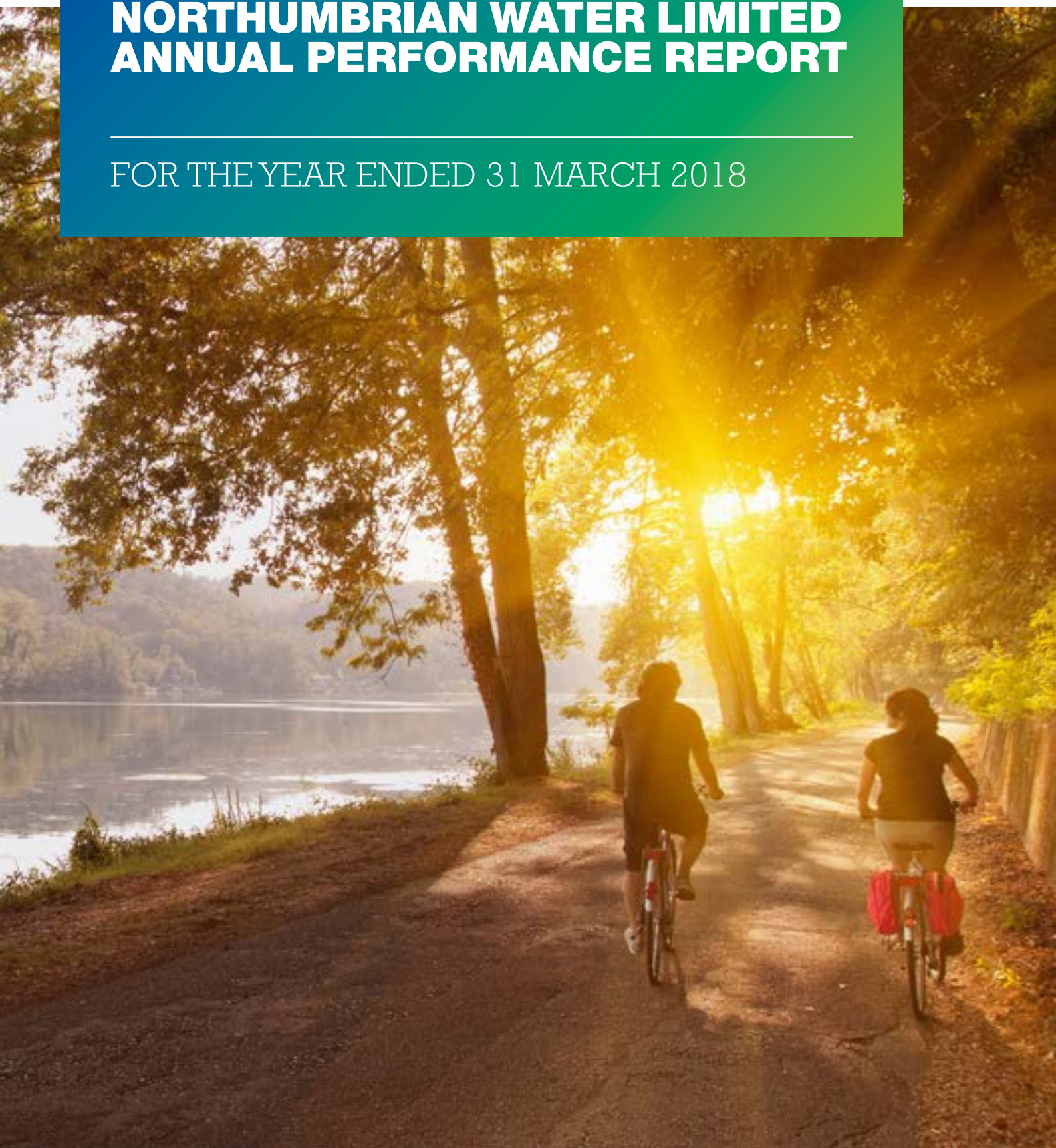


NORTHUMBRIAN WATER LIMITED ANNUAL PERFORMANCE REPORT

FOR THE YEAR ENDED 31 MARCH 2018



CONTENTS

BOARD STATEMENT	4-5
CHIEF EXECUTIVE OFFICER'S WELCOME	6-7
WATER FORUMS' VIEWS	8-9
WHO WE ARE	10-12
OUR STAKEHOLDERS	14-17
ASSURANCE SUMMARY	18
INTRODUCTION	19
OUR PERFORMANCE	20-21
<ul style="list-style-type: none"> • WE PROVIDE EXCELLENT SERVICE AND IMPRESS OUR CUSTOMERS 22-41 • WE PROVIDE A RELIABLE AND SUFFICIENT SUPPLY OF WATER 42-49 • WE SUPPLY CLEAN, CLEAR DRINKING WATER THAT TASTES GOOD 50-59 • WE PROVIDE A SEWERAGE SERVICE THAT DEALS EFFECTIVELY WITH SEWAGE AND HEAVY RAINFALL 60-67 • WE HELP TO IMPROVE THE QUALITY OF RIVERS AND COASTAL WATERS FOR THE BENEFIT OF THE PEOPLE, THE ENVIRONMENT AND WILDLIFE 68-81 • WE PROTECT AND ENHANCE THE ENVIRONMENT IN DELIVERING OUR SERVICES, LEADING BY EXAMPLE 82-87 • WE DELIVER WATER AND SEWERAGE SERVICES THAT MEET THE NEEDS OF CURRENT AND FUTURE GENERATIONS IN A CHANGING WORLD 88-93 • OUR ENABLING AND REPUTATIONAL OUTCOMES 94-102 • WE ARE PROUD TO CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITIES 103-106 • WE WORK IN PARTNERSHIP TOWARDS COMMON GOALS 107-115 • OUR PEOPLE 116-131 • WE ARE A COMPANY THAT CUSTOMERS TRUST 132-134 	
REGULATORY ACCOUNTS	137-203
DIRECTORS' RESPONSIBILITIES AND DECLARATIONS	138-139
REGULATORY ACCOUNTING POLICIES AND DISCLOSURES	140-142
SECTION 1: REGULATORY FINANCIAL REPORTING	143-154
SECTION 2: PRICE REVIEW AND OTHER SEGMENTAL REPORTING	155-174
SECTION 3: PERFORMANCE SUMMARY	175-181
SECTION 4: ADDITIONAL REGULATORY INFORMATION	182-203



BOARD STATEMENT – OUR VISION AND PERFORMANCE

This statement sets out how we, the Board of Northumbrian Water Limited, set the Company's aspirations in respect of the services we provide to our customers and other stakeholders, both now and into the future, how we are performing against our aspirations and how we structure management rewards to incentivise delivery of these aspirations.

The Board has a long-term vision for the Company, which is to become the national leader in the provision of sustainable water and wastewater services. This will require us to deliver outstanding service to our customers across our water and wastewater businesses as well as maintaining the highest levels of environmental performance. We are also clear that to be the national leader means to continue raising the bar to improve standards further and we encourage a culture of innovation to achieve this, as demonstrated by our first Innovation Festival this year, described on pages [94 to 101](#).

HOW WE SET OUR ASPIRATIONS

The aspirations that we set for the current price control period 2015-20 were developed through a process of engagement and consultation with customers and other stakeholders as part of our business planning process for the period. This engagement led to a set of agreed outcomes for customer service, the environment and the way in which we manage the business. For each of these outcomes we agreed a range of measures of success and challenging performance commitments, which we use to monitor and report on performance.

We set out outcomes and how we deliver these across our strategic themes and through our corporate values, on pages [11 to 12](#) of this report. We report on our performance against these outcomes and our measures of success and performance commitments on pages [20 to 24](#).

However, in order to drive the year on year performance improvements necessary to deliver our vision of being national leader, we set ourselves tougher, stretching targets within the business. These targets are reported internally through a balanced scorecard of key performance indicators which cover the full range of strategic themes that underpin the

vision. We re-set these targets each year, taking account of how other companies in the industry have performed and what our customers have told us about their priorities.

We also work closely with our Water Forums, one each for our Northumbrian and Essex & Suffolk operating regions, which bring together expertise from the wide range of stakeholders. Our Water Forum Chair has attended a number of full Board meetings and our Independent Non-Executive Directors, and Executive Directors, regularly attend Forum meetings and workshops to ensure that the Board understands directly the areas where the Forum members are challenging us to improve performance and outcomes for our customers and stakeholders.

In order to ensure that the Executive Leadership Team's focus is aligned with the business outcomes we want to attain, stretching internal targets from across our balanced scorecard of performance measures represent 90% of the potential value of the short-term incentive plan for our Directors, with a further 10% available for the achievement of bespoke personal targets. The Remuneration Committee Report in our [Annual Report and Financial Statements](#), a separate report available on our websites, provides full, transparent detail on our directors' remuneration policy and how remuneration in the year has been calculated.

PERFORMANCE IN 2017/18

Our performance in 2017/18 against our measures of success is described in detail throughout this report. The information provided is supported by case studies that illustrate where we are adopting particularly participatory or innovative approaches in the way we deliver services.

We have delivered year on year improvement against the majority of measures and have achieved our performance commitments in a high proportion of our Customer and Environment measures of success.

In respect of customer service, as measured by Ofwat's Service Incentive mechanism, we were delighted to achieve joint first place in industry in 2016/17 and, whilst we have seen a slight dip in performance on the satisfaction survey in 2017/18, we remain confident that our [Unrivalled Customer Experience Strategy](#) will continue to drive long term improvements and support our aspiration to be the best service provider that our customers experience.

We were pleased to see year on year improvements on our drinking water measures, with improved overall compliance and further reductions in issues around discolouration and taste and odour. We have also shown continued improvement across almost all of our sewer flooding measures, pollution incidents and maintained strong bathing water compliance.

We welcome the key role that our Water Forums play in providing challenge on behalf of our customers. As part of this process we report to and discuss our performance with the Water Forums and they provide their independent commentary on pages [8 to 9](#). As well as highlighting our success in achieving 'self-assured' status from Ofwat for our reporting, the Water Forum Chair highlight sour progress in sewer flooding, incident management, pollutions and the implementation of our new customer care and billing systems as directly and positively impacting our customers.

We continually strive to improve our performance for customers and accept the challenge from our Water Forums to improve performance on leakage and achieving even higher standards of compliance on drinking water and sewage treatment.

LOOKING TO THE FUTURE

Customer engagement and participation is very much an ongoing process, not a once every five years exercise for each business plan. We published our approach to customer participation in our report ['From customer consultation to a culture of customer participation'](#) this year and co-creation of our plans with customers is part of our DNA. This is led from the top with our Independent Non-Executive Directors actively engaging in many customer and stakeholder engagement events over the year. Understanding from our customers what matters most to them about the services we provide shapes both our immediate targets and our long term plans, which are being brought together in our 2020-2025 business plan.

We set out our ambitions for customers in our long term vision statement ['Shaping our Future'](#), published earlier this year which looked ahead as far as 2040. We will publish more detail on how we will

deliver these ambitions in our business plan for 2020-2025, which has been developed in partnership with our customers. This plan will focus on the next five years but is set in the longer term context of providing affordable and resilient services for today's generation and our customers of the future.

As a Board, we remain committed to continuing our drive to be the national leader and to deliver outstanding service to our customers and other stakeholders both for now and into the future.

Signed on behalf of the Board of Northumbrian Water Limited:



Andrew J Hunter
Chairman



Heidi Mottram
Chief Executive Officer



Paul Rew
Senior Independent Non-Executive Director

CHIEF EXECUTIVE OFFICER'S WELCOME

I am pleased to present our Annual Report and Financial Statements for the year ended 31 March 2018. Our vision is to be the national leader in the provision of sustainable water and wastewater services, and I am delighted that we have made further progress towards this and remain at the forefront of performance in our industry.

It is important that we listen to our customers and we have made further progress this year promoting a culture of customer participation in the development of our strategies and plans. We see this as fundamental to ensure that we deliver continuously improving services to our customers and we have included a number of case studies in this report to demonstrate some of the innovative approaches we have taken to achieve this.

OUR PERFORMANCE

We put our customers at the heart of everything we do and aim to ensure that we deliver an unrivalled customer experience to all of our customers. Our levels of customer satisfaction remained extremely high this year and research by the Consumer Council for Water (CCWater) has shown that our levels of customer trust have increased even further this year.

Our customers have told us that a personal approach is really valued by them, so we have developed our customer service further through our Inclusivity Strategy which explains how we will provide extra support to those who need it and ensure that we treat all customers fairly and with respect.

At the start of the year we chose to exit the Non-Household (NHH) retail market and transfer our NHH customers to another Northumbrian Water Group Limited (NWGL) subsidiary. This transition went very well and the NHH market is now well-established providing choice for NHH customers. As a wholesaler, we have worked tirelessly through the year to provide excellent wholesale services to all of our NHH retailers. The NHH transition was the first phase of our programme to transform our customer care and billing systems. I am delighted that we have now also successfully transitioned all of our household customer data to our new billing system which will

enable us to provide even better customer service than before.

We have continued to provide a resilient water supply maintaining our industry leading performance in lowest interruptions to supply along with 100% security of supply. I was very proud of the fantastic work our people did to keep the water flowing to our customers during the very challenging weather conditions in late February 2018. We avoided any major incidents and, despite the significant increase in bursts caused by the exceptional conditions, we managed to keep our leakage levels broadly in line with our performance targets for the year. We continue to focus on driving leakage down sustainably using some exciting new technology and data science. We have also continued our award winning approach to water efficiency through our Every Drop Counts campaign and our engagement programme with school children.

The quality of the water we produce remains exceptionally high and we have made further progress in driving down instances of discolouration and taste and odour complaints from customers. We have continued to take an active catchment management approach to improving the quality of water in the environment, working with a number of partners to help us deliver more effectively together.

In our wastewater business I am pleased that we have seen further reductions in sewer flooding incidents, which is a testament the number of innovative approaches we have adopted. These range from our award-winning Love Your Drain and Rainwise campaigns, through which we engage with customers about ways to prevent flooding occurring, to our partnership approach to sustainable urban drainage solutions.

In the wider environment we are proud that all of the bathing waters in our north east operating region continue to meet the required standard and that the vast majority achieve the good or excellent standard. We continue to deliver excellent levels of wastewater treatment compliance and our transformative pollution management programme has helped us to reduce significantly the number of incidents over recent years.

One of the highlights of 2017/18 was our inaugural Innovation Festival where we hosted over 1,000 people over the week-long event with the aim of finding ways to address environmental and social issues that affect us all. It was great to see our employees engaging with our customers, other water companies and some world class partners who are leading in their fields. We are actively developing a number of the ideas to improve the lives of our customers and communities. Our second Festival is in full swing as we publish this report and has been even bigger and better.

We are also working with partners from across the utility sector to tackle the problem of future skills shortages through our NWG Academy, by engaging with schools and sponsoring research, particularly in the STEM (science, technology, engineering and maths) disciplines. We are also focusing on developing our people through a wide range of apprenticeships and it's exciting to see not only many younger people joining us through this route but also the number of our existing employees taking the opportunity to develop their skills and careers through an apprenticeship.

RECOGNITION

The successes above are a result of the hard work that our 3,000 employees put in every day and I was delighted that these efforts were recognised at a national level when we were named Utility of the Year at the Utility Week Awards, Water Company of the Year at the Water Industry Awards and also received the UK Excellence Award for best large private sector company from the British Quality Foundation. These awards recognised in particular our emphasis on customer service as well as our approach to innovation and sustainability.

On a personal level I was pleased to be named by Water and Wastewater International in their top 25 Global Water Leaders which I also see as a reflection of the amazing work that the whole NWL team does every day.

LOOKING FORWARD

We are well advanced in our planning for the submission of our business plan to Ofwat for the 2020-2025 price review period. We have been on a journey over recent years with our customers towards more and more active customer participation and co-creation. This deeper engagement with our customers has been fundamental to the development of our future plans. We will continue to set stretching targets in line with our national leader vision which will deliver further service benefits to our customers and the wider environment and communities in which we operate.

We are proud of our achievements to date, but we are never complacent and will continue to make further service improvements in 2018/19 and beyond. I hope you find our Annual Report and Financial Statements helpful and informative.

Heidi Mottram CBE
CEO



WATER FORUMS' VIEWS

Through an open and straightforward meeting and discussion with the Executive Leadership Team and one of NWL's Independent Non-Executive Directors, we have had the opportunity to dig into the detail of how well the company performed against its performance commitments, which are outlined in this report.

Overall, the company has delivered a very good set of results, with most of them moving in the right direction. We very much welcome the strides forward that NWL has made in the past year and would like to highlight some of them because of how they are directly and positively impacting customers:

- **Sewer flooding** – the company is doing an excellent job in this area, especially internal sewer flooding, which is very important to customers. We commend the Northumbrian Integrated Drainage Partnership work as an excellent example of what can be achieved for customers by working in partnership with stakeholders. We encourage NWL to keep setting itself even tighter challenges, recognising that this may be difficult because of potential issues related to adopted drains in 2011, for which effective customer communication will be critical.
- **New customer care and billing system** – the implementation of the new system has gone very well, and we're pleased that the company delayed the 'go live' date, so that it could ensure that the system was right and would not adversely affect customers – even though NWL thereby incurred a penalty, it chose to do the right thing for its customers.
- **Incident management** – the pre-incident planning to ensure resilient services for customers despite the arrival of the 'Beast from the East' paid off well and the company performed comfortably against its PCs during the extreme weather event. Ofwat recognised this in its published letter to the company, finding that NWL "was well prepared for the incident; implemented its plans early and, despite facing challenging weather conditions in the region, did not have to trigger its full incident management process." Of note was the customer communication to prevent issues such as burst pipes and unnecessary water usage. NWL's style of keeping customers calm, moderating the media panic and assuring customers that they had plans in place paid off and there are lessons for the whole industry in the approach that NWL took.
- **Pollutions** – the company has made a step-change in this area and we expect them to improve its environmental 2-star rating next year. Where it has had challenges in the past, it has now gone over 12 months without a serious incident. We believe that NWL could apply the principles of what it did in organisational terms to achieve this result to other areas that need to see improvements.

As NWL enters the fourth year of its five-year business plan and is developing plans for 2020-2025, we have challenged the company to consider these areas for improved performance, so that there are better outcomes for customers:

- **Leakage** – NWL has clearly gone to great lengths to be as accurate as possible in its reported leakage figures. We observed and share their disappointment at just missing its target in both its operating areas this year, and that performance has got worse in the Northumbrian region. NWL has an even tougher challenge ahead, given the Secretary of State's challenge for all water companies to deliver a 15% reduction. The company is confident that its many recent investments and technology trials will help, so will need to quickly understand which are the most effective so that it can deploy them more widely.
- **Sewage Treatment Works compliance** – NWL is performing well but has experienced two notable failures and we would like to see them focus on delivering the same sort of step-change as they have done in pollutions.
- **Drinking water quality compliance** – we are pleased that the company is heading in the right direction and that none of the failures affected customers, but improvements need to be made. The new Water Forums' sub-group dedicated to the subject of Drinking Water is a positive step towards doing this, and we look forward to challenging and helping the NWL make progress.

The company's own version of Discover Water on its website is an open, transparent way of sharing its performance with customers, in a way that allows customers to compare them with other water companies. Given NWL's ambition, we encourage them to go even further and clearly anchor its annual performance in its long-term goals, describing what industry leading is and what it would take for them to get there in all areas. We believe this will build yet more trust with customers and demonstrate their forward-thinking ethos.

In conclusion, the Water Forums are pleased with NWL's successes in 2017/18 and achieving 'self-assured' status from Ofwat, the Financial regulator. Over the next 12 months, we will continue to fulfil our role of providing independent challenge to the company in the areas where it has fallen short of hitting its performance targets.

Jim Dixon, Water Forums Chair

On behalf of the Forums for Northumbrian Water and Essex & Suffolk Water

Note: You may also find it useful to read this report in conjunction with the Environment Agency's 'Environmental Performance Assessment' report ((July 2017)) and the 'Report of the Chief of the Drinking Water Inspectorate' ((July 2017)).



WHO WE ARE

Northumbrian Water Limited provides:

- Water and sewerage services to 2.7 million people in the north east of England trading as Northumbrian Water.
- Water services to 1.8 million people in the south east of England trading as Essex & Suffolk Water.



OUR OUTCOMES

THEME	OUTCOME
 <p>CUSTOMER</p>	<ul style="list-style-type: none"> • We deliver water and sewerage services that meet the needs of current and future generations in a changing world • We supply clean, clear drinking water that tastes good • We provide a reliable and sufficient supply of water • Our customers consider the services they receive to be value for money • Our customers are well informed about the services they receive and the value of water • We provide a sewerage service that deals effectively with sewage and heavy rainfall • We provide excellent service and impress our customers
 <p>ENVIRONMENT</p>	<ul style="list-style-type: none"> • We help improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife • We protect and enhance the environment in delivering our services, leading by example
 <p>COMPETITIVENESS</p>	<ul style="list-style-type: none"> • We are an efficient and innovative company • Our finances are sound, stable and achieve a fair balance between customers and investors
 <p>PEOPLE</p>	<ul style="list-style-type: none"> • Our people are talented, committed and inspired to deliver great services to customers • Our people act in line with our values • We are seen as a great place to work • Our workplaces are healthy and safe
 <p>COMMUNITIES</p>	<ul style="list-style-type: none"> • We are proud to contribute to the success of local communities • We work in partnership towards common goals
 <p>REPUTATION</p>	<ul style="list-style-type: none"> • We are a company that customers trust

OUR VISION

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

OUR VALUES

As important as what we do is how we do it. Our Values are the principles that define how we work to deliver our Outcomes and achieve our Vision.

CUSTOMER FOCUSED:

We aim to exceed the expectations of our external and internal customers.

CREATIVE:

We continuously strive for innovation and better ways to deliver our business.

RESULTS DRIVEN:

We take personal responsibility for achieving excellent business results.

ETHICAL:

We are open and honest in meeting our commitments, with a responsible approach to the environment and our communities.

ONE-TEAM:

We work together consistently, promoting co-operation, to achieve our corporate objectives.



OUR STAKEHOLDERS

We provide essential services to our customers and operate within a strict regulatory environment. Ofwat regulates prices and levels of customer service, the Environment Agency (EA) covers environmental protection and the Drinking Water Inspectorate (DWI) monitors drinking water quality. Customers' interests are represented by our Water Forums and CCWater.

It is very important that we understand the needs of our stakeholders, provide a great service and deliver our business outcomes. We engage proactively with all of our stakeholders and, in our continuing efforts to provide an unrivalled customer experience, invite our customers to participate in and co-create our strategy and approach.

STAKEHOLDERS / KEY ISSUES WE ENGAGE ON	HOW WE ENGAGE	EXAMPLES OF 2017/18 ACTIVITIES
Customers <ul style="list-style-type: none"> Performance commitments Risk management Data protection Resilience Co-creation of services 2020/25 Business Plan Water Resources Management Plan 	<ul style="list-style-type: none"> Focus groups / deliberative workshop groups Co-creation workshops Email Surveys SMS Surveys Flo, customer engagement vehicle & Customer Heroes Social media 	<ul style="list-style-type: none"> Inclusivity Strategy #Make My Day 2 campaign PR19 engagement with customers – future customer needs; collaborative communities; payment options and innovative tariffs, resilience, long term strategy and acceptability engagement Digital services design with customers
Ofwat <ul style="list-style-type: none"> Trust and confidence Licence modifications 2019 price review Market reform Annual performance Governance and assurance 	<ul style="list-style-type: none"> Responding to consultations Targeted reviews Peer to peer contact Participating in the market place for ideas Annual Performance Report Annual Assurance Plans 	<ul style="list-style-type: none"> Awarded self-assured status Market information for water resources and bioresources published KPMG report on cost of equity in marketplace for ideas Innovation trends and case studies Customer participation visit Comment on PR19 methodology particularly input into the new C-MeX measure – this included written submission and attendance of working meetings
Environment Agency <ul style="list-style-type: none"> Environmental performance Discharge compliance Sewer flooding Joint working group on pollution incidents Input to 21st century drainage programme Monthly pollution challenge group meetings Hosted catchment partnership meeting OFWAT, EA and NWL Tripartite Meeting NWL/EA Enforcement Undertaking workshop 	<ul style="list-style-type: none"> Responding to consultations Strategic level objective setting Annual and monthly performance reviews Collaborative workshops and joint learning Management reviews River basin, flood control and catchment partnerships National strategy and practitioner networks Industry task and finish groups 	<ul style="list-style-type: none"> Regional Thinking Ahead workshop Wastewater team design sprint for Price Review 2019 Joint training on GIS Strategic joint outcomes agreed WINEP agreed
Drinking Water Inspectorate <ul style="list-style-type: none"> Drinking water quality Customer satisfaction Progress with named schemes Quarterly DWI/NWL performance reviews Sponsored Water and Wastewater Treatments Water Quality conference and pre-event dinner 	<ul style="list-style-type: none"> Responding to consultations Quarterly operational liaison meetings Annual strategy meetings Chief Inspector's report launch meetings Water Safety Plan Forums Consultation and negotiation via Water UK Regulatory commitments reviews Secondments Promoting good practice 	<ul style="list-style-type: none"> Flow cytometry innovation presented to DWI Sponsored WWT Annual Water Quality Conference Chair Strategic drinking water quality and drinking water quality WaterUK networks helping to shape future strategy Leading WRAS campaign DWI Deputy Chief Inspector participated in Water Forum Undertakings agreed Letter of support commending water supply resilience plans
Water Forum <ul style="list-style-type: none"> 2019 price review Customer service Performance commitments Customer participation, research and engagement Affordability Water Resources Trust and confidence 	<ul style="list-style-type: none"> More than 100 events Participation in co-creation and research workshops and events Partnership events Formal meetings Meetings with senior managers, Executive Leadership Team, and the Board and its INEDs Operational fact finding tours, eg customer centre, partnership drainage sites, and water and wastewater treatment works sites 	<ul style="list-style-type: none"> Inclusivity strategy Shaping our future (Long-term strategy) Customer Participation report Working in our communities Water Resources Management Plan Annual Performance Report and Our Contribution Report Customer engagement, from strategy, through engagement, outcomes, triangulation to how we listened to our customers Regulatory finance The PR19 Business Plan
CCWater <ul style="list-style-type: none"> Vulnerability Literature review The role and focus of CCWater Industry matters 	<ul style="list-style-type: none"> Responding to consultations Sharing material for review Quarterly liaison meetings (ESW and NW) Attendance of regional public meetings (Northern and Central and Eastern) Committee meeting attendance Board meeting attendance 	<ul style="list-style-type: none"> Contribution to complaints definition working group through written submission

STAKEHOLDERS / KEY ISSUES WE ENGAGE ON	HOW WE ENGAGE	EXAMPLES OF 2017/18 ACTIVITIES
Supply chain partners <ul style="list-style-type: none"> • Capex programme delivery • Health, safety and environment • Attracting and developing the next generation of engineers and project managers • Developing our approach to digital construction (BIM) 	<ul style="list-style-type: none"> • Frameworks agreements for long term relationships • Joint Framework Governance Groups • Integrated programme delivery teams • Joint conferences and workshops • Joint recruitment and development of staff • Awards ceremonies • Leading and participating in Industry bodies • Presentations at conferences and events 	<ul style="list-style-type: none"> • PR19 engagement with supply partners – thought leadership / future trends • Production of a joint framework business plan with our partners to drive forward improvements • Implementation of a “zero harm” strategy to improve health, safety and welfare across our frameworks • Winners of the Constructing Excellence National Award for health and safety • Client of the year at the constructing Excellence North East Awards • Implementing the Rainwise initiative to promote sustainable solutions to sewer flooding • Extension of the categories in our own award ceremony, the GEM (going the extra mile) awards to a broader range of our suppliers, including SMEs
Local authorities <ul style="list-style-type: none"> • Planning • Customers in vulnerable circumstances • Economic development • Emergency response • Flooding risk 	<ul style="list-style-type: none"> • Regular meetings with senior officers and lead councillors • Technical input and support on planning matters • Participation in consultations and steering groups relating to environmental or economic development issues • The lead flood authority on flooding risk and mitigation 	<ul style="list-style-type: none"> • Our Chief Executive has met with the Chief Executive of Newcastle and Gateshead for a full catch up on priorities and projects • We have met with the Chief Executive/Managing Director of Basildon, Brentwood, Northumberland and Southend • We have regular meetings with the development policy teams of all councils, with a specific focus on the areas with higher development numbers such as Thurrock and Chelmsford • We have met the leaders of multiple councils including Southend, Newcastle, Waveney and Essex
Employees <ul style="list-style-type: none"> • Creating a great place to work • Inclusion and diversity • Company values and behaviours • Health, safety and wellbeing • Employee benefits • Volunteering opportunities 	<ul style="list-style-type: none"> • Internal communication channels – employee intranet, weekly newsletter, NWG news app, Yammer • Tap Into - online benefits portal • Team Talk (face to face from Senior Managers) • Annual employee roadshows • Annual company-wide employee survey and local pulse surveys 	<ul style="list-style-type: none"> • Launch of our Great Place to Work model and programme to all employees at 63 CEO-led Roadshows • 83% response rate in annual survey and 80% employee engagement (6% above utilities sector average) • 52% of employees participated in Just an Hour • Four company-wide wellbeing challenges – over 450 employees took part • Our Senior Leaders have participated in our innovative Extraordinary Leaders programme to support their leadership development • Ideas from our employees are encouraged through our InvestQuest and IdeasBase initiatives
Media and opinion formers <ul style="list-style-type: none"> • Capital Schemes • Environmental initiatives • Innovation and Skills • Community investment • Corporate Responsibility • SuDS • Corporate Campaigns (Every Drop Counts, Refill, Love your Drain) 	<ul style="list-style-type: none"> • News releases • Briefings • Face to face • Features stories • Case studies • Social media messaging • Events 	<ul style="list-style-type: none"> • Launch of two Facebook channels and two Instagram accounts • Record numbers of engagement, followers and reach on social media channels • National broadcast coverage on Refill campaign – Sky News / BBC News • Local broadcast coverage for projects including Kielder Marathon, Make My Day and Love your drain
Government and Policy Makers <ul style="list-style-type: none"> • Capital Schemes • Environmental initiatives • Innovation and Skills • Community investment • Corporate Responsibility • Resilience • SuDS • Corporate Campaigns • Policy issues 	<ul style="list-style-type: none"> • Briefings • Site visits • Face to face meetings • Attendance at key forums • Presentations • Party Conference activity 	<ul style="list-style-type: none"> • Speaking at the National Policy Statement for Water Stakeholder event at Defra • Meetings with Thérèse Coffey (Parliamentary Under-secretary of State) and Michael Gove (Secretary of State) • Events at both Conservative and Labour Party Conferences • Attendance at Chamber of Commerce private dinners in Westminster
Investors <ul style="list-style-type: none"> • Financial results and regulatory and operating performance • Funding, hedging and liquidity • Regulatory environment • Political environment • UK legislation • Capital programme update 	<ul style="list-style-type: none"> • Non-deal roadshows • Presentations • Visits • Meetings 	<ul style="list-style-type: none"> • Investor update • Monthly reporting • Board meetings • Credit agency meetings • Engagement with banks throughout the year
Non-Governmental Organisations and charities <ul style="list-style-type: none"> • Community Investment • CSR • Environmental Initiatives • Volunteering • Regional policy • Economic and social well being 	<ul style="list-style-type: none"> • Sponsorship • Just an Hour • Donations • Fund raising • Meetings and forums 	<ul style="list-style-type: none"> • Facilitated National Energy Action Workshop • Working with multiple Wildlife Trusts

ASSURANCE SUMMARY

Within this Annual Performance Report, we publish a range of information about our services and performance, including how we are performing against the commitments we made in our 2015-2020 business plan. This helps to provide our customers and stakeholders with assurance that we are delivering what they have told us they need and want from their water and sewerage company.

It is important that we have robust assurance arrangements in place to ensure that this information is accurate, clear and transparent. This is essential to building and maintaining a high level of trust and confidence with our customers and stakeholders.

In February 2018, following consultation with customers and stakeholders, we published our [Assurance Plan for 2018/19](#). Consistent with guidance from our economic regulator, Ofwat, this document firstly assessed any risks, strengths and weaknesses associated with either meeting our obligations and commitments, or providing information of appropriate quality. It then detailed the checks and balances - or assurance - we planned to put in place to address these risks and make sure we remain on track.

A significant proportion of this assurance is targeted at making sure that the information that we publish in our Annual Performance Report is of appropriate quality. We have published an Assurance Summary to sit alongside our Annual Performance Report. This document provides information on the assurance activities we have undertaken and detail of reviews by our internal and external assurance providers.

There were no significant issues to report.

INTRODUCTION

This report summarises our performance against our Outcomes during the regulatory year ending 31 March 2018. This is the third year of our 2015-20 business plan.

We have underpinned our drive to be the best with five strategic themes: customer, competitiveness, people, environment, and communities. Our Outcomes are aligned to these themes and set out what we aim to achieve. They represent what our customers have told us they value in the long-term. They are our commitments, or promises, to our customers.

Our Outcomes were developed with our customers and stakeholders. We have 12 delivery Outcomes covering our strategic themes of customer, environment and competitiveness. We also have seven enabling and reputational Outcomes which cover our strategic themes of communities and people.

Everything we do is driven by an Outcome for our customers.

To track performance against our Outcomes we have clear metrics – our **measures of success** (MoS).

Each Outcome can have several measures of success and we must as a minimum deliver a stable level of service to our customers. These are our **performance commitments** (PC).

For delivering better performance we could earn a financial reward. However, poor performance means that we could incur a financial penalty. These rewards and penalties are called **outcome delivery incentives** (ODI).

Our two baskets of **asset health measures** (one for water services and one for wastewater services) are an innovative way of monitoring, protecting and incentivising the long-term sustainable stewardship of our assets. They are linked to our customers' valuations of service improvements that they want us to deliver between 2015-20.

This performance report sets out in an open, transparent and clear way the work that we are doing to deliver our Outcomes and provide the water and wastewater services that our customers want. The report provides extended commentary for [Table 3A](#) which is a summary of our performance against our Outcomes that we must provide for our regulator, Ofwat, every year. [Table 3A](#) can be found in Section 3. A summary of our performance is shown on the next page.

Measurement of performance and calculation of any penalties or rewards is calculated using the methodology set out in our PR14 Final Determination, and as agreed with Ofwat. This process is subject to robust assurance. Some of the ODI have earned a reward in the three years to 31 March 2018, although this will not be realised until 1 April 2020, the start of the next price control period.

Our asset health ODI are calculated on a three-year average. The first assessment has taken place at the end of 2017/18.

Within [Table 3A](#), performance against PC for asset health measures has been assessed.

This report covers all of our Outcomes including our enabling and reputational Outcomes which are not part of [Table 3A](#). Performance is highlighted by Outcome and we report on each MoS.

Further information about our performance is available on our websites at www.nwl.co.uk, www.eswater.co.uk and www.welivewater.co.uk.



