

OUR PURPOSE

2022/23

NORTHUMBRIAN
WATER *living water*

ESSEX&SUFFOLK
WATER *living water*







WELCOME FROM HEIDI

1.0 Welcome from Heidi



Our purpose is caring for the essential needs of our communities and environment, now and for generations to come.

We do this by providing reliable and affordable water and wastewater services for our customers. We make a positive difference by operating efficiently and investing prudently, to maintain a sustainable and resilient business.



Welcome from Heidi

Our Purpose statement was developed through extensive engagement inside and outside our business, and it reflects what our customers expect us to deliver and what drives our people to serve our communities each and every day.

We are a purpose-led organisation. All our teams are dedicated to giving their very best to make sure our communities receive the service they rely on, and that we take care of the environment that is so fundamental to what we do. Their commitment has been reflected in a number of prestigious accolades we have received – including being named on the Ethisphere Institute’s World’s Most Ethical Companies list for the twelfth time, being placed on Great Place To Work UK’s Best Workplaces list in the super large category and being featured in this year’s KPMG Customer Experience Excellence report.

We set ambitious goals for the period 2020-25, reflecting feedback from our customers, and I am pleased that we have delivered a number of successes in the past year in living up to our Purpose. These include being ranked top for C-MeX, our industry measure of customer experience.

I am incredibly proud of this result, which is reflective of the importance our people place on caring for our customers.

On environmental indicators, we further improved our strong performance for reducing greenhouse gases and preventing pollutions, and maintained our very good record on bathing water quality.

Despite already being at the forefront of the industry for leakage in our water-stressed Essex and Suffolk operating area, we achieved our target for further improvement. We hit our stretching targets for reducing sewer flooding, which is of particular importance as we recognise this is one of the worst service failures our customers can experience. Customers can also have confidence in the future resilience of our services as we have again hit targets when it comes to the risk of sewer flooding in storms, as well as the risk of severe restrictions in a drought.

We go above and beyond our regulatory requirements, showing our commitment to the local economy through our pledge to spend 60p in every £1 with local suppliers, and to



As demonstrated in this report, we consistently go above and beyond the core requirements of our business.

the environment through our innovative bluespaces scheme to improve the accessible water environment in our regions. We also look to continually develop our services further through innovation, on which our record remains leading within our industry.

Our performance was tested in difficult weather conditions last year and I am proud of how we responded to both the hot, dry summer – where despite drought conditions in our Essex and Suffolk operating area we did not need to implement a temporary usage ban – and the freeze and rapid thaw in December, in which we were able to keep outages for customers to a minimum.

However, the challenges did contribute to us missing targets for leakage in the North East, and for interruptions to supply. This report sets out some of exciting innovations we are working on as we look to improve on that performance in future.

There are other areas in which we haven’t hit our targets, including on water poverty. This has been made much more difficult by the increasing cost of living, and we are taking a

number of proactive steps to identify customers who would benefit from the extra support we can offer.

We also understand that on the environment in particular, standards and expectations continue to increase. I am pleased that we are on track to meet the nine ambitious pledges we set out in our A Vision For Our Coasts And Rivers report, and that we are increasingly developing nature-based solutions to address these challenges in the most sustainable way.

This report is designed to allow our stakeholders to consider how we are living up to our Purpose. It sits alongside our Annual Performance Report, and our Financial Statements, which provide detailed information on our regulatory and financial performance.

I hope you enjoy reading about our work over the past year and as always we welcome comments or questions you may have.

Heidi Mottram CBE
CEO

WATER FORUM STATEMENT

2.0 Water Forum statement



We welcome the publication of this Our Purpose Report. Producing this type of report should help openness and transparency; and by considering it alongside the Annual Performance Report, readers should be able to form a comprehensive view on the company's performance.



Water Forum statement

As an independent Customer Challenge Group (ICG), the Water Forum’s members have once again urged the company to be as candid as possible on its successes, where further work is required, and where challenges lay ahead. This is especially important to **building and sustaining trust**, a key building block if Northumbrian Water and Essex & Suffolk Water (NW) are to: meet targets such as reducing leakage and the amount of water each person uses (*per capita consumption*); get customers engaged in the important Bin the Wipe campaign, which will reduce instances of internal sewer flooding suffered by customers; and deliver the huge investment programme that the industry has been mandated to deliver in 2025-2029 and beyond.

Caring for Communities

Across two years, the Water Forum challenged NW to improve its contact centre’s provision of customer service. We are therefore very pleased to note its results in *Ofwat’s Customer Experience Measure* and in the Consumer Council for Water’s latest research. These results show what NW can achieve when it applies a lot of management focus on an issue, which will be invaluable when tackling challenges that lay ahead.

This year’s Our Purpose Report includes details of the impact of NW’s strategy of spending at least 60 pence in every Pound in its local supply chain – it’s clear that local economies and communities are benefitting, including through employment and skills development opportunities, and so we have challenged the company to explore opportunities for raising the bar even higher in the coming years, especially with the opportunities offered by the huge upcoming investment programme mentioned above.

Caring for the Environment

We are encouraged by the direction that the company is taking in its Vision for Coasts and Rivers, although there is a lot to do to achieve the ambitions it contains. Getting more customers and communities involved in their local environment, through initiatives such as Water Rangers will be important for success in this area.

Pollution incidents, including those caused by Storm Overflows, are high on the public interest agenda. We are therefore encouraged to note the reduction in spills per overflow and average duration of spills, and that pollution incidents were better than target compared to the previous year.



We encourage Northumbrian Water and Essex & Suffolk Water customers to read the stories in this Report and to participate in the company’s activities and customer research and engagement programme wherever possible.

That said, pollution incidents were still higher than in 2020/21 and need extra management focus in the years ahead. For its Water Resource Management Plan (WRMP) to succeed, we challenged NW on the need to engage with the public on the nature of the water resource challenge, including actions that the company and customers can take to reduce leakage and consumption – and making the link between levels of water consumption, investment required and the size of water bills. This is especially important given the levels of investment needed to make sure that there is sufficient water available for current and future generations.

Reliable Services

Customer behaviour plays a key role in achieving improvements in sewer flooding measures. We are therefore delighted that through Defra’s Plan for Water the industry has adopted a national campaign based on NW’s ‘Bin the Wipe’ initiative and look forward to seeing industry data on its effectiveness.

From a drinking water quality perspective, we note that NW is undertaking a large transformation programme with the Drinking Water Inspectorate to improve its

Compliance Risk Index (CRI) score. The benefits of this work are yet to flow through into the results, as is clear in this report, underlining the programme’s long-term nature. Our members will continue to stay close to this area, which is of fundamental importance to customers.

Affordable Services

We note the significant increase in the percentage of households who are experiencing water poverty in the past year, and customer research indicates that this will rise even further in the year ahead.

We believe this is due in no small measure to the national cost-of-living crisis, so we are very surprised to see, in the Annual Performance Report, that the results for *awareness of additional financial and non-financial support available* measures have remained stubbornly low and below target. In our view, this indicates that NW needs to use very different tactics for making customers aware of what is available to them; so we challenge the company to think innovatively about what form a radically different approach could take. Affordability is a key area of focus for us in considering the Company’s business planning for 2025-29, and we are pressing the Company

to explore what more it can do to help customers, particularly those in vulnerable circumstances and those who are struggling to pay.

Efficiency and Prudent Investment

Customers are clear that they think efficiency and innovation are important, as they keep down the cost of their water and wastewater bills. We're encouraged by the many case studies in this Our Purpose Report which describe innovative projects that will help drive efficiency, including The Green Machine, the Ammonia Recovery project and the Tipping Point Tool.

Sustainability and Resilience

We note that NW missed its target for mains repairs and puts this down to record summer temperatures and winter freeze-thaw events. In our view, such weather events should now be considered the norm due to climate change – which will mean this target along with interruptions to supply remain challenging in the years ahead. Longer-term strategies need to respond accordingly, in particular to increase the water network's operational resilience. In some cases this needs to be done in partnership with other organisations – most notably in the Northumbrian Water

region where there's a higher risk of power outages because most of the power supply is above ground. We do welcome the work the Company is doing to address these issues.

In conclusion we encourage Northumbrian Water and Essex & Suffolk Water customers to read the stories in this Report and to participate in the company's activities and customer research and engagement programme wherever possible. The Water Forum will continue its role of providing independent challenge to the company, both as it delivers its current Business Plan and as it develops its next one for 2025-2029.

Melanie Laws,
Water Forum Chair





ABOUT US

3.0 About us



Our vision is to be the national leader in sustainable water and wastewater services.

About us

Our vision is to be the national leader in sustainable water and wastewater services.

We provide water and wastewater services to our customers in the North East of England, trading as Northumbrian Water (NW), and water services only to our customers in the south east of England, trading as Essex & Suffolk Water (ESW).

We employ over **3,000** people.

NW supplies water and wastewater services to **2.7 million** people in the major population centres of Tyneside, Wearside and Teesside as well as the large rural areas of Northumberland and County Durham. In Hartlepool, we only provide wastewater services.

ESW supplies water services to **1.8 million** people in Essex and **0.3 million** in Suffolk. Our Essex area is part rural and part urban and includes the main population centres of Chelmsford, Southend and the London Boroughs of Barking and Dagenham and Havering and Redbridge. Our Suffolk area is mainly rural with the largest towns being Great Yarmouth and Lowestoft.

We operate and maintain:

- **50** water treatment works;
- **388** water pumping stations;
- **304** water service reservoirs;
- **26,451km** of water mains;
- **413** sewage treatment works;
- **966** sewage pumping stations; and
- **30,237km** of sewers.

Every day we supply **1.1billion** litres of water.



A large, stylized number '4' graphic in a dark red color, positioned on the left side of the page. It has a thick, blocky appearance with a diagonal cutout in the upper left section.

OUR PURPOSE

-
- 4.0 Our Purpose
 - 4.1 Overall measures
 - 4.2 Good Business Charter
-



Our Purpose statement sets out a shared understanding of why our company exists. The Our Purpose report describes performance against a series of progress measures and detailed case studies of how we live this out in practice.

Our Purpose

Our Vision

Our Vision sits alongside our Purpose and clearly sets out what we want to achieve, to be the national leader in the provision of sustainable water and wastewater services.

Our Strategic Themes

We aim to deliver our Vision through our five **Strategic Themes** of **Customer, Environment, Competitiveness, People** and **Communities**.

Our Values

Our Values set out how we behave in order to deliver our Purpose and Vision. These are well recognised and understood across the business.

Our Reputation

How we perform and how we behave underpins our Reputation which is of great importance. Building trust among our customers and wider stakeholders is crucial to achieving our Purpose.

Overall measures

These have been selected because they measure governance and activity across our business as a whole.

Ethisphere and the Good Business Charter take a rounded view of business practices and accredit companies for acting ethically overall. Building a high level of trust among our customers is crucial as that affects how they view all aspects of our performance, and their willingness to take on board our messages about issues such as using water wisely, or how they dispose of unflushable items

We also ask customers for their opinions on how far they agree that we live up to each of the three sentences it contains, which gives a helpful indication of whether they believe we fulfil it.

We are disappointed to see agreement with these statements decline, and an increase in customers saying they are undecided. We will be working over the months ahead to increase communication with customers about the elements of our Purpose that matter to them most.



Building a high level of trust among our customers is crucial.

