394	11.411	1.889	0.000	0.000	0.000	0.000	0.000	78.694	4K.4
Renewals expensed in year (non-infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4K.5
Other operating expenditure	53.081	10.897	2.208	129.281	6.246	7.154	55.083	25.202	289.152	4K.6
Local authority and Cumulo rates	11.220	1.801	0.475	12.208	0.067	0.122	6.139	0.074	32.106	4K.7
Canal & River Trust abstraction charges/ discharge consents	0.774	0.135	0.022	0.000	0.000	0.000	0.000	0.000	0.931	4K.8
EA / NRW abstraction charges/ discharge consents	0.626	0.109	0.018	4.196	0.000	0.000	0.000	0.000	4.949	4K.9
Other abstraction charges/ discharge consents	0.380	0.066	0.011	0.040	0.000	0.000	0.533	0.000	1.030	4K.10
Costs associated with Traffic Management Act	1.927	0.336	0.056	0.000	0.000	0.000	0.000	0.000	2.319	4K.11
Costs associated with lane rental schemes	0.460	0.080	0.013	0.000	0.000	0.000	0.000	0.000	0.553	4K.12
Costs associated with Industrial emissions directive	0.000	0.000	0.000	0.000	0.000	0.000	0.029	0.000	0.029	4K.13
Total base operating expenditure	147.754	27.265	5.126	226.119	10.724	7.300	36.167	24.714	485.169	4K.14
Maintaining the long-term capability of the assets - infra	102.623	0.001	0.000	0.000	0.000	0.487	0.000	0.000	103.111	4K.15

Line description Units: £m	Expenditure in report year									RAG 4 Ref
	Wastewater network+					Bioresources			Total	
	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge Transport	Sludge Treatment	Sludge Disposal		
Maintaining the long-term capability of the assets - non-infra	62.990	3.305	0.872	144.236	-0.001	0.226	80.655	3.272	295.555	4K.16
Total base capital expenditure	165.613	3.306	0.872	144.236	-0.001	0.713	80.655	3.272	398.666	4K.17
Projects incurring costs associated with Traffic Management Act (nr to 0 DPs)	11,643	2,032	336	0.000	0.000	0.000	0.000	0.000	14,011	4K.18
Power	13.916	2.434	0.435	77.142	4.411	0.024	-10.537	0.200	88.025	4K.19
Income treated as negative expenditure	-0.024	-0.004	-0.001	0.000	0.000	0.000	-15.080	-0.762	-15.871	4K.20

Table 4L. Enhancement expenditure - water resources and water network+

We've chosen to publish the 2021/22 regulatory table 4L as a separate document to this Annual Performance Report due to the size of the table.

You can view this table on our website.

Table 4M. Enhancement expenditure - wastewater network+ and bioresources

We've chosen to publish the 2021/22 regulatory table 4M as a separate document to this Annual Performance Report due to the size of the table.

You can view this table on our website.

Table 4N. Developer services expenditure– water resources and water network+

Line description Units: £m	Water network+			RAG 4 Ref
	Treated water distribution			
	Capex	Opex	Totex	
New connections	28.976	0.286	29.262	4N.1
Requisition mains	12.755	0.960	13.715	4N.2
Infrastructure network reinforcement	10.564	0.045	10.609	4N.3
s185 diversions	3.408	0.389	3.797	4N.4
Other price-controlled activities	0.000	0.000	0.000	4N.5
Total developer services expenditure	55.703	1.680	57.383	4N.6

This table shows our developer services expenditure for wholesale water split by cost categories.

Capital expenditure reported in this table includes asset payments made to self-lay providers/developers. These relate to work quoted under Charging Arrangements prior to April 2020 where the Discounted Aggregate Deficit ("DAD") model was used to determine the value of Thames Water contributions to these schemes.

This table excludes the fair value of adopted assets.

Table 4O. Developer services expenditure– wastewater network+ and bioresources

This table shows our developer services expenditure for wholesale wastewater split by cost categories.

Line description Units: £m	Wastewater network+					Total	RAG 4 Ref
	Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment		
New connections	0.108	0.000	0.000	0.000	0.000	0.108	4O.1
Requisition sewers	1.272	0.034	0.000	0.000	0.000	1.306	4O.2
Infrastructure network reinforcement	8.967	0.000	0.000	0.000	0.000	8.967	4O.3
s185 diversions	0.496	0.005	0.000	0.000	0.000	0.501	4O.4
Other price-controlled activities	0.000	0.000	0.000	0.000	0.000	0.000	4O.5
Total developer services capex	10.843	0.039	0.000	0.000	0.000	10.882	4O.6
New connections	0.000	0.000	0.000	0.000	0.000	0.000	4O.7
Requisition sewers	0.028	0.000	0.000	0.000	0.000	0.028	4O.8
Infrastructure network reinforcement	0.042	0.000	0.000	0.000	0.000	0.042	4O.9
s185 diversions	0.016	0.000	0.000	0.000	0.000	0.016	4O.10
Other price-controlled activities	0.843	0.009	0.000	0.000	0.000	0.852	4O.11
Total developer services opex	0.929	0.009	0.000	0.000	0.000	0.938	4O.12
Total developer services expenditure	11.772	0.048	0.000	0.000	0.000	11.820	4O.13

This table excludes the fair value of adopted assets.

Table 4P. Expenditure on non-price control diversions

This table shows our expenditure on diversions not covered by a price control.

Line description Units: £m	Water resources	Water network+	Wastewater network+	Total	RAG 4 Ref
Costs associated with NSWRA diversions	0.000	1.124	0.729	1.853	4P.1
Costs associated with other non-price control diversions	0.000	4.536	5.337	9.873	4P.2
Other developer services non-price control totex	0.000	6.479	6.008	12.487	4P.3
Developer services non-price control totex	0.000	12.139	12.074	24.213	4P.4

This table includes all expenditure attributable to work delivered under the High-Speed Rail (London-West Midlands) Act 2017, which may include an element of new assets.

This includes £6.1 million of operating expenditure disclosed within 'Other Developer Services Non-Price Control Totex' attributable to work performed which will ultimately not result in diversionary activity taking place.

This table excludes the fair value of adopted assets.

Table 4Q. Developer services – New connections, properties and mains

This table reports on the new connections, properties and new mains laid within the developer services part of the business split by water and wastewater.

Line description Units: nr	Water	Wastewater	Total	RAG 4 Ref
New connections (residential – excluding NAVs)	11,919	1,900	13,819	4Q.1
New connections (business – excluding NAVs)	1,196	476	1,672	4Q.2
Total new connections served by incumbent	13,115	2,376	15,491	4Q.3
New connections – SLPs	5,373			4Q.4
New properties (residential - excluding NAVs)	21,485	37,538	59,023	4Q.5
New properties (business - excluding NAVs)	1,412	1,132	2,544	4Q.6
Total new properties served by incumbent	22,897	38,670	61,567	4Q.7
New residential properties served by NAVs	1,977	1,960	3,937	4Q.8
New business properties served by NAVs	3	0	3	4Q.9
Total new properties served by NAVs	1,980	1,960	3,940	4Q.10
Total new properties	24,877	40,630	65,507	4Q.11
New properties – SLP connections	5,373			4Q.12
Length of new mains (km) - requisitions	23			4Q.13
Length of new mains (km) - SLPs	57			4Q.14

Table 4R. Connected properties, customers and population

This table reports our connected properties, and our customer and population numbers (in 000s).

Line description Units: nr (000s)	Unmeasured	Measured	Total	Voids	RAG 4 Ref
Residential water only customers	26.234	24.209	50.443	1.730	4R.1
Residential wastewater only customers	697.704	1,313.388	2,011.092	74.598	4R.2
Residential water and wastewater customers	1,781.819	1,805.329	3,587.148	123.654	4R.3
Total residential customers	2,505.757	3,142.925	5,648.682	199.981	4R.4
Business water only customers	1.275	12.866	14.141	4.289	4R.5
Business wastewater only customers	14.948	62.054	77.002	17.277	4R.6
Business water & wastewater customers	29.956	136.028	165.984	29.016	4R.7
Total business customers	46.179	210.948	257.127	50.582	4R.8
Total customers	2,551.936	3,353.873	5,905.809	250.563	4R.9

Line description Units: Nr (000s)	Water			Wastewater			RAG 4 Ref
	Unmeasured	Measured	Total	Unmeasured	Measured	Total	
Residential properties billed	1,808.053	1,829.537	3,637.590	2,479.523	3,118.716	5,598.239	4R.10
Residential void properties			125.384			198.252	4R.11
Total connected residential properties			3,762.974			5,796.491	4R.12
Business properties billed	31.231	148.894	180.125	44.905	198.077	242.982	4R.13
Business void properties			33.305			46.296	4R.14
Total connected business properties			213.430			289.278	4R.15
Total connected properties			3,976.404			6,085.769	4R.16

Line description Units: nr (000s)	Water Unmeasured					
	No meter	Basic meter	AMR meter	AMI meter (capable)	AMI meter (active)	Total
Property and meter numbers - at end of year (31 March)						
Total new residential properties connected in year	0.000	0.000	0.000	0.000	0.000	0.000
Total number of new business properties connections	0.000	0.000	0.000	0.000	0.000	0.000
Residential properties billed at year end	1,768.778	0.000	0.000	0.000	0.000	1,768.778
Residential properties unbilled at year end						
Residential void properties at year end						68.800nts on
Total connected residential properties at year end						1,837.578
Business properties billed at year end	30.501	0.000	0.000	0.000	0.000	30.501
Business properties unbilled at year end						
Business void properties at year end						8.783
Total connected business properties at year end						39.284
Total connected properties at year end						1,876.862

Line description Units: Nr (000s)	Water Measured					
	No meter	Basic meter	AMR meter	AMI meter (capable)	AMI meter (active)	Total
Total new residential properties connected in year	0.000	0.000	21.485	0.000	0.000	21.485
Total number of new business properties connections	0.000	0.000	1.412	0.000	0.000	1.412
Residential properties billed at year end	0.000	1,195.548	203.337	15.062	468.806	1,882.753
Residential properties unbilled at year end						
Residential void properties at year end						64.024
Total connected residential properties at year end						1,946.777
Business properties billed at year end	0.000	110.688	0.000	13.131	24.639	148.458
Business properties unbilled at year end						
Business void properties at year end						24.916
Total connected business properties at year end						173.374
Total connected properties at year end						2,120.151

Line description	Water				RAG 4 Ref
	Unbilled			Total	
	Uneconomic to bill	Other	Total		
Total new residential properties connected in year				21.485	4R.17
Total number of new business properties connections				1.412	4R.18
Residential properties billed at year end				3,651.531	4R.19
Residential properties unbilled at year end	5.580	0.000	5.580	5.580	4R.20
Residential void properties at year end				132.824	4R.21
Total connected residential properties at year end				3,789.935	4R.22
Business properties billed at year end				178.959	4R.23
Business properties unbilled at year end	0.000	0.000	0.000	0.000	4R.24
Business void properties at year end				33.699	4R.25
Total connected business properties at year end				212.658	4R.26
Total connected properties at year end				4,002.593	4R.27

Line description [24]	Water	Wastewater	RAG 4 Ref
Resident population	10,384.385	15,543.119	4R.28
Non-resident population (wastewater)		181.193	4R.29

Household population data	Water			RAG 4 Ref
	Resident population	Non-resident population	Total	
Household population	10,280.541	0.000	10,280.541	4R.30
Household measured population (water only)	5,318.867	0.000	5,318.867	4R.31
Household unmeasured population (water only)	4,961.675	0.000	4,961.675	4R.32

[24] *Additional commentary on 4R.28 and 4R.29 can be found on the next page.*

Additional commentary on population data

Line 28: Water resident population

We use the latest available mid-year population estimates published by the Office of National Statistics (ONS) and GLA (GLA dataset is only used for London WRZ estimates) as the base population for the reporting period. These are derived from 2011 Census estimates; each shire will re-calculate their administrative area population every year based on their own population trends and models and submit the results to ONS for the final data collation.