OUR ANNUAL PERFORMANCE

We are delighted to remain at the forefront of performance in our industry. These are our promises to customers and show when we have met our promise and/or expect a reward (●), or when we were close to achieving but not incurring a penalty (●). Any areas incurring a penalty would be red (●) however we have none of these in the current reporting year.

MEASURE OF SUCCESS	OUR PROMISE	OUR PERFORMANCE
We provide excellent service and impress our customers		
Ofwat Service Incentive Mechanism (SIM)	N/A	● 86.4
Independent overall customer satisfaction survey (out of 10)	8.2	● 8.7
Domestic customer satisfaction (net promoter score)	32	● 44
Our customers consider the services they receive to be value for money		
Independent value for money survey (out of 10)	7.9	● 8.2
CCWater value for money survey - Water Services Northumbrian Water	83%	● 78%
CCWater value for money survey - Sewerage Services Northumbrian Water	84%	● 78%
CCWater value for money survey - Water Services Essex and Suffolk Water	73%	● 71%
Our customers are well informed about the services they receive and the value of water		
Independent survey on keeping customers informed	N/A	● 94%
We provide a reliable and sufficient supply of water		
Leakage (Ml/d) - Northumbrian area (per day)	137	● 137.1
Leakage (Ml/d) - Essex and Suffolk area (per day)	66	● 66.2
Water mains bursts (per year)	4,586	● 4,214
Interruptions to water supply for more than 3 hours(per property per year)	05:56	● 05:23
Properties experiencing poor water pressure	216	● 186

MEASURE OF SUCCESS	OUR PROMISE	OUR PERFORMANCE
We supply clean, clear drinking water that tastes good		
Overall drinking water quality compliance	100%	● 99.938%
Discoloured water complaints (per year)	2,908	● 2,532
Satisfaction with taste and odour of tap water (no. of properties per year)	987	● 978
We provide a sewerage service that deals effectively with sewage and heavy rainfall		
Properties flooded internally (per year)	186	● 96
Properties flooded internally (TDS) (per year)	228	● 199
Properties flooded externally (per year)	1,318	● 944
Properties flooded externally (TDS) (per year)	2,931	● 2,726
Repeat sewer flooding (in the last 10 years)	496	● 38
Sewer collapses (per year)	58	● 46
Sewer collapses (TDS) (per year)	84	● 51
We help improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife		
Pollution incidents (category 3)	115	● 58
Bathing water quality compliance (no. of sufficient bathing waters)	32	● 34
Sewage treatment works discharge compliance (no. of discharge permit condition failures)	0	● 2
We protect and enhance the environment in delivering our services, leading by example		
Greenhouse gas emissions	172	● 163.5

WE PROVIDE EXCELLENT SERVICE AND IMPRESS OUR CUSTOMERS

OUR CUSTOMERS CONSIDER THE SERVICES THEY RECEIVE TO BE VALUE FOR MONEY

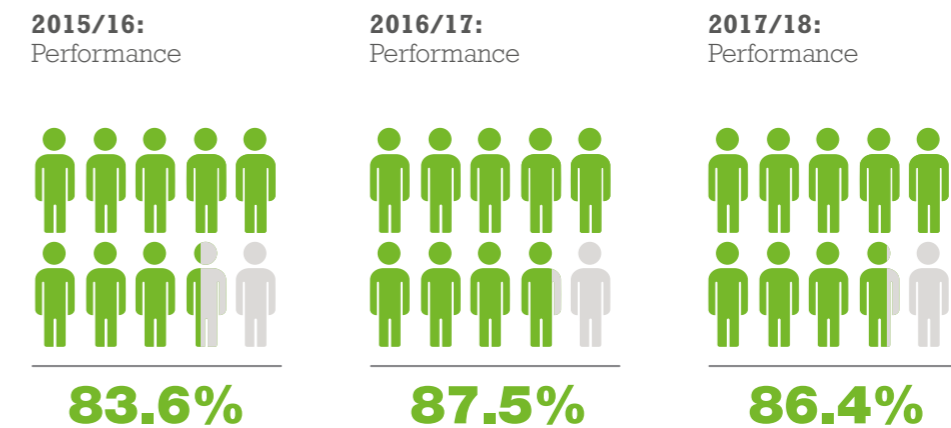
OUR CUSTOMERS ARE WELL INFORMED ABOUT THE SERVICES THEY RECEIVE AND THE VALUE OF WATER

OUR MEASURES OF SUCCESS AND PERFORMANCE COMMITMENTS

We have grouped these three Outcomes together as they are very closely connected. They have seven MoS:

- OFWAT'S SERVICE INCENTIVE MECHANISM (SIM)
- INDEPENDENT OVERALL CUSTOMER SATISFACTION SCORE
- DOMESTIC CUSTOMER SATISFACTION (NET PROMOTER SCORE)
- INDEPENDENT VALUE FOR MONEY SURVEY
- THREE CCWATER VALUE FOR MONEY SURVEYS COVERING WATER AND WASTEWATER SERVICES

OFWAT SERVICE INCENTIVE MECHANISM



Ofwat's SIM measures our customers' experience of dealing with us and provides a good indication of how well we are serving those customers who have had a reason to contact us.

There are two elements to the SIM measure; an independent customer satisfaction survey and a count of how many times customers have contacted us about a negative subject, including written complaints. The scores of each of these measures are combined to give an overall SIM score out of 100.

In the year 2016/17 we were delighted to achieve joint first place in industry. In 2017/18 we have seen a slight dip in performance on the satisfaction survey, with our SIM score reducing from 87.5% to 86.4%. This places us third out of Water and Sewerage Companies (WaSCs) in England and Wales and fourth in the industry if the Water Only Companies (WoCs) are included.

We continue to embrace our Unrivalled Customer Experience Strategy and its core theme of 'Living Water Loving Customers', improving it further by refreshing it to make sure that our services are inclusive for all customers. Our customers are at the heart of everything that we do and we are determined to be the best service provider that our customers experience.

INDEPENDENT OVERALL CUSTOMER SATISFACTION SCORE



Our own customer satisfaction research is carried out quarterly by an independent company. In 2017 we achieved our best ever score of 8.7. We are delighted that customer satisfaction has achieved such a high level and that it is increasingly better than our PC which is 8.2.



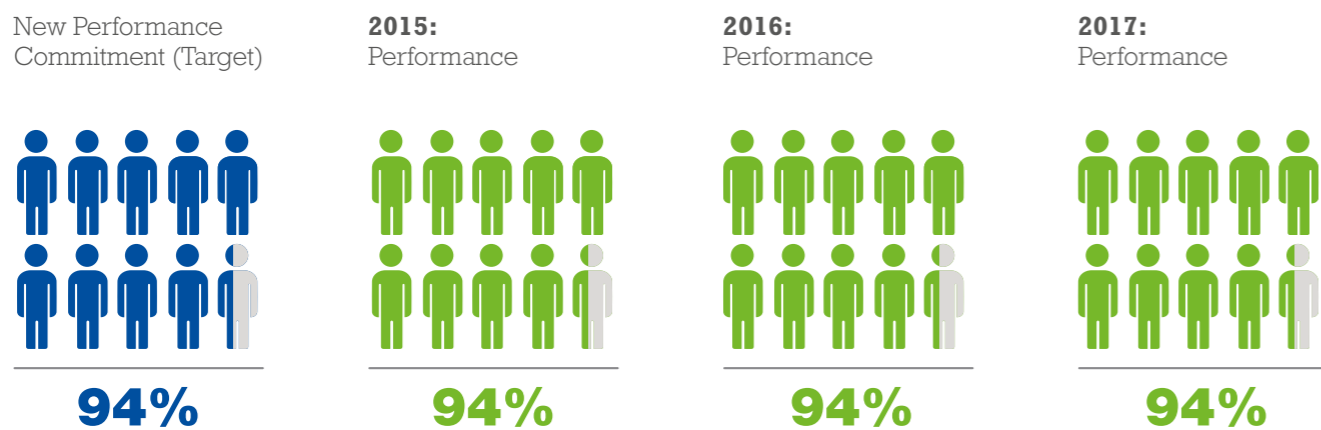
DOMESTIC CUSTOMER SATISFACTION, NET PROMOTER SCORE



Net Promoter Score (NPS) measures customer advocacy which is the loyalty that exists between a company and its customers. It serves as an alternative to traditional customer satisfaction research. It enables companies to assess their performance across a wide spectrum of industries. Our PC for NPS is +32.

After achieving our best ever performance in 2015, in the two last years our NPS has reduced to +44. This continues to compare well with the UK leading businesses such as Apple, Amazon and John Lewis (according to Satmetrix, who are the independent company who conduct NPS surveys throughout the country).

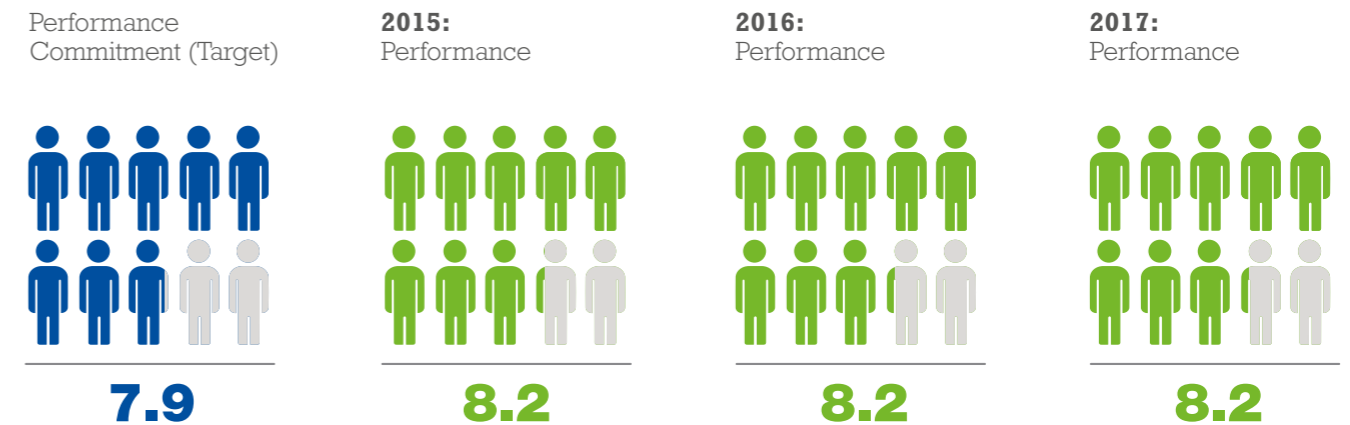
INDEPENDENT SURVEY ON KEEPING CUSTOMERS INFORMED



Our customers tell us that it is important to keep customers well informed. Consistently over the last three years, 94% of our customers have told us that they were satisfied that they are supplied with all the information they want to feel informed about the services we provide.

When we produced our Business Plan for 2015-20, this MoS was new and we did not have historical information to set a PC. We said that we would do this at the end of 2017 and would set the PC at the best of the three years performance that we have achieved. Keeping this promise, our PC for this MoS going forward is 94%.

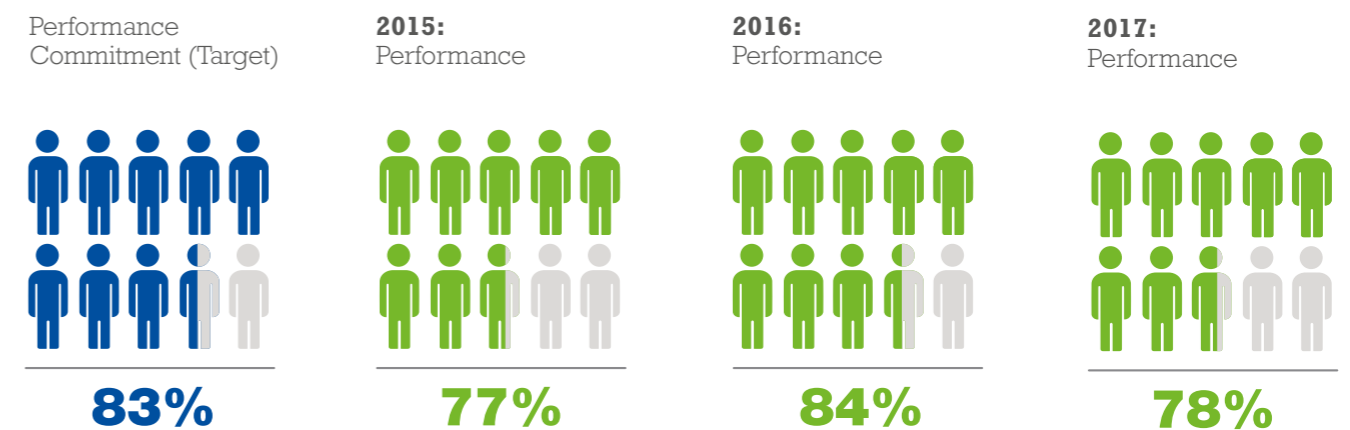
INDEPENDENT VALUE FOR MONEY



This measure is expressed as a score out of 10. Our PC is 7.9 or above.

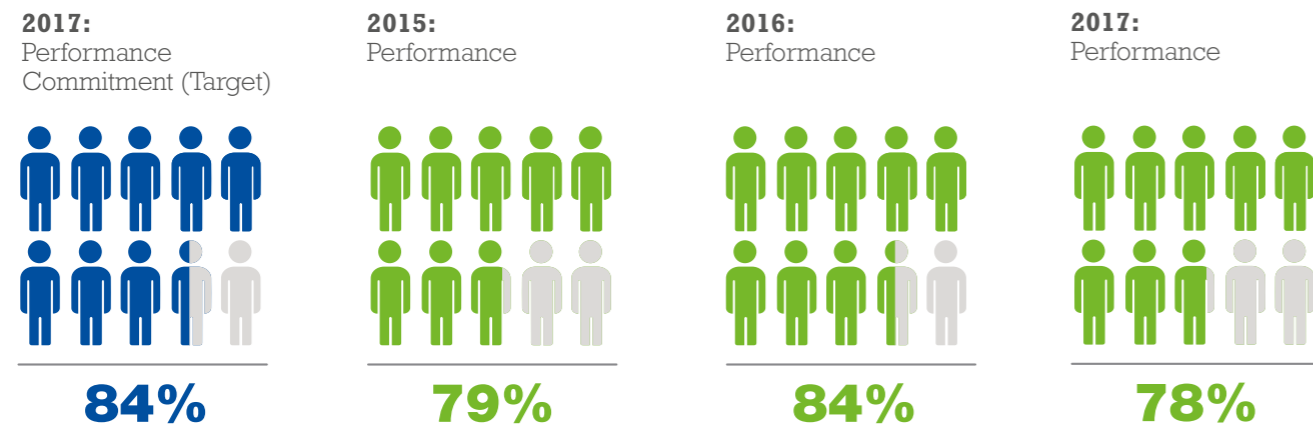
In this survey, we ask customers about their overall satisfaction with the services we provide. Our value for money score has remained consistent over the last three years at 8.2 out of 10.

SATISFIED WITH VALUE FOR MONEY OF WATER SERVICES – NORTHUMBRIAN REGION (CCWATER RESEARCH)



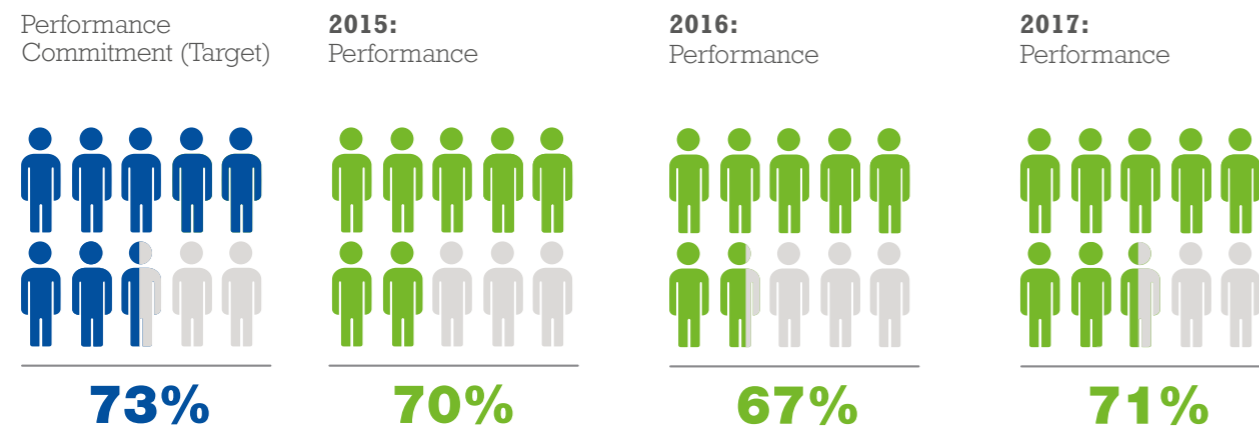
Our customers have also told us that value for money is very important to them, and this is a key area where they would like to be involved in influencing our future plans. The Consumer Council for Water (CCWater) publishes annual research on customers' perceptions of their water and sewerage companies and one element relates to value for money. The industry average is 72% from the CCWater research programme and our results is above this. Our PC is set at 83%.

SATISFIED WITH VALUE FOR MONEY OF SEWERAGE SERVICES – NORTHUMBRIAN WATER REGION (CCWATER RESEARCH)



Our result in CCWater survey for value for money for sewerage services is 78% in 2017. This is better than the industry average of 75% although lower than our PC which is 84%.

SATISFIED WITH VALUE FOR MONEY OF WATER SERVICES – ESSEX & SUFFOLK REGION (CCWATER RESEARCH)



The latest CCWater value for money results for Essex & Suffolk Water have risen to 71% in 2017 from 67% in 2016. This is moving us towards our PC which is 73%. We will work with customers to better understand how improvements can be made.

Although we have not met our PC we are still performing well against industry average.

HIGHLIGHTS

We want to make sure every single one of our customers receives an unrivalled experience whatever their particular circumstances or needs.

Our customers have told us that a personal approach is incredibly valued by them; this is particularly true for customers who do need more help or support. It is in recognition of this that in the last year we have developed our [‘Unrivalled Customer Experience’](#) strategy further by publishing our [Inclusivity Strategy](#) to make sure that it is truly inclusive of all customer groups.

Our [‘For Everyone’](#) report sets out our nine areas of focus to help us make sure that the service we provide to customers who need extra help is exceptional. These areas include proactively offering additional support when customers need it, providing personalised communication to customers, and working in partnership with financial, health and community support organisations as well as with other utility providers.

It details our focus to provide extra support, financial and otherwise, for customers who need it and to remove the barriers that might get in the way of delivering exceptional service. Our aim is to treat all customers fairly and consistently, working alongside our partners to provide experiences that demonstrate respect and empathy always.

Every one of our employees have a role to play in this. If we are all sensitive to how others’ needs might differ from our own, we will be better at creating and acting on opportunities to help our customers. Our Inclusivity Strategy shares our commitment to doing all that we can to enhance our customers’ well-being and, in doing so, to improving their lives for the better.

We were delighted to be shortlisted twice in the Institute of Customer Service Customer Satisfaction Awards. Our Customer Director, Claire Sharp, was shortlisted for the Customer Service Strategic Leadership Award and our Unrivalled Customer Experience Strategy was shortlisted in the Customer Satisfaction Strategy category.

We launched our new customer care and billing system in April 2018. While we failed to meet the performance commitment of 31 March 2018, the short delay was to avoid our busy annual billing period and allow us to provide customers with a better level of service at that time. The new system enables a much more personalised service for our customers. This, coupled with planned investment in our digital ambition will transform our customer experiences and give our customers real choice of how and when they want to contact us; an essential part of enabling the delivery of our Unrivalled Customer Experience and Inclusivity Strategies.



OUR PEOPLE

HIDDEN HEROES

Battling extremely bad weather including heavy snowfall our people continued to make us proud over the last year by going above and beyond to make sure our networks always keep going and we can keep water flowing to customers even during testing times. Our people faced unprecedented temperatures, snow blizzards and relentless conditions dealing with frozen pipes, network disruptions, power-cuts to our sites and high levels of calls and contacts from concerned customers 24 hours a day.

Our Wastewater team operate over 425 sewerage treatment works, 1000 pumping stations, and 220 combined sewer overflows, plus 19 sludge tankers right across the region...even in snow! A large proportion of these sites are covered by SCADA alarms and the team dealt with an increase in alarms from sites, as the snow was so deep that the filter rotation arms could not move round and the bridge scrapers struggled to rotate due to wheels slipping on ice.

In the water directorate, the Network Services and Customer Field Services team carried out emergency work only until weather conditions improve. They worked together to keep our network flowing 24/7. Our Water Supply teams are based over 33 sites in some of our most rural locations. Those with 4x4's also acted as a taxi service to help people get to extreme rural sites in the Wear Valley, Berwick, Rural Northumberland and Suffolk.

“During extreme weather conditions, employees moved from eight to 12 hour shifts and doubled up on standby to provide additional support when our customers needed it”

During extreme weather conditions, employees moved from eight to 12 hour shifts and doubled up on standby to provide additional support when our customers needed it. They worked in partnership with local councils to help clear access to sites in our most rural locations and showed an amazing effort to make sure we supplied customers with clean, clear and great tasting water all year round.

Going over and above in thick snow we:

- Made sledges to carry sampling equipment and in some cases, walked two miles to get to treatment works.
- Made sure everyone got home safe every day – our people have covered shifts, given lifts, cleared footpaths and car parks, dug out stranded cars and gritted paths and roads.
- We even had some of our Operations Centre of Excellence team stay at a local hotel to make sure we could continue to answer customer calls, and be able to come back to the office in case of an emergency.
- Our team worked 24 hours a day to make sure key water treatment works keep our network flowing during the incident period to reduce the likelihood of loss of production.
- Our people used real time information and monitoring systems to identify and manage the issues.

ALWAYS DELIVERING AN UNRIVALLED CUSTOMER EXPERIENCE

Paula Cosgrove dealt with a query from a customer whose daughter had accidentally flushed her blanket down the toilet. Her mother called to see if this could be retrieved from our sewerage works as her daughter was unable to sleep without it and they weren't able to get a replacement as they have been discontinued.

Paula recognised how important the blanket was to the little girl so arranged an 'Our gift for you' – a similar animal theme blanket was sent to the customer along with the message 'Mouse has asked if you would take care of elephant and love him like you loved me'.

The customer was delighted with the gesture; she recorded her daughter opening the parcel uploaded the video onto Facebook and Twitter.

Alice Hebditch had a long call with a lady who was worried about her bills and being able to pay. Throughout the call the lady explained how she has no living relatives and no one to help her at home. This concerned Alice and after the call she called Age UK to see if there was any additional help we could arrange for our customer.

The next day a representative from Age UK called back to praise Alice and Northumbrian Water for recognising somebody who needs help and contacting the right channels to get that help. The lady who Alice had been speaking to was so happy that someone had contacted her and offered her additional help in all aspects of her life that she was tearful.

Donna Parker took a call from a customer who could not afford her budget increase and told Donna she suffered from terrible anxiety and had taken a long time to get the courage to call us. The customer had leaks in both her bathroom and kitchen that she could not afford to repair because her illness meant she couldn't work. As a result, she had turned her water off and was using buckets of water from her neighbours to cook, and to wash her daughter, turning her water on once a day to flush her toilet only. Donna sent one of our trained plumbers to carry out her repairs for free and we granted her an allowance. She was so happy and called to say no-one had ever been as kind to her as we were.

Emma Ruddy was speaking to a customer and noticed it was his birthday soon so wished him a happy birthday. He said she would be the only person that would wish him a happy birthday so she sent him some flowers. The following day he called again to say how overwhelmed he was and to thank Emma as he was so touched by her gesture.

Natalie Meddes has built such a nice rapport with a customer that he will only speak to her and as such, she has arranged a unique and special way to deliver an unrivalled customer experience for him. The customer told us he has mental health issues and cannot cope with call centres because he becomes frustrated and confused. Natalie has given him her direct number and for the past couple of years when he receives his bill he contacts her to tell her how much he can pay and when. She then arranges for the same colleague to visit the customer and collect payment for him in instalments and often makes allowances for him to pay his bill late and stop reminders going out on his account.





CUSTOMER PARTICIPATION

We are on a journey to involve our water and wastewater customers in the design and delivery of their future customer experience.

In previous years we started to take our interactions with customers further – moving from consulting and listening, to something deeper and more meaningful. This shift developed in part from the benefits we saw when we co-created our '**Unrivalled Customer Experience**' strategy in 2015.

When Ofwat published its '**Tapped In**' report, In 2017, it prompted us, along with our Customer Challenge Groups, the Water Forums, to take stock of where we had got to in our own approach. Ofwat's Customer Participation Model used four strategic areas of action to increase customer participation: Futures, Action, Community and Experience (FACE). We used the 'FACE' analysis to identify the steps we needed to take in order to place ourselves at the frontier when it comes to customer participation.

As a result we published our **Customer Participation report: From customer consultation to a culture of customer participation**. Co-creation has become second nature for us, with customers shaping how investments are made and experiences are delivered. It was therefore a given to build on this when thinking about our 2020-2025 business plan engagement and we have carried out design sprints, co-creation workshops and focus groups across all areas of the price review, having completely open conversations with customers about:

- What matters most to them about the services we provide.
- Which areas of the business they would most like to influence.
- The best ways to engage with customers.

One of the ways in which we have listened to customer feedback to 'keep it local' is through our investment in 'Flo', a customer engagement vehicle. Flo allows our Customer Heroes to get out and about across our regions, having conversations with customers who might never think to join a focus group or fill in a survey. By using Flo we are able to reach more customers every year. This includes customers in harder to reach rural communities, whose challenges and priorities are often very different from those of customers who live in towns and cities.

We get great feedback from customers about Flo; around 94% say they agree or strongly agree that Flo is a good way for us to communicate with our customers. Flo also helps us encourage changes in behaviour that benefit all customers, such as using water more wisely and being careful about what can go down the drain. Many customers use the opportunity too to sign up to our Priority Services register and for SupportPLUS tariffs.

Looking ahead, we plan to make sure that customer participation is part of our DNA and reaches across all parts of our business.

“We get great feedback from customers about Flo; around 94% say they agree or strongly agree that Flo is a good way for us to communicate with our customers”

VOICE OF THE CUSTOMER

We use feedback from customers to improve and shape our services and have real time feedback mechanisms in our call centres and for our field teams that are helping our people to understand what they have been doing well and where improvements need to be made.

Customers tell us they want us to resolve problems quickly and that they value being kept informed along the way.

To deliver unrivalled customer service we are always looking to find innovative new ways to help our customers better. One reoccurring theme is it takes too long to do things, so we looked at how we can speed up the process. One new technology we trialled is Utileyes.

Utileyes is an app that can be used to remote access a customer's PC, we are starting to use it a little differently though. If a customer calls in with an issue, they can download the Utileyes onto their smart device and with their permission we can remote access their cameras. This allows us to see through our customers eyes what's going on.

We can then assess the customer's issue and can advise what to do or raise a job to fix the problem without the need for an initial visit – making the whole process much quicker.

For example, we have used Utileyes to help a customer report a sinking stop tap chamber with the customer saying: "This was fantastic!"

"Dear Sir,

I recently changed to a water meter and wanted you to know that dealing with Northumbrian Water has been absolutely enlightening, to find a company who really do care about their customers.

The first appointment for someone to come didn't go to plan i.e. the man didn't call. However, when I rang to advise of this, the girl was so apologetic, found the reason in minutes as to the problem, rearranged the date and said I'd receive £30 which I received in a cheque.

When the lad came again, so nice explaining what was involved, and yes this would reduce my bill (which it did – actually halved). I also received a refund for £69, which to a 71year old with little income was just lovely.

Thank you so much, a company who obviously are good to their employees and this passes on to your customers.

Yours sincerely, Mrs A"

SUPPORTING CUSTOMERS IN VULNERABLE CIRCUMSTANCES

We continue to focus our support for customers who are in vulnerable circumstances and over recent months we have been working to design our overarching strategy for providing an inclusive service to all of our customers. This has involved workshops with customers to design our services together. We asked customers to highlight what excellent services look and feel like and their feedback has been incorporated into our strategy.

Our strong partnership with StepChange has ensured we continue to be the largest referrer within the water industry, assisting our customers to receive holistic debt advice, and with the benefit of our data sharing agreement with StepChange we will know which of our customers are seeking debt advice so that we can provide them with the breathing space they need to work through their finances.

We also continue to signpost to other debt advice services, and are working with local councils to promote our schemes. We are now providing nearly 4,300 customers with a reduced bill through our company funded reduced tariff, and 1,900 customers are on our arrears write off scheme, and will see their arrears written off over a two year period.

Our customer funded affordability tariff commenced to 1 April, providing a discount of up to 50% for households with an income under £16,105, where their water bills are more than 3% of their net income. We have promoted this tariff on the annual unmetered water bills which hit the doormats in February and March, which generated high incoming contact both by phone and email, for example the week commencing 19 March, we averaged just under 300 telephone assessments a day. For ease of application, we can assess eligibility in a quick phone call and to complete the process, customers provide proof of household income and rent. We had completed the full application for over 1000 customer by the end of March.

We have completed targeted promotion of both our affordability and priority services during the year. In January 2018, we completed a direct mail drop to 54,000 households to raise awareness of support available. These leaflets were delivered to areas where we saw the highest levels of customers struggling and was supported with a radio campaign on a local radio station.

We have put a high focus on social media promotion this year, with increased usage of Facebook and Google Ad words. This has generated an increase in clicks on our SupportPlus webpage of over 400%.

Our people are the best ambassadors to promote our affordability and priority services, and we have completed internal briefings for our contact centres and operational teams to increase understanding and provide easy routes of signposting.



4,000

**REFERRALS IN
2017**

KINDNESS CAMPAIGN SHOWS CUSTOMERS WE CARE

It's great to get out into the communities we serve to show how important they are to our business. Our annual Make My Day campaign is our way of letting our customers know how much we care about them, through random acts of kindness.

In a week of extraordinary activity, we aimed to bring smiles to as many faces as possible, in as many ways. Each day our employees took to the streets to surprise customers and specially selected community groups with treats that would make their day.

In total, we surprised 6,671 customers, employees, community groups and random strangers from across the North East and Essex and Suffolk.

“We wanted to go above and beyond what our customers expected or even thought was possible for a water company to do. We wanted to surprise, delight and really amaze people and judging from the feedback we've had from people and their reactions to the surprises we've smashed it out of the park.

It has been a complete honour and privilege to have been part of a campaign that has brought so much happiness to so many deserving and amazing people and I'm proud to be part of an organisation that cares about its customers and its communities so much.”

Claire Sharp,
Customer Director



Acts of kindness included:

- 258 customers, chosen at random, were lucky enough to win special prizes, including flowers, chocolates, day trips and gift experiences as part of daily give-aways across the country.
- 641 people from groups and organisations received surprises from us; including Durham Scouts, who had their day made after we supplied them with lighting towers for their Confido scout event and Chelmsford Man Shed, Sandford Mill who received a water butt and our team took part in a Just an Hour to help finish the site.
- 17 very special customers received individual surprises, including Vincent who received a weekend trip to Kielder to spend some precious time with his children after losing his wife Amanda to melanoma cancer.
- 510 people benefitted from work carried out at local schools, community centres and care homes, including a garden makeover at Newker Primary School, Chester le Street and at Pakefield Primary School, Lowestoft who received funds for new curtains at the school.
- 253 Northumbrian Water Limited employees were surprised with chocolates, flowers, restaurant vouchers, family days out, pamper days and cakes.

DESERVING RECIPIENTS

Recipients of gifts had all been nominated by a friend, neighbour or family member and were all thoroughly deserving of a little kindness.

Take Cohen and Indie for example, two little train-mad brothers from Redcar who received a VIP tour of the Hitachi train factory in Aycliffe and a train trip to see Santa.

Eight-year-old Cohen and five year-old Indie both have a degenerative syndrome which means it is unlikely they will live beyond adolescence.

As their condition progresses their eyesight and hearing will deteriorate and their ability to move around will continue to become more and more difficult, with both boys already using walking frames and wheelchairs.

They were nominated for Make My Day by one of their mum's friends who said they were amazing little boys who are always smiling and so positive.

We were thrilled to be able to make their day by picking them up from school and chauffeuring them to the factory for a behind-the-scenes tour to see brand new trains in the making.



TURNING THE TIDE ON PLASTIC POLLUTION THROUGH ART

The global tide of ocean plastic pollution is an issue we campaign hard to address as part of our efforts to improve water quality. We're always trying new ways to make people think about what they flush down the toilet so we're keen to get involved in the work of environmental artist Diane Watson who turns beach rubbish into works of art.

As an active environmentalist and someone living on the coast at Hartlepool, Diane is acutely aware of the challenge we face in preventing plastic from getting into the water system.

Every day she walks our local beaches collecting a myriad of plastic items washed up by surge tides along the North East coast.

Her collection of thousands of plastic tops, toys, bottles, lighters and other discarded items are then used to create kaleidoscopic patterns, turning the mundane and thrown-away into a work of art.

Explaining her work, Diane said: "Mother Nature is the last woman who would want us adding to the pollution of the planet. Plastic pollution of our seas is at an epidemic level with 8 million tonnes of plastic entering the sea every year.

"All of the plastic applicators used in my work have been collected from the beach, after having been flushed down the toilet and washed into the sea. Let's get empowered and start a conversation with our children, together we can put an end to this particular plastic pollution."

We invited Diane to see for herself the workings of a pumping station when she contacted us to find out what gets discharged in the Hartlepool catchment. A team of our employees gave Diane a tour of Seaton Headworks pumping station and treatment works, highlighting the role we play in keeping our waterways and beaches clean and pollution free.

She was amazed by the size of our operation and the use of sophisticated technology to screen the sewage. We showed her the screen house and what we capture on a daily basis and she was shocked at the volume of rags and waste we have to deal with.

We explained our use of Advanced Anaerobic Digestion technology to harness gas from our processes, producing power from poo, and Diane left with a great impression of the work that goes into all of our processes to help protect the environment.

"As a company we are passionate about protecting the environment and we are always really keen to get this message across to our customers and local communities in any way that we can.

Diane's work is fantastic and sends a powerful message about protecting the environment in a really creative way.'

Kevin Bouttell,
Seaton Headworks Manager



COMMUNICATION IS KEY TO CUSTOMER SERVICE

Two-way communications with our communities is central to our ambition to provide excellent service and impress our customers.

Nothing beats meeting our customers face to face.

We regularly take to the road to canvass opinion, have conversations, provide practical advice and raise awareness of ways our customers can help protect our environment and save money.

We have a vehicle designed for the purpose. Fondly known as Flo, our customer engagement vehicle is a regular feature of shopping streets, busy car parks and residential areas – providing handy drop-in sessions for people on the go.

Recent dates in Flo's diary have included:

- A Have Your Say campaign day in Newcastle's shopping hotspot Northumberland Street where customers were encouraged to give their views on our existing and future services. Thoughts and ideas gathered from the session are now being used to shape our business plans and inform decision-making.
- Supporting our 'Make My Day' campaign in Chelmsford and Lowestoft where, during National Customer Service Week in October 2017, we surprised customers and specially selected community groups with acts of kindness to make their day.