Overall statement

Accreditations

Ethisphere Good Business Charter - achieved

Measures	2021/22	2022/23
----------	---------	---------

Independent Trust score	8.7	8.5
-------------------------	-----	-----

Measures	2021/22	2022/23
----------	---------	---------

Purpose statement tracking in Omnibus survey:

Cares for the essential needs of its communities and environment, now and for generations to come.	68%	61%
----------------------------------------------------------------------------------------------------	-----	-----

Provide reliable and affordable water [NW: and wastewater] services for its customers	73%	66%
---------------------------------------------------------------------------------------	-----	-----

Cares for the essential needs of its communities and environment, now and for generations to come.	62%	53%
----------------------------------------------------------------------------------------------------	-----	-----



CUSTOMER



ENVIRONMENT



COMPETITIVENESS

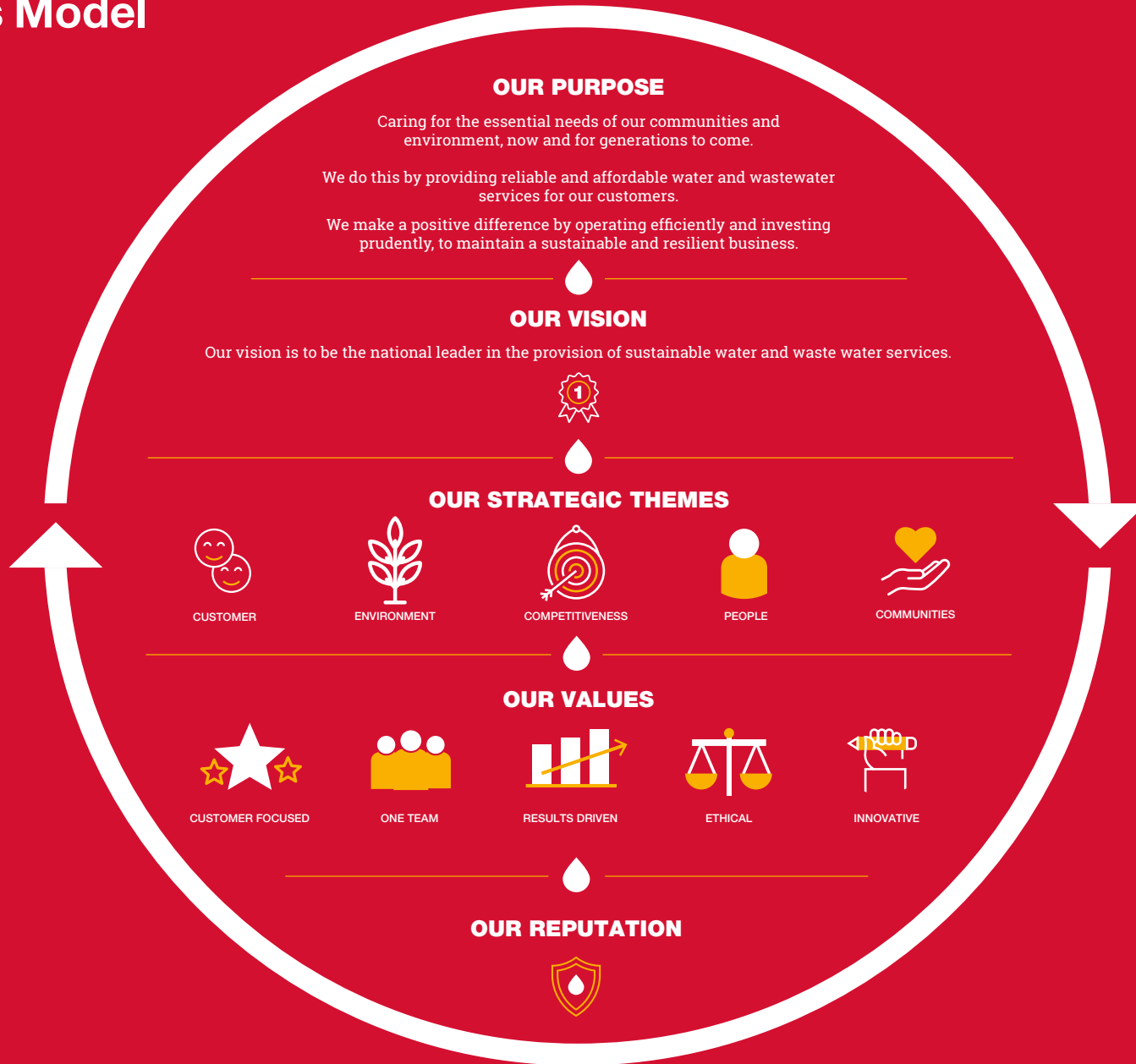


PEOPLE



COMMUNITIES

Our Business Model





CARING FOR OUR COMMUNITIES



ENVIRONMENT



COMMUNITIES



COMPETITIVENESS



CUSTOMER

-
- 5.1 Embedding excellence in customer experience
 - 5.2 Growing local economies through our spending power
 - 5.3 Be the most socially responsible water company
 - 5.4 Supporting children's sport and their health
-

Caring for our Communities

We know we are an important part of the communities we serve. We provide an essential service, we're a custodian of the local environment, and we're in a rare position for a business in that almost all our employees and their families are customers too.

To assess our performance in this area we consider how we perform on the water industry-wide C-MeX measure of customer experience. We also look at our wider economic impact in the local community by measuring how much of our spending on goods and services goes to suppliers in our local communities, aiming for 60p in every £1 spent.

Caring for our community starts with giving our customers the best possible experience. We were delighted in 2022/23 to be ranked top in our industry for the C-MeX customer experience measure. This is a fantastic achievement, which reflects the cumulative impact of every single interaction and engagement we have with our customers each day.

In the past year, we've hit our ambitious goal of spending 60p in every £1 locally, spending 62.6p in every pound in our North East, Essex and Suffolk operating areas.

We've also once again met our commitment to reinvest 1% of our profits in community activities.

Our Community Investment Strategy identifies three areas of focus - ending water poverty, water for health and protecting the water environment.

Through our Just an Hour employee volunteering scheme, 38% of our employees supported 297 good causes. As part of this, 173 of our employees gave a total of 571 hours to carry out litter picks at 15 beaches.

Our target is to increase the numbers taking part in Just an Hour to 50%, which we aim to do through increased communication of volunteering opportunities, more targeted local activities for our sites, and a more visible way of measuring progress.

Caring for our communities		
Measures	2021/22	2022/23
C-MeX	2nd – 84.46	1st – 83.74
Local procurement spending (and impact)	60.34%	62.60%

Over 1%
of profits invested in community activities

297
community causes supported by volunteering

£138.9m
re-spent in local communities by our suppliers

Case study

Embedding excellence in customer experience



We strive to be at the heart of our communities, and that means understanding our customers and what they need us to deliver. Our work on customer experience and satisfaction has meant we have been recognised, not just in our industry through the C-MeX measure, but also alongside some of the UK's biggest brands.

We aim to give our customers an unrivalled experience. With 2.8 million customers in the North East, and 1.8 million in Essex and Suffolk, we strive to get better every year. That means embedding good practice not just in direct interactions with customers, but in every part of our business, ensuring everything we do is customer-oriented.

We're delighted our work is recognised through the industry-wide C-MeX measure of customer experience, which indexes against our peers. Over the past few years, our strong performance has seen our ranking improve year-on-year and we're proud to rank first in the country in the 2022/23 results.

In the Institute of Customer Service's most recent bi-annual UK Customer Satisfaction Index, we were ranked second in the water industry and fourth in the utilities industry overall.

And Northumbrian Water finished top in the water industry consumer body CCW's measures for overall satisfaction with customer service, and for trust, in its latest 'Water Matters' report, based on customer surveys. Essex & Suffolk Water also scored above average for trust and for agreement that the company cares about service given to customers.

All this matters to us because we want to give our customers the best possible service. We base our approach on six priorities that our customers told us are most important to them:

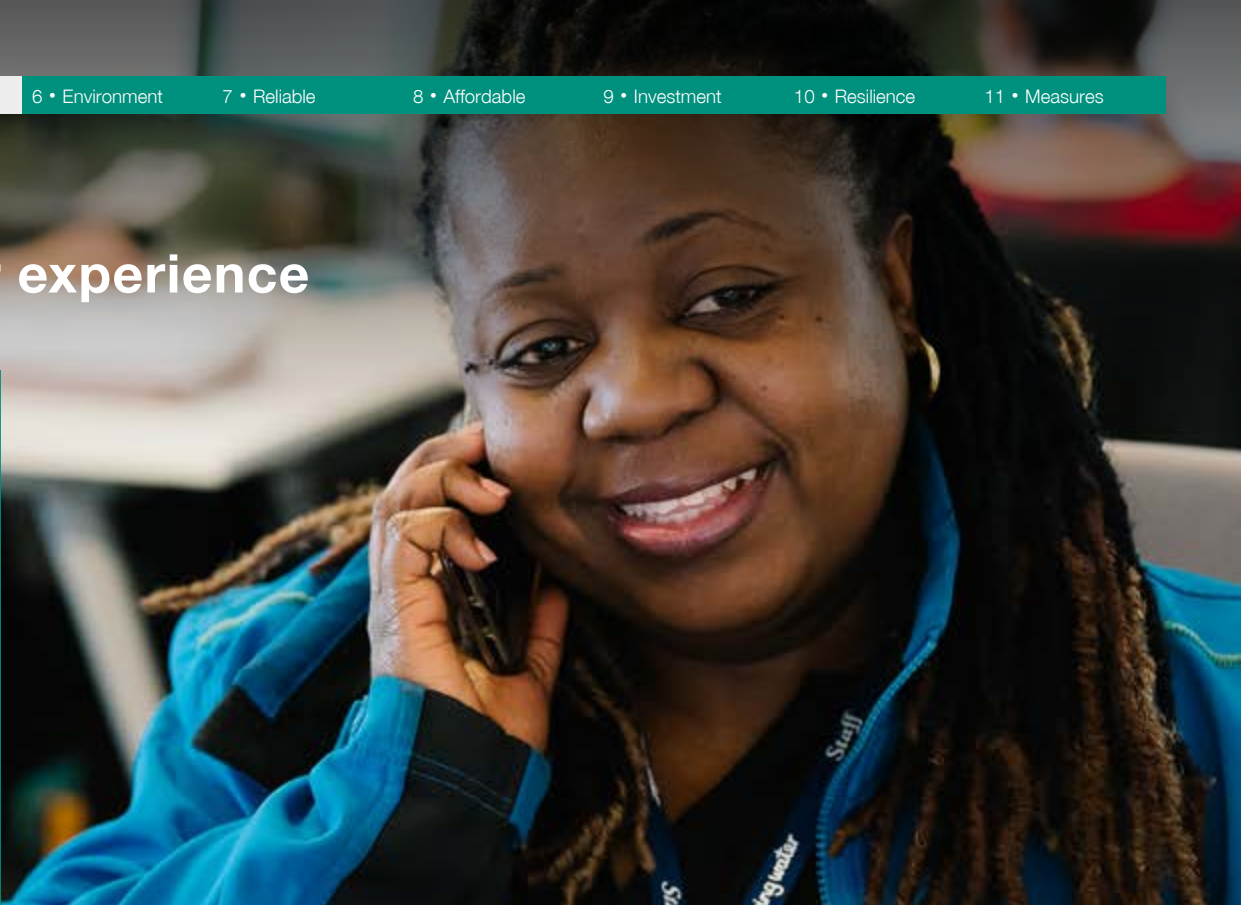
- Stay connected to what matters most;
- Own the customer's problem;
- Show each customer they are special;
- Keep our promises;
- Promote our great work locally; and
- Make it easy.

We aim to build a culture where we advocate for our customers, our people are empowered to do the right thing, and we focus on good engagement about the things that customers care about most. These benchmarks help us to check if we are getting this right.

Doing well within our industry is a brilliant achievement, but we aspire to do even better, and we're pleased to have been placed alongside some of the biggest brands in the UK in KPMG's Customer Experience Excellence report for 2022.

The report, by the KPMG Nunwood Excellence Centre, puts Northumbrian Water Group in the top 100 companies in the country for customer experience.

The report recognises companies who invest in a customer-first culture, doing everything possible to help their customers. The analysis is carried out based on six key pillars of customer service - Integrity, Personalisation, Empathy, Time and Effort, Expectations and Resolution – that align with our own priorities, showing how we should deliver them.



Case study

Growing local economies through our spending power



We're proud to spend more than 60p in every £1 locally, working with a supply chain which helps uphold our social, economic and environmental standards. We're working to maximise the impact of that local spend, and open up more opportunities for local SMEs to work with us.

As one of the largest businesses in the regions we operate in, we know our spending power can have a positive impact on our local economies.

We're committed to spending 60p in every pound locally, a target we're proud to have met again this year.

In 2022, we spent 62.6p in every £1 locally, and have continued to build relationships with our supply chain.

We have analysed the impact this had in our local economy. This showed that, out of the £480m spent by NWG, £138.9m was estimated to have been re-spent across our operating area by our suppliers on local employees and the local supply chain in 2022/23, and of that £51.1m was spent on employing local people.

Our suppliers created 2,131 jobs and 239 apprenticeships, supported by their contracts with us, and donated 72,694 hours of community volunteering.

Over the past few years, we've worked hard to develop and widen these relationships with local businesses, including working closely with external organisations to reach new audiences with our procurement opportunities.

Two examples are our work with North East England Chamber of Commerce and Business Durham in our Northumbrian Water operating area, where 'Meet the Buyer' events have allowed targeted local supplier engagement, sharing insight into our buying and access to opportunities.