The mid-year estimates (MYE) are published at Census Output Area (COA) level, and we have apportioned them to WRZs pro rata to the COA occupancy rate estimates which are determined based on Address Base Premium (ABP) residential 'live' property counts. ABP and Thames Water WRZ boundaries dataset get updated on a regular basis, population estimates are dynamic and reflective of any changes/updates in the corporate GIS system.

Edge Analytics produce various population forecasts (trend-based and plan-based projections) at Census Output Areas (COAs) level. WRZ population estimates are then updated to an average for the reporting year by using trend-based projection produced by Edge Analytics (last update dated March 2022) and latest available SHLAA capped AHS short-term GLA projections. GLA growth projections are only utilised for London WRZ. The above data sources are combined to produce midyear population total.

Resident population is reported including an estimate for hidden population considered to be missing from National Statistics estimates, and an allowance for short-term migrants. These have been taken from a new report by Edge Analytics [25].

A very small additional component taken from the same report is an estimate of the impact of people with working second addresses in our area.

Line 28: Wastewater resident population

The total resident population reported consists of four key data sources:

- Resident Population - reported in the latest ONS MYE. The MYE population is estimated by the ONS using the latest census (2011) as the base. The 'flow' of population over the last year is then applied to this base covering births, deaths, immigration, emigration and people entering and leaving 'special populations' such as prisons or the armed forces;

- Projected growth - from the latest ONS MYE (Mid 2020) to April 2022. This estimate is taken from an Edge Analytics data set which forecasts the likely growth in population associated with plan-based housing development;

- Irregular Migrants – This population is typically defined as the stock of migrants in a country who are not entitled to reside there, either because they have never had a legal residence permit or because they have overstayed their time-limited permit. The estimated irregular migrant population for the Thames Water region has been calculated by Edge Analytics; and

- Short-term residents – This population is defined as anyone living in the area, who was born outside of the UK and who intended to stay for a period of between 3 and 12 months. The

[25] *Household & Transient population – Thames Water- Feb 2020: Edge Analytics (February 2020)*

estimated short-term resident population for the Thames Water region has been calculated by Edge Analytics. The methodology uses the 2011 census short-term resident count as the base. This base is then uplifted by the annual average percentage change in the short-term migrant total for each local authority area.

Line 29: Wastewater Non-resident population

We have reported all non-resident (tourist) population connected to our sewerage system in this line. For the 2021/22 period, domestic and overseas tourism was significantly impacted by Covid-19 restrictions. To account for this, percentage adjustments were applied to our non-resident population data.

For domestic visitor nights, the Visit Britain monthly England Occupancy Survey (EOS) data has been used. This monthly report details the average accommodation sector occupancy rates by region. The average occupancy for 2021/22 was compared to the pre-Covid-19 occupancy (2019/20). The percentage change is used as an adjustment to the baseline domestic visitor population provided by Edge Analytics.

For overseas visitor nights, UK airport passenger numbers were sourced from the UK Civil Aviation Authority (www.caa.co.uk). We then calculated the 2021/22 average as a percentage of the 2019/20 average. The percentage change is used to adjust to the baseline overseas visitor population provided by Edge Analytics.

This adjustment has led to a decrease from 2019/20 (AR20).

The non-resident population has recovered slightly in 2021/22 when compared to the previous year(AR20: 428,110; AR21: 73,723; and AR22: 180,056).

Calculation of residential and non-residential population has been undertaken in accordance with our Methodology using Office of National Statistics (ONS) data.

We note that during Covid-19 some sites, particularly the large London sites, saw changes in load received due to factors such as for example the temporary working arrangements of working from home meaning less people travelled into London their normal place of work.

Our analysis of loads received during and since the pandemic suggest we are now seeing a return to average pre pandemic levels of load received.

	Water			RAG 4 Ref
Household population data Units: Nr (000s)	Resident population	Non-resident population	Total	
Household population	10,280.541	0.000	10,280.541	4R.30
Household measured population (water only)	5,318.867	0.000	5,318.867	4R.31
Household unmeasured population (water only)	4,961.675	0.000	4,961.675	4R.32

Table 4S. Green recovery expenditure– water resources and water network+

As at the date of the Annual Performance Report, no work has yet commenced on the Green Recovery scheme, and as such the below table (4S) has nil spend disclosed in the year.

Line description Units: £m	Expenditure in report year						Cumulative expenditure on schemes completed in the report year						RAG 4 Ref
	Water resources	Water network+				Total	Water resources	Water network+				Total	
		Raw water transport	Raw water storage	Water treatment	Treated water distribution			Raw water transport	Raw water storage	Water treatment	Treated water distribution		
Green recovery programme													
Total programme capex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4S.13
Total programme opex	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4S.14
Total programme expenditure	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4S.15

Table 4T. Green recovery expenditure– wastewater network+ and bioresources

This table is only applicable for companies with wastewater network+ and bioresources green recovery projects, and therefore has not been included within this report.

Table 4U. Impact of Green recovery on RCV

Line description Units: £m	12 months ended 31 March 2022					Price control period to date					RAG 4 Ref
	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	Water resources	Water network plus	Wastewater network plus	Bio-resources	TTT	
Approved bid	0.000	3.178	0.000		0.000	0.000	3.178	0.000		0.000	4U.1
Actual totex	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.2
Variance	0.000	-3.178	0.000		0.000	0.000	-3.178	0.000		0.000	4U.3
Variance due to timing of expenditure	0.000	-3.178	0.000		0.000	0.000	-3.178	0.000		0.000	4U.4
Variance due to efficiency	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.5
Customer cost sharing rate - outperformance	90.00%	90.00%	90.00%		90.00%	90.00%	90.00%	90.00%		90.00%	4U.6
Customer cost sharing rate - underperformance	25.00%	25.00%	25.00%		42.20%	25.00%	25.00%	25.00%		42.20%	4U.7
Customer share of totex - outperformance	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.8
Customer share of totex - underperformance	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.9
Company share of totex - outperformance	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.10
Company share of totex-underperformance	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.11
Increase / decrease in shadow RCV	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.12
In period funding	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.13
Net increase / decrease in shadow RCV	0.000	0.000	0.000		0.000	0.000	0.000	0.000		0.000	4U.14

Section 5: Additional regulatory information – water resources

Table 5A: Water resources asset and volumes data

This table reports a breakdown of assets and their volumes for the water resources price control.

Line description	Units	Input	RAG 4 Ref
Water from impounding reservoirs	Ml/d	58.72	5A.1
Water from pumped storage reservoirs	Ml/d	1,991.66	5A.2
Water from river abstractions	Ml/d	64.80	5A.3
Water from groundwater works, excluding managed aquifer recharge water supply schemes	Ml/d	649.15	5A.4
Water from artificial recharge water supply schemes	Ml/d	6.26	5A.5
Water from aquifer storage and recovery water supply schemes	Ml/d	0.00	5A.6
Water from saline abstractions	Ml/d	0.00	5A.7
Water from water reuse schemes	Ml/d	0.00	5A.8
Number of impounding reservoirs	nr	1	5A.9
Number of pumped storage reservoirs	nr	21	5A.10
Number of river abstractions	nr	14	5A.11
Number of groundwater works excluding managed aquifer recharge water supply schemes	nr	101	5A.12
Number of artificial recharge water supply schemes	nr	6	5A.13
Number of aquifer storage and recovery water supply schemes	nr	0	5A.14
Number of saline abstraction schemes	nr	0	5A.15
Number of reuse schemes	nr	0	5A.16
Total number of sources	nr	143	5A.17
Total number of water reservoirs	nr	22	5A.18
Total volumetric capacity of water reservoirs	Ml	218,347	5A.19
Total number of intake and source pumping stations	nr	172	5A.20
Total installed power capacity of intake and source pumping stations	kW	43,801	5A.21
Total length of raw water abstraction mains and other conveyors	km	11.21	5A.22
Average pumping head – raw water abstraction [26]	m.hd	8.69	5A.23
Energy consumption - water resources (MWh)	MWh	132,523.565	5A.24
Total number of raw water abstraction imports	nr	1	5A.25
Water imported from 3rd parties to raw water abstraction systems	Ml/d	0.00	5A.26
Total number of raw water abstraction exports	nr	0	5A.27
Water exported to 3rd parties from raw water abstraction systems	Ml/d	0.00	5A.28
Water resources capacity (measured using water resources yield)	Ml/d	3,173.71	5A.29

[26] *See additional commentary on next page for more information on line 5A.23.*

Additional commentary on average pumping head

Line 23: Average pumping head – raw water abstraction

There has been one significant change in the reporting year. This is based on the findings of the Average Pumping Head (APH) data quality improvement report [27] published by Ofwat in May 2022.

Previously, we had not included gravity flows in our denominator for this element of APH. This year, we have included gravity flows as per the worked example in RAG2.08.

For abstraction, 67% of the APH is derived from measured data (both flow and head) and a further 25% is derived from partially measured data where either the flow or head is measured. The remaining 9% is based on water treatment works flow data and static head estimates.

For the partially measured data, the principal estimation method is to revert to last year's head value.

In terms of sites contributing to APH, 99% have measured volumes and/or lift.

[27] *Average Pumping Head data quality improvement report (Ofwat: published 5 May 2022)*

Table 5B: Water resources operating cost analysis

This table shows our operating expenditure for water resources split by source categories

Line description Units: £m	Impounding Reservoir	Pumped Storage	River Abstractions	Groundwater, excluding MAR water supply schemes
Power	0.770	15.141	0.400	5.044
Income treated as negative expenditure	-0.006	-0.122	-0.003	-0.041
Abstraction charges/ discharge consents	0.000	0.000	13.262	3.741
Bulk supply	0.147	2.883	0.076	0.960
Renewals expensed in year (Infrastructure)	0.000	0.000	0.000	0.000
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000
Other operating expenditure excluding renewals	0.612	12.036	0.194	4.009
Local authority and Cumulo rates	0.171	3.363	0.089	1.120
Total operating expenditure (excluding 3rd party)	1.694	33.301	14.018	14.833

Line description Units: £m	Artificial Recharge water supply schemes	Aquifer Storage and Recovery water supply schemes	Other	Total	RAG 4 Ref
Power	0.043	0.000	0.000	21.398	5B.1
Income treated as negative expenditure	0.000	0.000	0.000	-0.172	5B.2
Abstraction charges/ discharge consents	0.000	0.000	0.000	17.003	5B.3
Bulk supply	0.008	0.000	0.000	4.074	5B.4
Renewals expensed in year (Infrastructure)	0.000	0.000	0.000	0.000	5B.5
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000	5B.6
Other operating expenditure excluding renewals	0.034	0.000	0.000	16.885	5B.7
Local authority and Cumulo rates	0.010	0.000	0.000	4.753	5B.8
Total operating expenditure (excluding 3rd party)	0.095	0.000	0.000	63.941	5B.9

Section 6: Additional regulatory information – water network plus

Table 6A: Raw water transport, raw water storage and water treatment data

This table reports raw water transport and storage data along with the breakdown of water treatment works (WTWs) by treatment type and size. It also contains additional data associated with the water treatment business area.