- A day collecting flooding stories from residents in Barnard Castle as part of our efforts to use local knowledge to reduce flood risk in future.
- Carrying out customer research on our business outcomes for our PR19 business plan in Lowestoft, Great Yarmouth, Brentford, Romford and Maldon.
- A Rainwise initiative event at a neighbourhood in Hartlepool providing residents with handy hints and tips to help reduce the risk of their homes being affected by flooding. Flo parked for the day near to our £2.4million project to upgrade a sewer network, to share ideas with residents on how they can do their bit to manage flooding by making small changes around their homes and gardens.



RECRUITING CUSTOMERS IN THE FIGHT AGAINST THE FATBERG

Over the festive period of 2017 we highlighted to our customers the issues we face daily by people flushing things that should never make it down the loo or the plug hole!

By explaining the impact of pouring cooking oil and turkey fat down the sink, we are helping households develop responsible behaviours to prevent giant fatbergs from forming in the sewers beneath our streets.

Over 70% of all of the blockages that our technicians had to deal with in December were as a result of fats, oils and grease, as well as wet wipes, being wrongly flushed down the drain.

Throughout that month, our employees cleared 1,001 blockages in the sewer networks right across the North East. And when cleared, 719 of these were found to be made up of these rogue substances.

Our Love Your Drain campaign lets our customers know that blockages lead to sewer flooding, peoples' homes being affected and expensive plumbing bills and repair costs, not to mention the impact on the environment.



BLOCKAGES
REDUCED UP
TO **40%**
IN HOT SPOT AREAS



DWAINE PANTOMIME
YOU'VE
BEEN FLUSHED
VISITED **60**
SCHOOLS
PLAYING TO JUST UNDER
4,000
CHILDREN



OVER
10,000

CUSTOMERS DIRECTLY CONTACTED WITH EDUCATION LEAFLETS AND BLOCKAGE PACKS



THE DWAINIE DASH APP HAS BEEN DOWNLOADED MORE THAN TIMES 7,000



WE PROVIDE A RELIABLE AND SUFFICIENT SUPPLY OF WATER

There are five Measures of Success for this Outcome:

- LEAKAGE (REPORTED SEPARATELY FOR NW AND ESW)
- INTERRUPTIONS TO SUPPLY GREATER THAN THREE HOURS (AVERAGE MINUTES AND SECONDS PER PROPERTY SERVED)
- THE NUMBER OF PROPERTIES AFFECTED BY LOW PRESSURE
- THE NUMBER OF WATER MAINS BURSTS

LEAKAGE

Leakage levels are measured by calculating the difference between the amount of water we release from treatment works and the amount that is used by our customers. We measure the amount of leakage in megalitres lost on an average day (MI/d).

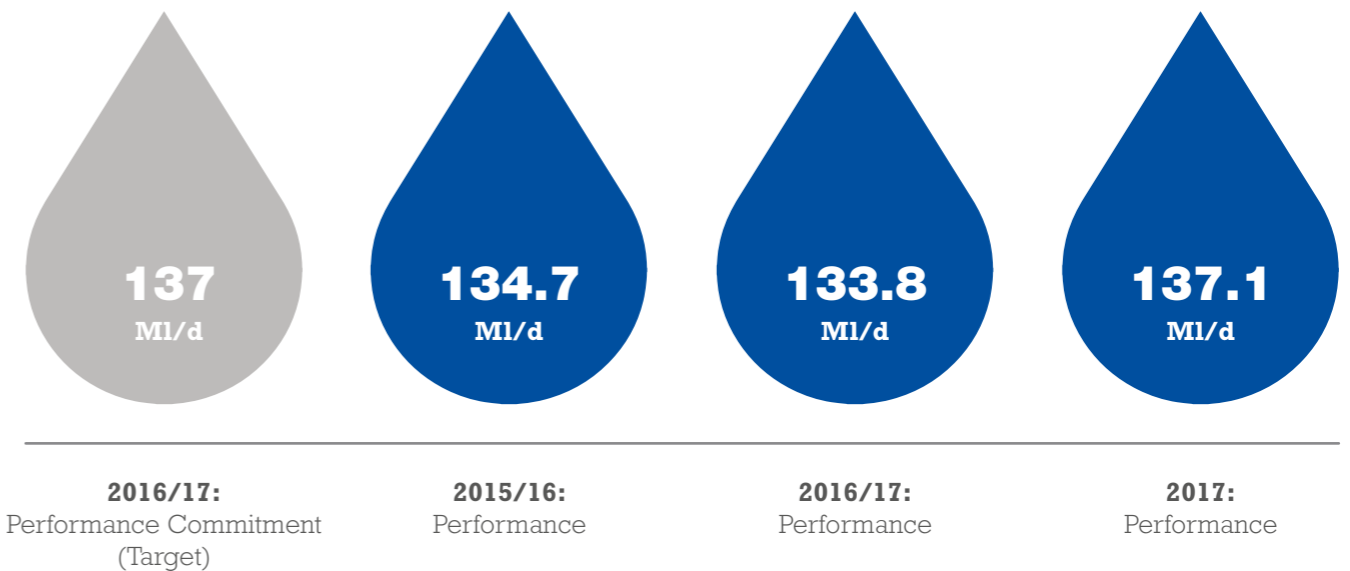
We faced particularly challenging weather conditions across both our operating regions in 2017/18 that made leakage management very challenging. We worked hard to keep on top of leakage throughout the year, and, despite multiple testing weather periods, we were on target to meet our PCs in both regions at the end of January 2018. However, we then faced 'The Beast from The East' (unprecedented extreme weather conditions) leading to substantial increases in the levels of leakage during February and March 2018. This increased our annual average daily leakage to just above PC levels in both regions.

From 2020, water companies' leakage performance will be judged on a three-year rolling average. This recognises that increasingly unpredictable weather patterns can make it very difficult for companies to achieve annual leakage targets every year, and the rolling average will mitigate against extreme weather conditions.

A key element of our Innovation Festival 2017 was the three day hackathon to tackle water leakage. Hosted by Microsoft, it brought together experts from around the globe to search for answers on leakage, by using data relating to leaks, soil types, water pressure, pipe materials and many other elements that may feasibly impact upon the likelihood and location of leaks. This was only one part of the week long activity and more details can be found on pages [94 to 101](#).



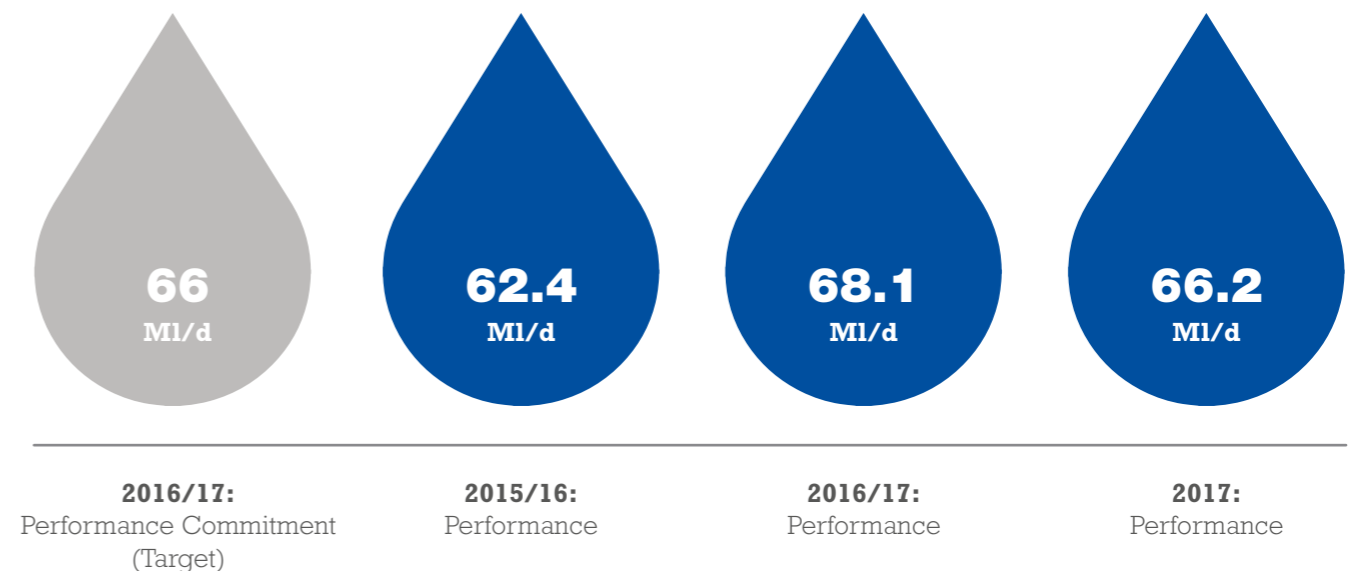
LEAKAGE NW



In NW, the average leakage level in 2017/18 was 137.1 MI/d, just exceeding our annual PC of 137.0 MI/d. We are disappointed to have missed our PC by such a narrow margin.

Our three-year rolling average for leakage would be 135.2 MI/d.

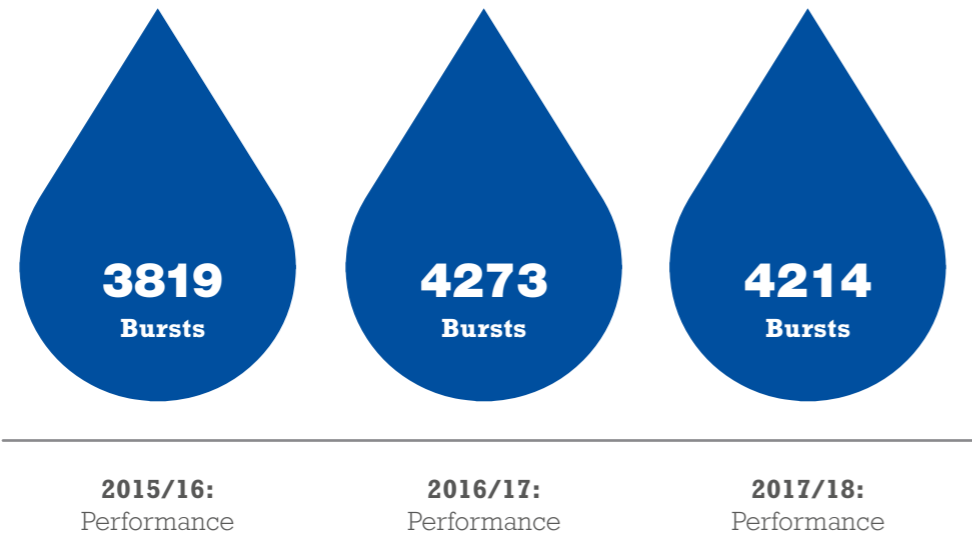
LEAKAGE ESW



In ESW, the average leakage level in 2017/18 was 66.2 MI/d, just exceeding our annual PC of 66.0 MI/d. We are disappointed to have missed our PC by such a narrow margin.

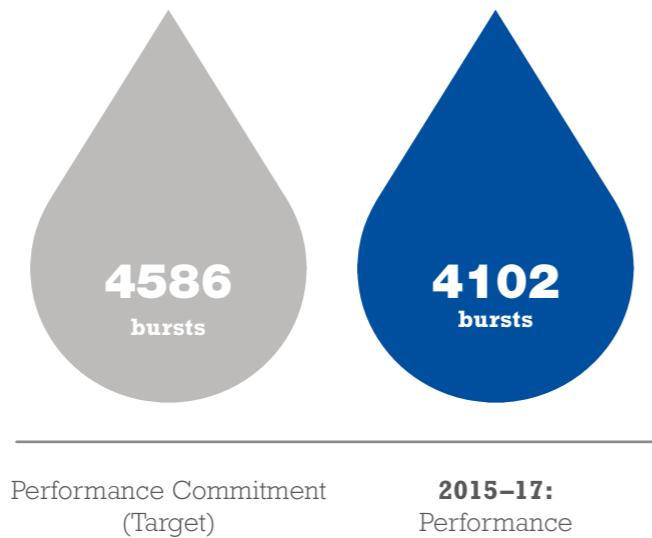
Our three-year rolling average for leakage would be 65.6 MI/d.

WATER MAINS BURSTS



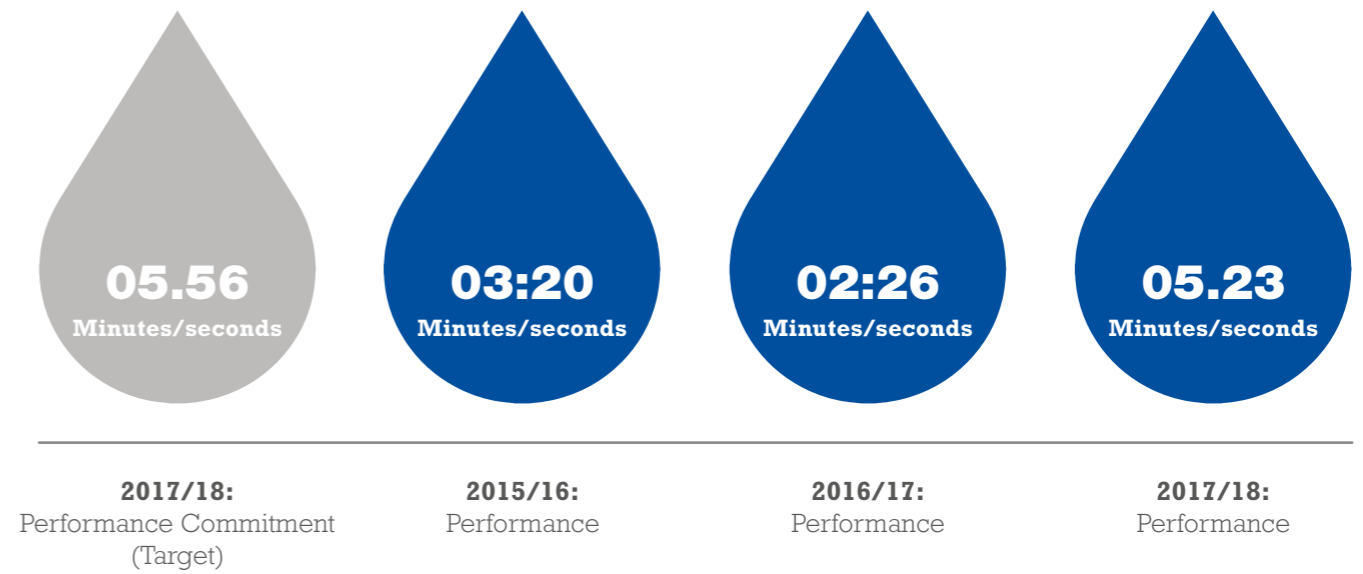
The challenging weather conditions in 2017/18 are also reflected in our water mains bursts performance. We finished the year with 4,214 water mains bursts.

The figures above discuss annual performance. Water mains bursts are one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



As shown above, we have met our three-year PC. This has not triggered any financial reward.

WATER SUPPLY INTERRUPTIONS



At times our customers will experience an interruption to their water supply. This can be because we need to carry out planned repairs to the network and we can warn customers about this in advance. On other occasions, supplies will be interrupted unexpectedly, often as a result of a mains burst.

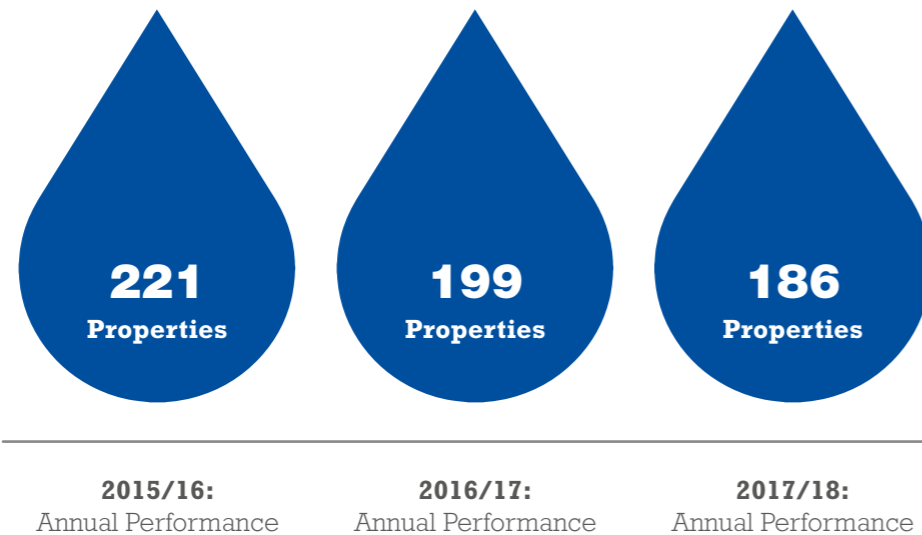
Our performance targets are based on interruptions which last three hours or more. All interruptions of three hours or longer are added up to give a total time that customer supplies were lost. We then divide this total time by the number of properties we serve. This gives an average time in minutes and seconds of how long we have interrupted customers for three hours or longer.

We continue to deliver industry leading performance on supply interruptions. We had a challenging year in 2017/18 with a couple of big supply interruption events and the average interruption time per property increased to 5 minutes 23 seconds. This is still below our PC of 5 minutes 56 seconds.

Our performance in 2017/18 has resulted in accruing a reward of £594,000.



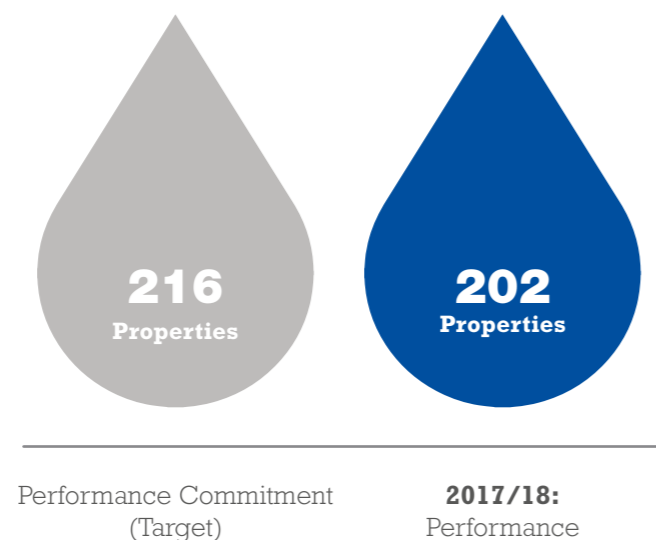
PROPERTIES EXPERIENCING POOR PRESSURE



Our customers have very high levels of satisfaction with their water pressure, as shown by independent surveys completed by CCWater. There is an industry standard minimum level of pressure which is the equivalent of being able to fill a 15 litre bucket with tap water in 100 seconds. We regularly check water pressures in the network to make sure that we can identify customers who are not receiving pressure at this standard and take appropriate action.

We report the number of properties receiving pressure below the standard at the end of each year. We have reduced the number of properties on our Low Pressure Register again in 2017/18 to 186 properties.

The figures above discuss annual performance. Properties experiencing low pressure are one of our asset health measures and compliance with our PC is assessed on a three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



As shown above, we have met our three year PC this has not triggered a financial reward

HIGHLIGHTS

SECURITY OF SUPPLY

The Security of Supply Index (SoSI) measures whether water companies have sufficient water resources to meet demand at all times, including periods of high demand (for example during warm, dry weather when our customers use more water in their gardens or to fill paddling pools).

Our score for 2017/18 remains at 100% in both NW and ESW.

In our draft Water Resource Management Plans submitted in December 2017, we forecasted that the SoSI score for all of our 'water resource zones' in NW and ESW will remain at 100% until at least 2060.

WATER EFFICIENCY

Through our work promoting water efficiency in both NW and ESW we delivered measured savings of 0.88 Ml/d in 2017/18.

Our award winning whole-town approach to delivering water efficiency, Every Drop Counts, developed further with a greater focus on changing behaviour. This year also saw the largest number of home visits ever completed in one year in the NW area.

Our exciting new children's play, Super Splash Heroes, has built on our previous primary school work, engaging with over 31,400 pupils in 198 schools on water efficiency over this year. The premise behind Super Splash Heroes is that every single child has the potential to be a Super Splash Hero. The characters are children who transform into heroes by changing their attitudes to using and saving water. The play aims to demonstrate how people can make little changes that will have a big impact on the world around them and to inspire children to make a positive difference through the way they use water.

This year we offered a free water saving visit to customers who are on our reduced tariff or our arrears support scheme. As an incentive, we gave a £10 shopping voucher to each customer at the end of the visit. Nearly 500 customers have taken up the offer.

We continued to receive external recognition for our water efficiency work. We won the 2017 Water Industry Achievement Award for Water Resource Management Initiative of the Year. We were also shortlisted in The British Quality Foundation (BQF) UK Excellence Awards 2018 for the Innovation in Sustainability and Society Award - both for Every Drop Counts. We have also been shortlisted in the Water Industry Achievement Awards 2018 for Water Resilience initiative of the year for *Super Splash Heroes*.

METERING

ESW

We have continued to install customer water meters during 2017/18, increasing meter coverage to 61.6% of all households and 94.1% of non-households by the end of 2017/18. We also replaced 11,222 of existing household meters, and 241 of non-household meters over the course of the year.

In ESW in we fitted a total of 9,128 new household meters over the year. 5,113 of these were installed by customer request and a further 4,015 were installed selectively in our ESW operating area whenever there was a change of occupier. All new properties are fitted with a water meter and this brought 5,232 additional household meters into use in ESW by the end of the year.

We installed a total of 13 non-household meters in 2017/18 and replaced 241. 380 new non-household properties were also automatically fitted with a meter.

NW

We have continued to progressively install customer water meters during 2017/18, increasing meter coverage to 37.1% of all households and 87% of non-households by the end of 2017/18. We also replaced 6,404 of existing household meters, and 329 of non-household meters over the course of the year.

In NW, we installed 17,880 household meters by customer request. All new properties are fitted with a water meter and this brought 8,842 additional household meters into use in NW by the end of the year.

We installed a total of 1 non-household meters in 2017/18 and replaced 329. 446 new non-household properties were automatically fitted with a meter.

BIG DATA JOINS THE BATTLE ON WATER LEAKAGE

We're using the insights provided by big data to dramatically reduce the amount of water wasted through leakage. We've developed a 'heat map' technique to pinpoint where pipe repairs are needed most. It's a breakthrough for the water industry and it's part of our commitment to our customers to provide a reliable and sufficient supply of water.

This new data-driven technique not only identifies the most problematic areas in our system but also has the potential to revolutionise the water industry's battle to reduce leakage levels.

We are currently using this groundbreaking approach in Essex where we are working with data professionals to identify how we can achieve the best possible reductions in water loss and reduce leakage levels to a record low. Once mastered, the technique has the potential to be rolled out across the sector.

We aim to save 4745 ML of water a year by using this new methodology alongside existing techniques to reduce leakage.

The big data idea first came about at our Innovation Festival in July 2017. As part of the week-long Festival, 60 data scientists spent three days crunching 55GB of data from a wide variety of sources, ranging from existing information on leakage and ground structure to road traffic statistics and Second World War bombing records.

We continued working with companies PA Consulting and ISpatial after the Festival, to develop the idea. We are now starting work on creating a 'heat map' that will direct the most effective resources more efficiently, prioritising the finding and fixing of the biggest leaks.

"This is going to revolutionise the way we tackle leakage from our water network and, most importantly, significantly improve the results we get, saving large volumes of water.

"Currently, we go into an area and fix as many leaks as we can find before moving on to the next location. This heat map will lead to smarter, better informed deployment of resources that will make a much bigger impact.

"We will get in and out of an area more quickly, finding more leaks faster and significantly reducing the volumes of water lost from our network."

Michael Hull,
Intelligence and Analytics Manager

The first stage of the work involved PA Consulting establishing the most important variables that have an effect on leakage, such as soil types and the age of existing pipes, so that these can be used to identify target areas.

A model will then be developed by ISpatial that will inform activity. The aim is to be using the new system, which will be integrated with our existing mapping software, by Summer 2018.

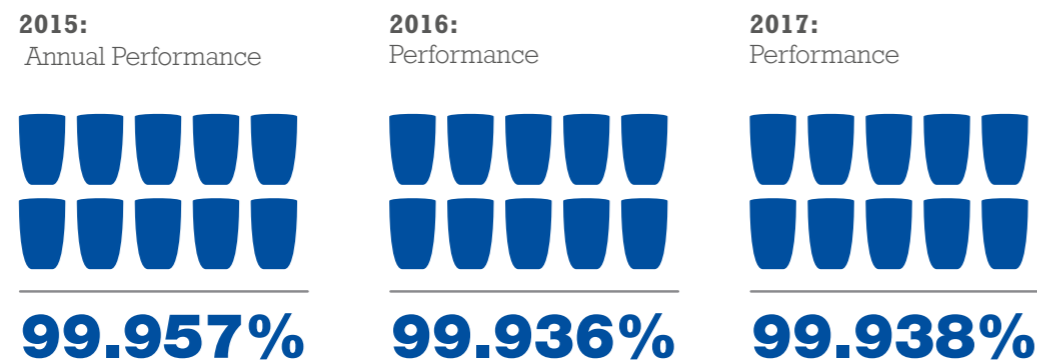


WE SUPPLY CLEAN, CLEAR DRINKING WATER THAT TASTES GOOD

There are three MoS for this Outcome:

- OVERALL DRINKING WATER QUALITY COMPLIANCE
- DISCOLOURED WATER COMPLAINTS
- SATISFACTION WITH TASTE AND ODOUR OF TAP WATER

OVERALL DRINKING WATER QUALITY



The Drinking Water Inspectorate (DWI) is the regulatory body for drinking water quality. It sets stringent standards for the water we supply. These standards are in place for three primary reasons, to keep the water free of colour and particles, to keep the water free of poor tastes and smells and of course, to keep us healthy.

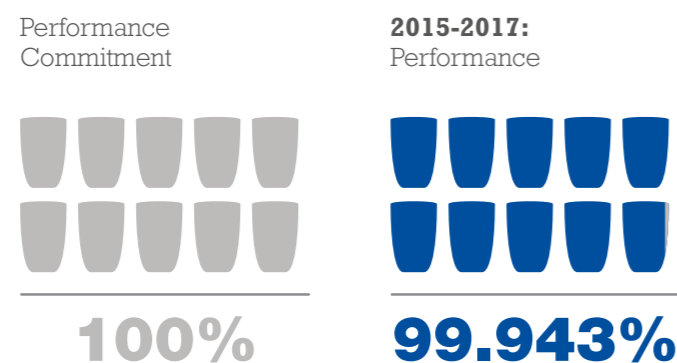
This measure shows our compliance with these standards. In 2017 our performance was 99.938%, based on the results of 75,000 tests carried out in the year.

In comparison our annual performance in 2016 was 99.936%. Out of the 75,000 tests carried out there were 57 failures in 2016 compared to 45 failures in 2017.

We anticipate some variation in performance levels due to the fact that samples are taken on a random basis. None of the failures represented a risk to customers' health and our performance represents a very high level of compliance.

We are committed to improving water quality and plan to achieve this through catchment and abstraction management, for example our North Pennine PeatLIFE project ([page 56](#)) to take the best quality raw water for treatment. We are also investing in our treatment and network assets to improve water quality.

The figures above discuss annual performance. Overall drinking water quality compliance is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



Our three-year average performance of 99.943% for the period 2015 to 2017 is below the PC of 100%. It is the same as the penalty threshold level of 99.943%.

Note: Please note that due to a technical issue with sample numbers in 2017 our performance was under reported at 99.929%. The performance of 99.936% for 2017 is correct.

DISCOLOURED WATER



Very occasionally, for a short time, customers' tap water may appear discoloured. This is caused by the disturbance of harmless material in our water supply network, possibly caused by a burst or a leak, which makes the water unclear.

The material comes from the accumulation of tiny levels of chemicals in the water we supply. This is a known phenomenon and affects all water companies to differing degrees. To help combat this the water leaving the treatment works meets standards that are a fraction of the standard at the customer tap, quite often 25% of the tap standard or less.

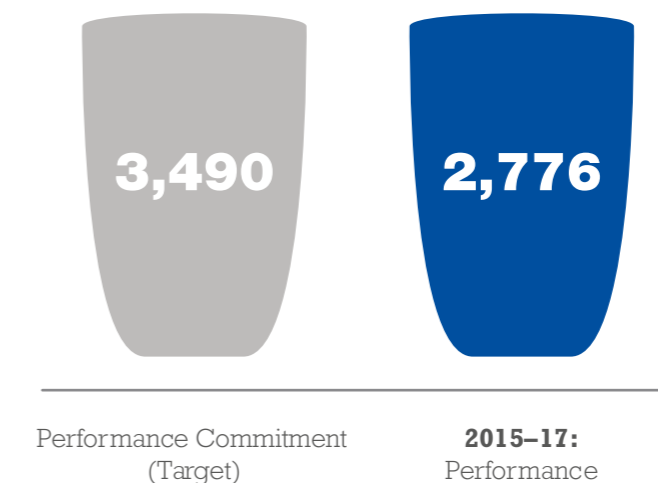
This measure reflects the number of times we have been contacted by customers due to their tap water being discoloured. The figures show our 2017 annual performance improved to 2,532 discoloured water contacts.

We have been working to improve discoloured water complaints for more than ten years now and the current good performance is due to culmination of this work. However, when industry comparisons are made we recognise there is still more to do. Our current strategy continues to 2019 and includes expenditure throughout the supply chain to reduce the creation and distribution of discolouration material coming from water treatment works and accumulating in pipes. From 2020 we aim to continue to reduce the occurrence of discoloured water and are preparing plans for this now.

The figures above discuss annual performance. Discoloured water complaints is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).

In line with the incentivised structure of this measure an outperformance payment is available for performance better than 2,908 contacts. The payment will total £263,000 equivalent to 132 contacts at £2,000 per contact.

A minor error was identified in the calculation setting the discoloured water and taste and smell contacts performance commitments. Through due process with Ofwat this has been rectified. The outcome is a more stretching discolouration target and a slightly less stringent taste and odour target.



TASTE AND ODOUR



The drinking water we supply is very high quality but occasionally some of our customers perceive different tastes or odours. This could be due to:

- The use of chlorine to maintain good hygiene in our water supply network.
- Issues with customer's own plumbing, inside their house.
- A change in where a customer's water comes from, or how it is treated.

This measure reflects the number of times we have been contacted by customers to report perceptible issues with the taste or smell of their water.

We received 978 taste and odour contacts in 2017 compared to 1,229 in 2016. This level of performance places us second in the industry and is better than the revised performance commitment of 987 contacts. An outperformance payment of £99,000 is available for the measure. This is equivalent to nine contacts at £11,000 per contact.

Understanding the reasons for taste and odour contacts is complex. Some customers perceive changes in their tap water when other customers do not. Water that tastes of chemicals or chlorine is unacceptable and we recognise that.

We are delivering our customer focused service policy to improve our customer experience. This commenced with bespoke research to better understand the issue and developing plans across a number of areas. This includes new research into catchment and raw water quality, treatment works optimisation and network optimisation. As well as improving the customer journey with our contact centres and updating our website content.

Please note that a minor error was identified in the calculation setting the discoloured water and taste and smell contacts performance commitments. Through due process with Ofwat this has been rectified. The outcome is a more stretching discolouration target and a slightly less stringent taste and smell target.

HIGHLIGHTS

DISCOLOURED WATER

Our North East area has the largest number of discolouration contacts and we have been working to improve performance with great results. In 2017 we achieved another improvement in our companywide performance, the best yet of 2532 contacts. We are continuing to manage the entire water supply system to bring further benefits to our customers. Last year we explained how pioneering research into conditioning water networks can manage the accumulation of discolouration material and bring other service benefits, such as resilience to quality problems when burst pipes occur. We are continuing to invest in this active network management both now and into the 2020-25 period.

Our Suffolk area has levels of discoloured water proportionally similar to the North East when performance is normalised per 1,000 population. Following our successes in the North East we are now turning our attention to this area and have been actively flushing District Meter Areas over the last two years.

Our Essex area continues to have excellent very good levels of performance and our plans are to include sustaining this for our customers, while improving in the other two regions.



FIGHTING BACK AGAINST PLASTIC POLLUTION

We are at the forefront of a new national scheme to cut plastic waste by making free drinking water readily available in public places. As suppliers of clean, clear drinking water that tastes good we want to make it easier than ever for everyone to opt for the refillable, rather than the disposable plastic bottle.

We were one of the first water companies running local schemes with the Refill campaign – working with businesses in Durham to provide facilities for members of the public to top up their water bottles for free.

It is estimated the scheme will cut plastic bottle use by tens of millions each year as well as substantially increasing the availability of high quality drinking water. It will create a network of refill stations in every major city and town by 2021.

Our Chief Executive, Heidi Mottram, said: “The BBC’s latest series, Blue Planet II, has brought home to everyone the devastating impact that plastic waste has on our environment, oceans and marine life, and the appetite from the public to reduce their plastic waste has grown significantly.”

We’ve signed up our main office in Pity Me as a Refill station and are asking other businesses to sign up too. We are also raising awareness of the Refill campaign with our customers, encouraging everyone to refill sports bottles and reject single-use alternatives.

“Businesses has a responsibility to play a critical role in helping people to tackle this problem at the grass roots, reducing the use of plastics at source wherever possible. As an ethical company, Northumbrian Water is committed to leading the charge on this initiative and we’re trying to make it as easy as possible for people to stay hydrated on the move, without adding to the disposable plastics problem.”

Heidi Mottram, Chief Executive

The first business to join the national drinking water scheme is Whitbread plc, which has pledged to offer free drinking water for customers and passers-by in each of its 3,000 Costa Coffee and Premier Inn locations from March 2018.

High street retailers, coffee shops, businesses and local authorities will join the scheme over the next two years.

Single-use plastic bottles are expensive to produce, use up valuable natural resources to make and transport, and create mountains of waste once they’ve been used and discarded. So far, recycling does not appear to be adequately dealing with the problem, as it’s estimated that only around half of the 38.5 million plastic bottles used in the UK every day are recycled, with around 16 million ending up in landfill, being burnt, or entering the environment and waterways.

HOW WILL WE ROLL OUT THE SCHEME?

We’ll work with Refill to develop a local action plan by September 2018, setting out steps which we will take including working with local partners to drive up access to drinking water locally. Plans will cover specific initiatives tailored to local circumstances.

A national app is available to direct the public to their nearest refill station and signs in shop windows will indicate where top-up points are available.

To download the app go to:
www.refill.org.uk/get-the-refill-app.



NORTHUMBRIAN
WATER *living water*



**DRINK UP
AND REFILL
WITH TAP
FOR FREE**



We’ve made it even easier to stay hydrated on the go.

Look for the logo in cafes and bars or download the Refill app.

#RefillNorthEast



RESTORING NATURE'S NATURAL CARBON STORE IN NORTHERN ENGLAND

More than 13% of the world's peatlands are found in the UK but this precious resource is under threat. We are helping to fund a major project to restore this landscape for the benefit of our climate, water, wildlife and flood management. It's part of our commitment to supply clean, clear drinking water that tastes good.