We've also relaunched our 'Procurement in the Community' educational pack, which is designed to help local SMEs understand our procurement process, and that of the wider utility sector.

Through our engagement with our local business communities, we've found broad support and a great appetite for action among our peers - an example is the County

Durham Pound group of likeminded businesses, who share similar goals and work collectively to improve local spend and social value. That group - which consists of 11 companies and public sector organisations working in County Durham - has contributed more than £320m of social value in its first year.

All of this work combines into our responsible procurement strategy, which aligns to the UN's Sustainable Development Goals and outlines what we call the 'Impact Initiative 7' (ii7).

The ii7 set key activities within seven areas - environment, local spend, diversity, skills, innovation, social value and modern slavery - which will help us and our supply chain have the biggest possible positive impact.

Our engagement with our supply chain was recognised in British Water's latest annual survey of suppliers to the water industry, in which we were placed top.

Case study

Be the most socially responsible water company



We take our place in the community seriously. That means behaving ethically, sustainably and with social responsibility. We were delighted to be recognised for the twelfth time as one of the World’s Most Ethical Companies by Ethisphere as well as to be the only water company awarded the Good Business Charter.

We aspire to be the most socially responsible water company and this year our practices have again been recognised by significant external accreditations.

We have been named as one of just two UK companies on Ethisphere’s World’s Most Ethical Companies list. Ethisphere compiles the rankings based on issues including environmental sustainability, governance and social responsibility, judging each against set criteria before benchmarking them against others.

We have also been awarded the Good Business Charter, and are - for the second successive year - the only water company to receive the award, based on demonstrating good employment practices, environmental responsibility, fair tax and procurement.

These accreditations are fantastic validation of our community investment strategy, which focuses our financial contributions and our volunteering on key areas including ending water poverty, water for health and protecting the water environment.

During 2022/23, this saw us support a range of initiatives across our operating areas, including Christmas appeals – Cash For Kids in Tyneside, Kids Inspire in Essex and Winter Wonderland in Suffolk - and our Powered by Water schools programme, which delivers messages on the importance of hydration to children.

Newcastle comedian Jason Cook, who organises the annual Laffs4Kids event for Cash For Kids, said: *“I can’t thank Northumbrian Water enough for their continued support. They really take this event to their heart and provide invaluable support, they are a big part of the Laffs4kids family.”* We have also continued our Water Ranger citizen science programme, working with community groups including Marske Litter Action, Seascapes beach volunteers, Tees Valley Wildlife Trust, Saltburn Countryside Volunteers and the Friends of the Lower Path.

Overall, we reinvest at least 1% of our profits every year into community activities - a longstanding commitment we are proud to have met again in 2022/23.



Case study Supporting childrens' sport and their health



Through our Powered by Water programme, we've sponsored Newcastle Eagles' Hoops4Health tournament, encouraging teams from schools across Northumberland and Tyne and Wear to take part, get active, and learn about the benefits of staying hydrated.

We have long played an active role in the community, including as founder members of WaterAid as far back as 1981.

Last year we combined our fundraising efforts on behalf of WaterAid with our Powered by Water programme's sponsorship of the Hoops4Health tournament - part of a longstanding partnership with the Eagles.

That tournament sees more than 4,000 schoolchildren from across Northumberland and Tyne and Wear compete in a series of basketball tournaments, culminating in a final day where 250 children from the best performing teams met at the Vertu Arena, home of Newcastle Eagles.

While our Powered by Water programme sponsored the Hoops4Health tournament, on that final day we joined forces with the Newcastle Eagles Community Foundation to raise hundreds of pounds for WaterAid.

Powered by Water is our educational programme which teaches children about the benefits and importance of staying hydrated, while WaterAid focuses on getting clean water and sanitation to the millions of people around the world who lack access to that basic human right.

Sam Blake, CEO of the Newcastle Eagles Community Foundation said: *"We have a mutually beneficial relationship with the Powered by Water team that grows stronger year on year."*

"It's been a pleasure to work alongside Northumbrian Water and support WaterAid as they campaign for clean water for all — something most of us take for granted."

Our Corporate Affairs Director, Louise Hunter said: *"We are proud of our longstanding partnership with the Newcastle Eagles, who along with our other partners help us teach tens of thousands of youngsters every year about the importance for water for health."*





CARING FOR THE LONG-TERM NEEDS OF THE ENVIRONMENT

-
- 6.1 Our plan for drainage and wastewater management
 - 6.2 Delivering our vision for our coasts and rivers
 - 6.3 Delivering 250k of water environment improvements
 - 6.4 Delivering benefits for our natural environment
 - 6.5 Industry-leading partnership with The Rivers Trust
 - 6.6 Preventing pollution with the help of AI
-



ENVIRONMENT



COMMUNITIES



CUSTOMER

Caring for the long-term needs of the environment

Our business couldn't be successful without a sustainable, high quality water environment. We take water from the environment, and after treating it to a high standard we deliver it to our customers for them to use. We are then responsible for taking their wastewater away, and returning it to the environment after a careful treatment process.

A key measurement in this area is the Environmental Performance Assessment (EPA) carried out by the Environment Agency, which gives a star rating based on a combination of different factors. Other measures include our greenhouse gas emissions reductions, pollution incidents, and bathing water quality. We also consider the improvements we are delivering to areas of accessible water environment, and reducing household use of water, which is important to reduce the amount of water we need to abstract from the environment.

We've been investing in green energy generation, with large scale solar arrays across five sites going alongside our advanced anaerobic digestion and Gas to Grid plants – at which we continue to be the only water company to use 100% of our sewage sludge to generate clean energy.

Working with specialist consultants Eftec, we were among the first companies to compile a Natural Capital Account, which not only takes a record of the natural capital assets we're responsible for, but also looks at the benefits derived from those assets. Customers and wider society receive benefits from our sites including carbon sequestration and removal or air pollutants by vegetation. There are also health and wellbeing benefits through allowing people to access natural spaces, and benefits to the local tourism industry by attracting people to these locations. We will use this account to inform future decisions, for example about investment priorities and use of our land.

We're keen to play a wider role in championing environmental improvements too, and our CEO, Heidi Mottram, has helped establish and is co-chair of a new partnership, Net Zero North East England, which brings together local government, business and other stakeholder organisations in recognition that we make a bigger difference together.

We are disappointed that due to a change in criteria we have dropped from 4-star to 3-star in the EPA – despite our overall performance improving.

One measure we've not seen progress on is per capita consumption of water. That measure reflects household consumption, and so the increase in homeworking since the start of the Covid-19 pandemic has slowed efforts to reduce consumption. We are ramping up those efforts, targeting water efficiency visits at highest users, using our smart meter installation programme to evaluate which interventions being the greatest efficiencies, and - with the help of Ofwat's Water Breakthrough Challenge - we are leading the first national Water Literacy programme.

20%

reduction in storm overflow spills

£145,560

donations to wildlife projects through Branch Out

£300,000

invested in North East Catchments Hub

Caring for the long-term needs of our environment		
Accreditations		
ISO 14001 Environmental management		
Measures	2021/22	2022/23
EPA star rating	4 star	3 star
Net GHG emissions (reduction against 2019/20 baseline)	46,296	23,445
Pollution incidents per 10,000km sewers	22.98	19.98
Water environment improvements	34.6km	33.1km
Bathing water quality	33/34	33/34
Per capita consumption (PCC)	4.7% increase to 157.7 litres	5.6% increase to 159.1 litres

Case study

Our plan for drainage and wastewater management



Our Drainage and Wastewater Management Plan is a document which outlines what investment is needed to make sure our system can cope with needs around things like wastewater from toilet flushes and rainwater drainage in the future. Our plan looks 40 years ahead, and sets specific, measurable goals for our investment programme - including reducing sewer flooding in the home, enhancing natural capital, and zero pollutions as a result of our assets and operations.

The Drainage and Wastewater Management Plan (DWMP) explains how we'll play our part in protecting our water environment, how we'll manage risks and how we'll work with partners to invest for the future.

We can't predict that future, but we can look at concerns and issues now, and at various scenarios for the years ahead.

In our DWMP, we've set ourselves ambitious goals for our investment programme, as well outlined how we'll meet the Government's targets for reducing discharge from storm overflows, and address our customers' concerns about the

water environment. We carried out significant customer and local stakeholder engagement on our plan to identify challenges to address and opportunities to make improvements around our region.

Storm overflows play an important role in our network. Many of our sewers carry a combination of wastewater and rainwater and, when these sewers reach capacity, there's a risk of wastewater being forced back into customers' homes and businesses. Storm overflows are a release valve that minimises the risk of that happening, but there have been more frequent discharges over time, as a result of climate change and blockages caused by plastics such as wet wipes - one of the reasons our Bin the Wipe campaign is so important.

However, we recognise stakeholders' concerns about how these are used and our DWMP sets out our long-term improvement plans.

We're already investing £80m between 2020-25 to improve infrastructure. That's showing results, and in 2022 we saw a 20% reduction in spills per overflow compared to 2021, alongside a 40% reduction in average overflow duration.

We've set ourselves ambitious goals across our wastewater services. We want to eradicate sewer flooding in the home as a result of our assets and operations, and by 2050 will reduce the number of properties at risk from a 1-in-20 year storm from 15,787 to 6,315.

We're targeting zero pollutions at our water treatment sites as a result of our assets and operations. To achieve that we're investing to improve how our treatment sites work, and improve river water quality. We'll investigate and improve 51 sites

for phosphorus, 15 for biological oxygen, 30 for ammonia and 11 for volume, as well as look at nature-based solutions, including restoring saltmarsh and native oyster grounds.

To meet those goals, the Government's targets and the expectations of our customers, we're stepping investment up massively - spending £4.7bn by 2050, including £1.6bn in the period 2025-2030.

You can read about plans in greater detail [here](#).

Case study

Delivering our vision for our coasts and rivers



Our operating areas contain some of the most beautiful rivers and coasts in the country. In 2022, we published A Vision for our Coasts and Rivers, which contained nine pledges to protect those vital parts of our environment. In the past year, we made progress on these measures, putting us on track to achieve all nine pledges.

We know that great progress has been made in the last few years - we've cut pollution by two-thirds in the past decade, and 32 of the 34 beaches in our operating areas are rated as good or excellent.

But we also recognise there is plenty of progress which still needs to be made.

Our 2023 update shows we are on track to deliver on our pledges. Progress includes investing £1.9m in install monitors at 99% of our storm overflows (SOs) so far, with a plan to reach 100% by the end of 2023.

We have reduced spills from SOs from 25.3 in 2021 to 20.3 in 2022. While this was in part due to weather, with fewer intense storms in the year, it also reflects our focus and investment in this area.

We have also set out **£47.5m** of investment aimed to make sure there is no deterioration to bathing water quality and to investigate issues to understand how quality can be improved, including at Cullercoats and Marsden, which are not currently rated Good or Excellent.

You can read our full 2023 update [here](#), and our original pledges, to which we remain committed, are below.

Pledge 1: We will work with the Environment Agency, Natural England, The Rivers Trust and Catchment Partnerships to identify, and have plans in place to eliminate, all impediments to our rivers achieving good ecological status.

Pledge 2: We will invest in monitoring to provide 100% near real time data on storm overflows by 2023.

Pledge 3: We will introduce final effluent, in river upstream and downstream monitoring to get a greater understanding of environmental impacts of treated water by 2030.

Pledge 4: We will implement Water Quality monitoring at the highest priority storm overflow locations by 2025.

Pledge 5: We will reduce spills from storm overflows to an average of 20 per year by 2025.

Pledge 6: We will work closely with The Rivers Trust through our strategic partnership and North East Catchments Hub to focus on river needs for investment through catchment and nature-based solutions, and to identify at least two inland bathing water sites where applications for designation can be made at the earliest opportunity. We are proud that already 95% of the North East population lives within an hour's drive from a beach with Good or Excellent bathing waters.

Pledge 7: We will work with partners to achieve 100% of coastal bathing waters at Good or Excellent by 2030.

Pledge 8: We will work in partnership to improve 500km of bluespaces (such as river banks and accessible water environments) for the public to enjoy in our regions by 2030.

Pledge 9: We will double the number of our Water Rangers – our citizen scientist volunteers who are trained to help us monitor environmental conditions around rivers and take action to address wider river issues such as littering, fly tipping or signs of pollution.