Line description [28]	Units	Input	RAG 4 Ref
Total number of balancing reservoirs	nr	4	6A.1
Total volumetric capacity of balancing reservoirs	Ml	437	6A.2
Total number of raw water transport stations	nr	11	6A.3
Total installed power capacity of raw water transport pumping stations	kW	12,423	6A.4
Total length of raw water transport mains and other conveyors	km	261.23	6A.5
Average pumping head ~ raw water transport	m.hd	12.75	6A.6
Energy consumption – raw water transport (MWh)	MWh	5,231.753	6A.7
Total number of raw water transport imports	nr	0	6A.8
Water imported from 3rd parties to raw water transport systems	Ml/d	0.00	6A.9
Total number of raw water transport exports	nr	2	6A.10
Water exported to 3rd parties from raw water transport systems	Ml/d	95.47	6A.11
Total length of raw and pre-treated (non-potable) water transport mains for supplying customers	km	3.79	6A.12

Water treatment - treatment type analysis	Surface water		Ground water		RAG 4 Ref
	Water treated Ml/d	Number of works nr.	Water treated Ml/d	Number of works nr	
All simple disinfection works	0.00	0	0.00	0	6A.13
W1 works	0.00	0	0.00	0	6A.14
W2 works	0.00	0	208.57	45	6A.15
W3 works	0.00	0	46.68	8	6A.16
W4 works	16.39	1	334.66	29	6A.17
W5 works	1903.34	10	51.97	3	6A.18
W6 works	0.00	1	0.00	0	6A.19

% of total DI	Number of works
0.4	23
0.8	11
2.2	18
5.5	19
9.1	13
5.9	4
11.1	5
64.9	4

[28] *See additional commentary on next page for more information on line 6A.6, lines 6A.13 to 6A.27, and line 6A.31.*

Water treatment - other information	Units	Input	RAG 4 Ref
Total water treated at more than one type of works	Ml/d	0.00	6A.28
Number of treatment works requiring remedial action because of raw water deterioration	nr	2	6A.29
Zonal population receiving water treated with orthophosphate	000's	9,524.927	6A.30
Average pumping head – water treatment	m.hd	7.92	6A.31
Energy consumption - water treatment (MWh)	MWh	249,069.176	6A.32
Total number of water treatment imports	nr	0	6A.33
Water imported from 3rd parties to water treatment works	Ml/d	0.00	6A.34
Total number of water treatment exports	nr	2	6A.35
Water exported to 3rd parties from water treatment works	Ml/d	2.37	6A.36

Additional commentary on Raw water transport, raw water storage and water treatment data

Line 6: Average pumping head ~ raw water transport

There has been one significant change in the reporting year, which is based on the findings of the Average Pumping Head data quality improvement report [29].

In previous years, we had not included gravity flows in our denominator for this element of APH. This year, we have included gravity flows as per the worked example in RAG2.08.

For raw water transport, 80% of the APH is derived from measured data (both flow and head) and a further 20% is derived from partially measured data where the flow is measured but the head is estimated from a combination of static heads or the previous year's values.

In terms of sites contributing to APH, 100% have measured volumes and/or lift.

Lines 13 to 27:Water treatment works (WTW) analysis

The total number of WTWs has not changed since AR21.

The sites that have not been used in the year but not decommissioned are as follows:

- The number of GW2 sites out of service has increased from eight to nine.
- There are no GW3 sites out of service this year, a reduction from four.
- The number of GW4 sites out of service remains unchanged at two.
- There are one SW5 and one GW5 out of service, which is also unchanged from last year.
- There are no SW6 out of service this year, a reduction from one.

[29] *Average Pumping Head data quality improvement report (Ofwat: published 5 May 2022)*

Line 31: Average pumping head – water treatment

There has been one significant change in the reporting year, which is based on the findings of the Average Pumping Head data quality improvement report.

In previous years, we had included too much flow in our denominator for this element of APH. This year, we have included the same flow as per raw water transport by following the worked example in RAG2.08.

For water treatment, 37% of the APH is derived from measured data (both flow and head) and the remaining 63% is derived from partially measured data where only one of the flow and head are measured and the unmeasured item is estimated from the previous year's values.

In terms of sites contributing to APH, 100% have measured volumes and/or lift.

Table 6B: Treated water distribution - assets and operations

This table reports the assets and operational data for the treated water distribution business area.

Line description	Units	Input	RAG 4 Ref
Total installed power capacity of potable water pumping stations	kW	126,439	6B.1
Total volumetric capacity of service reservoirs	Ml	3,257.0	6B.2
Total volumetric capacity of water towers	Ml	17.6	6B.3
Distribution input	Ml/d	2,547.59	6B.4
Water delivered (non-potable)	Ml/d	0.00	6B.5
Water delivered (potable)	Ml/d	2,104.05	6B.6
Water delivered (billed measured residential properties)	Ml/d	719.79	6B.7
Water delivered (billed measured businesses)	Ml/d	379.78	6B.8
Total annual leakage	Ml/d	593.83	6B.9
Distribution losses	Ml/d	426.39	6B.10
Water taken unbilled	Ml/d	69.60	6B.11
Proportion of distribution input derived from impounding reservoirs	Propn 0 to 1	0.023	6B.12
Proportion of distribution input derived from pumped storage reservoirs	Propn 0 to 1	0.708	6B.13
Proportion of distribution input derived from river abstractions	Propn 0 to 1	0.019	6B.14
Proportion of distribution input derived from groundwater works, excluding managed aquifer recharge (MAR) water supply schemes	Propn 0 to 1	0.249	6B.15
Proportion of distribution input derived from artificial recharge (AR) water supply schemes	Propn 0 to 1	0.001	6B.16
Proportion of distribution input derived from aquifer storage and recovery (ASR) water supply schemes	Propn 0 to 1	0.000	6B.17
Proportion of distribution input derived from saline abstractions	Propn 0 to 1	0.000	6B.18
Proportion of distribution input derived from water reuse schemes	Propn 0 to 1	0.000	6B.19
Total number of potable water pumping stations that pump into and within the treated water distribution system [30]	nr	308	6B.20
Number of potable water pumping stations delivering treated groundwater into the treated water distribution system	nr	66	6B.21
Number of potable water pumping stations delivering surface water into the treated water distribution system	nr	11	6B.22
Number of potable water pumping stations that re-pump water already within the treated water distribution system	nr	231	6B.23
Number of potable water pumping stations that pump water imported from a 3rd party supply into the treated water distribution system	nr	0	6B.24
Total number of service reservoirs	nr	241	6B.25
Number of water towers	nr	29	6B.26

[30] *See additional commentary on next page for more information on line 6B.20 and line 6B. 23.*

Line description	Units	Input	RAG 4 Ref
Energy consumption – treated water distribution (MWh)	MWh	140,093.902	6B.27
Average pumping head – treated water distribution [31]	m.hd	91.52	6B.28
Total number of treated water distribution imports	nr	14	6B.29
Water imported from 3rd parties to treated water distribution systems	Ml/d	0.41	6B.30
Total number of treated water distribution exports	nr	4	6B.31
Water exported to 3rd parties from treated water distribution systems	Ml/d	0.42	6B.32

Additional commentary on treated water distribution

Line 20 & line 23: Number of potable water pumping stations

There has been a reduction of four sites from the number reported last year. The four sites mothballed are: Cliveden2 WBS, Gore Road (Dartford) WBS, Green Lane (Shamley Green) WBS and Okus (Swindon) RES & WBS).

Line 28: Average pumping head – treated water distribution

As per last year, we have used DI as the denominator, which is consistent with the worked example in RAG2.08.

For treated water distribution, 56% of the APH is derived from measured data (both flow and head) and 37% is derived from partially measured data where only one of the flow and head are measured (usually flow) and the unmeasured item is estimated from the previous year's values or static head data.

The remaining 8% of the APH is estimated from last year's data and static head data.

In terms of sites contributing to APH, 93% have measured volumes and/or lift.

[31] *See additional commentary on next page for more information on line 6B.28.*

Table 6C: Water network+ - Mains, communication pipes and other data

This table reports the mains analysis, mains age profile, number of communication pipes and additional data for the water network plus price control.

Line description	Units	Input	RAG 4 Ref
Total length of potable mains as at 31 March	km	31,830.8	6C.1
Total length of potable mains relined	km	0.0	6C.2
Total length of potable mains renewed	km	49.7	6C.3
Total length of new potable mains	km	95.6	6C.4
Total length of potable water mains (≤320mm)	km	28,784.8	6C.5
Total length of potable water mains (>320mm and ≤ 450mm)	km	934.7	6C.6
Total length of potable water mains (>450mm and ≤610mm)	km	1,073.9	6C.7
Total length of potable water mains (> 610mm)	km	1,037.3	6C.8
Number of lead communication pipes	nr	1,152,859	6C.9
Number of galvanised iron communication pipes	nr	265,992	6C.10
Number of other communication pipes	nr	1,263,838	6C.11
Total length of potable mains laid or structurally refurbished pre-1880	km	4,660.3	6C.12
Total length of potable mains laid or structurally refurbished between 1881 and 1900	km	3,107.3	6C.13
Total length of potable mains laid or structurally refurbished between 1901 and 1920	km	3,838.2	6C.14
Total length of potable mains laid or structurally refurbished between 1921 and 1940	km	5,204.9	6C.15
Total length of potable mains laid or structurally refurbished between 1941 and 1960	km	2,789.3	6C.16
Total length of potable mains laid or structurally refurbished between 1961 and 1980	km	4,377.7	6C.17
Total length of potable mains laid or structurally refurbished between 1981 and 2000	km	2,820.7	6C.18
Total length of potable mains laid or structurally refurbished post 2001	km	5,032.4	6C.19
Company area	km^2	8,008	6C.20
Number of lead communication pipes replaced for water quality	nr	14,950	6C.21
Compliance Risk Index	nr	2.59	6C.22
Event Risk Index	nr	46	6C.23

Table 6D: Demand management - Metering and leakage activities

This table reports the metering and leakage activities broken down by totex and explanatory variables.