The £6million project is now well under way and will fix large swathes of Pennine peatland over the next four years.

The project, Pennine PeatLIFE, focuses on areas of the North Pennines, Yorkshire Dales and Forest of Bowland. It will fix currently damaged areas of blanket bog or 'peat bog', so that they once more can provide homes for wildlife, store carbon to help combat climate change and help filter clean water.

Work aims to restore a huge 1,300 hectares of bog – space enough for over 1,000 cricket matches to be held all at once. The project will also test innovative ways of funding works of this kind, identifying new approaches to paying for environmental improvements that benefit all society.

Pennine PeatLIFE is a prime example of how we work together with likeminded organisations to achieve shared objectives.

It is led by the North Pennines Area of Outstanding Natural Beauty (AONB) Partnership in collaboration with Yorkshire Wildlife Trust and Forest of Bowland AONB Partnership. It is financed by the European Union's LIFE Programme, EA, Yorkshire Water, Northumbrian Water and United Utilities, and brings together a strong coalition of experienced partners to deliver a large-scale programme of peatland restoration and research with wide ranging benefits.

Rob Cooper, Catchment Advisor said: "We are proud to be part of this fantastic partnership project which will involve restoring eroding peat habitats on a landscape scale.

"The EU Pennine PeatLIFE project will provide water quality benefits beyond the uplands; delivering upstream solutions for the benefits of our downstream customers for now and in the future."

Restoration work began in November 2017 in

collaboration with a number of landowners and will involve the use of newly developed techniques suited to the harsher climate of Northern England.

New ways of recording changes in the peatlands 'before and after' the restoration will also be trialled, using Unmanned Aerial Vehicles (UAVs). Knowledge gained from the project will be shared with UK and international partners to promote effective and sustainable peatland restoration techniques.

Chris Woodley-Stewart, Director of the AONB Partnership, said: "There's a really strong partnership working together to make this project happen, from the three main organisations doing the work on the ground, the landowners on whose peatlands we'll be working, the universities undertaking the monitoring and organisations like the water companies and EA that are helping to fund and guide the programme.

"The North Pennines AONB Partnership and Yorkshire Peat Partnership have developed real expertise in peatland restoration over the years and this is great opportunity to scale up the work, for all the benefits peatland restoration brings to society."



WE PROVIDE A SEWERAGE SERVICE THAT DEALS EFFECTIVELY WITH SEWAGE AND HEAVY RAINFALL

This Outcome has seven measures of success, some of which are linked to the performance of sewer pipes that transferred into our ownership in 2011 under the transfer of private drains and sewers (TDS), and others which relate to those assets which were already in our ownership (the public network).

These measures relate to sewer flooding performance as well as the condition of our sewer pipes. 'Internal' flooding refers to incidents where sewage has flooded the inside of a customer's house. 'External' flooding refers to incidents where sewage has affected customers' gardens or curtilage.

They are:

- **PROPERTIES FLOODED INTERNALLY (PUBLIC NETWORK)**
- **PROPERTIES FLOODED INTERNALLY (TDS NETWORK)**
- **PROPERTIES FLOODED EXTERNALLY (PUBLIC NETWORK)**
- **PROPERTIES FLOODED EXTERNALLY (TDS NETWORK)**
- **REPEAT SEWER FLOODING (WITHIN THE PAST 10 YEARS)**
- **SEWER COLLAPSES (PUBLIC NETWORK)**
- **SEWER COLLAPSES (TDS NETWORK)**

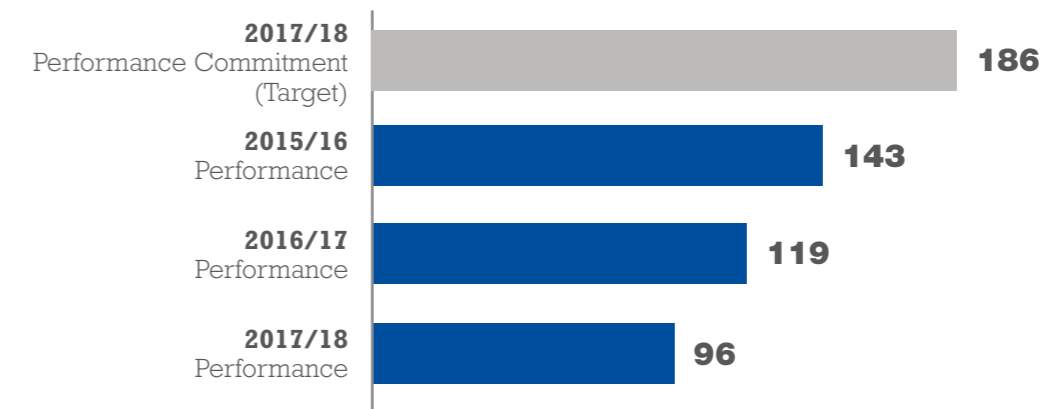
Our sewerage system is an essential network of 30,000km of sewer pipes that lie unseen beneath virtually every street and road.

Sewer flooding can occur when rainfall is so heavy that there is more water than the sewers are designed to transport and they become 'overloaded'. It can also happen when sewers become blocked or broken. In either case sewage escapes from our network and finds its way into our customers' gardens, homes and business premises.

One of the worst service failures our customers can experience is sewer flooding. It is very unpleasant and distressing for customers and any escape of sewage from our network can also have a detrimental effect on the environment.

We are wholly responsible for maintaining the performance of our sewer network in order to provide an effective sewerage service to our current and future customers. We also have a responsibility to work with other organisations to play our part in resolving wider drainage issues, including surface water flooding which can often lead to sewer flooding. This is particularly important as heavy rainfall is the predominant cause of surface water flooding.

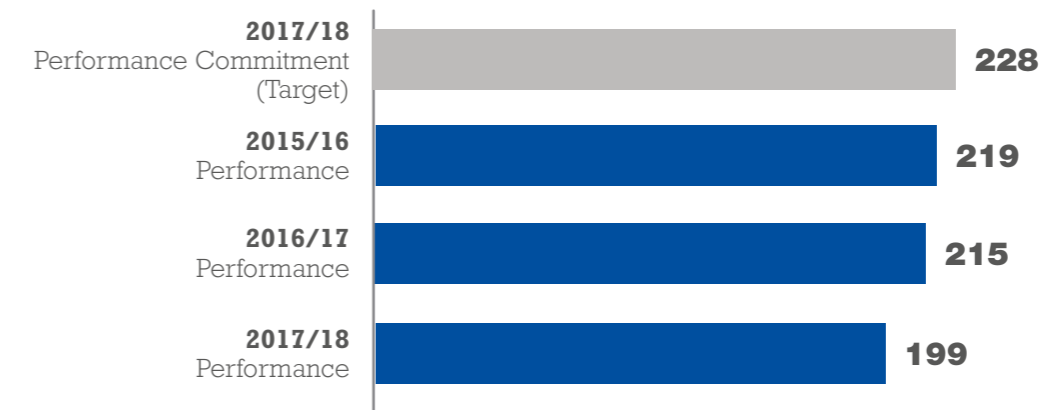
PROPERTIES FLOODING INTERNALLY (PUBLIC NETWORK)



We have continued to reduce the number of properties flooded internally from the original public network, from 119 properties in 2016/17 to 96 properties in 2017/18. This is significantly better than our PC of 186.

Our performance in 2017/18 has resulted in a financial reward of £1,170,000.

PROPERTIES FLOODING INTERNALLY (TDS NETWORK)



There was a slight decrease in the number of properties flooded internally from our TDS network, from 215 in 2016/17 to 199 in 2017/18, this is lower than our PC of 228 properties.

PROPERTIES FLOODING EXTERNALLY (PUBLIC NETWORK)



The number of properties flooded externally from the original public network has risen slightly from 839 properties in 2016/17 to 944 properties in 2017/18. This is still significantly better than our PC of 1,318.

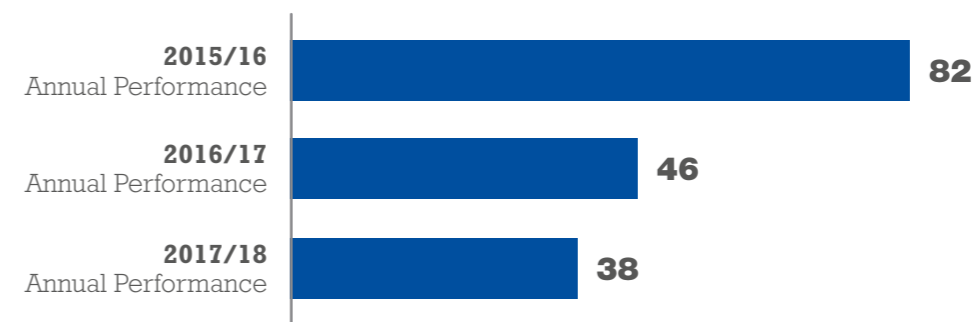
This has resulted in a financial reward of £390,000.

PROPERTIES FLOODING EXTERNALLY (TDS NETWORK)



The number of properties flooded externally from the TDS network has decreased from 2,730 properties in 2016/17 to 2,726 properties in 2017/18. This is still better than our PC of 2,930.

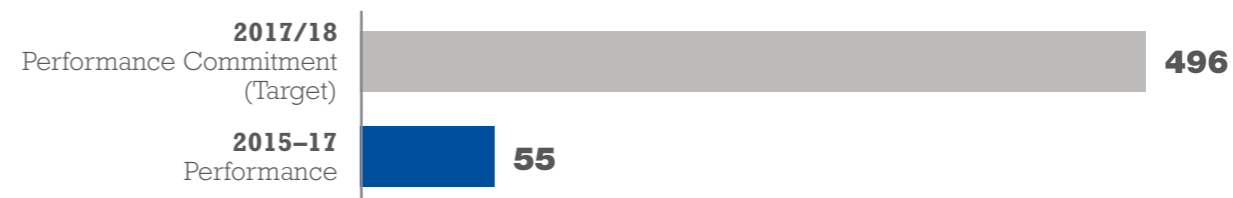
PROPERTIES SUBJECT TO REPEAT FLOODING (WHICH INCLUDES SEVERE WEATHER)



Repeat sewer flooding measures the number of times during the year that properties have experienced sewer flooding where the property or its garden has flooded before in the last ten years.

We have continued to reduce the number of properties subject to repeat flooding from the original public network, from 46 in 2016/17 to 38 in 2017/18.

These figures relate to annual performance. Repeat sewer flooding is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



In line with the incentivised structure of this measure an outperformance payment of £1,261,000 has been earned.



SEWER COLLAPSES (PUBLIC NETWORK)



Occasionally the structure of a sewer pipe fails and the pipe 'collapses'. This can be due to a number of reasons including the age and condition of the pipe and ground movement. These collapses can result in other problems such as sewer flooding or pollution.

The number of sewer collapses is a key measure of the health of our sewerage network. There was a decrease in the number of collapses on the public network, from 55 in 2016/17 to 46 in 2017/18.

The figures above discuss annual performance. Sewer collapses (on the public network) is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



This has not triggered any financial reward.

SEWER COLLAPSES (TDS NETWORK)



There was a decrease in the number of collapses on the TDS network, from 72 in 2016/17 to 51 in 2017/18. This is significantly better than our PC of 84.

HIGHLIGHTS

INNOVATIVE, SUSTAINABLE SOLUTIONS IN LIAISON WITH OUR PARTNERS

We work with multiple environmental partners across our operating area to help us deliver water and wastewater services which meet the needs of current and future generations. We recognise that working in partnership can help us to deliver multiple outcomes in a more affordable way, achieving more benefits together than we could have achieved alone.

In 2017/18 we continued to develop and improve our industry leading approach to partnership working. The Northumbria Integrated Drainage Partnership (NIDP) that we formed with the thirteen Lead Local Flood Authorities in our operating area and the EA, continues to strengthen and grow. In 2017/18 a post of Integrated Flood Programme Coordinator was jointly funded by the EA, NW and Local Levy. This allowed a ten year programme of potential flood risk reduction projects to be created.

The activity of the NIDP was recognised nationally with the partnership being shortlisted for the Drainage and Flood Management Initiative of the Year, Water Industry Award and Flood and the Coast Project Excellence Working in Partnership Award.

We continued to support the delivery of housing across the region, and worked with local authorities, developers and land owners to develop drainage master plans to unlock strategic housing sites. The North Morpeth Strategic Sewer project was initiated by the unique opportunities present in Morpeth, including the construction of the Morpeth Northern Bypass and the timing of development proposals in the local area, together with the strong relationships that already existed between the organisations involved. The local community was a key influence in the development of the project concept, which provides a range of benefits to the wider Morpeth community into the future as plans for development materialise into additional dwellings in the town.

The project won the Royal Town Planning Institute (RTPI) North East Transformative Infrastructure award.

“The North Morpeth Strategic Sewer highlights what can be achieved through real collaborative planning, the public and private sector coming together to provide a significant piece of infrastructure to facilitate housing development in an identified growth area of Northumberland. It is a model of best practice for infrastructure delivery nationwide.”

Vikki Van Sylvan,
RTPI North East Chair

RAINWISE

We have been trialling our Rainwise initiative that supports delivering excellent customer service by reducing customers' flood risk before they ever experience flooding. It included our own proactive flood risk reduction projects as well as our strategic studies which identify catchment wide flooding mechanisms that can be addressed in partnership. We also raised awareness amongst our customers about how managing rainwater around their own homes can affect their own risk of flooding. Leading by example, we made small scale interventions around our own operational sites to manage and harvest rainwater. By changing both landscapes and behaviours, we are building more resilient communities.

Through Rainwise, we ask our customers about their own flooding experience and use this local knowledge to fully understand how surface water impacts our sewer network during heavy rainfall. Flood risk reduction projects which are co-created with our customers will yield better received projects and more context sensitive solutions.

Rainwise projects prioritise sustainable urban drainage and natural drainage systems wherever possible, and sustainability is a key message which is communicated to our customers via literature and customer events. The primary design focus has been on removal of surface water from the sewer network, followed by attenuation, diversion and storage of surface water in natural systems. Working in partnership with other agencies has yielded attractive projects which the communities view as assets, and have also provided very large risk reduction numbers. Rainwise was acknowledged as an industry leading and innovative approach to managing flood risk.

Including projects completed and those under construction, in 2017 Rainwise provided flood risk reduction benefits to 5,298 properties, of which 1,306 were considered high risk. We forecast that we will have initiated 7,875 flood risk reduction interventions by April 2020.

LOVE YOUR DRAIN

Our 'Love Your Drain' campaign continues to grow, educating customers about the causes of blockages using the messages 'only paper, pee and poo go down the loo' and 'putting fats and oil in your sink will make it stink.'

The campaign was shortlisted for eight awards in 2017 and won four of them - Marketing Society Excellence award, CIPR Northern Pride Award, The International Summit Creative award and the Masters of Marketing Award, where we beat Virgin Media and BT.

2017 saw us supplying 10,000 do's and don'ts leaflets to social housing providers and 4,000 blockage packs to new home builders to be left in homes for new owners. Our commercial kitchen information packs were translated into nine different languages and sent out 2,700 to business across the region.

We also worked with Chinese community leaders and Newcastle Council's Environmental Health team to educate restaurant owners in Chinatown, Newcastle about the correct disposal of Fats Oils and Grease (FOG). Every restaurant apart from one now has a four star or above food hygiene standard rating.

The Dwaine pantomime – You've Been Flushed – ran for seven weeks, visiting 62 schools across the region and playing to just under 4,000 children. The Dwaine dash app smartphone/iPad game has been downloaded more than 7,000 times to date – including 989 times in China, 824 in America and 487 in Japan.

Blockages have been reduced by up to 40% in some of our hot spot areas as a result of the campaign.



REDUCING FLOOD RISK THE NATURAL WAY

We know how devastating sewer flooding is and we are committed to reducing the risk of it happening in the future. Our industry-leading Rainwise initiative is an innovative way of working with our communities and partners to provide a sewerage service that deals effectively with sewage and heavy rainfall.

More people, more hard surfaces and more rain mean our sewer network is under increasing pressure.

During heavy rainfall, the network may be overwhelmed by the amount of water getting into it and this can increase the risk of flooding from our sewers.

This can have a devastating impact on homes and businesses. Sewer flooding can also be harmful to the environment - if sewage gets into rivers or streams, it could kill fish and other wildlife.

Blocked pipes, caused by people putting unsuitable products down the toilet or sink, also increase the risk of sewer flooding.

Our Rainwise initiative is our way of reducing this risk, not only for those who have been affected by flooding in the past, but also for customers who we know could be in danger in the future.

This innovative approach, which includes customer awareness campaigns about how to better manage water use around the home, has reduced flood risk to more than 4,000 properties since March 2015.

Richard Warneford, Wastewater Director, said: "Rainwise brings together all of our drainage flood risk reduction initiatives, including our industry leading and award winning partnership projects.

"We invest millions of pounds every year maintaining and upgrading our sewer network to safeguard our environment well into the future. We are continually looking for opportunities to make improvements to the way surface water is managed in vulnerable locations around the North East."

Traditional engineering solutions such as bigger pipes and underground storage tanks, are expensive and not always the right answer. We look to use sustainable drainage solutions (SuDS) wherever possible – managing rainwater in urban areas by mimicking the ways in which water drains away naturally.

These innovative solutions help to prevent surface water entering the sewer network by redirecting it to a natural watercourse, or slowing down the flow and only allowing it to enter when there is room to do so. This natural approach to water management also helps us to avoid wasting energy and money treating clean rainwater.



"We know the industry and regulators are watching what we do because our proactivity has the potential to solve issues that haven't actually become problems yet. That's true innovation in building resilience."

Richard Warneford, Wastewater Director

SUSTAINABLE DRAINAGE

The Killingworth and Longbenton project saw the completion of its second phase during 2017/18. Surface water from the Longbenton Letch, upstream of Benton Green and cemetery has now been diverted into the Forest Hall Letch. Prior to this intervention the Longbenton Letch flowed into a sewer and caused flood risk to properties during periods of heavy rainfall. The Forest Hall Letch drains to the River Tyne and before flows were transferred we created storage areas to ensure that flood risk from this watercourse was not increased.

These storage areas include an 'amphitheatre' style detention basin and a managed wetland, situated within the grounds of Longbenton Community College as well as bio diverse flood plains further upstream. The flood plains have been designed to allow surface water from future housing development to be accommodated.

Removing the surface water from our sewer has benefits other than reducing the risk of flooding. The surface water previously could cause sewer overflows to discharge during heavy rainfall and also took up capacity at our Sewerage Treatment Works

As part of the project we improved sporting facilities at Longbenton Community College and improved Benton village green with the help of the pupils at Percy Hedley Foundation.

The scheme was delivered in partnership with North Tyneside Council and the EA.

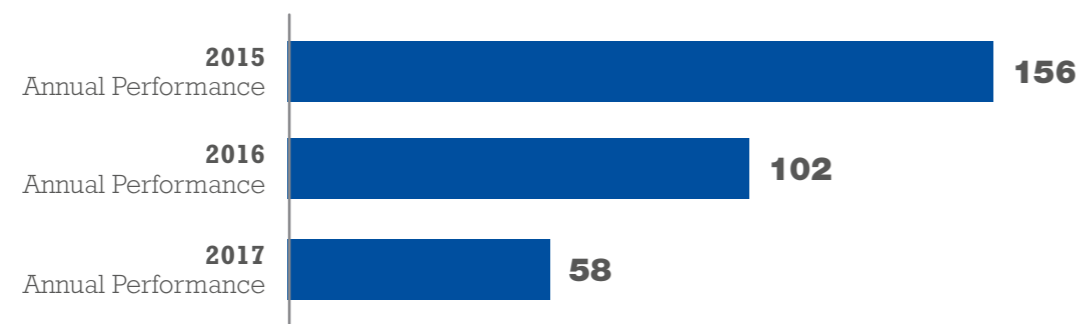


WE HELP IMPROVE THE QUALITY OF RIVERS AND COASTAL WATERS FOR THE BENEFIT OF PEOPLE, THE ENVIRONMENT AND WILDLIFE

This Outcome has three MoS:

- **POLLUTION INCIDENTS (CATEGORY 3)**
- **BATHING WATER QUALITY COMPLIANCE**
- **SEWAGE TREATMENT WORKS DISCHARGE COMPLIANCE**

POLLUTION INCIDENTS (CATEGORY 3) (S-C2)



When we have issues in our sewerage system, such as from blockages and mechanical breakdowns, untreated sewage can sometimes escape into watercourses and the sea causing environmental harm. On occasion, we experience problems with our water supply systems that can also result in environmental damage.

We continue to focus our attention on reducing the risk of this happening but a relatively small number of these 'pollution incidents' occur. Incidents are categorised by the EA, with category 1 incidents being the most serious. Category 2 incidents have a significant environmental impact and category 3 incidents have minor or minimal environmental impact. Our aim is to avoid all pollution and we have a MoS for category 3 incidents.

Numbers of Category 3 incidents decreased yet again from 102 in 2016 to 58 in 2017, representing a 43% reduction. Compared to a reduction of 35% between 2015 and 2016 incidents means our transformative pollution management programme has had a significant impact on Category 3 incidents over the past two years.

The number of serious incidents, having increased to nine in 2016, has returned to five incidents in 2017, the same number that we had in 2015. We have had no serious incidents in the 12 months prior to publishing this report.

We are working hard with the EA, our operational teams and through our Pollution Best Practice Group, to make sure lessons are learnt and serious incidents are reduced further. Our aim remains is to have zero serious pollution incidents by 2020.

We have entered into two agreements with the EA called 'Enforcement Undertakings (EU)' to compensate for any environmental damage caused. The first one was for an incident in February 2015 relating to our sewage pumping station at West Wylam with a contribution of £385,000 going to a number of local environmental charities. We hope to sign this EU off with the EA soon having also successfully undertaken a number of activities, such as investigating outfalls at our other sewage pumping stations.

The second agreed EU was in connection with a pollution incident at Leap Mill Burn at Burnopfield in November 2015 where a compensation sum of £105,000 has been accepted.

We continue to work with the EA on a number of EUs for their consideration, totalling a significant value, as an alternative route to prosecution for serious incidents. Civil sanctions through EUs offer a redress for the environmental damage caused, benefitting the environment and local communities.

The EA has an expectation that we will pro-actively or 'self-report' at least 75% of pollution incidents to them rather than rely on others to point out a problem. Our self-reporting performance in 2017 increased to 78% from 68% in 2016 meeting the EA's requirements having been industry leading at 82% in 2015.

Our multifaceted pollution management programme that we developed and continue to extend has resulted in far fewer category 3 incidents since 2015. This focused approach has looked at every incremental improvement that can be made in performance across all our assets. Activities have included water industry benchmarking, our Water Rangers programme, enhanced data analytics, community engagement, improved evidence collection and dynamic planned maintenance.

Innovation continues to play a strong role in preventing pollution with creative ideas being taken forward and successfully implemented.

The figures discuss annual performance. Pollution incidents (category 3) is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).





BATHING WATER QUALITY COMPLIANCE (S-C3)



Our bathing waters (sea water at the regions beaches) continue to be amongst the cleanest in the country. Under the bathing water regulations, each bathing water is classified every year as either Excellent, Good, Sufficient or Poor. 'Sufficient' is the minimum acceptable standard.

Our aim is to contribute to all region's bathing waters being Sufficient or better. Working in partnership is key to making this happen as seawater quality can be affected by a number of sources, such as run-off from agriculture, urban pollution and from birds or animals.

For the second year running, all 34 designated bathing waters in our region met the required standard of Sufficient or better. This already meets our PC that all 34 bathing water are Sufficient or better by 2020. We are also industry leading with the highest percentage of Good (7) and Excellent (25) bathing waters in England out of just three companies with no Poor bathing waters.

Spittal bathing water at Berwick-upon-Tweed, was classified as Sufficient for a second year (2016 and 2017). This bathing water is affected by agricultural diffuse sources from the River Tweed catchment. It had been categorised as 'Poor' under the regulations in 2015 and we carried out an investigation which concluded that it was highly likely to return to Sufficient status. The Solway Tweed catchment had also been identified as a diffuse pollution priority catchment for investigation in the Scottish Environment Protection Agency's (SEPA) second river basin management planning (RBMP) cycle. Catchment walks, awareness raising and one-to-one engagement are being used to encourage the adoption of best practice across the rural sector. The EA has confirmed that further investment to improve bathing water quality at Spittal is no longer required.

Since September 2017, we have been working in partnership with the EA and local authority to investigate the bathing water quality at Tynemouth Cullercoats. The bathing water is classified as Sufficient having been Good in 2016. This has included additional bacteriological sampling, DNA analysis and an extensive misconnections survey near the beach.

Our detailed investigations at bathing waters near the Tees Estuary, including Seaton Carew, were concluded in 2017. The results show that the bathing waters in Seaton Carew are all forecast to be Sufficient or better and therefore the EA has confirmed that a scheme is no longer required.

In support of the EA's Pollution Risk Forecasting (PRF) system, that notifies bathers of potential bathing water quality issues at 18 bathing waters in the region, we offered and subsequently purchased 12 electronic matrix signs for our local authorities to install. We are working with the EA national team to extend the PRF system to include other parameters.

SEWAGE TREATMENT WORKS DISCHARGE COMPLIANCE



A core part of the service we provide to customers is their wastewater service. We treat our household and non-household customers' wastewater at our sewage treatment works (STWs) before returning the water to rivers. Treatment includes the removal of excess nutrients (such as phosphorus and ammonia) and other pollutants that would otherwise have a detrimental effect on the river environment.

The EA sets strict standards for effluent discharged into rivers, estuaries and the sea from water companies and industry. These standards specified in 'environmental permits' are set individually for each of our STWs taking into account what is required to protect water quality and ecology. We make sure our STWs perform to meet the required discharge standards. These standards are assessed for compliance by taking regular samples that are analysed for the levels of substances, including phosphorous and ammonia, in meeting environmental river water quality objectives. These permits apply to 159 of our largest STWs and this measure shows the number of STWs where one or more samples failed these strict standards.

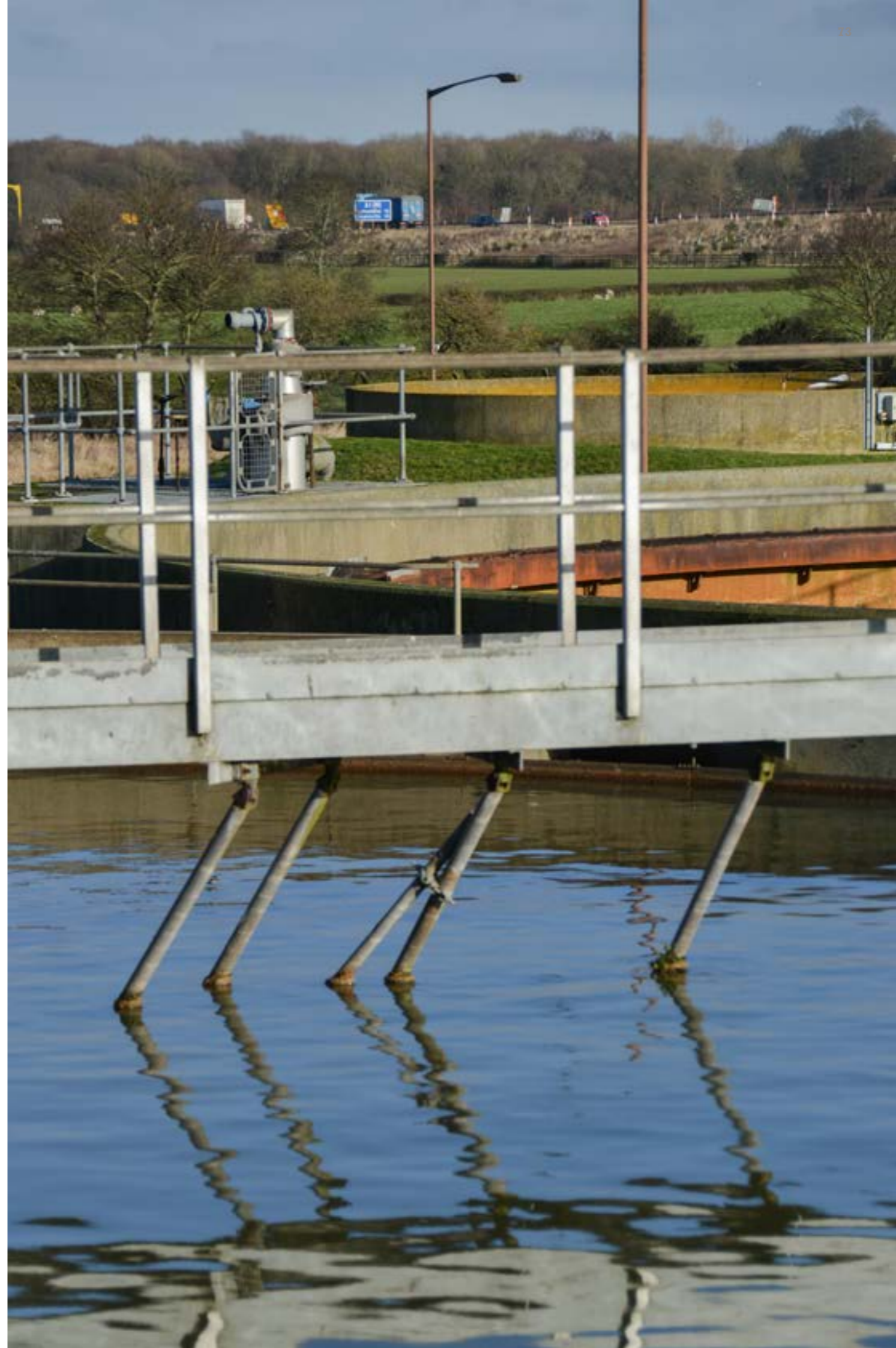
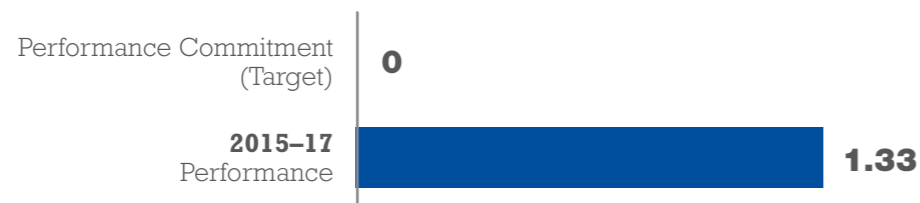
Our performance against this measure has been excellent for a number of years although this is becoming increasingly challenging as standards become even tighter. Our performance in 2016 and 2017 for STW discharge compliance was one failure in 2016 and two in 2017 calendar year.

Our aim is zero failures. This will be challenging, but is important in achieving our Outcome of helping to improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife and to meet our objective to be a 4* company in the EA's Environmental Performance Assessment (EPA).

We must plan to meet future new and tighter consent standards, and satisfy our obligations in working towards meeting 'Good' Water Framework Directive (WFD) status in our rivers by continually evolving our processes and continuing to work in partnership to attain the necessary sustainable improvements in river water quality, supporting a catchment-based approach to managing the water environment. The quality of water draining from and through the land into rivers has a large influence on river water quality. We are working within four catchment partnerships across the North East; Northumberland, Tyne, Wear and Tees, focusing on reducing the amount of pesticides, nutrients, colour and sediment entering the rivers, lakes and groundwater.

The standards we must comply with are continually tightening. As a result we are making a significant investment in our STW to reduce the amount of phosphorus being discharged and this will continue our contribution to improving river water quality in the north east. We also work to ensure our customers' money is spent on well justified schemes that will deliver real improvements to water quality and ecology.

The figures above discuss annual performance. Sewage treatment works discharge compliance is one of our asset health measures and compliance with our PC is assessed on three-year average performance. The infographic below shows our three-year average performance and these are the numbers that are shown in [Table 3A](#).



HIGHLIGHTS

WHITBURN SPILLS REDUCTION

An £8million investment to reduce the amount of times that stormwater is discharged into the sea at Whitburn Steel sewage pumping station, and into the River Wear, near St Peter's Church in Sunderland was successfully completed in December 2017.

Our plans had been developed in collaboration with framework partners and colleagues. This has ultimately resulted in the achievement of multiple goals and improved the performance and resilience of our sewer network. The creative solution is an optimised combination of existing assets, separation and attenuation of surface water from the sewer network and provision of additional network capacity. With many sustainable features, such as rainwater gardens, this scheme creates green space for people to enjoy and valuable wildlife habitats.

To make sure we selected the best solutions, and minimised the impact of our work on the local community, we actively engaged with Sunderland City Council and South Tyneside Council to maximise the scheme benefits. For example, through building strong partnerships with the Local Authority, this enabled support for Sunderland's Heritage Lottery bid to refurbish Roker Park.

The scheme that started in September 2016, meets our NEP and ODI obligations. We have had positive feedback and support from the EA and Defra, some of whom visited the site last year.



BATHING WATER CHANGES

Spittal beach at Berwick-upon-Tweed didn't meet bathing water quality requirements in 2012, despite improvements made at two key CSOs between 2009 and 2011. A scheme with an rB1 driver was therefore included in our PR14 plan in conjunction with the EA to ensure compliance with the Sufficient classification of the Bathing Water Regulations. As the cause of failure was unexpected and the sources unknown, the assets to be improved had not been identified. To allow time for investigation and design, an end date of March 2019 was proposed for a scheme. The investigation was completed in early 2016 following the announcement of 2015 bathing water results. It concluded that, taking into account the CSO improvements, the bathing water should comply with the Sufficient standard and that the non-compliance was due to the exceptional weather in 2012. In support of this outcome, both the 2016 and 2017 bathing water results for Spittal bathing water met the Sufficient standard. As a result, the EA confirmed that no further work beyond the investigation is required to fulfil our obligation for a scheme.

The bathing waters of Seaton Carew North and Centre had a rB1 driver for an investigation and scheme that we agreed a change protocol with the EA for completion by March 2018 (originally March 2016).

Completion of a detailed investigation in December 2017 highlighted that the Seaton Carew bathing waters are forecast to meet the following classifications:

BATHING WATER	FORECAST (MODELLED)	2017 PLANNING CLASS (EA)	2017 CLASS	STATUS
North	Sufficient	Good	Good	Improvement
Centre	Good	Good	Excellent	Improvement
North Gare	Excellent	Excellent	Excellent	No-Change

Given that Seaton Carew North is forecast to meet Sufficient and is currently showing continued improvement with a 2017 planned and actual class of Good, the EA have confirmed that a scheme is no longer required in AMP6. This then closes our AMP6 NEP obligation under the existing change protocol for delivery for an improvement scheme by March 2018.

UPDATE ON CHANGES TO THE 2015-2020 NATIONAL ENVIRONMENT PROGRAMME (NEP) WATER QUALITY SCHEMES

All effluent discharges to the environment require a permit, which is given by the EA, and has standards and conditions set to protect the receiving water. These are routinely reviewed and new standards set to reflect legal requirements as part of the National Environment Programme (NEP). A number of nutrient (phosphorus and ammonia) removal schemes are included in the 2015-20 NEP.