Case study

Delivering 250km of water environment improvements



Our customers have told us they want us to work with partners to improve the areas of rivers and beaches that they use. That goes beyond water quality to include us helping improve things like access, facilities and biodiversity across the water environments in our operating areas. This year we've delivered projects improving nearly 40km of water environments.

We call the water environments our customers can access **bluespaces**. By focusing on the water environments the public can get to - whether they're streams, rivers, lakes, reservoirs, wetlands, beaches or coastline - we can make a difference to individuals and communities in the areas where we work.

Our business plan 2020-25 includes a commitment to improve 250km of these bluespaces, and in the first three years of that plan we have improved 104.1km of water environment for our customers in our Northumbrian Water and Essex & Suffolk Water operating areas.

In 2022/23 alone, we have worked with partners on 15 projects, delivering 39.3km of improvements,

with a further 25.3km of projects in progress for delivery in future years.

This included path improvements at Holywell Dene and wetland creation at Longdike Burn in Northumberland, fish and dormouse conservation at Roman River and Layer Brook in Essex, stream and beach cleans at Limekiln Gill in Durham, and waymarking improvement at RSPB North Warren in Suffolk.

Welcoming our support for the Wilder Coast project in Tees Valley, Jeremy Garside, Chief Executive of Tees Valley Wildlife Trust, said: *"Working with Northumbrian Water, and thanks to their funding, we've already been able to make significant improvements for the benefit of these important coastal bird species and their habitats. We've engaged more than 1,100 people through activities and educational events, and we have more than 50 active volunteers."*

This work is supported and externally assured by our Water Environment Governance Group, whose independent members include an academic, and representatives from The Rivers Trust and the Environment Agency.

Our **bluespaces** improvement projects must make a difference to a site in at least two of the following areas: access, facilities and recreation; wildlife and biodiversity; water quality.

We anticipate investing around £1m over the five years of our business plan to support partner projects to improve water environments. In the past year, we invested £200,000.

To date, the average level of investment for projects is £10,000 for a 3km project, and we are targeting 58km of bluespaces improvements each year from now until 2025.



Case study

Delivering benefits for our natural environment



Our Branch Out fund supports projects which deliver benefits for our natural environment, build resilience for wildlife and reconnect the public with the habitats around them. As well as the main Branch Out fund awarding grants of up to £25,000, we also have funds aimed at Invasive Non-Native Species and Priority Habitats.

Through the fund, we enable local communities to take action which can make a difference to the natural environment within our operating areas, because a healthy environment is crucial to top quality drinking water.

Last year we awarded £145,560 in funding across the Branch Out, Invasive Non-Native Species and Priority Habitat funds. The joy of these three elements is that every project is different.

That variety is in evidence in some of the projects we've supported in the past year.

We've provided a £9,000 grant to help fund new gardens at the Locomotion railway museum in Shildon, County Durham, encouraging the flora and fauna commonly found on railway embankments, planting new native hedgerows and habitats for hedgehogs and bats.

A £2,000 grant has helped enhance the Gosforth Nature Reserve in Newcastle - one of the oldest in the North East, founded in 1929. The support from the Branch Out fund helps increase biodiversity through wildflower planting and woodland habitat enhancements, as part of a project which also replaced a nesting platform for common terns.

The Wear Rivers Trust received two grant awards totalling £32,000, which will support a project tackling Invasive Non-Native Species along the River Wear, as well as a specific effort to manage and treat Giant Hogweed as part of a project called 'Old Durham Beck Renewed'.

These projects, and others like them improve habitats and make our natural environment safer and more accessible.



Case study

Industry-leading partnership with The Rivers Trust



We're working with The Rivers Trust to create a regional hub to develop improvements for water quality and the wider environment. In partnership with The Rivers Trust, we've created the North East Catchments Hub to bring together the best local, regional and national expertise to benefit our region.

The Hub is a first for the industry, and creates three full time roles covering the Tyne, Wear and Tees river catchments - that's the entire area which drains into their streams, rivers and lakes.

Those three roles, plus a part-time managerial role, will help us and our partners to invest effectively in improvements to watercourses and the wider environment.

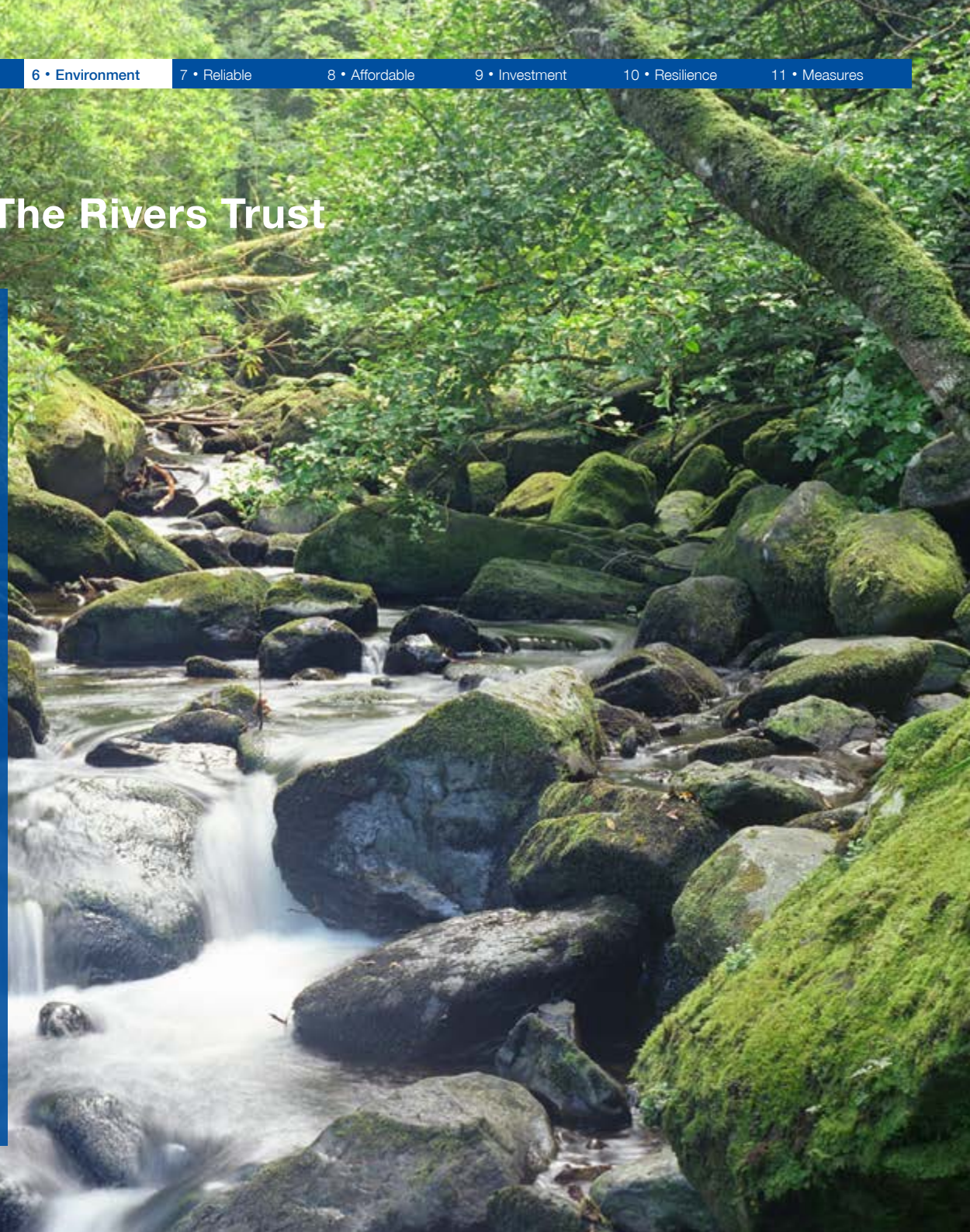
By working in partnership, with the Catchments Hub as the co-ordinating presence, we can do more than any individual organisation can do alone, by combining expertise and best practice, and considering alternative, sustainable ways to invest for environmental benefit.

In the past year, we have invested around £300,000 in the Catchments Hub, identifying eight catchment and nature-based schemes which have been put forward for inclusion in our 2025-30 business plan.

The catchment and nature-based solutions have multiple benefits.

By focusing on cross-catchment partnership working, rather than end-of-pipe schemes at sewage treatment works, we can save an estimated £51.7m, helping keep customer bills down, and also minimise our carbon and climate impacts while delivering substantial water quality benefits.

Endorsing this work, Rivers Trust CEO Mark Lloyd described the approach as industry-leading, and said: *"We believe the scale of Northumbrian Water's ambition, and its collaborative catchment and nature based solutions programme, will have far reaching impacts for the water industry and beyond."*



Case study

Preventing pollution with help from AI



We are always looking for ways to improve our processes, and understand our network better. Working with industry specialists StormHarvester, we've harnessed machine learning and more than 1,300 sensors across our network to keep track of rainfall, make predictions and allow us to intervene to prevent spills.

Predicting the weather is difficult, and predicting how much rain will fall in a specific area is close to impossible!

But with help from advanced machine learning and technology from industry specialists StormHarvester, we've been able to improve how we monitor our network and know more clearly where we need to intervene and when.

Using more than 1,300 sensors across our assets - everything from storm tanks to pumping stations to manholes - we've been able to collect data and use hyperlocal rainfall forecasting to enable us increase our blockage detection and asset performance, while reducing spills, pollutions and flood events.

The system collects data from each sensor and machine learns the normal operating thresholds for that site, it can then recognise and highlight anomalies in near real time.

In the first six months of operation, the project with StormHarvester alerted us to possible incidents which resulted in 110 teams being dispatched to investigate further, and 39 pollutions were avoided.

RELIABLE SERVICES

- 7.1 A flexible approach to alternative water supplies
- 7.2 Self-healing pipes reducing leaks
- 7.3 Dealing with a freeze-thaw event
- 7.4 Delivering reductions in sewer flooding
- 7.5 Inspiring the nation to Bin the Wipe



ENVIRONMENT



COMMUNITIES



CUSTOMER



PEOPLE



COMPETITIVENESS

Reliable services

We are proud and privileged to provide an essential service for our communities. Our customers rely on us and we recognise that means we have a big responsibility to keep water flowing and toilets flushing. The reliability of our network is something we work hard to improve, focusing our investments and innovations where they are needed the most.

This relates to both the water and wastewater aspects of our business. On water, we measure the level of interruptions to customers' supply, leakage, and how well we are managing risks to the quality of drinking water. On wastewater, we look at sewer flooding, which we recognise is one of the worst service failures our customers can experience.

We have made big strides this year to hit our target for reducing internal sewer flooding. This is one of the worst service failures our customers can experience, and we are pleased to be successfully reducing the number of times this happens.

Our performance has improved over 30% compared to last year, which is testament to the work of our teams who have visited over 500 high risk properties and investigated and cleared blockages, and the success of the Bin the Wipe campaign which saw 100,000 information letters sent in hotspot areas.

But we have more to do to when it comes to our water network. We are pleased to have hit our leakage target in our Essex and Suffolk operating area, but in the North East we haven't done so.

On interruptions to supply, we have been one of the industry leaders for several years.

In the past year, though, extreme weather conditions - including a heatwave which hit 40 degrees in our Essex operating area, and a freeze-thaw event across the country in December - have resulted in more interruptions and more leaks than we'd otherwise expect.

During the freeze-thaw event in December, our daily leakage figures jumped to 72% above expected levels in the North East.

But we've been making changes to try to limit disruption by developing mobile water storage units (MOWBIs). We're also leading development of the National Leakage Research and Test Centre.

Working closely with industry bodies, we're accelerating and increasing funding to deliver high standards in water quality, as well as working with customers on tap hygiene and avoiding cross-contamination in the home.

100

leaks fixed using No Dig technology

52%

reduction in blockages through Bin The Wipe

368

customers helped with our innovative MOWBI solution

Reliable services		
Measures	2021/22	2022/23
Interruptions to supply greater than three hours	5 mins 51 seconds	8 minutes 16 seconds
Internal sewer flooding	1.84	1.21
Leakage	NW - 0.1% reduction to 134.7 MLD	NW - 3.7% reduction to 129.8 MI/d
	ESW - 3.2% reduction to 63.1 MLD	ESW - 7.5% reduction to 60.3 MLD
Compliance risk index (CRI)	6.36	7.62

Case study

A flexible approach to alternative water supplies



We work to keep interruptions to our customers' water supplies to a minimum, but sometimes they are inevitable - either in the case of emergencies or necessary planned works. When that happens, we try to put an alternative water supply in place, especially for our priority service customers. MOWBI provides a new way of doing that.