Line description [32]	Units	Basic meter	AMR meter	AMI meter	RAG 4 Ref
Metering activities – Totex expenditure					
New optant meter installation for existing customers	£m	0.001	3.334	7.657	6D.1
New selective meter installation for existing customers	£m	0.000	0.019	34.502	6D.2
New business meter installation for existing customers	£m	0.000	0.006	0.036	6D.3
Residential meters renewed	£m	0.000	0.652	4.204	6D.4
Business meters renewed	£m	0.109	0.461	4.413	6D.5
Metering activities – Explanatory variables					
New optant meters installed for existing customers	000s	0.002	6.357	14.647	6D.6
New selective meters installed for existing customers	000s	0.000	0.052	94.402	6D.7
New business meters installed for existing customers	000s	0.000	0.012	0.078	6D.8
Residential meters renewed	000s	0.006	6.666	42.613	6D.9
Business meters renewed	000s	0.231	0.975	9.433	6D.10
New residential meters installed for existing customers – supply-demand balance benefit	Ml/d	0.00	0.00	4.45	6D.11
New business meters install ed for existing customers – supply-demand balance benefit	Ml/d	0.00	0.00	0.00	6D.12
Residential meters renewed - supply-demand balance benefit	Ml/d		0.00	0.00	6D.13
Business meters renewed - supply-demand balance benefit	Ml/d		0.00	0.00	6D.14
Residential properties - meter penetration	%	32.7	5.6	13.3	6D.15

Leakage activities	Units	Maintaining leakage	Reducing leakage	Total	RAG 4 Ref
Total leakage activity	£m	206.642	66.471	273.113	6D.16
Leakage improvements delivering benefits in 2020-25	Ml/d			-0.60	6D.17

Per capita consumption (excluding supply pipe leakage)	Units		
Per capita consumption (measured)	l/h/d	126.56	6D.18
Per capita consumption (unmeasured)	l/h/d	164.17	6D.19

[32] *See additional commentary on next page for more information on line 6D.6 to line 6D.10.*

Additional commentary on metering activities

Lines 6-10: Metering installation programme

Our current strategy is to install only smart meters in our optant, selective and replacement programmes. These meters can be read in AMR or AMI modes when an LCE is installed, in areas of fixed network coverage. All meters installed are therefore classified as 'smart' based on the definition outlined by Ofwat. However, there will be instances when a customer may request a 'basic' meter, either through the NHH Retail market (meter to be logged) or for our HH customers for religious grounds.

Within our London WRZ, which is covered by our wide area radio network, we deploy meters that can work in AMR mode where they can be read by driving or walking by the meters. When combined with a LCE these meters can alternatively operate in AMI mode, this is our preferred deployment mode as it allows meter reads to be collected remotely through our wide area network.

This allows us to receive daily a profile of either 15 minute or hourly read data, this rich source of data allows us to better understand water usage in our supply area and identify leakage and wastage, enabling us to work with customers to help reduce demand and leakage. Outside of our wide area network coverage the same meter is installed but operates in AMR mode.

Our meter installations for 2021/22 have increased from 2020/21 due to Covid-19 restrictions being lifted and we have hit our M01 and M02 performance commitments for the year. However, our meter and LCE deliveries continue to be impacted by the global microchip shortage restricting manufacturing in the supply chain. As a result, the replacement programme slowed, and all household proactive replacement activity was paused for February and March to mitigate potential stock shortages.

In 2021/22 we installed 175,474 meters, which is an increase of 87% from the previous year. Compared to our business plan we have exceeded the 2021/22 forecasts by 23% but due to the Covid-19 restrictions last year we have exceeded our cumulative position for the AMP by 4%.

For the NHH and HH replacement programme we are ahead of target for the cumulative AMP position, however for the optant and selective programmes we are slightly behind and aim to recover this shortfall by the end of 2022/23. Our water resources management plan forecast aligns to the business plan shown below:

	Business Plan Forecast			Actual		
	2020/21	2021/22	Total	2020/21	2021/22	Total
Residential meters renewed	33,895	33,895	67,790	25,850	49,285	75,135
Business meters renewed	877	877	1,754	11,360	10,639	21,999
Optant installs	17,289	17,289	34,578	12,353	21,006	33,359
Selective meters installed	64,743	88,971	153,714	44,137	94,454	138,591
New business meters installed	-	0	0	24	90	114
Total	116,804	141,032	257,836	93,724	175,474	269,198

Table 6F: WRMP annual reporting on delivery – non-leakage activities

Line Description Units: £m	Classification	Delivery year (in use)	Capital expenditure					
			2020-21	2021-22	2022-23	2023-24	2024-25	After 2024-25
Activity								
Guildford WRZ network reinforcement	Internal interconnectors delivering benefits in 2020-2025	2025	0.000	0.527	1.019	3.470	8.240	8.736
Raw water purchase – Didcot	Supply-side improvements delivering benefits in 2020-2025	2021	0.000	0.000	0.000	0.000	0.000	0.000
New River Head - Removal of Constraints	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.001	0.007	0.000	0.335	0.000	0.000
ASR - Horton Kirby	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.000	0.729	0.120	0.000	0.000	18.557
Groundwater Southfleet/Greenhithe	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.000	0.000	0.000	2.786	7.602	11.788
Indirect potable reuse Deephams	Supply-demand balance improvements delivering benefits starting from 2026	2031	0.000	0.000	0.000	0.000	5.750	0.000
ASR East London (Addington)	Supply-demand balance improvements delivering benefits starting from 2026	2032	0.000	0.000	0.015	0.448	0.063	0.000
Ladymead WTW - Removal of Constraints	Supply-side improvements delivering benefits in 2020-2025	2025	0.000	0.000	0.060	2.475	5.672	1.243
Smarter Home Visits (SHV)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Smarter Business Visits (SBV) incl. wastage fixes	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Wastage Fixes – households	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Greenredeem / household incentive scheme	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Non-potable	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Housing Association	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Innovation savings	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.000
Financial tariffs	Supply-demand balance improvements delivering benefits starting from 2026	2035-36	0.000	0.000	0.000	0.000	0.000	0.000

Line Description Units: £m	Classification	Delivery year (in use)	Capital expenditure					
			2020-21	2021-22	2022-23	2023-24	2024-25	After 2024-25
Green Economic Recovery (WEF element only)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2022-23	0.000	0.000	0.000	0.000	0.000	0.000
Total			0.001	1.263	1.214	9.514	27.327	40.324

Line Description Units: £m	Classification	Delivery year (in use)	Opex costs					
			202021	2021-22	2022-23	2023-24	202-4-25	After 2024-25
Activity								
Guildford WRZ network reinforcement	Internal interconnectors delivering benefits in 2020-2025	2025	0.000	0.000	0.000	0.000	0.000	0.000
Raw water purchase – Didcot	Supply-side improvements delivering benefits in 2020-2025	2021	2.367	2.280	2.280	2.280	2.280	0.000
New River Head - Removal of Constraints	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.000	0.000	0.000	0.000	0.000	0.000
ASR - Horton Kirby	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.000	0.000	0.000	0.000	0.000	0.000
Groundwater Southfleet/Greenhithe	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.000	0.000	0.000	0.000	0.000	0.000
Indirect potable reuse Deephams	Supply-demand balance improvements delivering benefits starting from 2026	2031	0.000	0.000	0.000	0.000	0.000	0.000
ASR East London (Addington)	Supply-demand balance improvements delivering benefits starting from 2026	2032	0.000	0.000	0.000	0.000	0.000	0.000
Ladymead WTW - Removal of Constraints	Supply-side improvements delivering benefits in 2020-2025	2025	0.000	0.000	0.000	0.000	0.000	0.000
Smarter Home Visits (SHV)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.830	1.637	0.268	0.268	0.268	6.030
Smarter Business Visits (SBV) incl. wastage fixes	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	1.226	1.445	0.339	0.339	0.339	0.620
Wastage Fixes – households	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.064	0.334	0.054	0.054	0.054	1.359
Greenredeem / household incentive scheme	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.180	0.180	0.145	0.000	0.000	0.005
Non-potable	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.436
Housing Association	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.019	0.003	0.000	0.000	0.000	0.197

Line Description Units: £m	Classification	Delivery year (in use)	Opex costs					
			202021	2021-22	2022-23	2023-24	202-4-25	After 2024-25
Innovation savings	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.000	0.000	0.000	0.000	0.000	0.451
Financial tariffs	Supply-demand balance improvements delivering benefits starting from 2026	2035-36	0.000	0.000	0.000	0.000	0.000	0.139
Green Economic Recovery (WEF element only)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2022-23	0.000	0.000	0.000	0.900	0.900	6.557
Total			4.686	5.879	3.086	3.841	3.841	15.794

Line Description Units: Ml/d	Classification	Delivery year (in use)	Benefits					
			2020-21	2021-22	2022-23	2023-24	2024-25	After 2024-25
Activity								
Guildford WRZ network reinforcement	Internal interconnectors delivering benefits in 2020-2025	2025	0.00	0.00	0.00	0.00	0.00	9.00
Raw water purchase – Didcot	Supply-side improvements delivering benefits in 2020-2025	2021	24.00	24.00	24.00	24.00	24.00	0.00
New River Head - Removal of Constraints	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.00	0.00	0.00	0.00	0.00	3.00
ASR - Horton Kirby	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.00	0.00	0.00	0.00	0.00	5.00
Groundwater Southfleet/Greenhithe	Supply-demand balance improvements delivering benefits starting from 2026	2026	0.00	0.00	0.00	0.00	0.00	8.00
Indirect potable reuse Deephams	Supply-demand balance improvements delivering benefits starting from 2026	2031	0.00	0.00	0.00	0.00	0.00	45.00
ASR East London (Addington)	Supply-demand balance improvements delivering benefits starting from 2026	2032	0.00	0.00	0.00	0.00	0.00	3.00
Ladymead WTW - Removal of Constraints	Supply-side improvements delivering benefits in 2020-2025	2025	0.00	0.00	0.00	0.00	4.60	4.60
Smarter Home Visits (SHV)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.80	2.60	2.790	2.990	3.180	15.58
Smarter Business Visits (SBV) incl. wastage fixes	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	7.15	19.26	21.26	23.26	25.26	15.38

Line Description Units: Ml/d	Classification	Delivery year (in use)	Benefits					
			2020-21	2021-22	2022-23	2023-24	2024-25	After 2024-25
Wastage Fixes - households	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.20	1.37	1.48	1.59	1.7	18.95
Greenredeem / household incentive scheme	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.06	0.14	0.28	0.28	0.28	1.40
Non-potable	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.00	0.00	0.00	0.00	0.00	2.12
Housing Association	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.02	0.02	0.02	0.02	0.02	0.69
Innovation savings	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21	0.00	0.00	0.00	0.00	0.00	42.04
Financial tariffs	Supply-demand balance improvements delivering benefits starting from 2026	2035-36	0.00	0.00	0.00	0.00	0.00	52.16
Green Economic Recovery (WEF element only)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2022-23	0.00	0.00	0.00	1.50	3.00	3.00
Total			32.23	47.39	49.83	53.64	62.04	228.92