These include improvements to meet tighter standards set by the EA to prevent the deterioration of river water quality, as a result of increasing population and growth (March 2018), and to meet our longer term obligation to achieve 'Good' status under the Water Framework Directive (WFD) in our rivers currently referred to as 'pathway to Good' (due to be delivered by March 2020).

Ramshaw STW on the River Gaunless was originally included as a no deterioration scheme, but was then also flagged with a tighter consent as part of targets to meet 'Good' WFD status. Due to the timeline of the predicted growth pressure and to implement the best catchment solution, the EA agreed that delivery of a solution at Ramshaw can be postponed until the later date of 2020. This has been agreed via change protocol and we are currently looking at the most cost beneficial solution for the River Gaunless (which includes two other STWs at Cockfield and Butterknowle).

The 2015-2021 phase 5 NEP also includes four additional phosphorus removal schemes. These are currently being reviewed along with our 2020-2025 business plan working with the EA to make sure investment over the next 5 years is targeted at the most cost beneficial improvements.

BATHING WATERS A BEACON OF EXCELLENCE

Beaches in the North East of England are cited as beacons of excellence when it comes to bathing water. This Government recognition is a measure of our ongoing efforts to improve the quality of rivers and coastal waters for the benefit of people, the environment and wildlife.

Thirty-two of the region's 34 Bathing Waters were given either an 'excellent' or 'good' status, and every one of the North East's coastal sites passed the most recent water quality standards.

In November 2017 Defra announced 25 of the North East bathing waters met the excellent standard, seven were classified as good, two as sufficient and none as poor.

Compliance is based on the current, and previous four years, of sample data (a maximum of 80 samples per beach, from 2014 to 2017). The samples are taken by the EA between May and September each year to assess the bathing waters against the strict regulations.

Speaking on the day of the announcement, our Wastewater Director Richard Warneford said:

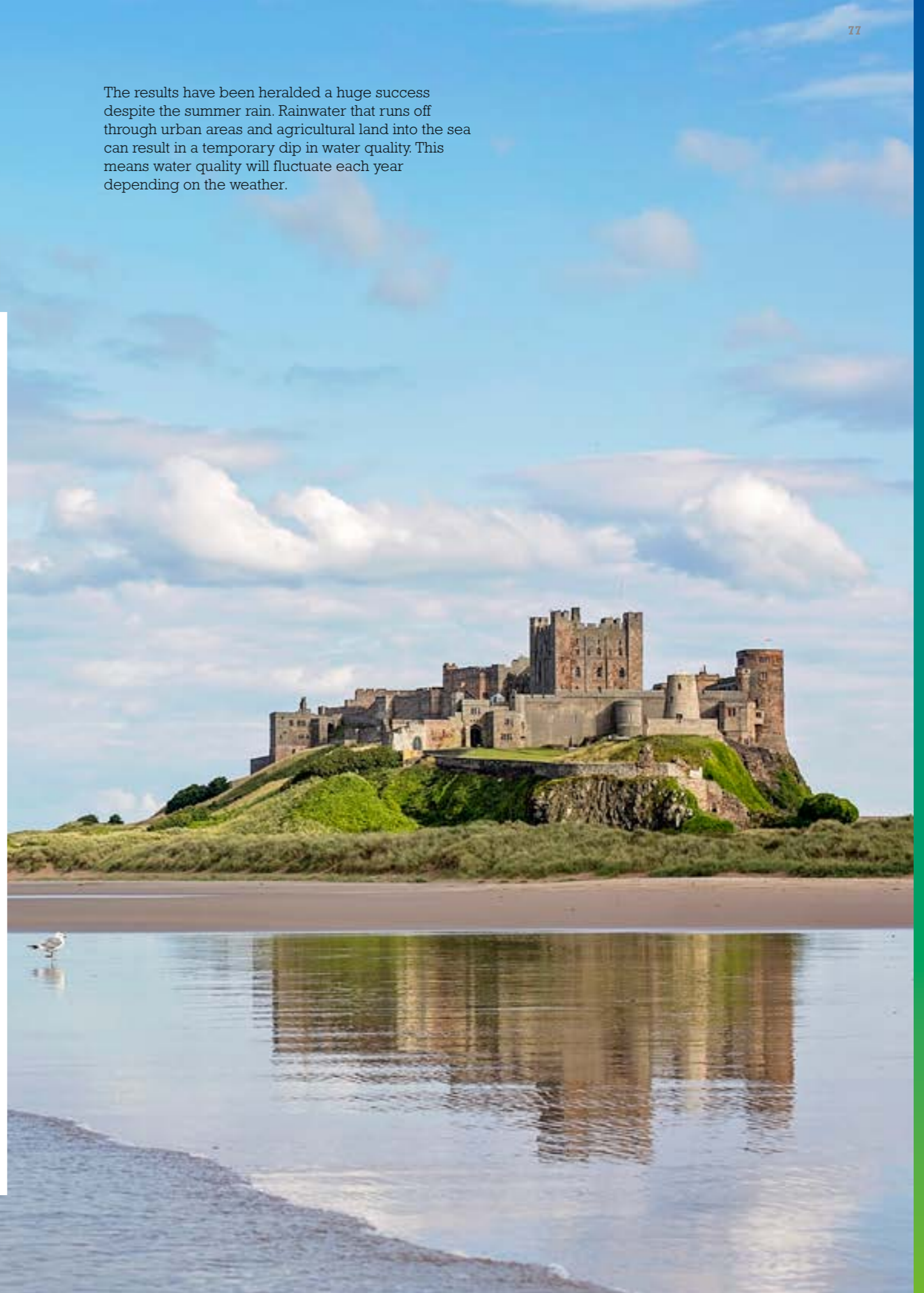
"Our two decades of investment have yielded significant benefits, and we are confident that by maintaining focus upon the North East coastline we can continue to drive improvements and make the region's coast a beacon for excellent bathing water.

"Investment in improved storm water storage facilities throughout our network over the years and through our Rainwise initiative, where we remove surface water from our sewer network and divert it into the natural environment, will have contributed to these results.

"Back in 2000, only four North East bathing waters achieved the standards that were in place at the time, so today shows a massive improvement that we and all of our partners can be proud of. We place the environment at the heart of what we do and are extremely proud of the investment and partnership working that we carry out to make our beaches a great place to visit."

Richard Warneford,
Wastewater Director

The results have been heralded a huge success despite the summer rain. Rainwater that runs off through urban areas and agricultural land into the sea can result in a temporary dip in water quality. This means water quality will fluctuate each year depending on the weather.



WATER RANGERS TO THE RESCUE!

Our network of Water Rangers provides an extra line of defence in our efforts to reduce water pollution. This award-winning initiative relies on the commitment and community pride of a team of dedicated volunteers who check on our waterways and report back incidents so we can respond swiftly.

Launched in 2014, our Water Rangers scheme has grown to a team of 62 volunteers who monitor 56 routes across the North East of England.

These invaluable volunteers patrol public access routes next to streams, becks, burns and bathing waters that are more prone to pollution, reporting any sightings so action can be taken quickly.

Water Rangers also report on issues outside the responsibility of Northumbrian Water, such as fly tipping, fallen trees, abandoned shopping trolleys and missing life buoys so that this information can be passed on to relevant partner organisations and authorities. They also look out for invasive and protected species along their routes.

Richard Warneford, Wastewater Director, said:

“The Water Rangers scheme draws upon people power, community pride and a love of the great outdoors to create a simple, but dedicated, network of volunteers who are extra eyes on the ground in vulnerable areas.

“We’ve not only captured the imagination of the rest of the industry with the success of Water Rangers, but also that of our own people. This was evident at the NWG Innovation Festival where the Water Rangers influenced a number of other ideas for how to tackle other problems we face, such as leakage and flooding.”

Richard Warneford,
Wastewater Director



55 ROUTES



PATROLLED BY A TEAM OF 67 WATER RANGERS

SINCE 2014 AND TO THE END OF FEBRUARY 2017, A TOTAL OF 2,792 PATROLS WERE CARRIED OUT WITH 143 ISSUES REPORTED.

PROTECTING OUR SPECIAL COASTLINES

We operate in an area boasting some of the most dramatic coastline in Britain, home to rare wildlife, historic shipwrecks and fascinating geology. Our involvement in a project to protect and improve access to this coastline underlines our commitment to improving the quality of rivers and coastal waters for the benefit of people, the environment and wildlife.

We've helped to develop Seascope, a five-year plan to deliver 30 projects studded along the coast of South Tyneside, Sunderland, Durham and Hartlepool.

Taking a collaborative and community approach, Seascope will improve access to shoreline and cliffs, offer new protection to sensitive areas and increase the sense of 'stewardship' of the area for generations to come.

The projects will ensure that the coast's rich heritage, whether built, cultural or natural, will be better recorded, managed and protected, and that residents are more engaged with the amazing coast on their doorstep.

As well as drawing attention to the importance of the land and shoreline, a key element of the project will happen beneath the waves. Up to six miles out at sea historic wrecks will be surveyed and recorded, 'snorkel safaris' will be created and a virtual reality wreck diving experience will be produced.

Working with a wide range of organisations involved in the Heritage Coast Partnership we successfully bid for a £5million grant from the Heritage Lottery Fund (HLF) to make the plan possible.

Speaking after the announcement of the HLF grant, Heritage Coast officer Niall Benson said:

"We're absolutely thrilled to receive this major new grant from the Heritage Lottery Fund. It's going to enable us to deliver fantastic new projects under the Seascope banner that will excite local communities and visitors alike.

"There's so much that's of interest in this area and Seascope will protect and promote that human and natural heritage. That includes geology formed by ice ages, our industrial past and the history of the Napoleonic and world wars.

"We're particularly excited by the undersea wreck surveys. Because this is a soft rock coastline, water clarity isn't as good as it is around Northumberland's Farne Islands, for example. As a result, we don't know as much as we should about our heritage beneath the waves.

"During the First World War, this was the East Coast War Channel. Keeping this open for our shipping was vital to the war effort and local fishing fleets acted as mine sweepers. We already know there are wrecks from this era off our coast.

"There are so many important stories to be told, so many wrecks to be recorded and surveyed, and that's just one element of the Seascope project."

Niall Benson,
Heritage Coast Partnership

Organisations also involved in the Heritage Coast Partnership include South Tyneside, Sunderland, Durham and Hartlepool Councils, the National Trust, Natural England Groundwork, the Marine Management Organisation, and the EA. In addition, the partnership is supported by East Durham Heritage, Donnison School and Durham and Newcastle Universities. The Seascope plan is now drawing on the expertise of these partners during an 18-month development period, which will be followed by a four-year delivery phase.

The successful bid for HLF funding included a wide-ranging survey of local people and visitors. The Seascope Survey canvassed how people feel about what draws them to it and what they would like to see improved.



WE PROTECT AND ENHANCE THE ENVIRONMENT IN DELIVERING OUR SERVICES, LEADING BY EXAMPLE

We engage with more than 30 environmental partnerships to protect and enhance the environment in our NW and ESW operating areas. These include conservation partnerships to help manage our sites, rural partnerships to help deliver environmental improvements while protecting raw water, drainage partnerships to solve integrated flooding problems which are not ours alone, and Catchment Partnerships delivering improvements to the water environment. Over the last year, we have started to take a more strategic approach to working with all of our environmental partnerships, ensuring that we work effectively with others across the business to deliver shared environmental outcomes which can benefit our customers. We ran a series of seven 'Thinking Ahead' workshops with our environmental partners, and together developed a list of themes where we know we want to work together within partnerships to achieve shared objectives. We also explored expectations and opportunities to take more of a leading role in the water environment within our regions, which we will take forward within our 2020–2025 business plan.

ENERGY EFFICIENCY

Our carbon management plan has the aim of reducing our greenhouse gas (GHG) emissions by 35% by 2020 against a 2008 baseline. We remain on track to achieve this target with emissions. In 2017/18 our net emissions had reduced to 163.5 ktonnesCO₂-e. This represents a fall of 46% when compared to the baseline. It is also a reduction of 11% against the 2016/17 figure.

We are continuing to progress our energy strategy. We tendered for a new electricity supply contract over the course of the year and have appointed Orsted as our provider from 1 April 2018. The power supplied by Orsted all comes from renewable sources, which will have a significant impact on our GHG emissions going forward. This makes it possible to anticipate becoming carbon neutral within the next decade.

Just as important Orsted are skilled in how the energy markets work in real time, and we plan to tap into this expertise to work with them in smarter management of our use and purchase of power, going further to avoid, where we can, the use of energy when costs are highest. We will also work with them to target incentive payments offered by the grid operator in this area.

Renewable energy is another of the main strands of our energy strategy and we have contracted with a solar pv provider, Lightsource, to develop arrays at nine sites over the coming twelve months. This is being procured through power purchase agreements where Lightsource will provide the investment, with the energy generated supplied to us through a direct wire and avoiding cost linked to grid usage. We continue to explore other opportunities with partners, particularly in the areas of hydro and solar, as well as exploring how industrial scale energy storage might play a part.

The above approaches will help us to manage the unit cost of energy we use. We are also looking to use power more efficiently through data analytics, site energy audits, trigger management and investing in energy efficient assets to drive down our underlying consumption. The reality is that our overall usage of energy can be volatile, depending upon levels of rainfall and pumping requirements. However, we look to ensure that our energy costs are minimised within this overall framework.



PROTECTING ENDANGERED EELS

The European eel is a critically endangered species, with populations plummeting over the past 30 years and legislation now focused on reversing the dramatic decline. We are playing our part by preventing eels being injured or killed in our river pumps, as part of our wider work to protect and enhance the environment as we deliver services.

We're installing special screens at our water intakes on the rivers Tees, Tyne, Wear and Coquet to prevent eels and fish from becoming drawn towards pumps taking freshwater to supply reservoirs and water treatment works.

By doing this we aim to ensure a safe passage for adult eels returning to the sea where they spawn. Although it's not exactly known why, European eels have been in decline all over Europe and North Africa over the past 30 years with the number of elvers (young eels) migrating into European rivers falling to less than 5% of 1980s levels.

Regulations have now been introduced in an effort to reverse this all-time low and return eel numbers to sustainable levels.

Our £11million project will install protection at six intakes across our operation area and will be completed by March 2020 to comply with the Eels (England and Wales) Regulations 2009. Work is well under way on the first site at Lumley pumping station on the River Wear in Chester-le-Street.

"We are really pleased to see all of the hard work by all involved begin to come to fruition. Over the past few years, the EA, Northumbrian Water and expert suppliers and contractors have been working closely to agree on the best possible outcome at each of the sites.

"The European eel is critically endangered throughout their range from Africa to northern Europe. These fascinating creatures have a complex life cycle, beginning life in the Sargasso Sea and undergoing several changes while maturing in European waters, before returning to the Sargasso Sea to spawn.

"This current work will go a long way to minimise the potential impact that each of these sites have not only on eel but on other fish, and the wider biodiversity of the rivers in which they live."

Robbie Stevenson, Environment Agency Fisheries Technical Officer

We are working closely with the EA to ensure this scheme maintains water supply, complies with the Eels Regulations and ensures any environmental, economic or social impact is kept to an absolute minimum.



GREEN SCHEMES

We've committed hundreds of thousands of pounds to help our communities and partners reach common goals. Our funding gives a crucial boost to wide-ranging projects supporting neighbourhoods, the environment and our heritage.

We run a number of grant schemes aimed at directing financial support to strengthen the much-needed work of organisations delivering inspiring projects in our communities.

Good news from these initiatives has recently included:

Legacy Landfill Tax funds

In April 2017 more than £300,000 of support was given to 11 projects in the North East, including a theatre redevelopment, the makeover of a museum's historic garden, the creation of an eco-friendly visitor centre and a nature reserve upgrade.

The money, which was released from legacy Landfill Tax funds, was allocated through the County Durham Community Foundation, Tees Valley Community Foundation and the Community Foundation Tyne & Wear and Northumberland.

Essex & Suffolk Water Community Fund

In December we surprised seven voluntary organisations with early Christmas presents from the Essex & Suffolk Water Community Fund. Grants totalling £9,000 were awarded to worthy projects in Essex, Suffolk and East London.

Projects to benefit included a service providing personal safety advice for people with learning disabilities, a children's homework club and an older people's club, new equipment for a community playing field and a new healthy lifestyle programme for people with special needs.

The Fund has awarded over 125 grants, totalling more than £95,000 since being established in 2003.

Branch Out Scheme

Branch Out is designed to support projects within all of our operating areas which enhance the local environment and benefit wildlife. Applications are welcomed from organisations, community groups and individuals from the public, private, voluntary and education sectors.

Since launching in 2013, Branch Out has awarded grants worth more than £280,000 across 66 different projects.

Projects can also be supported by Just an Hour, our employee volunteering programme. In 2017 Branch Out was a finalist at the prestigious Edie Sustainability Leaders Awards, which recognise excellence and innovation in sustainability.



WE DELIVER WATER AND SEWERAGE SERVICES THAT MEET THE NEEDS OF CURRENT AND FUTURE GENERATIONS IN A CHANGING WORLD

To monitor asset health we use two groups or baskets of MoS, one for water services and one for wastewater services. All of the individual MoS have been discussed individually earlier in this report.

The MoS in our water asset health basket are:

- Discoloured water complaints
- Overall drinking water compliance
- Properties experiencing poor pressure
- Water mains bursts

The MoS in our wastewater asset health basket are:

- Sewage treatment works discharge compliance
- Pollution incidents (category 3)
- Sewer collapses (public network)
- Repeat sewer flooding

As the asset health concept is about the long term stewardship of our assets, performance is not assessed annually but on a three-year rolling average basis. Assessments are to be made at the end of 2017/18, 2018/19 and 2019/20. This is the first assessment point during our current 2015-2020 business plan period.

We have reviewed our PC and can report that a reward has been triggered for excellent performance against a PC in each of our asset health baskets.

In our water asset health basket a reward of £263,000 has been triggered for excellent performance for discoloured water complaints performance ([page 49](#)).

In our wastewater asset health basket, a reward of £1,261,000 has been triggered on our repeat sewer flooding measures ([page 59](#)).

One way of looking after our assets is an integrated approach to asset management. This means finding the right balance between operational and long term maintenance and investing at the right time in the interests of current and future customers. The international standard for this is ISO 55001, asset management. We are one of the few UK water companies to be accredited to this standard company-wide and demonstrate that we follow best practice in the long term management of our assets.



USING DATA TO REDUCE POLLUTIONS

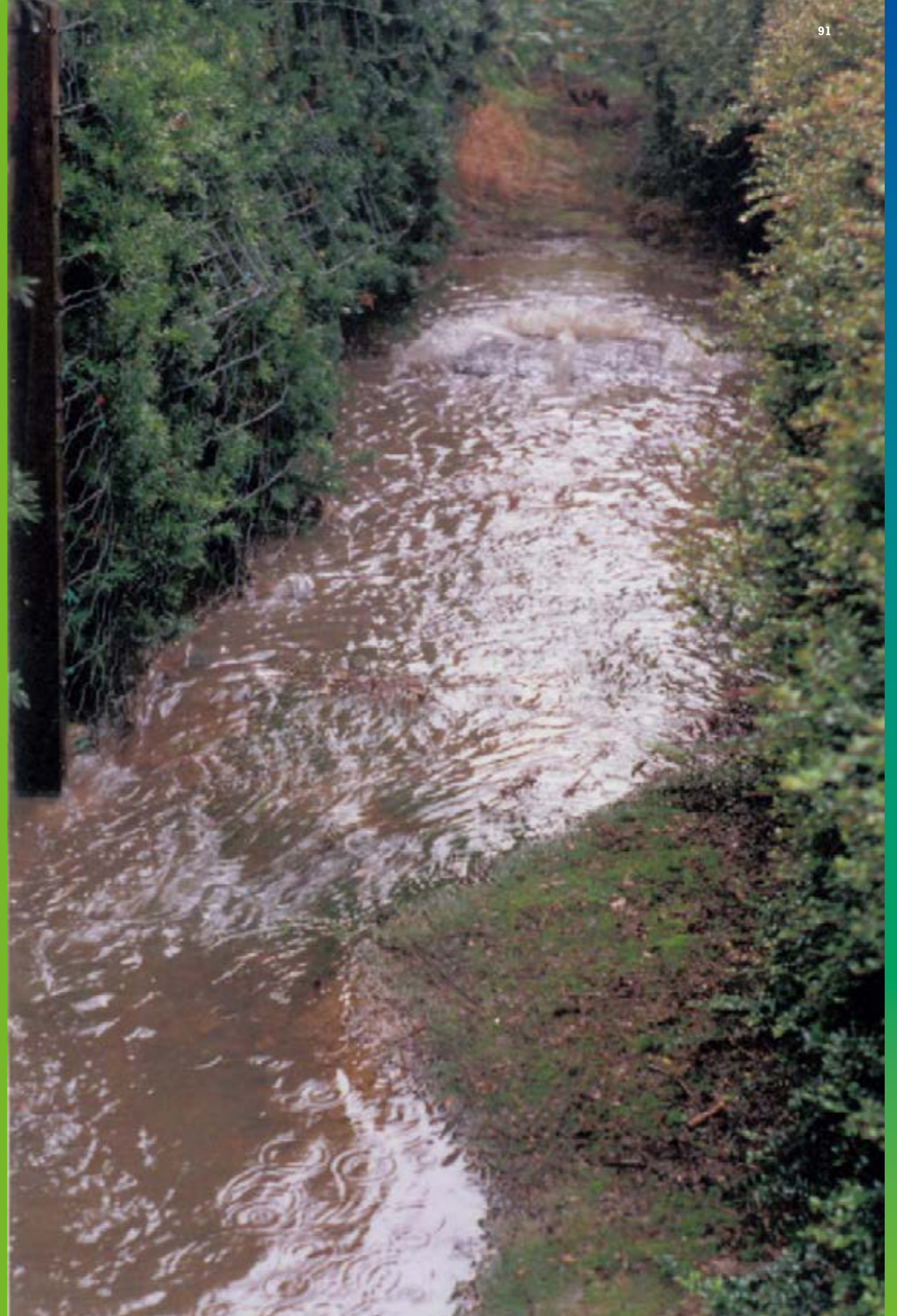
We're using the data we have at our fingertips to predict and respond to incidents of pollution before an issue has even occurred. This highly innovative approach helps ensure we meet the needs of current and future generations in a changing world.

By making better use of data and analytics we are now able to pre-empt incidents of pollution and intervene before incidents occur that could be damaging to our customers and the environment.

Greater use of monitoring at pumping stations and at our Combined Sewer Overflows – the systems that operate during heavy rainfall to protect homes and streets from flooding – means we can respond to changing water levels.

Moreover, we are using the data from our monitors to create trend information, predicting how our systems will perform and triggering a response before an incident of pollution takes place.

An early warning system has also been developed using the innovative processes of sectors outside of the water industry.



INNOVATION HAS GLOBAL POTENTIAL

We are exploring exciting possibilities to establish a new universal way of measuring and improving water quality using an innovative solution we've developed. Our efforts to pioneer this change underline how passionate we are about delivering services that meet the needs of current and future generations..

The way in which the water industry analyses the quality of drinking water has remained largely unchanged for more than a hundred years.

Though traditional microbiological analysis has served us well until now, it relies on the organisms growing on a plate in the laboratory. Not all organisms do this. Only around 1% of what is in water is culturable in the lab.

An alternative approach called flow cytometry uses a laser to count cells and offers a more precise reading in water. By combining this method with fluorescent staining we can also tell whether cells are alive or dead.

Flow cytometry has been around since the 1960s and is particularly used in medicine but has not been adopted by the water industry in the UK because of issues interpreting the complex data produced. An innovation developed by our experts changes this.

We've produced a mathematical formula that crunches this data to produce what we are calling a Water Quality Risk Score (WQRS). The reading takes into account not just the number of bacteria present but also their state and the likelihood of them being harmful.

By rating the risk of water samples we can improve the way we manage sites – prioritising those at higher risk rather than relying on a rolling programme of inspection and maintenance.

By studying our water treatment works processes with this innovation we aim to optimise our treatment – only using chemicals necessary for efficient treatment and no more.

Adrian Marsh, Flow Cytometry Project Leader, said: "Better understanding of the microbiological quality and risk of our water would help the water industry think differently about the way it treats and manages the distribution of its supplies. By basing decisions on good risk management companies can develop leaner, cleaner and more resilient practices."

This interpretation of data means we can detect changes in water quality, set new standards and predict issues. Where issues do occur, this method will help us to better understand the problem and prevent it from happening again.

We are now exploring the potential for WQRS to be adopted as a standardised interpretation of water quality. The UK water industry is excited by our innovation and the promising results we have achieved from initial trials and the idea was shortlisted in May 2018 for a prestigious Water Industry Achievement Award.



OUR ENABLING AND REPUTATIONAL OUTCOMES

Innovation is crucial to how we will achieve our vision of becoming and remaining the national leader in the provision of sustainable water and wastewater services.

We want to be recognised as a leader in innovation and in doing so we will demonstrate that the water sector can lead the UK in innovation.

Our approach is to be ambitious and dynamic, working with a diverse range of partners and deploying new tools and techniques to rapidly develop, prototype, test, refine and implement new solutions, some of which will be disruptive / ground breaking.

We have continued to develop our use of Design Sprints and data hacks, which along with creative problem solving, open innovation, horizon scanning, technology transfer and academic research are key elements of our innovation 'ecosystem', focused on innovating with a purpose to achieve our priorities, whether it is to improve water quality, reduce sewer flooding, tackle pollution incidents or deliver an unrivalled customer experience.

“We are an efficient and innovative company”

NWG INNOVATION FESTIVAL

In July 2017 we ran our inaugural Innovation Festival, which was ground-breaking for the water industry in its scale and diversity of partnership and co-created innovation. The concept of the festival was to run a large number of sprints and data hacks side-by-side. We were not exactly sure what would transpire, but the result was an incredible amount of collaboration and creativity.

More than 1,000 people joined us at Newcastle Racecourse from 140 different organisations. We focused our efforts on six design sprints that we hosted alongside key sponsors.

“Rain, Hail or Shine”

(How to reduce flooding) hosted by IBM. This considered the impact of flooding on people, properties and communities and considered novel ways to predict, prevent and minimise the impact of floods.

“Keep it Flowing”

(How to reduce leakage) hosted by Microsoft. We looked at the problem of leakage through a design sprint and a data hack. The design sprint looked at new ways of detecting and fixing leaks. The data hack hosted around 60 data scientists who looked at ten years' worth of leakage data and came up with some new insights into the how we might reduce it.

“Preparing for the Future”

(How do we affordably upgrade our infrastructure for the 21st century) hosted by Reece Innovation. This looked at how the various entities that constitute our infrastructure might work together to increase capacity and deal with new challenges without having to replace everything.

“Tomorrow's World”

(What will living and working look like in 2030?) hosted by CGI. We considered the impact of rapid advances in technology and how it might change the way in which we work and live.

“How Green is your City”

(What can businesses do to improve the environment in the North East?) hosted by Ordnance Survey. This looked at ideas that use geographical data, technology and design thinking to help us to use and protect our environment.



1000+
PEOPLE
ATTENDED

“21st Century Reach”

(How can we optimise the mobile workforce for a complex network?) hosted by BT. the sprint considered the extremely complex problem of how to operate a network in an ever-changing environment. We considered the employee experience, health and safety, regulatory obligations, together with the environment impact and efficiency.

A number of key projects emerged from the sprints and are various stages of development. They include:

- Moss trees to improve air quality in urban environments
- Car sharing app to optimise staff travel and ensure meetings and working time are scheduled and located in the most convenient and efficient location.
- Common infrastructure mapping – a cross utility project to reduce customer disruption when digging the highway and provide safer digging and better planning.
- Community driven infrastructure - engaging with customers to give them influence in designing infrastructure solutions to tackle issues at hand

Aside from the main event, we hosted a number of activities aimed at increasing the awareness of STEM-based careers. We held a competition for older teenagers to design the teenager's bedroom of the future. One of the winners went on to gain a sponsorship from us for an Arkwright scholarship. We also hosted a Science Technology Engineering and Maths Fayre for younger school children facilitated by the Centre of Life in Newcastle. More than 250 children took part in these workshops.

The whole event had the feel of a British Summer Festival that fostered well-being and encouraged creativity. We held yoga and fitness lessons, hosted mindfulness classes as well as cookery demonstrations and Indian head massages. In the evening, the participants were entertained by a comedy night, a band night, some inspirational talks and a pub quiz. The event took risks, was ambitious and resulted in ideas that will change the way we work.

The success of our first Festival convinced us to establish the event as an annual highlight. The 2018 event will take place 9 – 13 July and promises to be even bigger and more ambitious in the diversity of the problems it will solve and the participants it attracts.



ONGOING INNOVATION

Outside of the festival we provide ongoing opportunities for all our people to get involved in innovation activities, recognising everyone's ability to learn and do new things. We encourage people and teams to share their ideas and experiences, both success stories and things we can learn from. Design Sprint and Data Hack methodologies have helped us to develop new solutions and deliver improvement across a wide range of topics including:

- Improving our recruitment process.
- Reducing sewer flooding.
- Design of the NWG Academy to deliver our engagement with schools and young people.
- Safety of our coastal sewage treatment works.
- Business strategy.

EMPLOYEE IDEA PORTAL

Our employees are a great source of ideas and IdeaBase is where we capture these ideas so that they can be shared and developed across the business. The ideas are refined and challenged before the most promising are progressed to either a sprint or other business process. Since its inception in October 2016, more than 580 ideas have been submitted by our people.

INVEST QUEST

In 2017 we had the first round of our Invest Quest competition, inviting employees to submit ideas for delivering significant business efficiencies. Their ideas were filtered down to a list of five finalists, who then present their idea to a Dragons' Den style panel of directors, together with an external independent adjudicator. The winning idea attracts an investment of up to £250,000 – and the idea owner is awarded a £5,000 personal prize. The first winners were announced at the Innovation Festival in July 2017, and a second round of Invest Quest was launched in late 2017. The winning ideas were:

Winner:

Bran Sands ETW Train A Reconfiguration and Optimisation

A fantastic idea around optimising waste water treatment at Bran Sands and creating a more stable biological treatment process. Our Dragons thought the idea was hugely innovation, and were impressed with the huge potential for financial payback.

Highly Commended:

Wastewater Vector Unit - a great suggestion around insourcing vectors to save money and protect the environment.

Flow Cytometry - an innovative idea that will put NWL at the forefront of the industry in terms of water quality with a plan to optimise our water treatment and network processes.

Commended:

Automatic Water Treatment Works Coagulation Dosing Control Systems - reducing the consumption of chemicals at river water supplied works.

Howdon STW - Advanced Process Control - focused around streamlining processes at Howdon.

PARTNERSHIPS

Whilst our employees are the bedrock of this strategy, we recognise that we frequently find we are at our best and most innovative when we combine our people and ideas with those from the outside world. We are fortunate to have some great partners around us in the form of universities, technology leaders and others who are pioneers in their respective industries. These arrangements give these organisations unique access to our business operations and the types of problems that we face. In return, they give us early sight of their latest thinking and product developments.

In addition we continue to see the benefits of including our supply chain partners in our process for assessing and adopting new technology, which provides a route into our business for supplier-led innovations (www.nwl.co.uk/business/innovation.aspx).

Our investment in research and technology development, working with academic and supply chain partners continues to deliver results from projects that will enable us to achieve our current and future performance commitments.

RESEARCH HIGHLIGHTS

We continue to invest in research and technology development, working with academic and supply chain partners to deliver projects that will help us to achieve our current and future performance commitments. Notable successes this year include:

- Launch of the ERDF-funded North East Water Hub with our partners Durham University, EA and Durham County Council. Through the Hub, we are seeking to raise awareness of water-related challenges and support regional businesses to develop new products and services to address them.
- Scaled-up our operational use of flow cytometry (FCM), an innovative particle characterisation technique used for indicating water quality, while at the same time investing in further EPSRC-funded research with Newcastle University's School of Engineering and Faculty of Medical Sciences to look at improving the technique and broadening its application.
- Completed an Innovate UK-funded Knowledge Transfer Partnership with Durham University to re-use waste materials from mine-water, leading to further ongoing process development work with Durham and the Coal Authority.
- Worked with University of Northumbria on a proof-of-concept to show how Building Information Modelling (BIM) can be used to produce a digital representation of our sewer network, ultimately enabling improved operation and maintenance of buried assets.



OUR 'MOSS TREE' TACKLES CITY CENTRE POLLUTION

The idea of creating a 'moss tree' to filter air pollutants was first explored at our Innovation Festival in the summer of 2017. Just eight months later we took the idea from the drawing board and into Newcastle city centre where the first 'tree' of its kind in England has put down roots. It's a perfect example of our efficient and innovative working practices.

The pollution-busting 'moss tree' has been installed at the Haymarket, close to the city's bus interchange and busy main roads, where it is now purifying the air.

The 'tree' works by using moss cultures, which have the ability to filter certain pollutants, by binding them to the leaf surface and then integrating them permanently into their own biomass. This makes them ideal air purifiers. The moss is built into the tree-like structure, which provides the water – largely harvested from the rain – and the shade the moss needs to survive, creating an intelligent combination of technology and nature.

The 'tree' is now being studied by academics keen to understand the benefits of the plants' natural filtering abilities.

Results will be made available for universities and other bodies on an ongoing basis, to feed into their own research on tackling pollution. Built-in sensors will gather information on pollution including Nitrogen Oxide, Nitrogen Dioxide and Carbon Dioxide, as well as monitoring air humidity, temperature and rainfall.

The 'tree' was a leading idea to come out of our week-long Innovation Festival last year in a particular session we ran with Ordnance Survey.

Nigel Clifford, Ordnance Survey's Chief Executive Officer, said: "The NWG Innovation Festival is a pioneering example of what the imaginative pooling of private and public resources can achieve."

"The Newcastle Moss Tree is a fantastic opportunity to explore a truly innovative way of tackling pollution and sharing the findings with people who can take the concept and expand upon the value it brings to the environment.

"As part of the NWG Innovation Festival in 2017, we decided to look at how businesses can improve the environment, but we didn't really know where that question would take us, in terms of ideas and the impact they can have. To now have the result of one of those ideas in such a prominent position, where it can reduce pollution and gather real world data, is brilliant.

"This is a first for England and Wales and we are very proud to be at the forefront of something so exciting, and we have had fantastic support from a wide range of people and organisations to make this happen, including Newcastle City Council, which has helped us locate the tree in such an ideal spot."

Nigel Watson,
Director of Information Services



INNOVATION FESTIVAL SPARKS NEW IDEAS

We've used processes known as 'sprints' and 'hacks' for years to generate ideas to better our business but we took this to a whole new level with our Innovation Festival!

When we launched our inaugural Innovation Festival in the summer of 2017 we knew we were embarking on a journey into the unknown.

We wanted to bring together a diverse group of people in the hope of generating some exciting ideas but we could not have predicted just how much collaboration and creativity we would spark.