We recognise that we have missed our targets for minimising interruptions to supply over the past year, in large part due to the impact on our network of hot weather in the summer and a freeze and rapid thaw in the winter. We are committed to innovating to reduce negative effects for customers.

When supplies are interrupted, we prioritise our customers who are most vulnerable. Through our Priority Services Register we know which customers might need extra support or perhaps have health problems which make coping with interruptions to their supply particularly difficult. Traditionally, we put a temporary supply in place by running hoses and pipes around, often needing to use pumps and generators.

As part of our Innovation Festival, we developed a mobile pumped water storage unit to change that.

The plan was to design a unit which could be delivered to the location of the interruption of supply and quickly connected to provide water for essentials like cooking and flushing the loo.

We built an initial prototype - a converted wheelie bin - which proved the concept and, working with our partners Furst Technologies, we've developed the idea into a version that can be used reliably on site.

Not only can MOWBIs be used individually, but they can be chained together to support greater water needs - for example, when faced with a burst pipe locally, we were able to provide an emergency supply to a nursery in Chelmsford using a set of MOWBIs which kept 80 children plus staff on site until the end of the day.

We're now developing a TOWBI, a larger version of the MOWBI, to support commercial properties like vets or hairdressers where a stable water connection is a necessity.



Daniel Fletcher, Technical Supervisor, said: *"It's about lots of small wins adding up. If we can ease the disruption for individual households or individual businesses, it quite quickly starts to have a big impact across our operating areas. We know we're ahead of the industry with this innovation, and I know our partners at Furst are looking at how to support other water companies to follow suit."*

MOWBI is an innovation which started intending to solve a problem, but is already outgrowing that - there's now a team of specialists building around it and the deployment of MOWBIs has become something that is built into our business-as-usual process for planned works.

It's a practical solution, helping us provide a more reliable supply to the customers across our operating areas.

Case study

Self-healing pipes reducing leaks



Our annual Innovation Festival brings together a community of people focused on solving the big issues facing our industry, and wider global challenges. It's seen some practical results, including technology to help pipes 'self-heal'.

We have hit our target for reducing leakage in our water-stressed Essex and Suffolk operating area, where we are already one of the best performers in the industry. However, we are disappointed to have missed our target in the North East. After a strong start to the year with historically low levels of leakage, the hot and dry summer led to significant numbers of burst mains. The freeze-thaw in December also had a negative impact.

We are working hard to improve our performance even further, including through increased resources to find and fix leaks. We are leading on industry collaboration, through the development of a new National Leakage Research and Test Centre.

We are also working on a number of innovations. One such idea, formulated at our Innovation Festival in 2021, and showcased in 2022, was for a No Dig solution to fixing leaks.

No Dig, developed by ourselves with Origin Tech, is a chemical-free solution of water, gel and minerals which can be injected into pipes to seal leaks.

Having been showcased at last year's Festival, No Dig is now in active trials with our operational teams out in the field.

The solution will fix leaks faster, avoiding disruptive excavations and road closures, while helping reduce the impact of leaks on water supplies.

We have now fixed over 100 leaks using No Dig technology.



Case study Dealing with a freeze-thaw event



December 2022 saw a significant freeze-thaw event across both our operating areas. Temperatures went from lows of -7° to highs of 13° or 14°. This meant more leaks than expected, and more disruption for customers - but our teams responded well.

In mid-December 2022, temperatures varied massively across the course of just a few days. Lows of -7° were recorded in Newcastle on 16 December and Southend on 17 December, thawing rapidly to a high of 13° in Newcastle and 14° in Southend on 19th December.

As a result, we saw a 70% rise in our expected daily leakage in the North East and a 133% increase in our Essex and Suffolk operating area.

The number of repair jobs doubled from what we'd expect to see in a normal December, and unfortunately, this meant interruption of supply to 18,723 homes.

Knowing this freeze-thaw event was coming - and learning lessons from previous events - we had our incident team established early.

This allowed us to take clear decisions as the situation unfolded, including checking vacant commercial properties for leaks, tankering water around our operating areas, and moving pallets of bottled water into strategic locations.

This included 152 pallets into Northumberland, where the area surrounding Ashington suffered interruptions to water supply due to a problem at one of our treatment works.

We set up a bottled water station at Ashington Leisure Centre and delivered bottled water to more than 400 customers on our Priority Services Register.

Our rapid response meant only two properties were without supply for more than 12 hours, and we received just eight written complaints relating to the freeze-thaw event.

Throughout the incident, we kept customers informed - sending more than 800,000 emails, nearly 150,000 text messages, and posting information and responding directly to queries on social media.

We also worked closely with stakeholders in our operating areas - including MPs, local authorities and business representatives, housing providers and voluntary sector groups to make sure they had all the information and advice to share with their contacts.



Case study

Delivering reductions in sewer flooding



We have put a new plan into action in the last three years that has led to a big reductions in sewer flooding for our customers.

This is a priority area for us to tackle because we know that sewer flooding is one of the worst events that customers can suffer as a result of our assets or activities.

From 2020, we began to implement a new plan to tackle flooding, which has seen a really positive impact. Between April 2020 and March 2023, internal sewer flooding has decreased by 65%, external sewer flooding by 35%, and repeat internal flooding by 78%.

Three changes in particular have helped us to achieve this success. Firstly, we recruited extra people to help us improve our response to flooding when it happens. Getting to the scene of a flood quickly not only helps improve customer service,

but makes it much easier to identify the cause – such as a broken pipe or a tree root – and fix the problem so it doesn't happen again.

Secondly, we have more than doubled the volume of sewers that are surveyed every year. These surveys help us identify sewers that need cleaning or maintenance to deal with problems. This helps prevent flooding before it happens.

The third change has been the introduction of our Bin The Wipe campaign – as two out of every three blockages in our sewer network are caused by customers flushing things such as wet wipes down the toilet. You can read more details about this on page 34.

We continue to look for further improvements we can make as we seek to reduce flooding even further. In the last year we have taken part in research with CCW and Ofwat and are implementing several recommendations to improve care for customers who experience flooding, including extra support to help clean up when this happens.



Case study Inspiring the nation to ‘Bin the Wipe’



Back at the start of 2020, we launched our Bin the Wipe campaign. Since then we have seen a 52% reduction in blockages and a 64% reduction in home flooding incidents. The campaign has been so successful that the nation’s industry body, Water UK, is coordinating with water companies across the country to take the Bin the Wipe message nationwide.

Our Bin the Wipe campaign has been successfully reducing the number of sewer blockages since 2020, and 2022 saw our teams operating in 24 hot spot areas, engaging with more than 90,000 households.

Wipes are a significant challenge for our sewers, as they do not break down in the way toilet roll does, causing them to settle in pipes and add to or cause blockages. Most wipes are over 80% plastic.

In fact, wipes were present in 64% of the more than 15,000 sewer blockages our team cleared in the year before the Bin the Wipe campaign started.

The campaign combines education on the problems wipes can cause with on-the-ground action from our teams which enables them to speak to wipe flushers face-to-face. This combination has been successful, and in the best performing areas - Washington and Darlington - we found a 91% reduction in the number of wipes found in the sewers.

This improvement has contributed to a 52% reduction in blockages in the hot spot areas since the campaign started in 2020, and a 64% reduction in the number of home flooding incidents.

Those excellent outcomes have caught national attention.

In the past year Water UK, the industry body representing water companies across the country, has unveiled plans for a national Bin the Wipe campaign, inspired by our success and with the backing of MPs.



Blaydon MP and Co-chair of the All-Party Parliamentary Water Group Liz Twist said: *“Here in the North East, we have seen the difference that Northumbrian Water’s Bin the Wipe campaign has made, reducing the number of wipes being flushed and, vitally, the number of blockages and resulting incidents of sewer flooding that this causes. I’ve championed this campaign in Parliament and I am proud of our region for having led the way with an initiative that can really benefit communities and the environment across the country.”*



AFFORDABLE SERVICES

- 8.1 Sharing data to make accessing support easier
 - 8.2 Save water, save energy
 - 8.3 Making support easier to access
-



CUSTOMER

Affordable services

The cost of living crisis has impacted everyone, and has meant more people feeling the financial pressure of their household bills. For us, it's meant a change of approach, as we make an effort to reach a broader audience with messages about the support that's available and other ways in which people can reduce their usage and their bills.

We measure the percentage of households in our operating area in water poverty – which is currently defined as those who spend more than 3% of their income, after housing costs, on their water and sewerage bill. We also look at the satisfaction levels of customers who receive additional financial support, and overall customer perception of value for money.

As a result of our work, awareness of the support that's available has increased - we've seen a 192% increase in traffic to our support pages - and a higher number of customers than ever are accessing financial support. But we recognise

we have more work to do to raise awareness of this support. We've seen the numbers in water poverty increase in the past year, highlighting to us the difficulties many of our customers are facing, and just how important it to remain focused on achieving these targets.

We are disappointed with this result as although we are helping more people, we are still short of our aim.

A significant bill reduction in 2020 took a large number of customers out of water poverty and alongside our financial support schemes meant we were ahead of our water poverty targets. The past three years have seen a period of significant economic upheaval, and coupled with increasing water bills, driven by higher inflation and lower real term wage increases, has meant that the initial bill reduction has all but eroded away.

This makes it even more important that we continue to develop the kind of innovative approaches we have been using to tackle affordability for our customers.



Affordable services		
Accreditations		
BSI for inclusive services		
Measures	2021/22	2022/23
Satisfaction of customers who receive additional financial support	9.2	9.2
Percentage of households in water poverty	9.61%	15.27%
Customer perception of value for money	8.2	8.2

Case study

Sharing data to make accessing support easier



Data sharing is an important tool for us to make sure customers get the support they are eligible for. With agreements in place with the Department for Work and Pensions (DWP), local authorities, housing associations and neighbouring water companies, we're seeing big increases in customers able to access discounted bills and our social tariff.

We know that understanding what support you're eligible for - and even knowing that support exists in the first place - isn't always easy for our customers.

Alongside efforts to improve our communications and make application processes easier, we've also entered into a series of data sharing agreements with key partners to help us proactively identify those in greatest need of support, and cut out big parts of our eligibility checking process - while continuing to be careful with customers' data and privacy.

Through a data sharing agreement with DWP, we've been able to proactively assess customers for eligibility for WaterSure and our pension credit tariffs.

That work with DWP has helped us increase the number of customers benefiting from WaterSure by 60%, and increased fourfold the number of pensioner households receiving a discounted bill.

We're working with local authorities, including with Norfolk County Council helping customers in arrears through the government's Household Support Scheme, and with our fellow water company Anglian Water, sharing information on WaterSure eligibility in our shared operating area.

We're also working with Believe and Gentoo - two housing providers - to help customers we do not bill directly.

Julie Brayson, Director of Transformation and Culture at Believe Housing, said: *"By understanding each other's services, sharing information, and putting the right systems in place we've been able to ease the money worries of many customers."*



In total we have around a dozen partners who help us assess eligibility for our social tariff as part of their own financial wellbeing work.

This all works to make accessing support as easy as possible for the customers who need it - and in some cases, they now receive it automatically.

Case study

Save water, save energy



The cost of living crisis has changed how we approach communicating with our customers about issues around affordability. We've reached out more broadly to make sure more people know about the financial support that's available, and have the information they need.

The cost of living crisis has put pressure on everyone, and while we've always had programmes and campaigns designed to help those most in need, we knew we'd need to change our approach.

Typically, we'd target our messages around affordability support to those households on low incomes, but as the cost of living crisis began to bite, we aimed to reach a wider audience.

Our messages fell into three categories - general affordability messaging covering everything we can do to help; individual messaging about specific tariffs and support options; and messaging about saving water and energy.

That mix of messaging was important, linking a broader audience to information about financial support alongside the opportunity

to share help and advice on saving water and saving energy, in order to save money on bills.

With simple tips focusing on the use of household appliances like kettles, dishwashers and washing machines, alongside messages on water usage through baths and showers, we were able to explain how simple changes can help save money on bills.

Some of the numbers involved are stark - 27% of the water used in the home is in the shower; 5,500 litres of water can be wasted in a year by a single dripping tap; 200 litres of water is wasted every day by a leaky loo.

We've seen clear results, with a 192% increase in web traffic to our financial support pages, and 5,000 views of our new Save Water, Save Energy page.