Line Description [33]	Classification	Delivery year (in use)	Complete for internal interconnectors only					RAG 4 Ref
			Length	Diameter	Pipe material	Pumping capacity installed	Storage capacity installed	
			km	mm	Text	kW	m3	
Activity								
Guildford WRZ network reinforcement	Internal interconnectors delivering benefits in 2020-2025	2025	9.8	300.0	PE	n/a	n/a	6F.1
Raw water purchase – Didcot	Supply-side improvements delivering benefits in 2020-2025	2021						6F.2
New River Head - Removal of Constraints	Supply-demand balance improvements delivering benefits starting from 2026	2026						6F.3
ASR - Horton Kirby	Supply-demand balance improvements delivering benefits starting from 2026	2026						6F.4
Groundwater Southfleet/Greenhithe	Supply-demand balance improvements delivering benefits starting from 2026	2026						6F.5
Indirect potable reuse Deephams	Supply-demand balance improvements delivering benefits starting from 2026	2031						6F.6
ASR East London (Addington)	Supply-demand balance improvements delivering benefits starting from 2026	2032						6F.7
Ladymead WTW - Removal of Constraints	Supply-side improvements delivering benefits in 2020-2025	2025						6F.8
Smarter Home Visits (SHV)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.9
Smarter Business Visits (SBV) incl. wastage fixes	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.10
Wastage Fixes - households	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.11
Greenredeem / household incentive scheme	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.12
Non-potable	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.13
Housing Association	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.14
Innovation savings	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2020-21						6F.15
Financial tariffs	Supply-demand balance improvements delivering benefits starting from 2026	2035-36						6F.16
Green Economic Recovery (WEF element only)	Demand-side improvements delivering benefits in 2020-2025 (excl leakage and metering)	2022-23						6F.17
Total			9.8			0	0.000	6F.51

[33] *See additional commentary at the end of the table for more information on line 6F.9 to line 6F.17*

Additional commentary on supply-side improvements

The delivery of the New River Head (Removal of constraints) groundwater scheme was deferred from 2020/21 delivery, but with the raw water purchase agreement with RWE Npower at Didcot being delivered in 2020/21 the deployable output benefit to the London WRZ increased by 24 Ml/d. As a result, the total DO benefit of 24 Ml/d to the London WRZ exceeded the planned WRMP19 benefit of 18 Ml/d by 6 Ml/d.

With supply demand in the London WRZ remaining in surplus, the delivery of the New River Head scheme continues to be deferred and similarly, the delivery of the ASR Horton Kirby and Groundwater Southfleet/Greenhithe schemes is now deferred beyond the end of AMP7. Despite delivery being deferred, development work has progressed on all three of these schemes.

The scope of development work for ASR East London (Addington) is being defined although its current delivery date is in early AMP9 (2031/32). The Deephams Indirect Potable Reuse scheme has been included in the benefits to be reported, but it is now not supported for delivery by the Environment Agency and will not be delivered owing to their rejection of the scheme.

Other Strategic Resource Options (SRO) are under consideration as a replacement for the Deephams Indirect Potable Reuse scheme as part of the Water Resources South East (WRSE) WRMP24 process.

No other SROs are included in the Table 6F return as they are at conceptual design stage, effectively to enable the selection of SROs to be confirmed for delivery in WRMP24 and as a result the SROs are not in delivery for WRMP19.

No supply-side improvements schemes were planned in Guildford WRZ for 2020/21 or 2021/22, consistent with our WRMP19 programme for AMP7.

No schemes are planned for AMP7 for other zones.

Additional commentary on demand-side improvements

Line 6F.9 Smarter Home Visits

Our SHV activity achieved the target of 25,000 visits in 2021/22 but is still behind the cumulative water savings target due to the volume of SHV delivery lost in year 1 from Government's Covid-19 restrictions – resulting in many months of no water efficiency delivery. Our use of smart meter data to assist targeting high usage and continuous flow households continues to maximise the demand reductions achieved per SHV.

Line 6F.10 *Smarter Business Visits including wastage fixes*

Our SBV activity has proved to be the very effective demand reduction initiative. Our data and insight are being used to assist Defra in their development of a NHH water savings component of the proposed Nation Water Demand Target, and to MOSL and Ofwat as part of the Retailer-Wholesaler Group's Water Efficiency Sub-Group outputs. Our SBVs are also being used in specific Water Resource Zones in response to supply-demand challenges.

Line 6F.11 *Wastage Fixes – households*

Our wastage fixes are continuing to delivery consistent and useful water savings per visit, but the cumulative demand reduction progress is behind the original WRMP projection due to the long-standing impacts of Government Covid-19 restrictions in year 1, which resulted in months of no delivery. The insight from our wastage fix initiative is being supplied to Defra as part of their National Water Demand Target consultation, and the sector-wide efforts to address the

manufacturing industry and product certification bodies to help address the UK's 'leaky-loo' issue.

Line 6F.12 *Greenredeem / household incentive scheme*

Our ability to expand our Greenredeem water efficiency incentive in line with WRMP projections, was impacted significantly by Covid-19 restrictions – resulting in a suspension of all in-home water efficiency and wastage fix activities. Our ability to digitally / electronically engage with customers to promote water efficiency incentives was also impacted by updated Privacy and Electronic Communications Regulations (PECR) ruling under data protection laws, requiring greater levels of customer consent. In response, we are strengthening our Greenredeem engagement activities and have also achieved a significant increase in customer recruitment through 2021/22 via our SHV programme.

Line 6F.13 Non-potable

We have not delivered any non-potable water reduction in AMP7.

Line 6F.14 Housing Association

As per all water efficiency in-home visits, our legacy joint Thames-housing association visit initiatives were also impacted by Covid-19 restrictions. During this time and following consultation with our housing association delivery partners, we rolled these visits into the larger SHV programme. Going forward, the majority of water efficiency visits conducted in housing association properties will fall into the SHV delivery and reporting space.

Line 6F.15 Innov*ation savings*

We undertake a range of small pilots and trials on both water saving devices and customer engagement activities. In parallel to sharing these results with other water companies through the Water Efficiency Network, we will use these trials to expand our innovation activity into later AMPs.

We are also exploring water saving opportunities through water efficiency incentives to non-household Retailers and water neutrality incentives with developers.

Line 6F.16 Financial tariffs

As per WRMP19, financial tariffs have been included after 2024/25. They are planned for introduction once our metering programme is complete. Therefore, there are no financial tariffs in AMP7.

Line 6F.17 Green Economic Recovery

Our Green Economic Recovery (GER) will focus on the installation of smart water meters in Thames Valley, starting in year 3 and to be completed by the end of AMP7. There has been no delivery of the GER programme in 2021/22. We are forecasting to undertake the majority of GER delivery in 2023/24 and 2024/25. GER will require procurement, recruitment, stakeholder engagement and dig/installation scheduling in 2022/23.

These forecasts differ slightly from the original GER submission profiles, due to the continued impacts of Covid-19 on workforce availability to make up non-GER programme meter installations, plus the ability to secure long-term smart meter stock due to the global shortage of microprocessors.

The programme will be a continuation of the Progressive Metering Programme, converting unmeasured household to metered account customers. The water efficiency element of GER

will run in parallel with the smart meter installation programme and will primarily involve the delivery of SHVs on newly smart metered household customers. These SHVs will target households with higher than average water usage and/or continuous flows (e.g. internal wastage, leaky toilets), aiming to maximise the water savings benefit per visit and resolve high use and wastage, and enable these customers to convert to metered bills.

Section 7: Additional regulatory information – wastewater network plus

Table7A: Wastewater network+ - Functional expenditure

This table shows functional expenditure for our sewage treatment works split by site size.

Line description	£'000	RAG 4 Ref
Direct costs of STWs in size band 1	1,041.392	7A.1
Direct costs of STWs in size band 2	1,331.197	7A.2
Direct costs of STWs in size band 3	4,759.872	7A.3
Direct costs of STWs in size band 4	11,029.669	7A.4
Direct costs of STWs in size band 5	11,442.639	7A.5
General & support costs of STWs in size bands 1 to 5	5,094.781	7A.6
Functional expenditure of STWs in size bands 1 to 5 (excluding 3rd party services)	34,699.549	7A.7
Service charges for STWs in size band 6	3,990.003	7A.8
Estimated terminal pumping costs size band 6 works	1,231.809	7A.9
Other direct costs of STWs in size band 6	167,113.173	7A.10
Direct costs of STWs in size band 6	172,334.985	7A.11
General & support costs of STWs in size band 6	29,808.228	7A.12
Functional expenditure of STWs in size band 6 (excluding 3rd party services)	202,143.213	7A.13
Total operating functional expenditure (excluding 3rd party services)	236,842.761	7A.14

Table 7B: Wastewater network+ - Large sewage treatment works

We've chosen to publish the 2021/22 regulatory table 7B as a separate document to this Annual Performance Report due to the size of the table. This has been prepared in line with regulatory guidelines and follows the principles set out in this Annual Performance Report.

You can view this table on our website.

Table 7C: Wastewater network+ - Sewer and volume data

This table reports the sewer and volume data for the wastewater network plus price control.

Line description	Units	Input	RAG 4 Ref
Connectable properties served by s101A schemes completed in the report year	nr	0	7C.1
Number of s101A schemes delivered in the report year	nr	0	7C.2
Total pumping station capacity	kW	138,686	7C.3
Number of network pumping stations	nr	5,123	7C.4
Total number of sewer blockages	nr	74,569	7C.5
Total number of gravity sewer collapses	nr	331	7C.6
Total number of sewer rising main bursts	nr	82	7C.7
Number of combined sewer overflows	nr	408	7C.8
Number of emergency overflows	nr	24	7C.9
Number of settled storm overflows	nr	249	7C.10
Sewer age profile (constructed post 2001)	km	10,589	7C.11
Volume of trade effluent	Ml/yr	18,998.01	7C.12
Volume of wastewater receiving treatment at sewage treatment works	Ml/yr	1,673,936.43	7C.13
Length of gravity sewers rehabilitated	km	36	7C.14
Length of rising mains replaced or structurally refurbished	km	2	7C.15
Length of foul (only) public sewers	km	37,444	7C.16
Length of surface water (only) public sewers	km	23,374	7C.17
Length of combined public sewers	km	6,016	7C.18
Length of rising mains	km	2,040	7C.19
Length of other wastewater network pipework	km	354	7C.20
Total length of "legacy" public sewers as at 31 March	km	69,228	7C.21
Length of formerly private sewers and lateral drains (s105A sewers)	km	40,064	7C.22

Additional commentary on sewer and volume data

Line 7C.14: Length of gravity sewers rehabilitated

The length of gravity sewer rehabilitation completed in 2021/22 (36,756m) has increased by 81% from 2020/21 (20,315m). The number of reactive dig downs and relining jobs has only increased by 9% (2,060 to 2,240), so the rest of the increase is predominantly due to more proactive rehabilitation completed in 2021/22.

Line 7C.15: Length of rising mains replaced or structurally refurbished

The length of rising main repair completed in 2021/22 (2,324m) has increased by 77% from 2020/21 (1,311m). This is primarily because two planned Capital Delivery projects each delivered significant lengths of rising main repair (942m and 1,090m).