More than 1,000 people from 140 organisations joined us at Newcastle Race Course over the five-day event to consider ways to address a range of environmental and social problems that affect us all.

Festival-goers came from around the world, representing companies including headline sponsors Microsoft, IBM, Ordnance Survey, BT, CGI Group and Reece Innovation, to work with members of the public and people from business and academia.

They took part in a series of 'sprints', a process involving a group of people with different perspectives who gather for a set period of time to find a solution to a problem. Issues tackled included flooding, water leakage, infrastructure, life and work in 2030, green cities, and mobile workforces.

Hundreds of ideas were generated and streamlined to 18 that were presented to guests – industry regulators and partners among them – on the festival's final day.

Ideas included new ways to work directly with, and support, people who live in areas of flood risk, greater use of mobile apps to help better identify the location

of leaks when they are reported, shared infrastructure corridors to reduce roadworks, and special 'moss trees' that absorb pollution.

Nigel Watson, our Director of Information Services, said: "The NWG Innovation Festival was certainly a first for the North East and we are really excited to now be getting stuck into developing these ideas and seeing just how far we can take them.

"There is huge potential to improve people's lives as a result of this festival and the ideas that came about, and we have created some amazing new relationships that will continue to thrive as we keep working together on these projects."

The success of our first festival convinced us to establish the event as an annual highlight. The 2018 event will take place 9-13 July and promises to be even bigger and more ambitious in the diversity of the problems it will solve and the participants it attracts.

The NWG Innovation Festival was delivered in association with Newcastle University, Durham University, Genesys, Interserve in partnership with Amec Foster Wheeler, Costain Resources, PC1, Tech Mahindra, Mott MacDonald Bentley (MMB), Wipro, Virgin Media Business, Schneider, Wheatley Solutions, Sopra Steria, Accenture, 1Spatial, Infosys, Unify, ITPS, Esh-MWH, and Pen Test Partners.

FESTIVAL LEADS TO A SCHOLARSHIP FOR JESS

One talented student took away a prestigious scholarship from the festival after impressing us with her outstanding potential as an engineer.

Jess Scott received an Arkwright Engineering Scholarship, sponsored by Northumbrian Water Group, after success in a competition to design the teenager's bedroom of the future.

Arkwright Engineering Scholarships are aimed at the most talented STEM (Science, Technology, Engineering and Maths) students in UK schools and help to ensure that high potential young people retain an interest in engineering careers.

Sixteen-year-old Jess, from Hexham, is now enjoying the two-year scholarship at Newcastle High School for Girls, where she is studying maths, further maths, physics and politics. As part of the scholarship, Jess is also receiving mentoring from Northumbrian Water's Programme Manager, Carol Cairns.

Teenagers and younger children worked with a range of STEM-related innovation experts during the festival.



OUR FINANCES ARE IN SAFE HANDS

Our finances are sound, stable and achieve a fair balance between customers and investors.

During 2018 we'll invest £180million on essential improvements in the Northumbrian Water service area and around £50million in the networks supporting our Essex & Suffolk Water operations.

This extensive investment is part of the Group's £1.1billion planned programme of works between 2015 and 2020. It not only brings major improvements for customers, but also supports thousands of jobs and local businesses in the Group's supply chain.

IN THE NORTH EAST OF ENGLAND

Work to protect homes from flooding from our 32,000km sewer network continues to be among top priorities, together with improvements to drinking water quality delivered through our 16,000km of water pipes.

The charges for water and wastewater services here during 2018/19 will see customers, on average, paying around £1.10p per day for all their drinking water and sewerage services.

Water bills in the North East will remain among the lowest in the country with an increase, compared to last year, of around just 3p a day, 21p a week.

This small increase will go towards us continuing our multi-million pound improvement programme to maintain and improve drinking water quality, maintain a robust wastewater network, protect the environment and deliver unrivalled customer service to our 2.7 million customers in the North East.

IN ESSEX, SUFFOLK AND EAST LONDON

Work to improve biodiversity and the environment in water catchment areas is among the top priorities here, together with improvements to preventing and fixing leaks in more than 9,000km of water pipes.

It also follows the £150m Abberton Reservoir Scheme, completed in 2015, which was the nation's largest, and only major, reservoir development in the last 25 years.

Charges for water services in this area during 2018/19 will see customers, on average, paying around 69p per day for all their clean water services.

This small increase, which is around 2p a day / 14p a week, will go towards us continuing our multi-million pound improvement programme to secure reliable supplies of great quality water for customers, protect and enhance the environment and to deliver unrivalled customer service to the people of Essex & Suffolk.

WE ARE PROUD TO CONTRIBUTE TO THE SUCCESS OF LOCAL COMMUNITIES

Serving a diverse and large variety of communities across an equally diverse geographical area, we know the positive impact we can have on our communities and the role we can play to help facilitate their success.

In addition, we are proud to say our people generously gave their time and resources to the causes that are important to those communities.

WHOLE TOWN APPROACH

We have developed some great customer engagement and educational initiatives. For example:

- We are committed to reducing the risk of sewer flooding happening in our region in future. Our surface water management programme is called **Rainwise**.
- The **Dwaine Pipe/Love your Drain** campaign educates our customers about what can and can't be flushed down the toilet or put in sinks and drains to avoid blockages.
- **Every Drop Counts** is our campaign that encourages customers to use water wisely.

Running all three campaigns in separate areas at separate times wouldn't maximise impact and would be costly so over the last year have worked hard to take a 'whole town approach', planning carefully how we could join as many of these educational marketing campaigns in one location at a time.

When we take a whole town approach, we carefully co-ordinate all of these campaigns to make sure the community benefits as a whole. It allows to have more impact in a single location and to make more efficient use of resources.

EMPLOYEE VOLUNTEERING

Just an hour is our highly successful employee volunteering programme. One of the main objectives is to add value to the community, and to realise this, each of our employees has been given the opportunity to take a minimum of 15 working hours a year to support community initiatives.

Community support for us is more than a monetary donation; we know our communities can benefit from the wealth of knowledge, skills and expertise our employees have to give. The programme is designed to have an impact on education, the environment and the general wellbeing of the community and is something our employees tell us they take enjoyment from.

More than half of our workforce is actively engaged in the programme. In 2017, 52% of our people volunteered their time, giving support to 565 organisations.

WATER RANGERS

We started our award winning Water Rangers scheme in 2014. Volunteers monitor public access routes next to watercourses across the North East that are prone to pollution.

In 2017 we expanded the Water Rangers scheme and 1,914 patrols were completed. Nine incidents reported by our volunteer Water Rangers were referred to the EA.

BRANCH OUT

Our Branch Out fund helps to deliver projects that benefit the natural environment and their local communities. A healthy natural environment is essential for us today and to make sure we can continue to supply top quality drinking water and safely remove wastewater in the future.

We supported 16 Branch Out projects in 2017 providing £60,037 in funding. This helped our partners bring in additional funds in excess of £352,419 (at the time of receipt of the applications) to put towards Branch Out projects in our local communities.



LEGO LEAGUE BUILDS WATER ENGINEERS OF THE FUTURE

Our delivery of great services extends beyond what comes out of our customers' taps – we use the skills of our people to help others understand more about the importance of water. Our involvement in a national schools competition to teach children about this precious resource is one of the ways our talented and committed employees share their knowledge and passion.

We welcomed children from five North Tyneside primary schools to our training facility in Durham where they spent a day tackling real world challenges with our water industry experts.

The day of activity was part of the First Lego League 2017/18 – a global science and technology competition involving more than 250,000 young people each year.

Workshops in laboratory work, wastewater, water, taste and engineering took place as part of the day and the children learned about the work of the global charity WaterAid, which we support as a founding partner.

They were also able to take part in a special question and answer session with our very own talking water cooler.

Sophie Pickup, Learning and Development Manager, said: "At Northumbrian Water, we are very passionate about helping young people to learn about water and all of the other things that we do. The First Lego League is a fantastic way of helping children to learn about a wide range of STEM-related subjects.

"It was great to have these young people with us for the day. We want children to gain a better understanding and become excited about what we do, because they are our customers – and possibly our employees – of the future."

40 children took part in the Hydro Dynamics activities, from four Wallsend schools – Richardson Dees Primary School, St Columba's RC Primary School, Carville Primary School and Denbigh Community Primary School – as well as St Stephen's RC Primary School, in Longbenton.



STUDENTS GET BEHIND THE SCENES IN BEST SCHOOL TRIP

We've given 100 young people behind-the-scenes access to our laboratories in support of a scheme to increase the numbers studying maths and physics at A Level. It's part of our commitment to contributing to the success of our local communities.

More than 50% of teenagers across the country have never had any interaction with a STEM employer, according to a survey carried out on behalf of Government-backed campaign Your Life.

More importantly, research indicates this could have a detrimental impact on their likelihood of their going into associated professions.

This is the backdrop to the Best School Trip initiative by Your Life, designed to help hundreds of businesses across the UK to open their doors and offer inspirational trips to young people.

Not only does the scheme provide first-hand experience of the STEM career possibilities available in their local area, it also offers businesses the chance to meet their future workforce. Following Your Life's Best School Trips, 84% of students say they would now consider taking up maths and 74% physics.

We seized the opportunity to get involved in this worthy scheme, providing three schools with a tour of our Howdon site.

Here they saw for themselves how power is generated using poo. They watched as gas produced was directly injected into the national grid, ready to be used by the public to heat homes and cook their meals. They also saw inside one of our laboratories where every day hundreds of drinking water samples are tested to ensure we provide excellent quality drinking water.

Toby Hicks, Your Life Communications Director, said: "Seeing the world of work at first hand can have a transformational impact on the life chances of young people. Research shows that the more students are introduced to work at school, the more prepared they are for adult working life. We are delighted to work with Northumbrian Water to help open up the world of work for young people."



LAFFS4KIDS

Playing a part in our local communities means more to us than water services alone – we're always looking for extra ways to make a difference. What better way to show our communities we care than by collecting Christmas gifts for children who would otherwise not get one?

Thousands of children enjoyed the excitement of unwrapping Christmas gifts thanks to a unique one-off show at Newcastle City Hall that we were proud to support.

By teaming up with the charity Cash for Kids and award-winning comedian Jason Cook to stage the Laff4Kids comedy show we helped to collect 6,800 presents for children living in poverty.

Billed as the 'happiest comedy show in the North East', the event required every member of the audience to bring a new and unwrapped toy which was given to a local child.

Our support of this special show was a real team effort. As well as the company covering the cost of the venue, our employees volunteered to work at the show and sort toys and we provided vehicles to collect and distribute presents to the excited recipients.



WE WORK IN PARTNERSHIP TOWARDS COMMON GOALS

Our Partnerships Strategy gives us clear direction to make sure we are focusing our efforts on the things our customers have told us are important to them.

In 2017 we strengthened our work in this area further and continued to make sure that at least 1% of our pre-tax profits were re-invested in our communities through dedicating expertise, employee time, money and facilities.

We look beyond our annual finance and performance reporting and have in the last year also reported on our influence and impact in the wider economy, the environment and society – Our Contribution report can be [viewed here](#).

KEY PARTNERS

Refill

A new and key partnership for us that started in 2017 is our partnership with City to Sea to bring Refill to the North East and Essex & Suffolk. Refill aims to reduce single use plastic water bottle pollution and promote a healthy lifestyle in towns and cities across the UK, by improving access to free drinking water, on the go.

Refill works by promoting free tap-water refill points ('Refill Stations') in cafes, shops, businesses and transport hubs. As such we are presently asking businesses to agree to be added to the free 'Refill' app as a 'Refill Station', and display a small Refill window sticker to alert passers-by that they're welcome to come and fill up their water bottle for free.

Refill's core appeal varies across different groups and communities within our towns and cities. People's main motivations range from wanting to be healthy, through to reducing ugly litter, to saving our oceans and the life within them for future generations. Refill can bring people from diverse backgrounds together and also aims to boost the local economy and bring more environmental awareness to local businesses. In the last year we achieved mass media coverage for the campaign and we will continue to develop the partnership throughout 2018.

Innovation partnerships

We are at our best and most innovative when we combine our people and ideas with those from the outside world. Accordingly, we have built strong relationships with organisations and individuals to support our innovation initiatives. These innovation partnership have given us early sight of latest thinking and product developments.

- We are currently partnering with IBM to launch our new Customer Care & Billing System.
- We have jointly invested in an innovation fund with O2 that will explore the exploitation of new devices, leading-edge communication protocols and emerging services, for example autonomous vehicles.
- We have recently agreed an innovation partnership with local North East company, Hedgehog Labs who host an innovation lab for us that we will run each year.
- We have a long history of delivering research projects with Durham University and have recently established the NE Water Hub (which includes the EA and Durham County Council).
- We have a long-established collaboration with Newcastle University, and have recently formed a strategic partnership that will enable us to apply the world-leading research carried out with Newcastle to benefit our customers and communities.

We are also part of a diverse group of companies that make up the CKI Group. In this group we have access to a considerable amount of expertise relating to energy, logistics and retail.

We meet regularly with our sister companies to exchange ideas and lessons learned from initiatives and have learned a lot from sister company Northern Gas Networks about how to identify and deal with leaks.

Educational partners

In 2017 we engaged with 8,200 young people in programmes to support their learning, development and readiness for work.

Organisations based on our sites

We are proud to host a number of partners on our sites; enabling these special places to be enjoyed by the community. In 2017 we welcomed over 560,000 visitors to these sites.

Tees Cottage Pumping Station hosted 2,140 visitors in 2017 - the most visitors they have had to date.

Community Foundation

In 2017 through our funds at the Community Foundation we donated £25,158 to help 45 different organisations.

IN 2017 WE ACHIEVED:

£601,000

FINANCIAL CONTRIBUTION TO ENVIRONMENTAL, COMMUNITY AND CHARITABLE NGOS


4,388
CUSTOMERS
 RECEIVING SUPPORT AND ADVICE TO HELP MANAGE DEBT IN 2017



294
REFILL STATIONS
 BY MARCH 2018


OVER 8,200
YOUNG PEOPLE SUPPORTED THROUGH OUR EMPLOYABILITY ACTIVITY


1,145
ORGANISATIONS SUPPORTED

52% 
OF OUR PEOPLE
 VOLUNTEERED TO SUPPORT COMMUNITY PROJECT


OVER 560,000
VISITORS
 TO OUR HISTORICAL AND ECOLOGICAL SITES

14,000
 PEOPLE GIVEN ACCESS TO CLEAN WATER AND SANITATION THROUGH OUR FUNDRAISING FOR



OVER 200
EXISTING EMPLOYEES
 FURTHERING THEIR CAREERS


1,914
PATROLS
 COMPLETED TO HELP PROTECT OUR RIVERS


15,781
VOLUNTEER HOURS GIVEN BY OUR PEOPLE


56
WATER RANGER ROUTES
 WITH 62 VOLUNTEERS

PARTNERSHIPS MAKE US STRONGER TOGETHER

Strong partnerships mean we can achieve so much more working together than going it alone. This is demonstrated perfectly by the positive impact we've achieved on tourism and the local economy by joining forces with partners at Kielder Water & Forest Park.

Six organisations are now core members of the Kielder Water & Forest Park Development Trust (KWFPDT), a registered charity working to make the most of this area of stunning natural beauty. A whole series of other affiliate bodies also have a close working relationship with the Trust, helping us to promote sustainable development, provide recreational facilities, improve knowledge of the natural environment and encourage the arts.

In 2017 we were thrilled to welcome the Northumberland National Park Authority to the KWFPDT, adding to the expertise already brought to the team by our employees and those of the Forestry Commission, Calvert Trust, Kielder Observatory Astronomical Society and Northumberland County Council.

We are now hard at work building on the success of 2017 which saw a series of firsts and new developments at Kielder, attracting thousands of visitors.

Lynn Turner, Director of the Trust, said: "2017 was a bumper year for new activities and initiatives and 2018 is shaping up to be very exciting too.

"With the Wild at Kielder Festival and KielderFest set to return, the continued growth of OspreyWatch, the first full year of the new accommodation at Landal Kielder Waterside, and the opening of the additional Kielder Observatory, there is so much to look forward to."

WHY 2017 WAS SUCH A BUMPER YEAR FOR KIELDER

- First ever Wild at Kielder Festival, celebrating the Park's rich and diverse wildlife, saw more than 1,500 people take part in over 30 wildlife-related activities as well as the Vintage and Classic Vehicle Show
- First KielderFest drew a crowd of 1,900 to celebrate the sport of cycling as the area welcomed the Tour of Britain, building on the area's superb reputation for road and off-road cycling
- 17 new lodges were opened, increasing the capacity for overnight visitors at Landal Kielder Waterside, and adding a new level of luxury for guests
- Occupancy at the site improved to an excellent 94%, despite the extra 26,000 'bed nights' to fill
- The park was awarded the David Bellamy Conservation Gold Award for the 14th year running and was particularly commended for its commitment to nurturing and improving the biodiversity of the site
- A new gym was opened at the park and is also available for use by local residents
- Expansion of the Kielder Osprey Watch programme, from 29 to 60 days of activity across the summer months, with the number of people taking part doubling to 7,000

A wide range of regular events and activities also took place, from Dark Skies events at Kielder Observatory to activities in the forest, such as Family Bushcraft and Forest Wildlife Safaris, as well as the increasingly popular Active Northumberland Kielder Marathon weekend.

THINKING AHEAD TO SHAPE A BETTER FUTURE

Leading by example is really important to our business. We regularly bring together like-minded organisations to find ways to deliver common objectives relating to the protection and enhancement of the environment and the delivery of outstanding services.

We employed this collaborative approach to planning for the future when developing our business plan for 2020-25. By doing so we believe it will be the best ever in terms of value for customers and gains for the environment on which we all depend.

Every five years water companies put forward their business plans to economic regulator OFWAT. Key elements of this document include our investment programme for the next five years, fixing the income that the company is allowed, agreeing the value of customer bills and setting out our environmental commitment.

We knew our partners would have a valuable contribution to helping to shape future direction and with this in mind we organised a Regional Thinking Ahead Workshop.

The event brought together over 80 people from more than 40 North East and national partner organisations to explore the potential for partnership working and see how the North East can excel at this as a region.

The workshop provided an opportunity for debate around consistent themes and presented opportunities for working together to help achieve common goals. It allowed everyone taking part to co-create ideas and proposals to take forward in future plans, for the benefit of partners, customers, communities and the environment.

Attendees at the event included the EA, Natural England, the Coal Authority, rivers trusts, wildlife trusts, local authorities, business representatives, universities, housing developers, as well as a number of employees from around the water company.

Richard Warneford, our Wastewater Director, said: "Our partners come from many different types of organisations, and have a wide range of knowledge and expertise. By bringing them together at events such as this we can help develop and build stronger partnerships. We want our partners to help us shape our existing and future services, and the ideas developed and discussed will be used to feed into our business plans and help drive decision-making.

"By working collaboratively we will be in a better position to deliver great service to our customers, to enhance and protect the environment we work in and continue to provide top quality tap water, as well supporting our communities."



POWERED BY WATER

It's always good to remind our customers that they have access to one of the best quality tap waters in the world – especially when that means encouraging children to stay hydrated and choose water over sugary drinks. That's why we've developed a series of sporting partnerships in the North East, Essex and Suffolk to benefit thousands of young people.

Powered by Water is a new interactive educational workshop that will be delivered throughout 2018 with help from the Newcastle Eagles Community Foundation, MFC Foundation in Teesside, Essex County Cricket Club Foundation, Foundation of Light in Sunderland, Darlington Mowden Park Rugby Club and Southend United Community & Education Fund.

Designed to help children learn the importance of drinking water to keep them healthy and hydrated, the workshop involves a series of fun games and activities. These highlight how staying topped up with water throughout the day keeps your brain healthy, helps you think clearly, improves your mood and stops you from getting tired.

Powered by Water also teaches children the importance of choosing water over fizzy drinks and certain fruit juices, which can contain high amounts of sugar. Too much sugar is bad for your teeth, makes you feel tired and can lead to more serious health problems later in life.

Youngsters from dozens of primary schools are now benefitting from the initiative and many more will become involved in the future.

“The importance of drinking plenty of water and staying hydrated is something we make sure all our teams are aware of across the club. That's why we're really pleased to be working alongside Essex & Suffolk Water to take that message out to young people as part of our work with schools across the county.”

Christopher Drummond
Youth Participation and Growth Manager
for Essex Cricket



“Youngsters from dozens of primary schools are now benefitting from the initiative”



OUR PEOPLE OUTCOMES

Our people are talented, committed and inspired to deliver great service to customers. We continue to work with The EU Skills Partnership to tackle future skills shortages to make sure we can continue to give customers the service they expect and deserve.

We're actively involved in the key priorities of the Workforce Renewal and Skills Strategy, launched in 2017. The sector will need 221,000 new recruits by 2027, and we're involved in developing new high quality apprenticeships and raising sector awareness and attractiveness.

We also play our part locally, working with partners and a range of other organisations to deliver apprenticeships and other routes into the sector. We work in schools, with around 8,000 young people each year, to educate them about water and also to enthuse them about our industry, so they see the varied and exciting careers available within the utilities sector. This work is becoming more focused as we develop our NWG Academy.

The NWG Academy is being developed to take a more strategic approach to attract and develop the skills, knowledge, talent and workforce we'll need for the short, medium and long term, sustainably. With six streams of activity we are looking ahead to inspire our future workforce about working in the water industry - both young people and those seeking a career change; finding ways to share learning more effectively in the business; put in place development programmes to ensure the continued competence of our existing workforce as technology brings changes to the way we work and transitioning those retiring more effectively out of the business.

Apprenticeships are a key area of focus of the Academy, currently we have young people completing apprenticeships in the business earning and gaining valuable work experience as they work towards a range of qualifications, including Water Regulations, Water Engineering, Digital and Technology Solutions, Project Management, Customer Service and Business Administration. Other employees have taken the opportunity to enhance their careers undertaking apprenticeships relating to Water Engineering and Customer Service.

Students and academics at some of the UK's leading universities are also helping us to get answers to questions and develop new knowledge that will help us to keep at the forefront of our industry. Over the last two decades, we have built a network that includes universities across our operating regions: Newcastle, Northumbria, Durham, Sunderland, Teesside, UEA and Essex. They join other leading institutions from across the UK including; the Cranfield University-led doctoral training centre, STREAM, Sheffield, Exeter, Cardiff, Strathclyde, Birmingham universities and Imperial College London.

Much of our collaborative work is funded by the Engineering and Physical Sciences Research Council and the Natural Environment Research Council, in the form of post-doctoral research, for example to predict and reduce incidences of discoloured water affecting our customers. It also includes developing joint research facilities, such as the biological wastewater research pilot plant BE:WISE, or in supporting postgraduate research across a broad range of science and engineering disciplines.

We currently sponsor around 30 students through their postgraduate research and the findings that come back have enhanced our understanding of areas including water and wastewater treatment processes. This includes knowledge on how to recover energy and other resources, improving water quality for customers and the environment, how to sustainably reduce flood risk and how to engage more effectively with our customers and other stakeholders.

For the students, the opportunity and challenge is to approach a piece of research that has requirements of both an academic and an industrial nature.

We've employed one of our STREAM students and another is working at Durham University, as part of the NE Water Hub project the skills pipeline in action. Going the other way, one of our former employees has started an EngD with Exeter, looking at resilience and an employee will be starting a part-time PhD with Newcastle looking at algal treatment systems, complementing his process optimisation work at Bran Sands. Our collaboration with Exeter now includes a Royal Society Fellowship for Prof. Guangtao Fu, which allows him to dedicate around half of his time to research for us on smart networks. In recognition of his work with universities, our Research & Development Manager has recently been appointed as Visiting Professor of Practice, School of Engineering.



EMPLOYEES EXPAND THEIR SKILLS THROUGH APPRENTICESHIPS

More than 200 of our existing employees are furthering their careers by signing up to apprenticeship programmes. This expansion of their skills is a prime example of how our people act in line with our values.

Once considered an option solely for people under 25, apprenticeships are increasingly used for people of all ages looking to expand their skills or retrain.

We are giving people, including some who already have decades of workplace experience, a chance to continue their professional development by using apprenticeship programmes that allow them to continue working alongside their studies.

Currently, more than 90 employees are undertaking apprenticeships relating to water engineering, while more than 30 are working towards qualifications in customer service. Others are taking apprenticeship programmes in subjects as wide ranging as business accounting, human resources, laboratory technician and construction.

Training Contracts Manager Tracey Greener said: "Apprenticeships are industry recognised learning programmes. They are for people of all ages, and not just those starting out on a career. They are a fantastic opportunity to expand or update knowledge relating to an existing career, or for someone looking to retrain.

"Also, you can use an apprenticeship programme to gain many different levels of qualification, up to and including Masters, and they are a fantastic option for people who simply are not inclined towards a purely academic route, so they really are no longer just something for school leavers."



PAUL'S STORY

Paul Walker, an area manager in Customer Field Services, has been working for more than 20 years, but is now studying towards a Chartered Management Degree Apprenticeship with Teesside University while continuing in his role at Northumbrian Water.

He said: "I'm passionate about professional development. I think it's crucial in your personal and business life, and the next natural progression for me was a degree, so the opportunity to achieve that through the apprenticeship route, where I work and study at the same time, is fantastic.

"Expanding my understanding of the theory of what I do and want to do in the future, while actually working, and also learning from the other students, who are applying the knowledge in different businesses, is a really great way to bring all that knowledge together and develop my skills."

ARON'S STORY

Production Operator Aron Potter is working towards a Level 3 Diploma in Water Engineering - Water Supply as a route into a career change within Northumbrian Water.

After nine years working in litigation, he obtained a permanent role in the Water Supply team and has embarked on his apprenticeship programme within that position.

He said: "Taking on an apprenticeship programme has been a fantastic way to get into what is effectively my second career with Northumbrian Water. The tutors come into our sites to see us and I've been moving around different parts of the business.

"I've been learning about the different types of water extraction – from reservoirs to rivers and boreholes – and how we then treat and deliver that water to our customers at the highest possible standards, all while expanding my theoretical knowledge."



DIVERSITY AND INCLUSION

As a company, we recognise the value and importance of diversity and inclusion in our workforce. Our aim is to support all of our people to be the best that they can be in an environment that values and capitalises on everyone's contribution, not to only focus on those elements of diversity that are protected by law.

One of the ways that we work to lead in this area and continue to improve is through our partnerships with other organisations working to promote and encourage greater diversity and inclusion. We continue to lead on the WISE (Women in Science and Engineering's) North East regional hub which aims to improve gender balance and promote diversity in science and engineering in the North East. We are also actively involved in a North East Diversity and Inclusion Network and with the Energy and Utility Skills Partnership Diversity and Inclusion Forum to work collaboratively across the sector to have a greater impact on addressing diversity and inclusion challenges. Diversity is a golden thread running through the NWG Academy activity, initially particularly relating to social inclusion and a better gender balance at work.

We issued our [Gender Pay Gap Report](#) in March 2018. In the report we set out our Gender Pay Gap figures as at April 2017 using company data and the parameters set out by legislation.

The data represents 3,020 employees who work in various roles across a national footprint. We are committed to the principle of equality of opportunity and equal treatment for all of our employees. The data reported demonstrates a positive picture of pay equality in the Company, with both the mean and median gender pay gaps being below the Office of National Statistics (ONS) average and our median gender bonus gap being zero. This is informed by the number of women in very senior roles.

In common with many engineering and operating businesses, and in line with what is typically seen in the water industry, our business is currently predominantly male. We are committed to improving our gender balance through our continued focus on encouraging more women to join our team and to develop their careers in the water industry.

We recognise there is opportunity to improve and we are committed to promoting inclusivity, attracting, developing and retaining diverse talent and paying everyone fairly based on job role and performance.



STIMULATING SKILLS IN OUR SECTOR

Our investment in a sector-wide initiative is not only addressing skills shortages but is also demonstrating why we are a fantastic place for talented people to build a career.

We know we need to have in place the right people with the right skills if we are to continue to deliver great services to our customers.

Other leading employers in the utilities sector also recognise the importance of skills to their business and the crucial role we all play in supporting UK infrastructure by developing a resilient and sustainable workforce.

That's why we came together with the 28 other organisations that make up the Energy & Utilities Skills Partnership to develop an initiative to stimulate investment in skills across the sector.

Our business is now benefiting from the Energy & Utilities Workforce Renewal and Skills Strategy, which is addressing skill shortages and driving digital collaboration to appeal to new audiences.

Heidi Mottram, our Chief Executive, said: "Just as we always aim to deliver unrivalled customer service, we continue to look for new ways to ensure that Northumbrian Water Group is a great place to work, whether that is for existing employees or for new people coming into the business.

"We are continually planning for the future, in terms of delivering the best possible service and ensuring we have the right people in place to continue to do that for years to come. Working together as part of the Skills Strategy means we have even greater opportunities to promote what a fantastic sector it is for building a career."

Charlotte is carrying out a one year placement at our Bran Sands Regional Sewage Treatment Centre while she completes her Electrical Engineering Sub Diploma. Tilly is studying towards a Mechanical Engineering Sub Diploma, while Samantha is taking an Instrumentation Diploma. All three apprentices are in the second year of their studies, supported by the NWG Academy, our programme to develop our workforce of the future.



OUR PEOPLE ACT IN LINE WITH OUR VALUES

Now in its seventh year our employee awards scheme known as ViVa (Vision and Values) is still as popular as ever, with more than 230 employees in 2017 nominating their teams and colleagues to be recognised for living and breathing our company values and behaviours.

The most extraordinary individuals and teams from these nominations are invited to an annual Award Ceremony with the overall winner on the night taking away £3,000.

Our overall winner for 2017 was Peter Gill, Lead Process Technician from Bran Sands. Peter was chosen for his massive contribution to delivering sustained energy efficiencies, by developing numerous approaches to optimise aeration treatment systems which are very large power consumers. These approaches have then been applied to a number of aeration sites, across the business, with great success.

OUR BEHAVIOURS

In 2017 we have worked with our people across the company to identify the behaviours we all need to demonstrate to enable us to achieve our medium term goals and deliver our vision of being national leader. 'Our Behaviours' were developed for all employees, with additional expectations for people managers, and highlight how we would like to see everyone choose to behave. Our Behaviours have been embedded into our recruitment and induction process, training, performance management and 360° feedback for managers.



GREAT PLACE TO WORK PROGRAMME

At NWL we want to be the best at what we do and that includes being a great place to work. A programme of activity we've developed around that aspiration has already achieved some impressive results and is helping us make even more improvements.

Being a great place to work means being an organisation we're all proud to work for, where we all feel trusted and valued and where we all have great overall employee experience.

Our Great Place to Work programme has been designed around four areas of development where we can have impact on these objectives. They're called: My Voice, My Manager, Our Values and Our Shared Story.

Benchmarking where our people feel we are doing well and where we need to improve is crucial to the success of the programme.

Roadshow discussions and a full employee survey returned some really positive feedback in the spring of 2017. Our employee engagement index, for example, achieved its highest score yet of 80%— a much higher rate than 70%, the average for the utilities sector.

An action plan is now in place to pick up any areas highlighted by the survey as being in need of improvement and we'll be checking in again shortly with employees to chart progress.

HOW WE ARE MAKING IMPROVEMENTS

My Voice

What our people said: Feedback focused on the need for more communication both within and between teams. Some employees felt they were listened to but were not kept informed of what happened to their suggestion or feedback.

What we did: Lots of teams reviewed the way they communicate. One team now organised a weekly 'let's talk' call across all teams. Another has changed the format of its usual meeting, while a third has introduced more frequent team meetings, with team leaders getting out and about more to speak to colleagues. Our second Invest Quest event also recently launched to encourage people to share their working smarter ideas.

My Manager

What our people said: Employees told us they'd like to see more of their manager and leaders, and sometimes feel like there should be more time for managers to offer support.

What we did: Some managers have weekly 'huddles' to provide updates and answer questions, while others are planning programmes of frequent site visits. At a company-wide level, senior managers are taking part in our Extraordinary Leaders programme to help them be the best they can be.

Our Values

What our people said: Our people are really clear about our vision, our values and our way – everything we think, feel, say and do at Northumbrian Water. In some teams there was feedback about managing pressure and work-life balance.

What we did: Working patterns and shift rotas are being considered to identify improvements to ways of working. Some examples include teams making rotas available further in advance to help employees to plan their work, as well as trying to roster people's two days off together.

Our Shared Story

What our people said: Most people said they feel connected to our national vision, and the majority understand how their role fits in.

What we did: We continue to update colleagues by sharing information on our company performance. The Water Directorate also recently held away days to continue the discussion on the part they play in helping us achieve our vision.

What we mean by...



My Voice

How we all feel we can raise suggestions or concerns and know that we will be listened to



My Manager

How we all feel about the relationship with our manager, that we can trust them and talk openly



Our Values

Recognising that how we each choose to behave at work is what makes a real difference to what it's like to work here



Our Shared Story

How we understand about the part we each play and our contribution to becoming the national leader in the provision of water and wastewater services

WE ARE SEEN AS A GREAT PLACE TO WORK

Our ambition is for everyone to have a great experience at work and feel proud to work for NWL every day. In our most recent pulse survey 78% of our people would recommend working here and 77% of our people feel proud to work here.

In 2017 we refreshed our approach to employee engagement and introduced our Great Place to Work (GPTW) programme focused on the four areas of: My Voice, My Manager, Our Values and Our Shared Story.

Our CEO, Heidi Mottram, introduced our GPTW programme at our 63 annual employee roadshows, where everyone had a chance to talk in their teams about what makes NWL a great place to work already, and what could improve, developing the strategy about how NWL becomes an even better place to work. 80% of people rated this session 5/5.

We also worked with a new external survey provider in 2017 to refresh our survey strategy and approach and benchmark our performance against other utility organisations. Our annual 'Your Voice' survey is an opportunity for us to ask all of our people how they are feeling about various aspects of working at NWL.

We had our highest ever response rate and engagement score this year with 83% of our people completing the survey and an employee engagement index (EEI) of 80% (6% higher than the average utilities sector engagement and 1% above our scorecard target of 79% - the Upper Quartile for the sector).

We compared very favourably to other organisations in the utilities industry across a variety of questions. These included 78% of our people would recommend working for NWL (a score of 10% above benchmark) and 81% of our people say working at NWL makes them want to do the best job they can do (7% above benchmark).

Our managers have worked with their teams to create local engagement action plans based on feedback from both the survey and roadshows. We have also introduced an 'Engagement Leads' forum where Senior Managers across the business can share best practice, a new company-wide pulse survey as a more regular temperature check for our teams and have greater insights into the key drivers of engagement to inform local action plans and ensure we are focussing on improving the areas that really matter to our people.

At the end of 2017, we were proud to be announced winners of the Best Innovation in Employee Engagement at the 2017 Engage Awards for our GPTW Programme, the UK's only customer and employee engagement awards programme.



78%

of our people would recommend working for NWL



83%

of our people completed our annual 'Your Voice' survey



HELPING OUR PEOPLE ACHIEVE THEIR POTENTIAL

The inspiring story of our employee Lisa Nealan, who we helped to overcome her stammer, is a perfect example of how we strive to be a great place to work. Our people are the driving force behind our business and we aim to help them achieve their potential.