An additional 19,000 people are receiving financial support from us, taking the total to 107,000, and general awareness of those financial support programmes increased from 37% to 46% in our latest customer - but we know we have more work to do to increase awareness

To find out more go to:
[Essex & Suffolk Water customer](#)
[Northumbrian Water customer](#)



Case study

Making support easier to access



We've set ourselves the ambitious target of eliminating water poverty in our operating areas by 2030. Inflation and the cost of living crisis are making progress towards that target difficult, but we are working to make our support schemes easier to access.

The proportion of our customers in water poverty (spending more than 3% of household income on water and wastewater bills) fell from 18% in 2018 to less than 10% in 2021/22, but inflation, lower real wages and increasing water bills saw that number go up again to 15.3% in 2022.

We have set ourselves the ambitious target of eliminating water poverty completely from our operating areas by 2030 and working towards that is even more crucial given the financial pressures many of our customers now find themselves under.

We've made a series of improvements to our support schemes, alongside our communications to customers and our data sharing with key partners, in an effort to make help easier to access. We've updated our website layout and launched a new eligibility checker

to help customers understand what they can apply for.

We're launching an income assessment tool which will allow customers to access one of our schemes immediately by carrying out the household income test element of eligibility checks automatically.

Recognising the impact of rising inflation, we brought forward the annual increase to our household income cap, moving it up to £17,000 - this means more households are eligible for our support schemes.

We also removed some requirements for access to our schemes, including the requirement for proof of rent costs - we now need proof of income only - and the need for independent debt advice before applying.

These initiatives are making a difference, and we'll continue to make improvements and work with partners to make sure customers can easily understand and access the support that's available to them.

To find out more go to:
[Essex & Suffolk Water customer](#)
[Northumbrian Water customer](#)

EFFICIENCY AND PRUDENT INVESTMENT

- 9.1 Future-proofing supply in County Durham and the Tees Valley
- 9.2 A new approach to asset management
- 9.3 A world-first in green energy expansion
- 9.4 Investing in technology to reduce leaks



COMPETITIVENESS



ENVIRONMENT



CUSTOMER



COMMUNITIES

Efficiency and prudent investment

By investing sensibly and strategically now, we can improve our network, our environment and our customer experience for the future.

We measure whether we stay within the allowance set by our regulator for spending within the year, and the credit rating given to the business by major agencies, which assesses whether we are capable of meeting our financial commitments.

We spent more than our allowance in the last year, largely as a result of major increases in power prices since that allowance was set. While our credit rating from one of the agencies has decreased slightly in the last year, we still have an investment-grade credit rating.

We invested about £330m in our assets during the year. We also continued to deliver investments that will deliver environmental improvements, improved resilience of our water and wastewater assets, as well as cyber resilience, and smart metering.

We believe we are among the most efficient water companies. We are industry leaders on innovation, and through building our internal innovation culture we also influence those around us - in our supply chain and in our communities - to get involved too.

Efficient and prudent investment		
Measures	2021/22	2022/23
Expenditure versus allowance	+1.3%	+2.5%
Credit rating	Moodys (Baa1) and S&P (BBB+ negative outlook)	Moodys (Baa1) and S&P (BBB stable outlook)

£330m

invested in our assets

100%

of sewage sludge converted to green energy

£5m

awarded for creation of National Leakage Research and Test Centre

Case study

Future-proofing supply in County Durham and the Tees Valley



More than 200,000 customers across the south of County Durham and into the Tees Valley are benefiting from a £155m investment to upgrade and futureproof our water supply network across the area. The programme - 'Project Pipeline: County Durham and Tees Valley' - will see both completely new pipeline and the replacement of sections of the network that have served the area for more than 100 years.

The multi-year project will improve resilience and allow us to continue to deliver for the people of the area for generations to come.

Phase 1 of the project is underway, which will replace pipeline connecting Lartington Water Treatment Works with Gainford - including sections which are more than a century old - as well as see new pipe linking underground reservoirs at Whorley Hill and Shildon, and up into Spennymoor.

As with any project of this size, delivering the work itself is just part of the process - equally important is keeping customers in the area informed.

We're working hard to make sure as work progresses into new areas that customers living nearby are kept up to date, and know about any impact activities may have on them - we've also taken an approach designed to minimise disruption wherever possible, for example by laying pipe north of Barnard Castle rather than through the town.

The environment is at the heart of everything we do, and also has a place at the heart of Project Pipeline, and we're making sure it delivers for the environment at the same time as delivering great quality water for our customers.

We worked with environmental and ecological experts when planning the project to make sure it delivers biodiversity net gains while protecting the environment during project delivery itself.

We choose to work with partners who share that ethos, and our supply partner Farrans not only has a strong focus on community engagement, but also engage specialists to help limit the impact of projects, including Joseph Gallagher Ltd who carried out horizontal drilling beneath the bed of the River Tees to tackle the challenge of crossing the river in as sustainable a way as possible.



Case study

A new approach to asset management



The water industry has a lot of long-life assets, some of which can be expected to last 70 to 100 years with the appropriate care and repair. A new tool, initially developed at our Innovation Festival, allows us to be more efficient and estimate when replacement is a better option than repair.

Large parts of our asset base have an expected life span of decades - or even a century. To achieve that, assets need to be properly assessed and maintained, with repairs carried out promptly on those assets which are aging or damaged.

Above Ground Civils Structures - assets often made from reinforced concrete - make up about 15% of our asset base.

As those assets age, it's important to keep track of how rapidly they are deteriorating, and while tools exist to do that, none of them can predict the point at which replacement becomes more cost effective than repair.

We set that challenge to the innovators at our Innovation Festival, and working with Wood Group PLC (now part of WSP), we developed our Tipping Point Tool.

The tool allows us to predict when assets will need to be replaced, building resilience and meaning we can focus our investment programme where it's needed most.

Before developing the tool, we needed specialists to visit and make on-site inspections before then extrapolating what was found across our whole asset base.

With the Tipping Point Tool, those predictions are far more accurate and reduce the risk of large scale asset replacements being required over a short period of time - something that would be expensive, and potentially undeliverable.

Instead, we are able to plan and focus investment effectively.



Case study

A world-first in green energy expansion



A ground-breaking piece of equipment is helping capture ammonia from wastewater and turn it into green fuel for vehicles at a North Tyneside Sewage Treatment Works. The purpose-built facility was developed by specialists at Organics Group, and will also allow the creation of fertiliser products.

Howdon Sewage Treatment Works in North Tyneside is home to a world-first.

A specialist piece of equipment, developed by Organics Group in partnership with ourselves, is using heat to strip ammonia from wastewater and capture it for use in the production of fertiliser, pharmaceuticals or the development of green fuels.

Not only is the process extracting something useful from wastewater, it's also making the treatment works more efficient and reducing energy demand - which helps keep customer costs down.

The Organics Ammonia Recovery project is the latest green innovation at the Howdon site, which is one of the sites where, through Advanced Anaerobic Digestion and Gas to Grid technology, we convert 100% of our sewage sludge into green energy.

The project is part of a push towards net zero targets, which - by minimising emissions from the biological treatment process - helps accelerate us towards our ambitious goal of making our operations net zero by 2027.

It's also proving the concept for others, and so will contribute to the wider UK green gas and renewable field agenda, as a pilot which has the potential to be rolled out across the industry.

Our Head of Innovation, Angela MacOscar, explains it like this: *"This pilot project is going to have a massive environmental impact, drive us towards our net zero targets, and ultimately contribute to the Government's green gas and renewable fuel agenda. We're very excited to see the benefits of this project for our customers and the environment."*

Case study

Investing in technology to reduce leaks



We are at the forefront of new technology to help detect and repair leaks faster. Last year we were awarded more than £5m to create the National Leakage Research and Test Centre, which will provide a testbed for new solutions to the problem of leakages in the water network.

Leaks can cause significant problems for customers and put unnecessary strain on the environment.

Lots of progress has been made, and the number of reported leaks has fallen significantly since the mid-1990s - but there's lots more to do. While we were delighted to hit our target for leakage reduction in Essex and Suffolk last year, we were disappointed not to have the same success in the North East.

To help with that effort, Northumbrian Water has been awarded more than £5m from the water regulator Ofwat to create the National Leakage Research and Test Centre (NLRTC). The project will create a testbed for trialing innovative new solutions for detecting and fixing leaks.

That testbed - a five kilometre-long buried water network - will have its own control room, with three new dedicated people to run it.

The NLRTC will provide a place where innovators can try out new ideas without risking interruption to customers' water supplies or harming water quality - any water leaked by the centre is collected and recycled.

The project is part of the Water Breakthrough Challenge, which is led by Ofwat along with Challenge Works, and awards funding to innovative initiatives which deliver benefits for customers, society and the environment.

The NLRTC is another example of where we are taking a leading role in the sector, and investing to improve efficiency and outcomes for customers, the communities of our operating areas and the wider environment.

10

SUSTAINABILITY AND RESILIENCE

- 10.1 Building a network for the future
 - 10.2 Emission Possible – progress towards net zero
 - 10.3 The Green Machine
 - 10.4 A Great Place to Work
-



ENVIRONMENT



COMMUNITIES



COMPETITIVENESS



CUSTOMER



PEOPLE

Sustainability and resilience

For us, sustainability and resilience means two things – having sustainable and resilient infrastructure, and a sustainable and resilient organisation.

We therefore look at some of the immediate measures of the resilience of our assets - repairs needed to water mains, sewer collapses, and times when our water treatment works are unexpectedly shut due to a fault. We also look at more long-term measures – the risk of severe water restrictions in a drought and sewer flooding in a storm. Thinking about the wider organisation, we measure the ‘Trust Index’ produced by Great Place To Work UK, as a measure of the sustainability of our workforce – as our people are crucial to delivering services to our customers.

For our network, in the past year we met our targets on unplanned outages, risk of sewer flooding, and on sewer collapses - where we’ve reduced the number reported by 50% since 2019/20.

We also met our target on risk of drought restrictions, and are developing our long-term Water Resource Management Plans for both of our operating areas to continue to maintain resilient supplies.

On one metric, mains repairs, we missed our target and know we need to improve. We’re confident of our underlying good performance in this area, and that the dry soil conditions of July and August, and freeze-thaw events of December and January were the main reasons behind our weaker than normal performance.

While we didn’t achieve our stretching target for the Great Place To Work trust index, we are proud to have improved our score and been recognised as one of the 250 best workplaces by Great Place to Work UK - the only water company on the list.

We launched our Together for Inclusion, Diversity and Equity (TIDE) strategy in October 2022, which details how we will improve the diversity and equity of our business. The strategy explains how we’ve begun to use internal colleague support networks and external partnerships with specialist organisations to tackle issues like LGBTQ+, disability, race and gender inclusion.

£45m

investment to improve the ecological status of our rivers

281,000

tonnes reduction in greenhouse gas emissions since 2009

91%

of our employees support our vision and values

Sustainability and resilience		
Accreditations		
ISO 15001 asset management		
Measures	2021/22	2022/23
Great Place to Work (GPTW) Trust Index	67%	70%
Mains repairs	110.9	154.9
Unplanned outages	4.57%	3.51%
Sewer collapses	8.71	9.29
Risk of severe restrictions in a drought	0%	0%
Risk of sewer flooding in a storm	16.11%	16.11%

Case study

Building a network for the future



Each decision we make when investing in our network has one eye on needs now and the other on future requirements. In County Durham we've invested to be ready for the future, while improving water quality too.

When we invest in our network, we always think about flexibility and resilience for the future.

In County Durham, we've invested £8m in 6km of new sewers and two new pumping stations at Plawsworth and Pity Me.

The new pipeline has been designed with the accommodation of the transfer of future flows in mind, allowing for expected population growth in the area.

These projects, which are just the first part of a larger upgrade plan which will run until 2030, will streamline sewage treatment processes, add an extra layer of protection to Blackdene Burn, and futureproof the network around these sites.

These investments aren't just about our operational needs as populations grow, they're also about the river water quality our customers enjoy.

Overall, we're investing £45m in projects which improve the ecological status of our rivers, and as well as the new pipeline and pumping stations benefiting Blackdene Burn, we're also delivering 3.5km of new pipe to Sherburn, upgrades to Sherburn sewage treatment works, and investing £6.5m to expand and upgrade our treatment works at Kelloe in County Durham.

This will see improved water quality in Coalford, Sherburn and Coxhoe becks, as well as downstream from those locations.