When completing this line, the structurally refurbished length is calculated using the exact length of the section of repaired rising main where the known length is available. 29 records out of the total 83 jobs did not have the known length available, and these 29 were infilled with the mean average length of known lengths under 20m (only jobs under 20m were included to avoid skewing the average).

Our interpretation of “structurally refurbished” is that it is intended to capture any pipeline rehabilitation technique which results in an improvement in the structural integrity of the pipe such that its expected service life has been materially extended.

Table 7D: Wastewater network+ - Sewage treatment works data

This table reports the sewage treatment works load and numbers categorised by size bands and the population equivalent data.

Line description	Units	Treatment categories							
		Primary	Secondary		Tertiary				Total
			Activated Sludge	Biological	A1	A2	B1	B2	
Load received by STWs in size band 1	kg BOD_5/day	5	53	227	30	0	159	14	487
Load received by STWs in size band 2	kg BOD_5/day	0	82	391	19	0	366	113	972
Load received by STWs in size band 3	kg BOD_5/day	0	280	1,464	339	0	2,284	600	4,967
Load received by STWs in size band 4	kg BOD_5/day	0	2,994	3,192	1,107	1,477	7,486	5,994	22,249
Load received by STWs in size band 5	kg BOD_5/day	0	1,624	0	0	8,324	2,167	15,227	27,342
Load received by STWs above size band 5	kg BOD_5/day	0	540,785	0	0	331,839	3,767	35,217	911,608
Total load received	kg BOD_5/day	5	545,819	5,274	1,495	341,640	16,229	57,163	967,624
Load received from trade effluent customers at treatment works	kg BOD_5/day								24,179
STWs in size band 1	nr	2	9	39	5	0	18	1	74
STWs in size band 2	nr	0	4	18	1	0	18	5	46
STWs in size band 3	nr	0	5	25	4	0	35	9	78
STWs in size band 4	nr	0	10	11	4	3	28	19	75
STWs in size band 5	nr	0	2	0	0	8	3	15	28
STWs above size band 5	nr	0	5	0	0	35	2	10	52
Total number of works	nr	2	35	93	14	46	104	59	353

Line description	Units	Treatment works consents										
		Phosphorus					BOD_5					
		<=0.5mg/l	>0.5 to <=1mg/l	>1mg/l	No permit	Total	<=7mg/l	>7 to <=10mg/l	>10 to <=20mg/l	>20mg/l	No permit	Total
Load received by STWs in size band 1	kg BOD_5/day	0	14	0	473	487	0	5	66	388	28	487
Load received by STWs in size band 2	kg BOD_5/day	97	45	19	811	972	0	15	194	724	39	972
Load received by STWs in size band 3	kg BOD_5/day	318	661	34	3,954	4,967	0	717	1,694	2,555	0	4,967
Load received by STWs in size band 4	kg BOD_5/day	1,235	1,806	770	18,438	22,249	1,907	4,250	13,162	2,931	0	22,249
Load received by STWs in size band 5	kg BOD_5/day	0	1,840	25,831	2,100	29,770	3,086	13,298	12,270	1,116	0	29,770
Load received by STWs above size band 5	kg BOD_5/day	17,770	274,033	74,454	542,923	909,179	133,609	124,371	590,246	60,954	0	909,180
Total load received	kg BOD_5/day	19,420	278,399	101,107	568,699	967,624	138,602	142,655	617,633	68,667	67	967,624
Load received from trade effluent customers at treatment works	kg BOD_5/day											
STWs in size band 1	nr	0	1	0	73	74	0	1	11	54	8	74
STWs in size band 2	nr	4	2	1	39	46	0	1	9	34	2	46
STWs in size band 3	nr	4	10	1	63	78	0	10	26	42	0	78
STWs in size band 4	nr	4	6	2	63	75	5	13	43	14	0	75
STWs in size band 5	nr	0	2	25	3	30	3	13	13	1	0	30
STWs above size band 5	nr	3	19	24	6	52	8	22	18	4	0	52
Total number of works	nr	15	40	53	247	355	16	60	120	149	10	355

Line description	Units	Treatment works consents						RAG 4 Ref
		Ammonia						
		<=1mg/l	>1 to <=3mg/l	>3 to <=10mg/l	>10mg/l	No permit	Total	
Load received by STWs in size band 1	kg BOD_5/day	0	0	64	90	333	487	7D.1
Load received by STWs in size band 2	kg BOD_5/day	0	15	285	178	494	972	7D.2
Load received by STWs in size band 3	kg BOD_5/day	0	501	2,430	733	1,303	4,967	7D.3
Load received by STWs in size band 4	kg BOD_5/day	0	9,846	9,951	1,648	805	22,249	7D.4
Load received by STWs in size band 5	kg BOD_5/day	0	15,469	13,134	1,168	0	29,770	7D.5
Load received by STWs above size band 5	kg BOD_5/day	134,432	678,903	88,817	7,028	0	909,179	7D.6
Total load received	kg BOD_5/day	134,432	704,733	114,680	10,845	2,934	967,624	7D.7
Load received from trade effluent customers at treatment works	kg BOD_5/day							7D.8
STWs in size band 1	nr	0	0	9	11	54	74	7D.9
STWs in size band 2	nr	0	1	13	8	24	46	7D.10
STWs in size band 3	nr	0	7	35	13	23	78	7D.11
STWs in size band 4	nr	0	30	35	5	5	75	7D.12
STWs in size band 5	nr	0	16	13	1	0	30	7D.13
STWs above size band 5	nr	7	30	14	1	0	52	7D.14
Total number of works	nr	7	84	119	39	106	355	7D.15

Population equivalent	Units	Primary	RAG 4 Ref
Current population equivalent served by STWs	000s	15,998.724	7D.16
Current population equivalent served by STWs with tightened/new P consents	000s	0.000	7D.17
Current population equivalent served by STWs with tightened/new N consents	000s	0.000	7D.18
Current population equivalent served by STWs with tightened/new sanitary parameter consents	000s	65.441	7D.19
Current population equivalent served by STWs with tightened/new UV consents	000s	0.000	7D.20
Population equivalent treatment capacity enhancement	000s	41.561	7D.21
Current population equivalent served by STWs with tightened/new consents for chemical	000s	0.000	7D.22
Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity	l/s	0.000	7D.23
Additional storm tank capacity provided at STWs	m3	0.000	7D.24
Additional volume of network storage at CSOs etc to reduce spill frequency	m3	0.000	7D.25

Table 7E: Wastewater network+ - Energy consumption and other data

This table reports the energy consumption and additional data for the wastewater network plus price control.

Line description	Units	Input	RAG 4 Ref
Total sewerage catchment area	km^2	2,655	7E.1
Designated coastal bathing waters	Nr	0	7E.2
Number of intermittent discharge sites with event duration monitoring	Nr	162	7E.3
Number of monitors for flow monitoring at STWs	Nr	61	7E.4
Number of odour related complaints	Nr	756	7E.5
Energy consumption - sewage collection	MWh	102,300.628	7E.6
Energy consumption - sewage treatment	MWh	670,880.737	7E.7
Energy consumption - wastewater network +	MWh	773,181.365	7E.8

Table 7F: Wastewater network+ - WINEP phosphorus removal scheme costs and cost drivers

We've chosen to publish the 2021/22 regulatory table 7F as a separate document to this Annual Performance Report due to the size of the table. This has been prepared in line with regulatory guidelines and follows the principles set out in this Annual Performance Report.

You can view this table on our website.

Section 8: Additional regulatory information – bioresources

Table 8A: Bioresources sludge data

This table reports the Bioresources sludge data for the company.

Line description	Units	Total	RAG 4 Ref
Total sewage sludge produced, treated by incumbents	ttds/ year	371.7	8A.1
Total sewage sludge produced, treated by 3rd party sludge service provider	ttds/ year	0.0	8A.2
Total sewage sludge produced	ttds/ year	371.7	8A.3
Total sewage sludge produced from non-appointed liquid waste treatment	ttds/ year	2.9	8A.4
Percentage of sludge produced and treated at a site of STW and STC co-location	%	0.92	8A.5
Total sewage sludge disposed by incumbents	ttds/ year	205.7	8A.6
Total sewage sludge disposed by 3rd party sludge service provider	ttds/ year	0.0	8A.7
Total sewage sludge disposed	ttds/ year	205.7	8A.8
Total measure of intersiting 'work' done by pipeline	ttds*km/year	108	8A.9
Total measure of intersiting 'work' done by tanker	ttds*km/year	760	8A.10
Total measure of intersiting 'work' done by truck	ttds*km/year	772	8A.11
Total measure of intersiting 'work' done (all forms of transportation)	ttds*km/year	1,639	8A.12
Total measure of intersiting 'work' done by tanker (by volume transported)	m^3*km/yr	20,869,470	8A.13
Total measure of 'work' done in sludge disposal operations by pipeline	ttds*km/year	0	8A.14
Total measure of 'work' done in sludge disposal operations by tanker	ttds*km/year	0	8A.15
Total measure of 'work' done in sludge disposal operations by truck	ttds*km/year	13,181	8A.16
Total measure of 'work' done in sludge disposal operations (all forms of transportation)	ttds*km/year	13,181	8A.17
Total measure of 'work' done by tanker in sludge disposal operations (by volume transported)	m^3*km/yr	0	8A.18
Chemical P sludge as % of sludge produced at STWs	%	41.80	8A.19

Commentary on lines

Line 4: Total sewage sludge produced from non-appointed liquid waste treatment

All cess waste imported into our sewage treatment facilities discharges via cess loggers, which record volume and solids content of the cess. The majority of incoming cess is too dilute to record a solids content, so these volumes did not contribute to our calculation. As such, only imports that recorded solids above the recording limit of the meters were used. Therefore, the mass of solids due to non-appointed waste was negligible compared to the overall tonnage of sludge produced through the appointed business. Volumes were higher than last year as several cess loggers have had additional measurement facilities installed allowing solids to be recorded where they were volumes were only previously recorded.

Lines 10, 11, 13, 15, 16 & 18: tanker and truck movements

Internal tankering services were used for intersite movement of liquid sludge, supported by 10 framework suppliers. Intersite cake in trucks was undertaken by a haulage contractor, but under the management of internal staff. All transport activity was managed by our in-house logistics team and therefore all deemed to be undertaken by the incumbent and not a third party. The only sludge transport by dedicated pipeline that is undertaken is a transfer between Beckton and Riverside sludge centres in east London.

Contractors were also used to undertake haulage and spreading of final product, but under our management. During the period, only dewatered sludge cake was recycled, therefore no liquid tanker operations were employed for final disposal.

Actual road distances were not available, so radial distance inflated by a multiplier of 1.4 was applied. This factor was calculated from a sample set of data where radial distances between sites were compared to actual road distances.

Table 8B: Bioresources operating expenditure analysis

This table shows the bioresources operating expenditure for the upstream services, processes and disposal routes.