Lisa appeared on our screens in January 2018 in a hard-hitting television documentary which showed her helping others after taking control of her own stammer.

Lisa, an administrator, had suffered for more than 30 years, avoiding words she struggled with and situations where she had to introduce herself or speak out.

Life changed for Lisa when we supported her on an intensive McGuire Programme coaching course in March 2015. After finding her own voice and new confidence Lisa became passionate about helping others to do the same and signed up to become a programme coach.

Programme-makers from ITV's School for Stammerers recognised Lisa's inspiring story and asked her to take part in their documentary following the emotional journey of six people undergoing coaching sessions.

Colleagues and viewers across the UK were glued to their seats watching Lisa's new-found skills in action as she coached bride-to-be Jessica Davies to beat her stammer so she could speak some of the most important words of her life – her wedding vows.

EVERYONE HOME SAFE EVERY DAY

Everyone home safe every day. This simple message is a powerful reminder to our people of the importance we place on keeping our workplaces healthy and safe.

It's a message we repeat regularly in our efforts to ensure our employees avoid becoming hurt or injured at work.

Within NWL we've a large team of 3,200 people working on all kinds of projects, in all kinds of environments. We want each and every one of them to return home at the end of each day healthy and safe.

Our Everyone Home Safely Every Day strategy reminds employees about the importance of getting the basics right every time. It underlines the difference between getting the job done and getting it done safely.

But it's about more than policies and processes alone – it's about taking personal responsibility too. We've built a range of tools and resources to help colleagues talk about safety and help make it a part of everything we do.

Looking after people is our aspiration and ethical responsibility and it's something we take incredibly seriously.



OUR WORKPLACES ARE HEALTHY AND SAFE

It is our aspiration and ethical responsibility to make sure that everyone goes home safe every day.

Looking after our people, supply partners, suppliers, customers, communities and the environment is part of who we are and is reflected in what we think, feel, say, and do. This is integral to our vision of becoming the national leader in sustainable water and wastewater services. During 2017 our performance plateaued despite the introduction of new innovative health and safety initiatives, however we are confident that changes we have made will lead to sustainable long term improvements. We are certified under BS OHSAS 18001 Occupational Health and Safety Systems and received a gold medal award for the sixth consecutive year from RoSPA.

We invested heavily in continuous health and safety improvements across our assets, completing 59 capital safety projects with a value of over £1 million.

We are passionate about maintaining a healthy and safe workplace, and we are working hard to improve this even further. We are creating a great safety culture and over the last year we have had over 500 people including our leadership team attend an Everyone Home Safe Every Day workshop. The workshops focus on safety leadership, engagement and simple practical tools we can all use to put our aspiration of everyone home safe every day into everything we think, say, feel and do.

We have introduced weekly everyone home safe learning calls, open to everyone in the company to attend, they have had a significant impact on the safety conversations around the business. The calls have quickly shared learnings from accidents and near misses and expedited the closure of actions resulting from the learnings. 246 Issues have been discussed and 138 learnings have been shared across the business. The debates on the learning calls have generated genuine innovation and acceptance of new ways of working based around the principles of learning, continuous improvement and our aspiration of Everyone Home Safe Every Day.

We operate a 'Spot It' system to encourage reporting of health and safety issues and concerns by colleagues. Significant Spot It's are discussed on the weekly learning call, and during 2017, colleagues raised 540 Spot It's. Safety is kept front of mind with regular communication with all our people. A bi-monthly Team Talk, is delivered to all colleagues and contains key safety messages.

LIVE WELL, WORK WELL, BE WELL

We have continued our 'Live well, work well, be well' wellbeing programme in 2017, by encouraging our employees to maintain healthy lifestyles by delivering an annual calendar of health promotion campaigns, supported by a network of 25 Wellbeing Champions across the business. This has included four wellbeing challenges (an opportunity for teams and individuals to improve their wellbeing in areas including physical exercise, weight management and resilience during a 4 week period), employee health checks, yoga and mindfulness classes and wellbeing weeks with interactive activities. We have continued our focus on mental health and supporting our people to build personal resilience with 1,900 of our people attending one or more of our courses. Our 'Building Personal Resilience' workshops are available to everybody in the organisation and 92% of attendees have rated this course as excellent.

As a business undergoing large volumes of change, we have supported our people who are working on business transformation projects by ensuring they have support to maintain wellbeing. This has included mindfulness and yoga sessions, massage days and free fruit healthy snacks.

At the end of 2017 we were awarded Continuing Excellence in the North East Better Health at Work Award, a partnership project between the local authorities, NHS and add Trade Union Congress (TU), for our ongoing commitment to support the health and wellbeing of our employees.

KEEPING OUR PEOPLE SAFE ON THE ROADS

We rely on a fleet of 900 vehicles to deliver our services – and we take seriously the health and safety of our drivers and others on the road. That's why we are investing in a sophisticated new data collection system aimed at encouraging improved driving styles and getting everyone home safely, every day.

We have fitted new Ctrack telematics devices to all our fleet vehicles, as well as some cars of senior managers who drive regularly for work, to collect key information that can be used to make improvements to driving styles.

These devices record mileage, speed and driver behaviour during a journey before transmitting the information to a central system where it can be reviewed and analysed to help make improvements.

By using the system we will help keep our employees and other road users safe, whether they are driving at work or when they're behind the wheel in their own time.

Research shows that use of telematics reduces the number of collisions an individual may encounter. By tracking incidents such as braking too hard and speeding, employees can find out how to improve

their driving techniques. By collecting data on servicing requirements and encouraging more efficient driving styles, the system will help us reduce fuel consumption and vehicle wear and tear. The real-time information provided by Ctrack will also help us investigate any future vehicle collisions.

Employees from across the business have been involved with rolling out the system and developing a clear policy to inform all drivers how their data will be used and who will be able to access it.



WE ARE A COMPANY THAT CUSTOMERS TRUST

In 2017 we were delighted to achieve self-assurance through Ofwat's company monitoring framework assessment, which is the highest level of assurance we could receive.

We were one of only three water companies that achieved self-assurance.

We have worked hard to give Ofwat and our customers a high level of trust and confidence in our governance and assurance arrangements. Assessments are made around a number of categories and in two of these; assurance plan and data assurance summary, we achieved "exceeds expectations".

Our Governance and Assurance framework also builds upon our integrated management system and commitment to quality assurance. We have companywide accreditation to the following standards:

- ISO 9001. A quality management system
- ISO 14001. An environmental management system
- OHSAS 18001. An occupational health & safety management system
- ISO55001. Asset management

In addition, our sampling and laboratory analysis are accredited to the demanding ISO 17025 standard.



OUR CEO IS NAMED A GLOBAL INDUSTRY LEADER

The naming of our Chief Executive Heidi Mottram as a global industry leader is yet another reason our customers know we are a company they can trust.

The announcement, made by Water and Wastewater International (WWi), puts Heidi among the most influential people in the industry – celebrating her as a stalwart of ethical and innovative trading practices.

Now in its fourth year, the WWi Top 25 Global Water Leaders initiative continues to grow in popularity as a barometer of the industry's thought leaders.

The focus of this year's initiative was on active leaders who are driving companies forward into the digital water age with a focus on innovation.

Their nomination commended Heidi for 'Helping the utility to develop a policy of using local suppliers to support the local economy, as well as introducing a very forward-thinking flood policy'.

The commendation reads: "Under her leadership, Northumbrian has been named the only water company on the World's Most Ethical Companies list seven years in a row."

The WWi particularly highlighted our first ever Innovation Festival as reason for praise. Held in 2017, this saw our employees team up with companies

including IBM, Microsoft and BT to deliver the industry's first-of-its-kind event.

Heidi's inclusion in the list came just weeks after we were named Utility of the Year, beating off competition from across the whole of the utility industry.

Heidi said: "I'm delighted and honoured to have been named on the WWi's list and my inclusion, and our recent utility of the year award, is a reflection of the amazing work that the people who work for NWG do every day.

"It's really pleasing to see that we've been recognised for our work around innovation as this is something that I'm incredibly passionate about and as a company we are committed to driving the industry forward and pushing boundaries.

"This is a hugely rewarding industry that can not only enhance the lives of those within it, but it also gives people a chance to shape the world around them."

WE ARE UTILITY OF THE YEAR

The efforts of our employees to put customer trust at the heart of everything they do was recognised on a national level when we were named Utility of the Year.

The top prize at the prestigious Utility Week Awards is awarded annually to the company that has been successful in all aspects of the utility business, and rewards exceptional performance compared with other companies across the sector.

We were delighted to take home this accolade after ranking as the leading water company nationally for customer satisfaction – an achievement reflecting our customer service strategy based on getting things right first time every time.

According to the industry's consumer body, CCWater, we are also one of the most trusted water company in the UK.

Speaking after receiving the award, our Chief Executive Heidi Mottram said: "Winning Utility of the Year is a fantastic achievement and emphasises our leading level of performance across the entire utilities sector.

"We work very hard to put our customers at the heart of everything we do, and recognition like this spurs us on to continue to maintain and improve on the levels of service we have been able to achieve. This award is also testament to the hard work of all our 3,200 people, who help make NWL the great company that it is."

We were also finalists in two other categories at the Utility Week Awards – Supply Chain Excellence and Staff Development.

Plans are already under way for a second NWG Innovation Festival after the unprecedented success of the first ambitious event. This brought together infrastructure experts, academics, key stakeholders and supply chain partners from across the world to develop a series of new ideas to tackle a range of social and environmental issues

We decided to take our company reporting beyond financial performance when we produced our first Our Contribution report in September 2017.





REGULATORY ACCOUNTS

DIRECTORS' RESPONSIBILITIES AND DECLARATIONS

for the year ended 31 March 2018

DIRECTORS' RESPONSIBILITIES STATEMENT

The Directors are responsible under Condition F of the Instrument of Appointment granted by the Secretary of State for the Environment to the Company as a water and sewerage undertaker under the Water Industry Act 1991 for:

- ensuring that proper accounting records are maintained by the Appointee to enable compliance with the requirements of Condition F and having regard also to the terms of guidelines notified by the Water Services Regulation Authority ('the Authority') to the Appointee from time to time;
- preparing on a consistent basis for each financial year regulatory accounts in accordance with Condition F, having regard also to the terms of guidelines notified by the Authority from time to time, which so far as is reasonably practicable have the same content as the annual financial statements of the Appointee prepared under the Companies Act 2006 and which are prepared in accordance with the formats, accounting policies and principles which apply to those financial statements; and
- preparing such other financial and related information as is required by Condition F having regard also to the terms of guidelines issued by the Authority from time to time.

RISK AND COMPLIANCE STATEMENT

The Board confirms that:

- it considers the Company has a full understanding of, and is meeting, all its relevant statutory, licence and regulatory obligations and has taken steps to understand and meet customer expectations;
- it has satisfied itself that the Company has sufficient processes and internal systems of control to fully meet its obligations; and
- the Company has appropriate systems and processes in place to allow it to identify, manage and review its risks.

DISCLOSURE OF INFORMATION TO AUDITORS

So far as each current Director is aware, there is no relevant audit information of which the Company's auditor is unaware and each Director has taken all the steps that he or she ought to have taken as a Director in order to make himself or herself aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

CONDITION K (RING FENCING)

The Directors confirm that, as at 31 March 2018, the Company was in compliance with paragraph 3.1 of Condition K of the Instrument of Appointment in that the Appointee had available to it sufficient rights and assets to enable a special administrator to manage the affairs, business and property of the Appointee, should a special administration order be made.

CONDITION F6A.2A CERTIFICATE (FINANCIAL AND MANAGEMENT RESOURCES TO CARRY OUT THE REGULATED ACTIVITIES)

The Directors certify that, in their opinion:

- the Appointee will have available to it sufficient financial resources and facilities to enable it to carry out, for at least the next 12 months the Regulated Activities (including the investment programme necessary to fulfil the Appointee's obligations under the Appointment);
- the Appointee will, for at least the next 12 months, have available to it management resources and systems of planning and internal control which are sufficient to enable it to carry out those functions as required by subparagraph 6A.1 of Condition F of the Instrument of Appointment; and
- all contracts entered into with any Associated Company include all necessary provisions and requirements concerning the standard of service to be supplied to the Appointee, to ensure that it is able to meet all its obligations as a water and sewerage undertaker.

In providing this certificate, the Directors have taken into account:

- the financial strength of the Company at the balance sheet date and financial performance, which is in line with expectations and reviewed at each Board meeting, most recently in April 2018;
- the key financial ratios over the next 12 month planning horizon, as reflected in strong investment grade credit ratings;
- the fact that the Company has in place £350m of five year committed bank facilities as back up liquidity (maturing in 2019), which was undrawn at 31 March 2018; and
- the Company's formal governance and risk management arrangements which are monitored by the Audit Committee, Risk & Compliance Committee and Board.

CONDITION F6A.6 (CREDIT RATING)

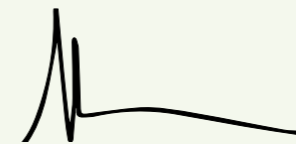
The Directors also confirm that throughout 2017/18 the Appointee has ensured that it, and an Associated Company as issuer of debt on its behalf, has maintained at all times an issuer credit rating which is a strong investment grade rating.

VIABILITY STATEMENT

The Directors believe that the Appointed Business is well placed to manage its business risks and expect that the business can continue to operate effectively over the long term and, specifically, meet its financial obligations over the next seven years.

Further information in respect of this statement is provided in the Company's Financial Statements for the year ended 31 March 2018, on page [*] of the Governance Report. The Financial Statements are available on the Company's websites.

By order of the Board



Andrew J Hunter
Chairman

13 July 2018



Heidi Mottram
CEO

13 July 2018



Paul Rew
Senior Independent Non-Executive Director

13 July 2018

REGULATORY ACCOUNTING POLICIES AND DISCLOSURES

for the year ended 31 March 2018

(A) REGULATORY ACCOUNTS - BASIS OF ACCOUNTING

The Regulatory Accounting Statements, on [pages 144 to 153](#) of the APR, have been prepared in accordance with the Regulatory Accounting Guidelines (RAGs) issued by Ofwat. They have been prepared on a consistent basis to the Company's Financial Statements, with the following exceptions:

- income relating to energy generation and meter reading, which is recorded as revenue in the statutory accounts, has been recorded as negative operating expenditure;
- rental income and amortisation of deferred capital income in relation to adopted assets, which are recorded as revenue in the statutory accounts, have been recorded as other income below operating profit;
- amortisation of deferred capital income in relation to grants and contributions, which is recorded as negative operating expenditure in the statutory accounts, has been recorded as other income below operating profit;
- profit on disposal of fixed assets, which is recorded as operating costs in the statutory accounts, has been recorded as other operating income; and
- borrowing costs that are directly attributable to the acquisition or construction of an asset, which are capitalised in the statutory accounts, are charged to the income statement.

The information reported in the Regulatory Accounting Statements relates to NWL's Appointed business only, except where stated. The Appointed business comprises Regulated Activities, defined in Condition A of the Licence to be 'functions of' and the 'duties imposed on' a water and sewerage undertaker by the Water Industry Act 1991. Such duties are consequently those necessary for the Company to fulfil its duty as a water and sewerage undertaker.

The accounts have been prepared on a going concern basis which assumes that the Company will have adequate funding to meet its liabilities as they fall due in the foreseeable future.

(B) REVENUE RECOGNITION

The revenue recognition policy is the same in the regulatory and statutory accounts, other than the exceptions related to income from energy generation, meter reading, rental income and deferred capital income, as explained above.

RAG 3.10 states that "companies should not de-recognise turnover for amounts billed which they deem to be uncollectable", and requires IAS 18.9 to be disapplied in this respect. NWL complies with this requirement.

Revenue from water and sewerage charges billed to customers is recognised pro-rata over the period to which it related. For consumption by measured customers which has not yet been billed, revenue is estimated and accrued using a defined methodology based upon historical usage and the relevant tariff per customer. Invoices raised or payments received where the service has not been provided are not recognised in revenue in the year but are treated as receipts in advance.

Additional charges added to a customer's account as a result of debt recovery activity, such as court costs or solicitors fees, are recognised as negative operating costs when payment is received in both the statutory and regulatory accounts. They are not recognised in revenue.

Charges for water and sewerage services remain due in full whilst a property contains furnishings and fittings or when a property is unfurnished and water is being used for any purpose including refurbishment. If the Company has turned off the supply of water at the mains to a property at a customer's request then water supply charges are not payable.

If the supply of water is turned off and the property is unfurnished the property is considered unoccupied and charges are not payable. If, however, the supply of water is turned off and the property remains furnished it is considered ready for occupation and in this case sewerage charges in respect of the drainage of surface water and contribution to highway drainage continue to be payable.

If a property is recorded as empty in the billing system an empty property process is followed. The purpose of this process is to verify whether the property is occupied or not and, if occupied, to identify the chargeable person and raise a bill. No bills are raised in the name of 'the occupier'.

The empty property process comprises a number of steps including an initial letter asking the occupier to either contact the Company or return a completed registration form, a check of the property record against Land Registry information and visits to the property by Company representatives. If these steps confirm that a property appears to be empty then the supply may be turned off.

New properties are charged from the date a meter is installed, if consumption is being recorded on the meter. If the property is unoccupied but water is being registered, the developer will be charged. Once the developer is no longer responsible for a property, if no new occupier has been identified the property will be treated as unoccupied and the empty property process followed, as outlined above.

A retrospective review has confirmed that the measured household income accrual at 31 March 2017 of £42m was marginally lower than the amounts subsequently billed to customers of £43.5m, the increase reflecting higher usage.

(C) BAD DEBT POLICY

The policy for bad and doubtful debts is applied consistently between the statutory and regulatory accounts.

(i) Bad debt write offs

Debt is only written off after all available economic options for collecting the debt have been exhausted and the debt has been deemed to be uncollectable. This may be because the debt is considered to be impossible, impractical, inefficient or uneconomic to collect.

Situations where this may arise and where debt may be written off are as follows:

- where the customer has absconded without paying and strategies to trace their whereabouts and collect outstanding monies have been fully exhausted;
- where the customer has died without leaving an estate or has left an insufficient estate on which to levy execution;
- where the customer does not have any assets or has insufficient assets on which to levy execution;
- where the value of the debt makes it uneconomic to pursue;
- where county court proceedings and attempts to recover the debt by debt collection agencies have proved unsuccessful; and
- where the customer has been declared bankrupt, is in liquidation or is subject to insolvency proceedings or a debt relief order and no dividend has been or is likely to be received.

For debt to be written off there must be a legitimate charge against the debtor. If it is considered that part or all of the debt is incorrect or unsubstantiated, then such elements are dealt with through the issue of a credit note.

(ii) Bad debt provisioning

The Company's detailed bad and doubtful debts provision policy has remained unchanged during the year and has been consistently applied in the current and prior periods. The bad debt provision is charged to operating costs to reflect the company's assessment of the risk of non recoverability of debtors. It is calculated by applying expected recovery rates to debts outstanding at the end of the accounting period. These recovery rates take into account the age of the debt, payment history and type of debt.

Higher provisioning percentages are applied to categories of debt which are considered to be of greater risk, including those with a poor payment history as well as to those of greater age. Bad debt provisioning rates are reviewed annually to reflect the latest collection performance data from the company's billing system. All debt greater than 48 months old is fully provided for. Actual amounts recovered may differ from the estimated levels of recovery which could impact on operating results.

A comparison of the provision against historical collection rates is carried out at the end of each year. At 31 March 2018, this comparison indicated that the provision was higher than required and the provision was reduced by £4.1m.

The provision has reduced from £84.9m at 31 March 2017 to £79.9m at 31 March 2018. This reflects the additional provision made in the year as outstanding debt has aged, less debt written off and the reduction made as a result of the comparison to historical collection rates.

In preparation for the transition to a new household billing system, an exercise was carried out to review older balances to assess their collectability. Any accounts deemed to be uncollectable were written off to avoid them being migrated to the new billing system unnecessarily. In addition, the residual debt on non-household accounts which closed prior to the opening of the non-household retail market has been written off. As result, the amount of debt written off in the year, as reported in table 2C, was greater than in a typical year. The migration to our new billing system was completed in May 2018 after the balance sheet date.

(D) CAPITALISATION POLICY

The policy for the capitalisation of costs as items of property, plant and equipment is applied consistently between the statutory and regulatory accounts, in accordance with IAS16 Property, Plant and Equipment.

The application of this policy is summarised below. Further detail is provided in the accounting separation methodology statement published on our websites.

The cost of construction or purchase of new or replacement infrastructure and non-infrastructure assets is capitalised. Cost includes any costs directly attributable to bringing the asset into condition for use in the business, including directly attributable overhead costs but excluding general overhead costs. The costs of infrastructure and non-infrastructure assets are depreciated over their useful economic lives.

On the infrastructure network, capital replacement of assets includes any renewal of a full pipe length of main or sewer and replacement of ancillaries such as stop taps, valves, meter chambers and manhole covers.

Subsequent maintenance expenditure is treated as an operating cost unless it provides an enhancement of economic benefits in excess of the expected standard of performance such as an extension in the estimated useful life or an increase in capacity, in which case it is capitalised. Examples of maintenance costs charged as operating costs include pipe and tank cleaning, inspections, surveys and zonal studies.

(E) ACCOUNTING SEPARATION POLICY

Cost allocations have been prepared in accordance with RAG 2.07 and RAG 4.07 for the definitions for the regulatory accounting tables. All costs are recorded in the accounting records by cost centre. Cost centres are defined either as a direct department, comprising operational and customer functions, or a support department. Direct departments are mostly directly allocated to service activities based on the nature of the function, although some costs require apportionment on an appropriate basis. Support departments are apportioned across the price controls either based upon a specific analysis of the costs or by apportionment by an appropriate cost driver. Once allocated to the appropriate price control the costs are then allocated to service activities pro-rata to full time equivalent staff numbers of the direct departments.

Fixed assets directly involved in the activities within each business unit are recorded against that business unit using direct allocation per the location or asset type. Where an asset is utilised in more than one business unit, the asset is allocated to the business unit of principal use and costs are recharged to other different business units on the same basis used to allocate operating expenditure.

Further detail is provided in the accounting separation methodology statement published on our websites.

(F) STATEMENT OF DIRECTORS' REMUNERATION AND STANDARDS OF PERFORMANCE

Directors' remuneration is fully disclosed in the NWL Annual Report and Financial Statements for the year ended 31 March 2018, in the Remuneration Committee Report. This is published on our websites. To avoid duplication, this information has not been replicated within the APR.

The Remuneration Committee Report has been produced in accordance with section 35A of the Water Industry Act 1991. It also has regard to the requirements of the Large and Medium-sized Companies and Groups (Accounts and Reports) (Amendment) Regulations 2013 in respect of Directors' remuneration reporting for quoted companies, albeit in the context of a company which is not a listed public limited company.

SECTION 1: REGULATORY FINANCIAL REPORTING

1A INCOME STATEMENT

Financial performance for the 12 months ended 31 March 2018

	STATUTORY	ADJUSTMENTS			TOTAL APPOINTED ACTIVITIES
		DIFFERENCES BETWEEN STATUTORY AND RAG DEFINITIONS	NON-APPOINTED	TOTAL ADJUSTMENTS	
	£'m	£'m	£'m	£'m	£'m
Revenue	834.6	(12.8)	(26.2)	(39.0)	795.6
Operating costs	(495.7)	0.3	17.2	17.5	(478.2)
Other operating income	-	4.4	(0.1)	4.3	4.3
Operating profit	338.9	(8.1)	(9.1)	(17.2)	321.7
Other income	-	9.7	(1.4)	8.3	8.3
Interest income	2.8	0.2	(2.3)	(2.1)	0.7
Interest expense	(128.0)	(6.7)	0.2	(6.5)	(134.5)
Other interest expense	(3.6)	-	0.1	0.1	(3.5)
Profit before tax and fair value movements	210.1	(4.9)	(12.5)	(17.4)	192.7
Fair value gains/(losses) on financial instruments	(4.9)	-	-	-	(4.9)
Profit before tax	205.2	(4.9)	(12.5)	(17.4)	187.8
UK Corporation tax	(32.7)	-	1.3	1.3	(31.4)
Deferred tax	(6.7)	0.8	(0.1)	0.7	6.0
Profit for the year	165.8	(4.1)	(11.3)	(15.4)	150.4
Dividends	(125.4)	-	(6.0)	(6.0)	(119.4)
Tax analysis:					
Current year	(33.1)	-	1.3	1.3	(31.8)
Adjustments in respect of prior years	0.4	-	-	-	0.4
UK Corporation tax	(32.7)	-	1.3	1.3	(31.4)
Analysis of non-appointed revenue:					
Imported sludge	-				
Tankered waste	1.7				
Other non-appointed revenue	24.5				
Revenue	26.2				

Differences between statutory and RAG definitions are explained in note (a) of the Regulatory Accounting Policies and Disclosures.

The change to profit for the year reflects the different treatment of borrowing costs, which are capitalised in the Statutory Financial Statements but charged to the Income Statement in the Regulatory Accounting Statements, and the associated depreciation and deferred tax. Other changes are presentational in nature:

- income relating to energy generation and meter reading has been reclassified from revenue in the statutory accounts to negative operating costs;
- rental income and amortisation of deferred income from adopted assets has been reclassified from revenue in the statutory accounts to other income;
- amortisation of deferred income from capital grants and contributions has been reclassified from negative operating costs in the statutory accounts to other income; and
- profit on disposal of fixed assets has been reclassified from operating costs in the statutory accounts to other operating income.

1B STATEMENT OF COMPREHENSIVE INCOME

Financial performance for the 12 months ended 31 March 2018

	STATUTORY	ADJUSTMENTS			TOTAL APPOINTED ACTIVITIES
		DIFFERENCES BETWEEN STATUTORY AND RAG DEFINITIONS	NON-APPOINTED	TOTAL ADJUSTMENTS	
	£'m	£'m	£'m	£'m	£'m
Profit for the year	165.8	(4.1)	(11.3)	(15.4)	150.4
Actuarial gains on post employment plans	44.9	-	(1.1)	(1.1)	43.8
Other comprehensive income	9.4	-	-	-	9.4
Total Comprehensive income for the year	220.1	(4.1)	(12.4)	(16.5)	203.6

1C STATEMENT OF FINANCIAL POSITION

Financial performance for the 12 months ended 31 March 2018

(Registered number 02366703)

	ADJUSTMENTS				TOTAL APPOINTED ACTIVITIES £'m
	STATUTORY £'m	DIFFERENCES BETWEEN STATUTORY AND RAG DEFINITIONS £'m	NON-APPOINTED £'m	TOTAL ADJUSTMENTS £'m	
Non-current assets					
Fixed assets	4,385.9	(35.7)	(99.1)	(134.8)	4,251.1
Intangible assets	-	-	-	-	-
Investments - loans to group companies	160.9	-	(160.9)	(160.9)	-
Investments - other	-	-	-	-	-
Total non-current assets	4,546.8	(35.7)	(260.0)	(295.7)	4,251.1
Current assets					
Inventories	3.0	-	(0.5)	(0.5)	2.5
Trade & other receivables	160.6	2.8	(3.5)	(0.7)	159.9
Cash & cash equivalents	94.2	14.1	-	14.1	108.3
Total current assets	257.8	16.9	(4.0)	12.9	270.7
Current liabilities					
Trade & other payables	(132.2)	(2.8)	4.5	1.7	(130.5)
Capex creditor	(25.3)	-	0.1	0.1	(25.2)
Borrowings	(38.7)	(14.1)	14.1	-	(38.7)
Current tax liabilities	(11.6)	-	0.7	0.7	(10.9)
Provisions	(0.2)	-	-	-	(0.2)
Total current liabilities	(208.0)	(16.9)	19.4	2.5	(205.5)
Net current assets	49.8	-	15.4	15.4	65.2

	ADJUSTMENTS				TOTAL APPOINTED ACTIVITIES £'m
	STATUTORY £'m	DIFFERENCES BETWEEN STATUTORY AND RAG DEFINITIONS £'m	NON-APPOINTED £'m	TOTAL ADJUSTMENTS £'m	
Non-current liabilities					
Trade & other payables	(0.6)	-	-	-	(0.6)
Borrowings	(2,830.9)	-	-	-	(2,830.9)
Financial instruments	(32.8)	-	-	-	(32.8)
Retirement benefit obligations	(94.3)	-	1.8	1.8	(92.5)
Provisions	(1.1)	-	-	-	(1.1)
Deferred income - grants and contributions	(458.2)	-	120.6	120.6	(337.6)
Deferred income - adopted assets	(91.2)	-	-	-	(91.2)
Deferred tax	(394.6)	6.1	1.2	7.3	(387.3)
Total non-current liabilities	(3,903.7)	6.1	123.6	129.7	(3,774.0)
Net assets	692.9	(29.6)	(121.0)	(150.6)	542.3
Equity					
Called up share capital	122.7	-	(30.6)	(30.6)	92.1
Retained earnings & other reserves	570.2	(29.6)	(90.4)	(120.0)	450.2
Total Equity	692.9	(29.6)	(121.0)	(150.6)	542.3

Approved by the Board of Directors on 13 July 2018 and signed on their behalf by:



H Mottram

Differences between statutory and RAG definitions are explained in note (a) of the Regulatory Accounting Policies and Disclosures.

The change in net assets and total equity reflects the different treatment of borrowing costs, which are capitalised in the Statutory Financial Statements but charged to the income statement in the Regulatory Accounting Statements, and the associated depreciation and deferred tax. Other changes reflect the disaggregation of cash balances and trading balances between the appointed and non-appointed businesses.

1D STATEMENT OF CASH FLOWS FOR THE APPOINTED BUSINESS

Financial performance for the 12 months ended 31 March 2018

	TOTAL APPOINTED ACTIVITIES
	£'m
Operating profit	321.7
Other income	8.3
Depreciation	131.3
Amortisation of grants and contributions	(6.4)
Changes in working capital	(28.1)
Pension contributions	(25.4)
Movement in provisions	43.3
Profit on sale of fixed assets	(4.3)
Cash generated from operations	440.4
Net interest paid	(101.4)
Tax paid	(21.0)
Net cash generated from operating activities	318.0
Investing activities	
Capital expenditure	(240.0)
Grants & contributions	18.6
Disposal of fixed assets	1.2
Other	45.5
Net cash used in investing activities	(174.7)
Net cash generated before financing activities	143.3
Cashflows from financing activities	
Equity dividends paid	(119.4)
Net loans received	(16.7)
Cash inflow from equity financing	-
Net cash generated from financing activities	(136.1)
Increase in net cash	7.2

1E NET DEBT ANALYSIS AS AT 31 MARCH 2018

Appointed Business only

	INTEREST RATE RISK PROFILE			
	FIXED RATE	FLOATING	INDEX	TOTAL
	£'m	£'m	£'m	£'m
Borrowings (excluding preference shares)	1,835.5	37.5	996.6	2,869.6
Preference share capital				-
Total borrowings				2,869.6
Cash				(16.3)
Short term deposits				(92.0)
Net Debt				2,761.3
Gearing %				66.0%
Adjusted gearing				66.0%
Full year equivalent nominal interest cost	82.7	0.6	51.1	134.4
Full year equivalent cash interest payment	82.7	0.6	13.6	96.9
Indicative interest rates				
Indicative weighted average nominal interest rate	4.45%	1.46%	5.11%	4.64%
Indicative weighted average cash interest rate	4.45%	1.46%	1.36%	3.34%
Weighted average years to maturity	11.6	10.0	19.7	14.4

APPOINTED BUSINESS TAXATION

The rate of UK corporation tax for the current year was 19%. It is expected that this rate will apply for the remainder of AMP6. Finance Act 2016 provides for a reduction in the rate to 17% with effect from 1 April 2020 (which coincides with the start of AMP7).

The current tax charge for the Appointed business is derived by reducing the Company's statutory charge (£32.7m) by the amount relating to the activities of the Non-appointed business (£1.3m). The Appointed business charge of £31.4m includes £15.2m payable to fellow group companies in respect of their current year tax losses that will be surrendered to the Appointed business.

The surrender of tax losses to the Appointed business has not required the disclaimer of any capital allowances. Payment for those losses is being made to group companies at the full rate of corporation tax.

The prior years' corporation tax credit of £0.4m includes the withdrawal of a previous surrender of tax losses to the Appointed business as consortium relief (which has given rise to a reversal of the discount originally received), offset by the effect of revisions to prior years' capital allowances claims (including HMRC's agreement to some R&D claims).

The current tax charge for the Appointed business has fallen by £5.6m compared to 2016/17. This is mainly due to the £22.6m reduction in profit before tax and fair value movements and a 1% decrease in the main rate of UK corporation tax compared to 2016/17, together with the non-taxable profit on disposal of the non-household retail business to a fellow group company, offset by a reduction in allowable pension contributions.

The deferred tax charge for the Appointed business is derived by adjusting the Company's statutory charge (£6.7m) by amounts relating to accounting differences (i.e. capitalised interest charge of £0.8m) and the activities of the Non-appointed business (credit of £0.1m). Deferred tax at the balance sheet date is all provided at 17%, being the rate at which temporary differences are expected to reverse.

An explanation of why the current tax charge for the Appointed business is lower than the result of applying the standard rate of corporation tax to profit before tax is provided in the table opposite:

CURRENT TAX RECONCILIATION

for the 12 months ended 31 March 2018

	TOTAL APPOINTED ACTIVITIES
	£'m
Profit before tax and fair value movements	192.7
Profit before tax and fair value movements multiplied by standard rate of corporation tax of 19%	36.6
Effects of:	
Expenses incurred that are not deductible for tax purposes	0.4
Non-taxable income and other tax reliefs	(0.6)
Depreciation in respect of non-qualifying items	0.9
Tax reliefs claimed for capital expenditure in excess of accounts depreciation	(6.2)
Grants and contributions received in excess of accounts amortisation	2.8
Pension contributions paid in excess of accounts service and finance costs	(1.7)
Other temporary differences	0.1
Deferred tax movements not at the standard rate for the year	(0.6)
Adjustment to prior year consortium relief paid for at less than the full tax rate	2.2
Adjustments in respect of prior periods	(2.5)
UK:UK transfer pricing adjustments	(0.8)
Balancing payment payable	0.8
Current tax charge	31.4

FACTORS AFFECTING FUTURE TAX CHARGES AND OTHER SIGNIFICANT MATTERS

As well as the tax rate change referred to above, future tax charges could potentially be affected by the following matters:

The Appointed business expects to continue to incur high levels of capital expenditure during the remainder of the 2015-20 regulatory review period which, under current tax legislation, should result in claims for tax reliefs being in excess of depreciation.

New rules were introduced with retrospective effect from 1 April 2017 (to implement the OECD's Base Erosion and Profit Shifting Action 4) to determine the amount of interest that companies can deduct for UK corporation tax purposes. Although the Company's financial statements contain significant amounts of finance costs, it is expected the new rules will continue to have no impact on its tax position.