Our approach - combining operational improvements with positive environmental outcomes - means we're able to better serve the needs of our customers at the same time as fulfilling our responsibilities for the water environment in our regions.



Case study

Emission Possible - progress towards Net Zero



As part of our ambitious target to reach net zero operational emissions by 2027, we're installing solar arrays at sewage treatment works across our operating areas, investing in electric vehicles and changing our processes. Not only does this help us reduce our carbon footprint, but it also makes our operations more resilient.

We've seen our carbon emissions fall by more than half since 2019/20, down to 22,000 tonnes per year in 2022. We've made huge strides since we first started targeting greenhouse gas emissions back in 2009, when our carbon output was at 303,000 tonnes per year.

We've made such incredible progress by looking right across our business.

One notable project in the past year was the installation of an array of 3,600 solar panels at Lumley Water Treatment Works in County Durham - the first of six sites, including Sedgely, Billingham, Newton Aycliffe and Blyth.

Across our operating areas we anticipate being able to generate 12 million kWh of green energy per year.

These are in addition to our Green Power Stations at Howdon in Tyneside and Bran Sands in Teesside, where we use advanced anaerobic digestion to create 'power from poo' - making us the only water company to use 100% of our sewage sludge for sustainable energy generation. We also have hydro power stations at sites across County Durham and Northumberland.

Water and wastewater treatment are energy intensive activities, and solar power helps us generate green energy and reduce our carbon output while we also explore innovative ways to reduce our energy consumption overall.

Having brought our carbon emissions down so far already, we're now at a stage where we have to think more creatively - and more long term - about how we make the rest of the journey to net zero.

Our sewage treatment process currently uses natural gas, but as our infrastructure reaches the end of its life, we'll be replacing gas-powered equipment with new green-powered heat pumps, reducing our need for natural gas usage.



Likewise, we're working to replace our vehicle fleet with electric vehicles, and currently have 13 Nissan ENV200 vans in operation, with 75 chargers across our sites. While the broader infrastructure for and availability of electric vehicles improves, we're looking at green fuel alternatives for the rest of our fleet.

Delivering net zero operational greenhouse gas emissions by 2027 will represent a huge achievement, but it is still just step one of a bigger process - a first crucial milestone, after which we will broaden our focus, for example to include our suppliers and our construction activities.

We've already begun thinking about that, so that we can build on the momentum that's been gained through Emission Possible.

Case study

The Green Machine



We are harnessing a unique form of microalgae found at Bran Sands Sewage Treatment Works on Teesside to improve our treatment processes. This innovative project has the potential to both reduce costs and benefit the environment.

Oocystis BS19 is a unique microalgae which was discovered growing at our Bran Sands Sewage Treatment Works. We created a homemade reactor in the lab to study the viability of growing the algae and using it in the treatment process. This reactor provided us with some excellent results treatment of ammonia, solids, and chemical oxygen demand (COD).

We then moved on to understanding how we could cultivate the algae and establish a process that would work consistently. The next challenge was to do this at a much larger scale.

Algae ponds have been used in wastewater treatment in hot climates, such as California, Brazil, Spain and Mexico. However, our climate is much more challenging for this type of algae. To overcome this we looked at using photobioreactors (PBR), which shines artificial sunlight on the algae to encourage photosynthesis.

As part of the process we also capture CO2 capture and a biomass which can then be put through our advanced anaerobic digestion process (or power from poo) to generate more renewable gas. When all this is taken into account, the 'Green Machine' has the potential to significantly reduce costs as well as deliver environmental benefits.

A huge amount of analysis and trials have been carried out at both on site at Bran Sands and in the labs at Newcastle University to understand how the algae works and how successful this process can be.

We are now in the process of building the plant to full size. The location on site has been carefully selected and construction is soon to start. This can be built using modules so we will have the potential to increase our capacity and ultimately we hope to treat all the flow at Bran Sands.



Case study

Working together for inclusion, diversity and equity



Creating a diverse and inclusive workforce is one of our core values. In October 2022 we launched our TIDE strategy - standing for Together for Inclusion, Diversity and Equity. The strategy was designed in collaboration with our colleagues and external partners.

Diversity helps us reflect all our customers through our regions, and evidence suggests it makes us a better business too, with a greater ability to innovate.

TIDE also sets out our ambition to play a role in creating a better society by being a responsible business, being a fair and inclusive place to work, and having a workforce reflective of the diversity of the communities we serve.

We do this by collecting strong data and setting realistic but stretching targets.

Through our TIDE strategy, we are targeting:

- 75%+ self-disclosure around protected characteristics.
- 0% bullying, harassment, discrimination or victimisation across characteristics following investigation.
- More than 35% of colleagues are female.
- More than 4.3% of colleagues are non-white.
- More than 6% of colleagues with a reported disability
- A Gender Pay Gap below 7%.

At present 33% of our 3,000-strong workforce and 35% of our managerial team are women, and we have a mean Gender Pay Gap of 5.81%.

This strategy is helping us to more effectively target the significant work we do to highlight career opportunities in our regions. Working with both internal networks and external partners, we are working to promote STEM careers amongst women and under represented groups, including through careers events, work experience programmes, activity in schools, internal career ambassadors and targeting early career opportunities.

As well as internal Colleague Network Support Groups, which inform our work, we work with a range of external partners:

- Women in Science and Engineering (WISE), where we follow their Ten Step Framework to increase opportunities for women in science, technology, engineering and maths-focused roles.
- We are signatories of the Business in the Community (BITC) Race Charter.
- We are part of Stonewall's LGBTQ+ Allies Network.
- We are members of the Business Disability Forum.
- We work with the Association for BAME Engineers on our Innovate Futures programme, which provides graduate work experience.
- We look to groups like ACAS and Common Purpose for benchmarking support.

One of our partners is Daisy Chain, an autism and neurodiversity project based in Stockton-on-Tees. Daisy Chain supports and empowers autistic and neurodivergent individuals through the provision of services

to more than 5,000 individuals and families each year, while promoting training, wellbeing, inclusion and acceptance - including with us.

Johnathon Pickard, Head of Business Development and Economic Generation at Daisy Chain, said: *“Our partnership with Northumbrian Water not only helps them, but also aids our service delivery and raises awareness of the challenges that autistic and neurodivergent people face, reducing barriers and creating opportunities. In our 20th year, we appreciate and value the benefits of our partnership.”*

Case study A Great Place to Work



We have been recognised as one of the best workplaces in the country, after an evaluation by Great Place to Work UK. Of the 250 organisations on the list of the UK's best workplaces, we were the only entry from the water and sewerage industry.

The Great Place to Work UK evaluation included looking at hundreds of employee survey responses, as well as a Culture Audit submission, before then benchmarking employee experience against company values.

This showed that 91% of our employees support our vision and values, 89% said people are made to feel welcome here, and 79% feel good about the way we contribute to the community.

As a company, we've put in place a number of initiatives to promote wellbeing for our employees, including our 'Living Well' programme - a single source of health and wellbeing information - and offerings like a digital GP, wellbeing webinars and sports and social clubs.

Those specific programmes sit on top of a strong team culture, with development pathways for employees, generous leave entitlements and benefits package.

Kat Hallam, our Rewards and Benefits Manager said: *"Our Great Place to Work survey offers valuable insight into what health services work for our colleagues and what else they'd like to see. All of our people truly care about what they do, whether that is helping our customers in the call centres, or on the ground keeping our essential services flowing."*

That strong sense of purpose among our teams is important, with a desire to care for the environment now and for future generations, as well as play an active role in the communities we operate in. One example is our Just an Hour programme, where employees have paid time available to volunteer in their local areas. Last year, 38% of employees took advantage of the scheme, supporting more than 300 organisations in the community.

Our Head of People Strategy and Experience, Elouise Leonard-Cross, said: *"It is absolutely fantastic that we have been recognised for all of our work when it comes to health and wellbeing within the company, and I am incredibly proud to be a part of one of the 'Best in the UK' organisations."*

"However, it is even better to see the difference it makes to our people as we have our variety of offerings in place. Our people are incredibly passionate and work hard all year round to keep the water flowing, so it is extremely important to make sure that every single one of them are supported however they need."



MEASURES AT A GLANCE

11.0 Measures at a glance



Measures at a glance


Overall statement

Accreditations



Ethisphere

Good Business Charter

Measures

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Independent Trust score 	8.8	8.7	8.5	8.8	We survey our customers to ask them if they think we are a company they can trust.	<p>We are disappointed to have dipped slightly compared to our usually high performance.</p> <p>However, in our consumer body CCW's Water Matters report 2022/23, for our Northumbrian Water region, our trust score increased to 7.81, joint top and significantly higher than average for all water and sewerage companies.</p> <p>Our trust score in our Essex & Suffolk Water operating area (7.27) remains lower, but is still above the average (7.21) across all water companies in England.</p>
Purpose statement tracking in Omnibus survey						
Cares for the essential needs of its communities and environment, now and for generations to come.	-	68%	61%	69%	We survey our customers to ask if they think we live up to our Purpose, by asking to what extent do you agree or disagree with each of these statements.	We are disappointed to see agreement with these statements decline. However, we didn't see a corresponding increase in customers disagreeing with the statement – the shift has been almost entirely to undecided/don't know. We have identified a specific project to consider different approaches to grow our reputation in 2023, of which purpose is a specific strand. We hope to see the impact of this when the survey is re-run in autumn 2023.
Provide reliable and affordable water [NW: and wastewater] services for its customers.	-	73%	66%	74%		
Make a positive difference by operating efficiently and investing prudently, to maintain a sustainable and resilient business.	-	62%	53%	63%		




Caring for our communities

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
C-MeX	 3rd – 85.76	2nd – 84.46	1st – 83.74	Top 2	Our regulator Ofwat's customer measure of experience, based on surveys of customers about their satisfaction and experience.	<p>We were delighted to be the top company in the C-MeX measure. We have achieved this result because of our relentless focus on communications at all stages of our customers' journeys as we know keeping them informed and being open and transparent is critical to satisfaction and positive experiences. We've improved how and when we communicate, as well as the channels we choose to share messages.</p> <p>In the small number of cases where complaints are received, we take a 'phone first' approach to fully understand their concerns. We have put in place robust processes to make sure complaints are resolved to customers' satisfaction as swiftly and consistently as possible.</p> <p>We continue to promote the great work we do through our Just Add Water marketing campaign.</p>
Local procurement spending (and impact)	 58.00%	60.34%	62.60%	60.00%	We aim to spend at least 60p in every £1 with suppliers in our operating regions	<p>We are delighted to have overachieved on our ambition to spend 60% of our money locally, actually spending 62.6% with local suppliers.</p> <p>Several actions over the past year have helped to get us to this level, including targeted local supplier engagement at 'Meet the Buyer' events, relaunching our educational pack designed for local SMEs to inform them about the procurement process; and work with the County Durham Pound group to identify where new opportunities lie.</p>

Caring for the long-term needs of our environment

Accreditations



ISO 14001 Environmental management

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Environmental Performance Assessment (EPA) star rating 	4 star	4 star	3 star	4 star	The Environment Agency, one of our regulators, collects data on how well water companies have protected the environment in a number of different ways. They use the data to form a scorecard and give an overall assessment each year out of four stars.	We are disappointed to no longer be 4-star, while recognising this is still a 'good company' rating. For the latest year the Environment Agency revised some of the metrics and measures used in the EPA assessment. The introduction of a core metric for discharge compliance means that this performance measure must be green (i.e. a maximum of one failure) for a company to be classified as a four star company, depending on scores for the other metrics. This meant that while our performance improved from three failures in 2021 to just two in 2022 (resulting in an amber assessment) and also improved on most other measures, the new criteria means we are now rated 3-star.
Net greenhouse gas emissions (reduction against 2019/20 baseline) 	15,235	46,296	23,445	6,771	Net zero is about balancing the amount of harmful greenhouse gases being put into the atmosphere with those being taken out.	We have significantly exceeded our target this year. Actions to reduce emissions have included installing our first large scale solar arrays, using 100% of our sewage sludge to create power from poo, moving part of our fleet onto biodiesel, using electric vehicles wherever possible, and sourcing approximately 30% of our electricity demand from the Race Bank offshore wind farm.
Pollution incidents per 10,000km sewers 	14.61	22.98	19.98	23.00	The number of times pollution is caused by contaminated substances being released from our sewers into a watercourse or onto land, per 10,000km of sewer.	The number of pollution incidents has fallen this year due to investment and targeted efforts to reduce the number of incidents. A recent innovation is smart network management technology, which uses advanced machine language learning, together with hyperlocal rainfall forecasting, to accurately predict the normal performance of our assets and provide alerts of issues. This increases our capability to detect problems and respond to prevent pollutions from happening.