Line description Units: £m	Pipeline	Tanker	Truck	Total	RAG 4 Ref
Sludge transport method					
Power	0.000	0.021	0.003	0.024	8B.1
Income treated as negative expenditure	0.000	0.000	0.000	0.000	8B.2
Discharge consents	0.000	0.000	0.000	0.000	8B.3
Bulk discharge	0.000	0.000	0.000	0.000	8B.4
Other operating expenditure					
Renewals expensed in year (Infrastructure)	0.000	0.000	0.000	0.000	8B.5
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000	8B.6
Other operating expenditure excluding renewals	0.072	6.080	1.002	7.154	8B.7
Total functional expenditure	0.072	6.101	1.005	7.178	8B.8
Local authority and Cumulo rates	0.001	0.104	0.017	0.122	8B.9
Total operating expenditure (excluding 3rd party)	0.073	6.205	1.022	7.300	8B.10

Line description Units: £m	Untreated Sludge	Raw Sludge liming	Conventional AD	Incineration of raw sludge	Photo-conditioning/ composting	Advanced Anaerobic Digestion	Other	Total	RAG 4 Ref
Sludge treatment type									
Power	-0.053	-0.084	-3.309	-0.717	0.000	-6.375	0.000	-10.538	8B.11
Income treated as negative expenditure	0.000	0.000	-4.797	-1.039	0.000	-9.244	0.000	-15.080	8B.12
Discharge consents	0.000	0.000	0.009	0.002	0.000	0.017	0.000	0.028	8B.13
Bulk discharge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.14
Other operating expenditure									
Renewals expensed in year (Infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.15
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.16
Other operating expenditure excluding renewals	0.278	0.445	17.463	3.782	0.000	33.650	0.000	55.618	8B.17

Line description Units: £m	Untreated Sludge	Raw Sludge liming	Conventional AD	Incineration of raw sludge	Photo-conditioning/ composting	Advanced Anaerobic Digestion	Other	Total	RAG 4 Ref
Total functional expenditure	0.225	0.361	9.366	2.028	0.000	18.048	0.000	30.028	8B.18
Local authority and Cumulo rates	0.031	0.049	1.928	0.417	0.000	3.714	0.000	6.139	8B.19
Total operating expenditure (excluding 3rd party)	0.256	0.410	11.294	2.445	0.000	21.762	0.000	36.167	8B.20

Line description Units: £m	Landfill, raw	Landfill, partly treated	Land restoration/ reclamation	Sludge recycled to farmland	Incineration of digested Sludge	Other	Total	RAG 4 Ref
Power	0.000	0.000	0.002	0.198	0.000	0.000	0.200	8B.21
Income treated as negative expenditure	0.000	0.000	0.000	-0.762	0.000	0.000	-0.762	8B.22
Discharge consents	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.23
Bulk discharge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.24
Renewals expensed in year (Infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.25
Renewals expensed in year (Non-Infrastructure)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8B.26
Other operating expenditure excluding renewals	0.000	0.000	0.252	24.950	0.000	0.000	25.202	8B.27
Total functional expenditure	0.000	0.000	0.254	24.386	0.000	0.000	24.640	8B.28
Local authority and Cumulo rates	0.000	0.000	0.001	0.073	0.000	0.000	0.074	8B.29
Total operating expenditure (excluding 3rd party)	0.000	0.000	0.255	24.459	0.000	0.000	24.714	8B.30

Table 8C: Bioresources energy and liquors analysis

This table shows the energy generated and income received for our bioresources price control.

Line description	Electricity MWh	Heat MWh	Biomethane MWh	Total MWh
Energy consumption – bioresources				
Energy generated by and used in bioresources control	164,138	179,772	0	343,910
Energy generated by bioresources and used in network plus control	-156,131	-1,081	0	-157,211
Energy generated by bioresources and exported to the grid or third party	-24,319	0	0	-24,319
Energy generated by bioresources that is unused	0	197,933	0	197,933
Energy bought from grid or third party and used in bioresources control	97,896	55,324	0	153,220

Line description	Electricity £m	Heat £m	Biomethane £m	Total £m	RAG 4 Ref
Energy consumption - bioresources				61.971	8C.1
Energy generated by and used in bioresources control	28.956	14.268	0.000	43.224	8C.2
Energy generated by bioresources and used in network plus control	-26.421	-0.239	0.000	-26.660	8C.3
Energy generated by bioresources and exported to the grid or third party	-2.448	0.000	0.000	-2.448	8C.4
Energy generated by bioresources that is unused					8C.5
Energy bought from grid or third party and used in bioresources control	16.738	4.457	0.000	21.195	8C.6

Income from renewable energy subsidies	Unit	Value	RAG 4 Ref
Income claimed from Renewable Energy Certificates (ROCs)	£m	-9.933	8C.7
Income claimed from Renewable Heat Incentives (RHIs)	£m	0.000	8C.8
Income claimed from [other renewable energy subsidy (1)]	£m	-0.849	8C.9
Income claimed from [other renewable energy subsidy (2)]	£m	0.000	8C.10
Income claimed from [other renewable energy subsidy (3)]	£m	0.000	8C.11
Total income claimed from renewable energy subsidies	£m	-10.782	8C.12
% of total number of renewable energy subsidies due to expire in the next 2 financial years	%	0%	8C.13
This year's value of renewable energy subsidies due to expire in the next 2 financial years	£m	0.000	8C.14

Bioresources liquors treated by network plus (shadow reported) [34]	Unit	Value	RAG 4 Ref
BOD load of liquor or partially treated liquor returned from bioresources to network plus	kg/d	24,201	8C.15
Ammonia load of liquor or partially treated liquor returned from bioresources to network plus	kg Amm-N/d	18,438	8C.16
Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors	£m	10.704	8C.17

Line description	Electricity	Heat	Biomethane	Total
	MWh	MWh	MWh	MWh
Energy consumption – bioresources				
Energy generated by and used in bioresources control	164,138	179,772	0	343,910
Energy generated by bioresources and used in network plus control	-156,131	-1,081	0	-157,211
Energy generated by bioresources and exported to the grid or third party	-24,319	0	0	-24,319
Energy generated by bioresources that is unused	0	197,933	0	197,933
Energy bought from grid or third party and used in bioresources control	97,896	55,324	0	153,220

Line description	Electricity	Heat	Biomethane	Total	RAG 4 Ref
	£m	£m	£m	£m	
Energy consumption - bioresources				61.971	8C.18
Energy generated by and used in bioresources control	28.956	14.268	0.000	43.224	8C.19
Energy generated by bioresources and used in network plus control	-26.421	-0.239	0.000	-26.660	8C.20
Energy generated by bioresources and exported to the grid or third party	-2.448	0.000	0.000	-2.448	8C.21
Energy generated by bioresources that is unused					8C.22
Energy bought from grid or third party and used in bioresources control	16.738	4.457	0.000	21.195	8C.23

	%	RAG 4 Ref
Percentage of bioresources energy consumption that is metered	47.201	8C.24

[34] *See additional commentary on next page for more information on line 8C.16 to 8C.17.*

Additional commentary on table 8C

Lines 15 & 16: BOD load and ammonia load of liquor or partially treated liquor returned from bioresources to network plus

During the period all dewatering centres and sludge treatment facilities produced liquor which was returned to the adjacent STW for treatment. Whilst we have started a programme to routinely measure these loads, we were unable to provide representative 12 samples across all sites, this was due to having to initially identify suitable sampling locations and in some instances the need to provide safe access to the sampling facility. We have therefore only periodically tested these liquors for BOD and Ammonia concentration and have used our generic asset standard loading rates for typical liquor strength for given dewatering technologies and processes. These asset standard values were used across all sites to calculate the liquor loading strength. Additionally, due to the arrangement on each site, measurement of liquor flows is difficult to assess. Therefore, the annual average daily flows into the dewatering plant and the associated dry solids concentration of the ingoing and outgoing sludge were used to calculate the volume of liquor. These figures were also adjusted to take out the polymer and wash water used during the dewatering process.

It should be noted that changes year on year for this line of reporting are likely to be attributed to the work undertaken by the business to continually optimise the management of sludge meaning that transfer between strategic sites and managing locally indigenous sludge is undertaken carefully to minimise and balance factors such as impact of costs to transport, impact of tanker movements on local communities and cost to operate by the business.

Line 17: Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors

Using the liquor concentrations from lines 15 and 16, the cost to treat the liquor was calculated. Given that the cost is predominantly associated with the ammonia loads, we calculated the cost based on the proportion of the secondary treatment process at each STW that was used. The cost was based on the estimated modern equivalent asset value (MEAV) of the secondary treatment process and the operating costs incurred in treating the load and the associated thickening costs of handling the biological sludge generated.

Table 8D: Bioresources sludge treatment and disposal data

This table reports the percentage of sludge treatment processes and percentage of (un-incinerated) sludge disposal and recycling routes.

Line description Unit: %	By incumbent	By 3rd party sludge service providers	RAG 4 Ref
% Sludge - untreated	0.5%	0.0%	8D.1
% Sludge treatment process - raw sludge liming	1.6%	0.0%	8D.2
% Sludge treatment process - conventional AD	31.1%	0.0%	8D.3
% Sludge treatment process - advanced AD	60.0%	0.0%	8D.4
% Sludge treatment process - incineration of raw sludge	6.8%	0.0%	8D.5
% Sludge treatment process - other (specify)	0.0%	0.0%	8D.6
% Sludge treatment process - Total	100.0%	0.0%	8D.7
% Sludge disposal route - landfill, raw	0.0%	0.0%	8D.8
% Sludge disposal route - landfill, partly treated	0.0%	0.0%	8D.9
% Sludge disposal route - land restoration/ reclamation	1.0%	0.0%	8D.10
% Sludge disposal route - sludge recycled to farmland	99.0%	0.0%	8D.11
% Sludge disposal route - other (specify)	0.0%	0.0%	8D.12
% Sludge disposal route - Total	100.0%	0.0%	8D.13

Section 9: Additional regulatory information – innovation competition

Table 9A: Innovation competition

This table shows how much we have collected from customers for the innovation fund and how the funds will be spent.

Line description Units: £m	Current year	RAG 4 Ref
Allocated innovation competition fund price control revenue	7.452	9A.1
Innovation fund income from customers	7.283	9A.2
Income from customers to fund innovation projects the company is leading on	0.000	9A.3
Income from other water companies to fund innovation projects the company is leading on	0.000	9A.4
Income from customers that is transferred to other companies as part of the innovation fund	0.000	9A.5
Non-price control revenue (e.g. royalties)	0.000	9A.6

Line description Units: £m	Total amount of funding awarded to the lead company through the innovation fund	Forecast expenditure on innovation fund projects in year (excl 10% partnership contribution)	Actual expenditure on innovation fund projects in year (excl 10% partnership contribution)	Difference between actual and forecast expenditure	Forecast project lifecycle expenditure on innovation fund projects (excl 10% partnership contribution)	Cumulative actual expenditure on innovation fund projects (excl 10% partnership contribution)	Difference between actual and forecast expenditure	Allowed future expenditure on innovation fund projects	In year expenditure on	Total amount of funding awarded to the lead company through the innovation fund	RAG 4 Ref
Transforming the energy balance of wastewater treatment	6.260	0.335	0.000	-0.335	5.040	0.000	-5.040	5.040	0.000	0.000	9A.7
Total	6.260	0.335	0.000	-0.335	5.040	0.000	-5.040	5.040	0.000	0.000	9A.22
Administration											
Administration charge for innovation partner	0.338										

Section 10 Green Recovery

Our return demonstrates that there has been no activity regarding GER installs during 2021/22; we plan to deliver our programme of works (200,000 new meters, 3,000 replacements, 1,500 small bulk meters and 200 large bulk meters) across years 4 and 5 of AMP7.

A separate report has been produced to meet the requirements in Ofwat's Green Economic Recovery Final Decisions document [35]

Table 10A: Green recovery data capture additional items for the 12 months ended 31 March 2022

From Table 6D

	Units	Basic meter	AMR meter	AMI meter	RAG 4 Ref	Main table Ref
New selective meter installation for existing customers	£m			0.000	10A.3	6D.2
New business meter installation for existing customers	£m			0.000	10A.4	6D.3
Residential meters renewed	£m			0.000	10A.5	6D.4
Business meters renewed	£m			0.000	10A.6	6D.5
New selective meters installed for existing customers	000s			0.000	10A.7	6D.7
New business meters installed for existing customers	000s			0.000	10A.8	6D.8
Residential meters renewed	000s			0.000	10A.9	6D.9
Business meters renewed	000s			0.000	10A.10	6D.10
New residential meters installed for existing customers – supply-demand balance benefit	Ml/d			0.00	10A.11	6D.11
New business meters installed for existing customers – supply-demand balance benefit	Ml/d			0.00	10A.12	6D.12
Residential meters renewed - supply-demand balance benefit	Ml/d			0.00	10A.13	6D.13
Business meters renewed - supply-demand balance benefit	Ml/d			0.00	10A.14	6D.14

Leakage activities	Units	Input	RAG 4 Ref	Main table Ref
Leakage improvements delivering benefits in 2020-25	Ml/d	0.00	10A.15	6D.17

[35] *https://www.ofwat.gov.uk/wp-content/uploads/2021/07/Green-economic-recovery-final-decisions.pdf published July 2021*

Table 10B: Water common performance commitments relevant to green recovery reporting

Line description	Unique reference	Unit	Standardising data indicator	Standardising data numerical value	Performance level - actual impacts of green recovery investment element only (current reporting year)	Performance level - actual impacts of green recovery investment element only calculated (i.e. standardised)	RAG 4 Ref	Main Table Ref
Performance commitments set in standardised units – Water								
Per capita consumption (PCC)	BW05	lpd	Total household population	Copy Cell 3F.4 (3)	0	0.00	10B.1	3F.4

Line description	Unique reference	Unit	Performance level - actual					RAG 4 Ref	Main Table Ref
			(2020/21)	(2021/22)	(2022-23)	(2023-24)	(2024-25)		
Performance commitments measured against a calculated baseline									
Leakage - actual including impacts of green recovery investment	BW04	Ml/d	635.6	605.6				10B.2	3F.5
Leakage - actual impacts of green recovery investment element only	BW04	Ml/d	0	0				10B.2	3F.5
Per capita consumption (PCC) - actual impacts of green recovery investment element only	BW05	lpd	0	0				10B.3	3F.6

Table 10C: Wastewater common performance commitments relevant to green recovery reporting

This table is only applicable for companies with wastewater network+ and bioresources green recovery projects, and therefore has not been included within this report.

Table 10D: Bespoke performance commitments relevant to green recovery reporting

Line description	Unique reference	Unit	Performance level - impacts of green recovery investment element only		RAG 4 Ref
			Previous reporting year	Current reporting year	
Installing new smart meters in London	M01	nr	0	0	10D.1
Replacing existing meters with smart meters in London	M02	nr	0	0	10D.2

Table 10E: Green recovery data capture reconciliation model input for the 12 months ended 31 March 2022

Scheme 1	Total allowance, £m
Smart meters	71.917

	Name	Allowance (£m)	Unit	Component level at completion	2021-22 Component level to date	2021-22 Percentage complete	2022-23 Component level to date	2022-23 Percentage complete
Component 1	Number of new household smart meter installations completed in the Thames Valley water resource zones	59.322	000s	200	0	0.00%	0	0%
Component 2	Number of non-household basic meters replaced with smart meters	0.178	000s	3	0	0.00%	0	0%
Component 4	Number of new small bulk smart meter installations	0.872	000s	1.5	0	0.00%	0	0%
Component 6	Number of new large bulk smart meter installations	0.545	000s	0.2	0	0.00%	0	0%
Component 8	Communication coverage of household properties in the Slough-Wycombe-Aylesbury (SWA), Henley and Kennet Valley water resource zones.	11	%	96%	0%	0.00%	0	0%

	Name	2023-24 Component level to date	2023-24 Percentage complete	2024-25 Component level to date	2024-25 Percentage complete	2025-26 Component level to date	2025-26 Percentage complete	RAG 4 Ref
Component 1	Number of new household smart meter installations completed in the Thames Valley water resource zones	0	0%	0	0%			10E.51
Component 2	Number of non-household basic meters replaced with smart meters	0	0%	0	0%			10E.52
Component 4	Number of new small bulk smart meter installations	0	0%	0	0%			10E.53
Component 6	Number of new large bulk smart meter installations	0	0%	0	0%			10E.54
Component 8	Communication coverage of household properties in the Slough-Wycombe-Aylesbury (SWA), Henley and Kennet Valley water resource zones.	0	0%	0	0%			10E.55

The allowances by component include a proportion of support costs where appropriate. 96% is the minimum communication we expect the company to achieve in the Slough-Wycombe-Aylesbury (SWA), Henley and Kennet Valley water resources zones.

Section 11: Greenhouse gas emissions

Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of our approach to reducing operational GHG emissions.

Strengths	Weaknesses
• Net Zero task force established to implement our net zero route map to operational net zero by 2030. • 100% Renewable electricity purchased efficiently reducing scope 2 emissions. • Active reduction in fossil fuel use. • Consistency of industry reporting using the CAW. • Public value commitment to net zero operational carbon by 2030	• The CAW is outgrowing Microsoft Excel and can be difficult to use and understand. • The industry's understanding of Wastewater treatment process emission and technologies available to control them. • Scope 3, third party data quality. • The lack of consistent approach to embodied carbon reporting and baselines.
Opportunities	**Threats**
• Gas to grid Biomethane sleeving to reduce fossil fuel use. • Carbon Capture on biomethane plants. • Low carbon nutrient recovery from sewage. • Accounting for sludge to land as no carbon fertilizer. • Better insights on emissions from Improved data quality & granularity. • Reduction in fugitive emissions from sludge treatment. • Going beyond net zero operational carbon to offset embodied carbon.	• The use of location-based reporting over market-based reporting increasing the challenge and costs. • Lack of technological & market progress for electric HGVs, making full fleet electrification difficult. • Lack of timely funding to achieve net negative operational carbon to support 2050 total net zero. • Significant changes to baseline emissions through improved understanding of process emissions.

Table 11A: Operational greenhouse gas emissions reporting for the 12 months ended 31 March 2022

Line description	Water	Wastewater	Total	RAG 4 Ref
	tCO_2e	tCO_2e	tCO_2e	
Burning of fossil fuels	1,593.609	26,720.482	28,314.0911	11A.1
Process and fugitive emissions	3,665.015	187,902.890	191,567.905	11A.2
Vehicle transport	3,898.467	3,898.467	7,796.935	11A.3
Total scope one emissions	9,157.091	218,521.839	227,678.930	11A.4
Scope one emissions; GHG type CO_2	5,419.739	30,274.061	35,693.800	11A.5
Scope one emissions; GHG type CH_4	2,726.980	93,121.286	95,848.266	11A.6
Scope one emissions; GHG type N_2O	1,010.398	95,127.545	96,137.943	11A.7
Purchased electricity - location based	105,207.680	80,506.202	185,713.882	11A.8
Purchased electricity - market based	-	-	-	11A.9
Purchased heat	-	-	-	11A.10
Electric vehicles	-	-	-	11A.11
Removal of electricity to charge electric vehicles at site	-	-	-	11A.12
Total scope two emissions (location based)	105,207.680	80,506.202	185,713.882	11A.13
Scope two emissions; GHG type CO_2	104,132.470	79,683.433	183,815.903	11A.14
Scope two emissions; GHG type CH_4	396.393	303.325	699.718	11A.15
Scope two emissions; GHG type N_2O	678.823	519.444	1,198.267	11A.16
Business travel	324.821	324.821	649.643	11A.17
Outsourced activities	9,288.544	10,771.826	20,060.370	11A.18
Purchased electricity; transmission and distribution - location based	9,310.282	7,124.342	16,434.625	11A.19
Purchased electricity; transmission and distribution - market based	-	-	-	11A.20
Purchased heat; transmission and distribution	-	-	-	11A.21
Total scope three emissions (location based)	18,923.648	18,220.989	37,144.637	11A.22
Scope three emissions; GHG type CO_2	18,629.431	17,930.950	36,560.381	11A.23
Scope three emissions; GHG type CH_4	37.736	31.703	69.439	11A.24
Scope three emissions; GHG type N_2O	191.277	193.132	384.409	11A.25
Gross operational emissions - location based	133,288.420	317,249.030	450,537.450	11A.26
Gross operational emissions - market based	28,115.199	236,858.690	264,973.889	11A.27
Exported renewables (market based)			-7,502.672	11A.28
Exported biomethane (market based)			-	11A.29
Green tariff electricity offsets			-185,713.882	11A.30
Other emissions reductions			-	11A.31
Total emissions reductions			193,216.554	11A.32
Net annual emissions - location based	133,288.420	312,207.760	445,496.180	11A.33
Net annual emissions - market based	28,115.199	229,356.010	257,471.209	11A.34
Net annual emissions	-	-	-	11A.35

Line description	Water kgCO2e/Ml	Wastewater kgCO2e/Ml	RAG 4 Ref
Emissions per Ml of treated water	129.670		11A.36
Emissions per Ml of sewage treated (flow to full treatment)		161.279	11A.37
Emissions per Ml of sewage treated (water distribution input)		285.236	11A.38

About this report

This is the regulatory accounts that we are required to publish under Condition F of the Instrument of Appointment ("licence") of Thames Water Utilities Limited (referred to in this report as "Thames Water" or the "Company") as a water and sewerage undertaker under the Water Industry Act 1991.

Our licence can be found on the Ofwat website: https://www.ofwat.gov.uk/regulated-companies/ofwat-industry-overview/licences/

We have prepared this report in accordance with the Regulatory Accounting Guidelines ("RAGs") issued by Ofwat which are:

- RAG 1.09 – Principles and guidelines for regulatory reporting under the 'new UK GAAP' regime;
- RAG 2.09 – Guideline for classification of costs across the price controls;
- RAG 3.13 – Guideline for the format and disclosures for the Annual Performance Report;
- RAG 4.10 – Guideline for the table definitions in the Annual Performance Report; and
- RAG 5.07 – Guideline for transfer pricing in the water and sewerage sectors.

About Ofwat

Ofwat is the economic regulator of the water sector in England and Wales.

It makes sure that we operate fairly and transparently and sets limits on the prices we can charge for our services.


Thames
Water