Caring for the long-term needs of our environment

Accreditations


ISO 14001 Environmental management

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Water Environment Improvements 	30.2km	34.6km	33.1km	10km	The amount of improvements made to water environments such as rivers, reservoirs and coastlines that the public can access. Improvements could be made to facilities and recreation, wildlife and biodiversity and the quality of water.	We are delighted to have exceeded our target again this year. In 2022/23, we have invested £200,000 in water environment improvements, including in staff resources and investment in projects. We have continued to work closely with the independent Water Environment Governance Group, made up of external expert stakeholders who are passionate about improving the environment, which helps steer our activity.
Bathing water quality 	33/34	33/34	33/34	33/34	The Environment Agency, one of our regulators, monitors how clean the water at designated beaches is. Every year they give the water at each designated bathing water a rating of excellent, good, sufficient or poor.	<p>We are pleased to have achieved our target. Bathing water classifications were assessed for the 2022 bathing season with 32 out of 34 bathing waters either Good or Excellent. The two bathing waters that haven't met our PC of Good or Excellent are Marsden (Sufficient) and Cullercoats (Poor).</p> <p>We have conducted a WINEP investigation at Marsden to understand the deterioration from Good in 2019 to Sufficient in 2021. The classification is affected by significantly higher than normal sample results in both August 2018 and August 2019 that are linked to rainfall events. The study has concluded that local diffuse sources represent the predominant cause and removal of our only asset, a storm overflow, would not improve the classification.</p> <p>We have considered the evidence for Marsden with the Environment Agency that shows that our assets are not the cause for the deterioration. Therefore, as agreed with the EA, we are reporting this as meeting our target of 33 out of 34.</p>



Caring for the long-term needs of our environment

Accreditations




ISO 14001 Environmental management

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
<p>Per capita consumption (PCC)</p> 	<p>3.8% Increase to 156.3 litres</p>	<p>7% increase to 157.7 litres</p>	<p>5.6% increase to 159.1 litres</p>	<p>2.9% decrease to 146.2 litres</p>	<p>The amount of water each person uses, on average, each day.</p>	<p>We are disappointed to have missed our target, which requires us to deliver a reduction of 5.3% by 2025 against the baseline of 2019/20, on a three-year rolling average basis. The PCC for 2022/23 has reduced by 2.5% from 2021/22 and 7.2% since 2020/21. However, PCC is still 2.1% higher than the base year and the three-year average PCC is still heavily impacted by Covid-19.</p> <p>The Covid-19 pandemic had a significant effect on PCC (which reflects household water consumption only, as opposed to business use). Initially, water use increased due to changing hygiene requirements, periods of lockdown and a shift to home working. Social distancing restrictions also limited our ability to implement water efficiency measures in customer homes. Since then, while the impact has lessened, we continue to see sustained increases in household water consumption as water use behaviours have changed and hybrid working means more water use at home.</p>

Reliable services

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
<p>Interruptions to supply greater than three hours</p>  <p>4mins 4 sec</p>		<p>5 mins 51 seconds</p>	<p>8 mins 16 seconds</p>	<p>5 minutes 45 seconds</p>	<p>Interruptions to customers' water supply of greater than three hours duration, measured in average minutes across the year.</p>	<p>We are disappointed to have missed our target. This performance is due to the increase in repair activity caused by dry soil conditions during the summer heatwave, where temperatures hit 40 degrees in our Essex region. Supply interruptions were also caused by the freeze-thaw event which occurred in both of our operating areas during December 2022 when temperatures went from a low of -7 degrees Celsius recorded on 13 and 16 December to a high of 13 degrees on 19 December.</p> <p>We are disappointed that one of our largest events was caused by a third party who damaged three of our mains while working in Middlesbrough.</p>
<p>Internal sewer flooding</p>  <p>1.89</p>	1.84	<p>1.21</p>	1.58	<p>The number of buildings and homes that are flooded by sewage entering them, per every 10,000.</p>	<p>We are delighted to have exceeded our target on this crucial issue for customers. Highlights this year include visiting over 500 high risk properties and investigating, clearing blockages, and fixing sewer defects where we find them. We also significantly boosted the engagement we have had with customers from our Bin the Wipe campaign by sending an additional 100,000 information letters to customers in hotspot areas. This is on top of the 170,000 properties we have engaged with directly on the ground.</p>	



Reliable services

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Leakage - NW	 <p>1% increase to 136.2 MLD</p>	<p>0.1% reduction to 134.7 MLD</p>	<p>3.7% reduction to 129.8 MLD</p>	<p>6% reduction to 126.7 MLD</p>	<p>The amount of water which leaks from pipes between our water treatment works and customers' homes and businesses, measured on a three-year average.</p>	<p>We are delighted to have achieved our target in our water-stressed Essex and Suffolk operating area, but disappointed not have done so in the North East.</p> <p>Our target is based on percentage reduction of three-year average leakage against a 2019/20 baseline.</p> <p>We have reduced leakage in our Northumbrian Water area from 130.5MI/d in 2021/22 to 119.25MI/d in 2022/23 (an 8% year on year improvement). However, this gives a three-year average of 129.9MI/d against a target of 126.7MI/d - so on the three-year average measurement we have delivered a reduction of 3.6% against a target of 6%.</p>
Leakage - ESW	 <p>0.5% reduction to 64.9 MLD</p>	<p>3.2% reduction to 63.1 MLD</p>	<p>7.5% reduction to 60.3 MLD</p>	<p>7.2% reduction to 60.5 MLD</p>	<p>The amount of water which leaks from pipes between our water treatment works and customers' homes and businesses, measured on a three-year average.</p>	<p>Our performance was affected by the hot and dry summer caused significant numbers of burst mains and other asset failures, while the period of freeze and thaw just before Christmas saw leakage increase rapidly.</p>
Compliance Risk Index (CRI)	 <p>7.11</p>	<p>6.36</p>	<p>7.62</p>	<p>0.00</p>	<p>A measure of how well we are managing risks to drinking water quality and investing to keep drinking water clean and safe to drink.</p>	<p>We are disappointed to be behind target on this measure. When a failure occurs at an asset or in a supply area that is subject to an agreed programme of work with the Drinking Water Inspectorate (DWI), the DWI's assessment increases the associated CRI score. In 2022, this effect increased the CRI total by 3.62 units. The biggest impact on CRI for 2022 was a bacteriological failure from a water treatment works in the Teesside area, which accounted for 1.431 units. This represents more than 15% of the final figure. We are delivering our long-term plans to reach this, as well as working closely with the DWI. We've accelerated and increased funding in our base capital programme as part of a transformation plan with the DWI.</p>

Affordable services

Accreditations


BSI for inclusive services

Measures		2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Satisfaction of customers who receive additional financial support		9.3	9.2	9.2	8.7	Some of our customers are on a reduced bill because they are struggling financially. We survey these customers to ask them how satisfied they are.	We are pleased to continue to exceed our target. We have taken a new approach to applications for our affordability schemes, with the introduction of a telephone application process for our customers who have found themselves in short term financial hardship. We have also expanded our partnership with Policy In Practice who offer an online tool that has been tailored to assess the best tariff for our customer, with the additional benefit of identifying any additional government benefits they may be eligible for.
Percentage of households in water poverty		10.38%	9.61%	15.27%	9.42%	The percentage of households who spend more than 3% of their income, after housing costs, on their water and sewerage bill.	We recognise this measure is now behind target. One of the major strands of our plan to eradicate water poverty was a significant bill reduction from 2020 which we expected to take around 100,000 customers out of water poverty. Up until this year the net bill reduction alongside our financial support schemes meant we were ahead of our water poverty targets. The past three years have seen a period of significant economic upheaval, with Brexit, the Covid-19 pandemic and the current period of high inflation creating a cost-of-living crisis period. Alongside this, increasing water bills, driven by higher inflation and lower real term wage increases have meant that the initial bill reduction has all but eroded away. We are helping to address this by removing barriers to customers accessing our financial support schemes, improved data sharing arrangements and better communication of our schemes. Our company-funded tariff increased by 11% during the year, with customers' bills being reduced by a total of £1.5m.



Affordable services

Accreditations

BSI for inclusive services

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Customer perception of value for money 	8.3	8.2	8.2	8.3	We survey customers to ask them if they think their water bill represents value for money.	Our 2020 score of 8.3 out of 10 was the highest we've received in the last seven years. We are pleased to still achieve a high result and continue to promote the value of water through campaigns such as Water's Worth Saving. Given the affordability challenges our customers are facing, we're working hard to keep bills low and affordable, and despite the recent increase, our bills in the Northumbrian Water region are still the lowest water and sewerage bills in England.




Efficiency and prudent investment

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Expenditure versus allowance	 +1.2%	+1.3%	+2.5%	-	Our regulator sets an allowance for how much we can spend on delivering services to customers. This is a measure of whether we stay within our allowance.	We have spent more than our allowance largely as a result of the huge increase in power prices since 2021.
Credit rating	 Moody's (Baa1) and S&P (BBB+)	Moody's (Baa1) and S&P (BBB+ negative outlook)	Moody's (Baa1) and S&P (BBB stable outlook)	-	An external assessment of whether a business is considered to be capable of meeting their financial commitments, including paying for day-to-day operations, investing for the future and repaying debt.	This is a downgrade of one notch with S&P, but remains an investment grade rating. S&P cited the effect of rising inflation and increasing capital expenditure. Moody's affirmed its rating of Baa1 with stable outlook in April 2023.

Sustainability and resilience

Accreditations




ISO 15001 Asset management

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
GPTW Trust index	 62%	67%	70%	72%	The Great Place to Work (GPTW) trust index is calculated through an annual survey which asks our employees to rate what it is like to work for our company.	We are pleased to have made Great Place to Work UK's Best Workplaces list again this year, in the super large organisations category. This year our 'trust index', which is the overall score, has recovered to the level we achieved in 2021 and our score on specific statements relating to business trust, including engagement, is above our target level. We are taking the opportunity to work through the feedback provided through comments and data we have to understand what will drive further improvement, and addressing this with leaders across the business.
Mains repairs	 127.0	110.9	154.9	132.4	The number of repairs we carry out to burst water mains each year.	We are disappointed with this result as this is usually an area where we perform well. Our performance was impacted by the dry soil conditions during the summer heatwave, and the freeze and thaw event, which occurred in both of our operating areas during December 2022. We had close to double our forecasted mains bursts in August compared to our recent performance based on a three-year average. However, our underlying burst rate continued to be in line with previous years outside of July through to September and December and January this year.
Unplanned outages	 5.96%	4.57%	3.51%	4.36%	When we are unexpectedly unable to produce water from one of our water treatment works because of a fault.	We are pleased to be ahead of target. Our improvement plans are based on proactive maintenance, operators taking care of our assets and delivery of future investment plans.

Sustainability and resilience

Accreditations

ISO 15001 Asset management

Measures	2020/21	2021/22	2022/23	Target	Measure explanation	Performance explanation
Sewer collapses 	9.82	8.71	9.29	9.43	The number of sewers which have collapsed and are releasing sewage into the environment or causing disruption for our customers.	We are pleased with our improvement and have managed to have managed to avoid a number of sewer collapses through proactive investigations to find and fix problems. We make efforts to learn from companies who are doing slightly better than us. We are also trialling using artificial intelligence to recognise defects from CCTV survey footage.
Risk of severe restrictions in a drought 	0%	0%	0%	0%	The risk that we would have to restrict the amount of water customers can use during a drought.	We are delighted that our resources are in such a resilient position. Our most recent Water Resources Management Plans demonstrate that we have 100% security of supply across our area for the next 40 years, and we have made significant investment, particularly in Suffolk, to maintain this.
Risk of sewer flooding in a storm 	16.11%	16.11%	16.11%	27.30%	The percentage of homes that may be at risk of flooding due to a sewer overflowing during a storm.	We are pleased to be in a position where modelling work showed we achieved our target to reduce risk of flooding four years ahead of schedule.

Thank you for reading.

We hope you found this report informative and inspiring.

If you are interested in finding out more, this report sits alongside our [Annual Performance Report](#) and [Financial Statements](#) which provide complete financial and regulatory data.

For any queries or to find more information on any of the work we have covered here visit www.nwg.co.uk or email communities@nwl.co.uk.