CURRENT TAX RECONCILIATION TO FD

An allowance for corporation tax was made in the Final Determination (FD) at PR14. Actual performance differs to the FD for a number of reasons. As far as current tax is concerned, the charge for the year is reconciled to the FD allowance as follows:

	TOTAL APPOINTED ACTIVITIES
	£'m
Current tax charge (at 20%) originally allowed in price limits	38.2
Remove Non-Household included above following exit from market	(0.6)
Adjusted current tax charge allowed in price limits	37.6
Impact of actual RPI	(1.2)
Impact of reduction in tax rate to 19%	(1.8)
	34.6
Net increase in profit before tax and depreciation	(0.2)
Increase in allowable pension contributions	(0.8)
Increase in tax reliefs claimed for capital expenditure	(0.4)
Increase in amortisation of grants and contributions	(1.1)
Other	(0.3)
Adjustment to prior year consortium relief paid for at less than the full tax rate	2.2
Adjustment in respect of prior years	(2.6)
Current tax charge	31.4

APPOINTED BUSINESS TAX STRATEGY

Scope

The Company is required, by section 3.11 of RAG 3.10, to publish details of its Tax Strategy relating to the Appointed Business within the Annual Performance Report. For the avoidance of doubt, the Company has a single Tax Strategy which applies to its Appointed and Non-appointed businesses, as well as to its subsidiaries.

The Tax Strategy set out below is for the Company's financial year ended 31 March 2018 and is consistent with that published by its ultimate parent company, CK Hutchison Holdings Limited, to satisfy the requirements of Schedule 19, Finance Act 2016.

Aim

The Company is committed to fully complying with all its statutory tax obligations, including the payment and recovery of taxes at the right time and the provision of all relevant information to HM Revenue and Customs (HMRC) to support the amounts of tax concerned.

The Company's Board owns and approves the Tax Strategy which comprises the following four components:

a) Tax governance arrangements

The Board reviews and approves all significant investment and business operating decisions directly or delegates the appropriate authority. The Company's Audit Committee considers significant tax related matters as part of its monitoring of internal controls and financial reporting arrangements.

Day-to-day management of the Company's tax affairs is delegated to the Tax Manager and to other appropriately qualified staff who have responsibility for specific taxes. All staff with responsibility for tax report to members of the Company's senior management team which, in turn, reports to the Board.

The Company's tax affairs are conducted in a business-like manner in accordance with the Company's commitment to corporate responsibility.

b) Tax risk management framework

The Company's Risk & Compliance Committee oversees the risk assessment process applied by the business which includes an assessment of tax risks. Significant risks identified by the business are escalated for the Committee to consider.

As far as possible, through the activities of its Board, Committees and personnel responsible for tax matters, the Company seeks to reduce or eliminate the level of tax risk arising from its operations by ensuring appropriate processes and controls are in place.

The Company only takes tax positions which are justifiable and based on law, with advice taken from reputable professional firms where necessary. In addition, any transaction that has material tax consequences will be referred by the Company to the ultimate parent company's tax team to ensure there is agreement with, and consistency in, the tax treatment.

To help manage tax risk, the Company's taxation affairs are only handled by appropriately qualified and experienced staff and, where necessary, training is given to non-tax staff who are involved in processes which have tax implications.

The Company does not tolerate or condone any form of tax evasion, whether committed or facilitated by its own staff or any associated persons (e.g. agents and other persons who perform services for or on behalf of the Company) and manages this risk by use of appropriate processes.

c) Approach to tax planning

The Company considers tax as part of its business decision making process. When entering into commercial transactions, the Company seeks to obtain the benefit of tax incentives, reliefs and exemptions available under the applicable tax legislation.

The tax affairs of the Company are arranged and managed in response to, and in support of, its business or commercial activities. Related party transactions are managed and documented to ensure they are in compliance with local tax law and practice.

d) Relationship with HMRC

The Company seeks to have a transparent and constructive relationship with HMRC on all taxation matters and keeps HMRC aware of significant transactions and business developments. All contact with HMRC is conducted in a professional and courteous manner.

The Company seeks to obtain certainty from HMRC at the earliest opportunity on the tax treatment of complex or uncertain issues. Discussions with HMRC are held at least annually to review past and present tax risks and agree on the steps required to take matters forward. Resolution of any disputed matters will be sought through open discussion and negotiation with HMRC, but the Company is prepared to litigate in cases where it believes the technical basis of a decision is incorrect.

The Company takes an active role in the development of the UK's legislative framework through participation at company or industry level in Government consultations on significant new tax laws.



SECTION 2: PRICE REVIEW AND OTHER SEGMENTAL REPORTING



2A SEGMENTAL INCOME STATEMENT

For the 12 months ended 31 March 2018

	RETAIL	
	HOUSEHOLD	NON-HOUSEHOLD
	£'m	£'m
Revenue - price control	58.8	-
Revenue - non price control	0.4	0.3
Operating expenditure	(46.8)	(1.0)
Depreciation - tangible fixed assets	(2.4)	-
Amortisation - intangible fixed assets	-	-
Other operating income	0.1	3.2
Operating profit before recharges	10.1	2.5
Recharges from other segments	(3.8)	(0.4)
Recharges to other segments	0.1	-
Operating profit	6.4	2.1
Surface water drainage rebates		

WATER RESOURCES	WATER NETWORK+	WATER TOTAL	WASTE WATER NETWORK+	SLUDGE	WHOLESALE	TOTAL
					WASTEWATER TOTAL	
£'m	£'m	£'m	£'m	£'m	£'m	£'m
	422.6	422.6	304.8		304.8	786.2
	6.9	6.9	1.8		1.8	9.4
(54.8)	(152.5)	(207.3)	(84.4)	(7.4)	(91.8)	(346.9)
(2.7)	(72.9)	(75.6)	(46.1)	(7.2)	(53.3)	(131.3)
-	-	-	-	-	-	-
-	0.7	0.7	0.1	0.2	0.3	4.3
		147.3			161.8	321.7
(0.6)	-	(0.6)	(3.9)	(0.6)	(4.5)	(9.3)
-	9.2	9.2	-	-	-	9.3
		155.9			157.3	321.7
						0.5

2B TOTEX ANALYSIS: WHOLESALE WATER AND WASTEWATER

For the 12 months ended 31 March 2018

	WATER RESOURCES	WATER NETWORK+	WASTEWATER NETWORK+	SLUDGE	TOTAL
	£'m	£'m	£'m	£'m	£'m
Operating expenditure					
Power	6.0	17.6	18.4	(0.8)	41.2
Income treated as negative expenditure	-	(0.2)	-	(7.9)	(8.1)
Abstraction charges/discharge consents	28.1	0.3	2.5	-	30.9
Bulk supply/Bulk discharge	1.0	-	-	-	1.0
Other operating expenditure - renewals expensed in year (Infrastructure)	3.0	1.8	5.6	-	10.4
Other operating expenditure - renewals expensed in year (Non-Infrastructure)	0.3	1.0	1.2	-	2.5
Other operating expenditure - excluding renewals	6.4	97.4	50.1	14.8	168.7
Local authority and Cumulo rates	5.0	31.5	6.3	1.3	44.1
Total operating expenditure excluding third party services	49.8	149.4	84.1	7.4	290.7
Third party services	5.0	3.1	0.3	-	8.4
Total operating expenditure	54.8	152.5	84.4	7.4	299.1
Capital Expenditure					
Maintaining the long term capability of the assets - infra	0.1	27.1	17.1	-	44.3
Maintaining the long term capability of the assets - non-infra	5.0	74.2	36.5	5.3	121.0
Other capital expenditure - infra	1.4	18.7	14.6	-	34.7
Other capital expenditure - non-infra	1.6	16.3	12.2	-	30.1
Infrastructure network reinforcement	-	0.4	0.7	-	1.1
Total gross capital expenditure excluding third party services	8.1	136.7	81.1	5.3	231.2
Third party services	-	-	-	-	-
Total gross capital expenditure	8.1	136.7	81.1	5.3	231.2
Grants and contributions	-	(14.0)	(6.4)	-	(20.4)
Totex	62.9	275.2	159.1	12.7	509.9
Cash Expenditure					
Pension deficit recovery payments	0.4	5.8	2.4	0.3	8.9
Other cash items	-	-	-	-	-
Total					
Totex including cash items	63.3	281.0	161.5	13.0	518.8

2C OPERATING COST ANALYSIS: RETAIL

For the 12 months ended 31 March 2018

	HOUSEHOLD	NON-HOUSEHOLD	TOTAL
	£'m	£'m	£'m
Operating expenditure			
Customer services	13.9	-	13.9
Debt management	4.8	-	4.8
Doubtful debts	15.1	0.8	15.9
Meter reading	2.4	-	2.4
Services to developers	-	0.2	0.2
Other operating expenditure	10.6	-	10.6
Total operating expenditure excluding third party services	46.8	1.0	47.8
Third party services operating expenditure	-	-	-
Total operating expenditure	46.8	1.0	47.8
Depreciation - tangible fixed assets	2.4	-	2.4
Amortisation - intangible fixed assets	-	-	-
Total operating costs	49.2	1.0	50.2
Debt written off	12.7	2.0	14.7

Retail revenue and cost reconciliation to FD**Household**

Household retail revenue, reported in table 2I, was £58.8m, which was £0.2m lower than allowed in the FD. Household retail costs, in table 2C above, were £49.2m, which was £3.6m lower than allowed in the FD. This generated a household retail margin of 1.6%, reported in table 4H, compared to a margin of 1% assumed in the FD.

The main difference on operating costs related to the doubtful debt charge. Whilst the underlying bad debt provision policy remained unchanged, as reported in note c(ii) of the Regulatory Accounting Policies, a comparison of the provision against historical collection rates indicated that the provision was higher than required. As a result, the provision was adjusted downwards by £4.1m, reducing the doubtful debt charge in the year.

If the impact of the doubtful debts adjustment is removed, costs would be £0.5m higher than FD and the household retail margin would be 0.9%, marginally below the FD assumption.

The operating costs reported in the NHH column relate to activities retained by the wholesale business after NWL's exit from the NHH retail market, for services to developers, but which RAG 4.07 requires to be reported as NHH for consistency with FD allowances. The debt written off relates to the write-off of historical NHH debt retained by NWL. It would not be meaningful to reconcile these costs to the NHH FD allowance which is no longer in effect.

2D HISTORIC COST ANALYSIS OF FIXED ASSETS: WHOLESALE AND RETAIL

For the 12 months ended 31 March 2018

	WHOLESALE				RETAIL		TOTAL
	WATER RESOURCES	WATER NETWORK+	WASTEWATER NETWORK+	SLUDGE	HOUSEHOLD	NON-HOUSEHOLD	
	£'m	£'m	£'m	£'m	£'m	£'m	£'m
Cost							
At 1 April 2017	74.6	3,088.4	2,569.9	187.1	45.2	3.6	5,968.8
Disposals	(0.1)	(3.0)	(1.0)	(0.7)	(0.3)	-	(5.1)
Additions	8.1	136.7	81.1	5.3	10.2	-	241.4
Adjustments	-	-	12.0	(12.0)	-	-	-
Assets adopted at nil cost	-	-	11.2	-	-	-	11.2
At 31 March 2018	82.6	3,222.1	2,673.2	179.7	55.1	3.6	6,216.3
Depreciation							
At 1 April 2017	(18.3)	(1,045.5)	(639.5)	(116.2)	(19.5)	-	(1,839.0)
Disposals	0.1	2.9	1.0	0.8	0.3	-	5.1
Adjustments	-	-	(9.1)	9.1	-	-	-
Charge for the year	(2.7)	(72.9)	(46.1)	(7.2)	(2.4)	-	(131.3)
At 31 March 2018	(20.9)	(1,115.5)	(693.7)	(113.5)	(21.6)	-	(1,965.2)
Net book amount at 31 March 2018	61.7	2,106.6	1,979.5	66.2	33.5	3.6	4,251.1
Net book amount at 1 April 2017	56.3	2,042.9	1,930.4	70.9	25.7	3.6	4,129.8
Depreciation charge for year							
Principal services	(2.7)	(72.6)	(46.1)	(7.2)	(2.4)	-	(131.0)
Third party services	-	(0.3)	-	-	-	-	(0.3)
Total	(2.7)	(72.9)	(46.1)	(7.2)	(2.4)	-	(131.3)

2E ANALYSIS OF CAPITAL CONTRIBUTIONS AND LAND SALES: WHOLESALE

For the 12 months ended 31 March 2018

	FULLY RECOGNISED IN INCOME STATEMENT	CAPITALISED AND AMORTISED (IN INCOME STATEMENT)	FULLY NETTED OFF CAPEX	TOTAL
	£'m	£'m	£'m	£'m
Grants and contributions - water				
Connection charges (s45)	-	5.4	-	5.4
Infrastructure charge receipts (s146)	-	6.0	-	6.0
Requisitioned mains (s43, s55 & s56)	-	1.0	-	1.0
Other contributions (price control)	-	-	-	-
Diversions (s185)	-	1.5	-	1.5
Other contributions (non-price control)	-	0.1	-	0.1
Total	-	14.0	-	14.0
Value of adopted assets		-		-
Grants and contributions - wastewater				
Infrastructure charge receipts (s146)	-	3.9	-	3.9
Requisitioned sewers (s100)	-	1.9	-	1.9
Other contributions (price control)	-	-	-	-
Diversions (s185)	-	0.2	-	0.2
Other contributions (non-price control)	-	0.4	-	0.4
Total	-	6.4	-	6.4
Value of adopted assets		11.2		11.2

	WATER	WASTEWATER	TOTAL
	£'m	£'m	£'m
Movements in capitalised grants and contributions			
Brought forward	250.8	154.6	405.4
Capitalised in year	14.0	6.4	20.4
Adopted assets	-	11.2	11.2
Transferred to receipts in advance	(1.8)	-	(1.8)
Amortisation (in income statement)	(4.1)	(2.3)	(6.4)
Carried forward	258.9	169.9	428.8
Land sales			
Proceeds from disposals of protected land	1.1	-	1.1

Grants and contributions falling within the wholesale price control, and therefore also reported on table 2B, comprise connection charges, infrastructure charge receipts and requisitioned mains and sewers.

2F HOUSEHOLD REVENUES BY CUSTOMER TYPE

For the 12 months ended 31 March 2018

	WHOLESALE CHARGES REVENUE	RETAIL REVENUE	TOTAL REVENUE	NUMBER OF CUSTOMERS	AVERAGE HOUSEHOLD RETAIL REVENUE PER CUSTOMER
	£'m	£'m	£'m	000s	£
Unmeasured water only customer	76.5	7.4	83.9	291.1	25.4
Unmeasured wastewater only customer	7.2	0.4	7.6	32.8	12.2
Unmeasured water and wastewater customer	266.6	22.8	289.4	686.4	33.2
Measured water only customer	85.0	12.3	97.3	450.2	27.3
Measured wastewater only customer	5.8	0.4	6.2	33.0	12.1
Measured water and wastewater customer	113.9	15.5	129.4	385.0	40.3
Total	555.0	58.8	613.8	1,878.5	31.3

2G & 2H NON-HOUSEHOLD WATER AND WASTEWATER REVENUES BY TARIFF TYPE

NWL exited the NHH retail market at 1 April 2017 and transferred its NHH retail business to an acquiring licenced retailer, NWGB, another subsidiary of NWGL.

In accordance with RAG 4.07, as NWL has exited all NHH market activities, we are no longer required to publish tables 2G and 2H.

NWL still provides wholesale water and wastewater services to NHH properties in our areas of supply. The NHH wholesale revenue for the year ended 31 March 2018 was £172.4m, as reported in table 2I.

2I REVENUE ANALYSIS

for the 12 months ended 31 March 2018

	HOUSEHOLD	NON-HOUSEHOLD	TOTAL
	£'m	£'m	£'m
Wholesale charge - water			
Unmeasured	194.6	1.6	196.2
Measured	133.7	85.6	219.3
Third party revenue	-	7.1	7.1
Total	328.3	94.3	422.6
Wholesale charge - wastewater			
Unmeasured	155.8	4.2	160.0
Measured	70.9	73.9	144.8
Third party revenue	-	-	-
Total	226.7	78.1	304.8
Wholesale Total	555.0	172.4	727.4
Retail revenue			
Unmeasured	30.6	-	30.6
Measured	28.2	-	28.2
Other third party revenue	-	-	-
Retail total	58.8	-	58.8
Third party revenue - non-price control			
Bulk Supplies - water			3.0
Bulk Supplies - wastewater			-
Other third party revenue			6.1
Principal services - non-price control			
Other appointed revenue			0.3
Total appointed revenue			795.6

	WATER	WASTEWATER	TOTAL
	£'m	£'m	£'m
Wholesale revenue governed by price control	422.6	304.8	727.4
Grants & contributions	12.4	5.8	18.2
Total revenue governed by wholesale price control	435.0	310.6	745.6
Amount assumed in wholesale determination	432.1	308.3	740.4
Adjustment for in-period ODI revenue	-	-	-
Adjustment for WRFIM	(5.5)	0.5	(5.0)
Total assumed revenue	426.6	308.8	735.4
Difference	8.4	1.8	10.2

Wholesale revenue control reconciliation to FD

Wholesale water revenue was £8.4m (2%) higher than the revenue allowance from the PR14 price control. This comprised £4.9m from standard published water charges and £3.5m from capital contributions. The higher water charges primarily related to higher than expected water usage across household customers and non-household properties in our NW area of supply. Higher capital contributions reflected an unexpected increase in new development activity generating more infrastructure charges and new connections than expected.

The numbers of reported properties were broadly in line with forecast and the number of void properties has reduced. These movements did not generate material differences from the allowed revenue.

Wholesale wastewater revenue was £1.8m (0.6%) higher than the allowed revenue. This also reflected higher than expected capital contributions from new development activity, by £2.8m, partially offset by revenue from standard published charges being £1m lower than expected. This was primarily due to lower volumes and credits issued for surface water drainage rebates and return to sewer allowances.

Following the necessary modification to our licence, we included the wholesale revenue forecasting incentive mechanism (WRFIM) in the assumed revenue calculations.

2J INFRASTRUCTURE NETWORK REINFORCEMENT COSTS

for the 12 months ended 31 March 2018

	NETWORK REINFORCEMENT CAPEX	ON SITE / SITE SPECIFIC CAPEX (MEMO ONLY)
	£'m	£'m
Wholesale water network+ (treated water distribution)		
Distribution and trunk mains	0.3	-
Pumping and storage facilities	0.1	-
Other	-	-
Total	0.4	-
Wholesale wastewater network+ (sewage collection)		
Foul and combined systems	0.6	-
Surface water only systems	-	-
Pumping and storage facilities	-	-
Other	-	-
Total	0.6	-

DISCLOSURE OF TRANSACTIONS WITH ASSOCIATES

Services supplied by the appointee to associated companies:

ASSOCIATE	SERVICE	TURNOVER	TERMS OF SUPPLY	VALUE
		£'m		£'m
AquaGib Limited	Sale of materials	13.7	Negotiated	0.154
Anglian Water Business (National) Limited (AWB)	Water and sewerage supplies	344.0	Competitive letting	0.829
Gascorp Limited	Pathogen and chemistry testing	1.6	No market	0.127
Northern Gas Networks Limited (NGN)	Mains repairs and trade effluent charges	411.0	No market	0.076
NWG Business Limited (NWGB)	Water and sewerage supplies	183.0	Competitive letting	165.208
Vehicle Lease and Service Limited (VLS)	Rental of garage and service charges	17.2	Negotiated	0.099

Services supplied to the appointee by associated companies:

ASSOCIATE	SERVICE	TURNOVER	TERMS OF SUPPLY	VALUE
		£'m		£'m
CKI	Software licensing agreements	3,154.1	Negotiated	2.795
NGN	Gas main diversions	411.0	No market	0.811
NWGL	Holding company charges	6.6	No market	1.173
Three Rivers Insurance Company Limited (TRICL)	Public liability insurance (deductible infill policy)	0.5	No market	0.515
VLS	Vehicle maintenance and capital finance charge	17.2	Competitive letting	8.311

Corporation tax group relief received by the appointee from associated companies:

ASSOCIATE	SERVICE	TURNOVER	TERMS OF SUPPLY	VALUE
		£'m		£'m
Gascorp Limited	Transfer of corporation tax group losses	1.6	No market	0.153
NWGB	Transfer of corporation tax group losses	183.0	No market	0.010
NWG Commercial Solutions Limited (NWGCSL)	Transfer of corporation tax group losses	0.9	No market	0.073
NWGL	Transfer of corporation tax group losses	6.6	No market	14.934

Turnover data for AquaGib, AWB, Gascorp, NGN, NWGB, NWGL, TRICL and NWGCSL relates to the year to 31 March 2018. Turnover data for VLS and CKI relates to the year to 31 December 2017.

Payment for tax losses transferred between group companies is calculated as the losses transferred multiplied by the corporation tax rate for the year.

Service provided by the non appointed business:

SERVICE	BASIS OF RECHARGE MADE BY THE APPOINTED BUSINESS	VALUE
		£'m
Treatment of imported sludge	The average unit cost per tonne dry solid is calculated using operating costs only and excluding payroll. This gives a unit rate which is more than the incremental cost but less than the income received therefore sharing the benefit of the activity.	0.005
Treatment of tankered waste	The recharge comprises recovery of operating costs of operator time and sampling and analysis and a charge for the use of appointed business assets, calculated using the Biological and Sludge elements of the trade effluent charge set out in the Company's Wholesale Charges Scheme.	1.139
Other	Other assets are specifically identified to the appropriate business.	-

Information in relation to allocations and apportionments

The appointed and non-appointed businesses operate separate accounting records including sales and purchase ledgers. Revenue, operating costs, assets and liabilities are taken directly from these records.

Revenue is separately recorded between wholesale water and wastewater and household and non-household retail services and no apportionment has been necessary. Operating costs have been allocated between wholesale water and wastewater and household and non-household retail services in accordance with the guidance set out in RAG 4.07.

Overhead costs incurred in the appointed business which relate to the non-appointed business have been allocated using an activity based approach to comply with RAG 5.07.

Interest has been allocated between the appointed and non-appointed businesses on the basis of actual cash balances held by these businesses during the year at market rates. Capital costs and the related depreciation charges are specifically identifiable to the appropriate business and service.

Amounts borrowed by the appointee from associated companies

The Company has loans amounting to £2,216.7m due to NWF, a subsidiary company. Details of these loans and the associated guarantees are provided in note 15 of the NWL Annual Report and Financial Statements.

The Company acquires vehicles from VLS, an associated company, on a finance lease basis. During the year, new finance leases of £4.8m were entered into and capital repayments of £3.6m were made. The year end finance lease creditor was £10.7m. All leases have an individual interest rate which is fixed for the term of the lease. In 2017/18 all leases had an interest rate of 5.5%.

Guarantees or other forms of security

There were no guarantees or other forms of security provided by the appointee to any associate during the year, other than those relating to amounts borrowed from NWF, outlined above.

Dividends paid and proposed

During the year, the appointed business paid the following dividends to its immediate parent company:

	£'m
Dividends paid:	
Special dividend for the period ended 31 March 2018	18.9
Interim dividend for the period ended 31 March 2018	100.5
Total dividends paid in the period	119.4

The special dividend of £18.9m related to the profit on the sale of NWL's non-household retail business to NWGB, and the enduring working capital benefit which NWL gained as a consequence of this transaction.

In previous years the appointed business has typically paid two interim dividends in each financial year, in October and March. In 2018, the Directors have decided that the second interim dividend payment will be replaced with a final dividend to be paid in April, after the Directors have reviewed the financial position of the appointed business at the balance sheet date.

A final dividend of £65m for the year ended 31 March 2018 was approved by the Board and paid after the balance sheet date.

	£'m
Dividends proposed, not paid in year:	
Final dividend for the period ended 31 March 2018	65.0

The Directors have a policy which takes into account the principle of incentive based price cap regulation, including operating, investment and financing performance. When declaring the final dividend for the year ended 31 March 2018, the Directors considered the impact of Ofwat's final methodology for the 2019 price review on the Company's medium term financial plan, in particular a lower rate of return and the projected reduction in Regulatory Capital Value from April 2020, whereby the Company will share with customers the benefits of cost efficiencies in the current price control period. As a result, the Directors have decided to reduce the level of dividend payments both in respect of the current year and the remainder of the current price control period in order to continue to meet the Company's overarching financial objective of retaining investment grade credit ratings.

The level of dividend has been declared by reference to:

- the Company's ability to finance its functions;
- the Company's cumulative financial performance and past outperformance; and
- maintaining the Company's stable strong investment grade credit ratings.

The Directors have also had regard to:

- the Company's operational performance and the level of service provided to its customers; and
- the Company's compliance with the repair plan agreed with the trustees in respect of the NWPS, as submitted to the Pensions Regulator.

Omission of right

There were no omissions by the appointee to exercise any rights which would cause the net assets to decrease.

Waivers

There were no waivers by the appointee of any consideration, remuneration or other payment owed to it by any associated company.

The information in this note has been produced to comply with the requirements of RAG 5.07 Transfer Pricing in the Water Industry and the disclosures required by paragraph 6 of Condition F of the Company's operating licence.

The Directors confirm that, to the best of their knowledge, all transactions with associated companies have been disclosed.

INDEPENDENT AUDITOR'S REPORT TO THE WATER SERVICES REGULATION AUTHORITY ('WSRA') AND DIRECTORS OF NORTHUMBRIAN WATER LIMITED

Opinion

We have audited Sections 1 and 2 of Northumbrian Water Limited's Annual Performance Report for the year ended 31 March 2018 ('the Regulatory Accounting Statements') which comprise:

- The regulatory financial reporting tables comprising the income statement (table 1A), the statement of comprehensive income (table 1B), the statement of financial position (table 1C), the statement of cash flows (table 1D) and the net debt analysis (table 1E) and the related notes; and
- The regulatory price review and other segmental reporting tables comprising the segmental income statement (table 2A), the totex analysis for wholesale water and wastewater (table 2B), the operating cost analysis for retail (table 2C), the historical cost analysis of fixed assets for wholesale and retail (table 2D), the analysis of capital contributions and land sales for wholesale (table 2E), the household water revenues by customer type (table 2F), the non-household water revenues by customer type (table 2G), the non-household water revenues by customer type (table 2H), the revenue analysis and wholesale control reconciliation (table 2I). The infrastructure network reinforcements costs (table 2J) and the related notes.

We have not audited the Outcome performance tables 3A to 3S or the additional regulatory information in tables 4A to 4W.

In our opinion, Northumbrian Water Limited's (the Company) Regulatory Accounting Statements within the Annual Performance Report have been properly prepared in accordance with Condition F, the Regulatory Accounting Guidelines issued by the WSRA (RAG 1.08, RAG 2.07, RAG 3.10, RAG 4.07 and RAG 5.07) and the accounting policies, including the Company's published accounting methodology statement, set out on pages [140 to 142](#).

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ('ISAs(UK)'), including ISA (UK) 800, and applicable law, except as stated in the section on Auditors' responsibilities for the audit of the Regulatory accounting statements within the Annual Performance Report below, and having regard to the guidance contained in ICAEW Technical Release Tech 02/16 AFF 'Reporting to Regulators on Regulatory Accounts' issued by the Institute of Chartered Accounts in England and Wales.

Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the Regulatory accounting statements within the Annual Performance Report section of our report. We have fulfilled our ethical responsibilities under, and are independent of the Company in accordance with UK ethical requirements under the FRC Ethical Standard. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of matter - basis of preparation

We draw attention to the fact that the Regulatory Accounting Statements within the Annual Performance Report have been prepared in accordance with Condition F, the Regulatory Accounting Guidelines, the accounting policies (including the accounting methodology statement) set out in the statement of accounting policies and under the historical cost convention. The nature, form and content of the Regulatory Accounting Statements are determined by the WSRA. It is not appropriate for us to assess whether the nature of the information being reported upon is suitable or appropriate for the WSRA's purposes. Accordingly we make no such assessment.

The Annual Performance Report is separate from the statutory financial statements of the Company and has not been prepared under the basis of International Financial Reporting Standards as adopted by the European Union ('IFRSs'). Financial information other than that prepared on the basis of IFRSs does not necessarily represent a true and fair view of the financial performance or financial position of a company as shown in statutory financial statements prepared in accordance with the Companies Act 2006.

The Regulatory Accounting Statements on pages [143 to 173](#) have been drawn up in accordance with Regulatory Accounting Guidelines with a number of departures from IFRSs. A summary of the effect of these departures from Generally Accepted Accounting Practice in the Company's statutory financial statements is included in the tables within section 1.

The Regulatory Accounting Statements are prepared in accordance with a special purpose framework for the specific purpose as described in the Responsibilities for the Annual Performance Statement and the audit section below. As a result, the Regulatory Accounting Statements may not be suitable for another purpose.

Our opinion is not modified in this respect.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which ISAs (UK) require us to report to you when:

- the directors' use of the going concern basis of accounting in the preparation of the Regulatory Accounting Statements is not appropriate; or
- the directors have not disclosed in the Regulatory Accounting Statements any identified material uncertainties that may cast significant doubt about the Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the Regulatory Accounting Statements are authorised for issue.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the company's ability to continue as a going concern.

Reporting on other information

The other information comprises all of the information in the Annual Performance Report other than the Regulatory Accounting Statements within the Annual Performance Report and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the Regulatory Accounting Statements does not cover the other information and, accordingly, we do not express an audit opinion or any form of assurance thereon.

In connection with our audit of the Regulatory Accounting Statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the Regulatory Accounting Statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the Regulatory Accounting Statements within the Annual Performance Report or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement or inconsistency of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

Responsibilities of the Directors for the Annual Performance Report

As explained more fully in the Statement of Directors' Responsibilities set out on [page 138](#), the directors are responsible for the preparation of the Annual Performance Report in accordance with Condition F, the Regulatory Accounting Guidelines issued by the WSRA and the Company's accounting policies (including the Company's published accounting methodology statement).

The directors are also responsible for such internal control as they determine is necessary to enable the preparation of the Annual Performance Report that is free from material misstatement, whether due to fraud or error.

In preparing the Annual Performance Report, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the Audit of the Regulatory accounting statements within the Annual Performance Report

Our objectives are to obtain reasonable assurance about whether the Regulatory accounting statements within the Annual Performance Report are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this Annual Performance Report.

As part of an audit in accordance with ISAs (UK), we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the company's Annual Performance Report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our report. However, future events or conditions may cause the company to cease to continue as a going concern.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during the audit.

- Assess the reasonableness of significant accounting estimates and related disclosures made by the directors.

We have not assessed whether the accounting policies are appropriate to the circumstances of the Company where these are laid down by Condition F. Where Condition F does not give specific guidance on the accounting policies to be followed, our audit includes an assessment of whether the accounting policies adopted in respect of the transactions and balances required to be included in the Annual Performance Report are consistent with those used in the preparation of the statutory financial statements of the company.

The Company has presented the allocation of operating costs and assets in accordance with the accounting policy for price control segments set out in note [E] of the Regulatory Accounting and its Accounting Methodology Statement published on the Company's website on 13 July 2018. We are not required to assess whether the methods of cost allocation set out in the Methodology Statement are appropriate to the circumstances of the Company or whether they meet the requirements of the WSRAs, which would have been required if we were to express an audit opinion under International Standards on Auditing (UK).

Opinion on other matters prescribed by Condition F

Under the terms of our contract we have assumed responsibility to provide those additional opinions required by Condition F in relation to the accounting records. In our opinion:

- proper accounting records have been kept by the appointee as required by paragraph 3 of Condition F; and
- the Regulatory Accounting Statements are in agreement with the accounting records and returns retained for the purpose of preparing the Annual Performance Report.

Use of this report

This report is made, on terms that have been agreed, solely to the Company and the WSRAs in order to meet the requirements of Condition F of the Instrument of Appointment granted by the Secretary of State for the Environment to the Company as a water and sewage undertaker under the Water Industry Act 1991 ("Condition F"). Our audit work has been undertaken so that we might state to the Company and the WSRAs those matters that we have agreed to state to them in our report, in order (a) to assist the Company to meet its obligation under Condition F to procure such a report and (b) to facilitate the carrying out by the WSRAs of its regulatory functions, and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the WSRAs, for our audit work, for this report or for the opinions we have formed.

Our opinion on the Regulatory Accounting Statements within the Annual Performance Report is separate from our opinion on the statutory financial statements of the Company for the year ended 31 March 2018 on which we reported on 13 July 2018, which are prepared for a different purpose. Our audit report in relation to the statutory financial statements of the Company (our "Statutory audit") was made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our Statutory audit work was undertaken so that we might state to the Company's members those matters we are required to state to them in a statutory audit report and for no other purpose. In these circumstances, to the fullest extent permitted by law, we do not accept or assume responsibility for any other purpose or to any other person to whom our Statutory audit report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.



Anthony Matthews FCA (Senior statutory auditor)

for and on behalf of Deloitte LLP

Statutory Auditor

Newcastle Upon Tyne, United Kingdom

13 July 2018

SECTION 3: PERFORMANCE SUMMARY



3

3A OUTCOME PERFORMANCE TABLE FOR THE YEAR ENDED 31 MARCH 2018

UNIQUE ID	PERFORMANCE COMMITMENT	UNIT	2016-17 PERFORMANCE LEVEL - ACTUAL
W-A1	Asset health measures - water	n/a	n/a
W-B1	Satisfaction with taste and odour of tap water	nr	1,229
W-B2	Overall drinking water compliance (AH)	%	99.944
W-B3	Discoloured water complaints (AH)	nr	3,227
W-C1	Interruptions to water supply for more than 3 hours (average time per property per year)	time	02:26
W-C2	Properties experiencing poor water pressure (AH)	nr	217
W-C3	Water mains bursts (AH)	nr	4,048
W-C4	Leakage (Ml/d) Northumbrian area	nr	133.8
W-C5	Leakage (Ml/d) Essex & Suffolk area	nr	68.1
W-D1	NWL independent overall customer satisfaction score	score	8.5
W-D2	Service incentive mechanism (SIM)	score	87.5
W-D3	Domestic customer satisfaction, net promoter score	%	46
W-E1	NWL independent survey on keeping customers informed	%	94
W-F1	Greenhouse gas emissions	nr	188
W-F2	Annual environmental performance report	text	Report published
S-A1	Asset health measures - wastewater	n/a	n/a
S-B1	Properties flooded externally	nr	839
S-B2	Properties flooded internally	nr	119
S-B3	Repeat sewer flooding (AH)	nr	82
S-B4	Sewer collapses (AH)	nr	49
S-B5	Transferred drains and sewers - internal sewer flooding	nr	215
S-B6	Transferred drains and sewers - external sewer flooding	nr	2,730
S-B7	Transferred drains and sewers - sewer collapses	nr	72
S-C1	Sewage treatment works discharge compliance (AH)	nr	0.67
S-C2	Pollution incidents - category 3 (AH)	nr	115
S-C3	Bathing water compliance	nr	34
S-C4	Whitburn combined sewer overflow (CSO) scheme	text	n/a
S-D1	NWL independent overall customer satisfaction score	score	8.5

2017-18 PERFORMANCE LEVEL - ACTUAL	2017-18 COMMITTED PERFORMANCE LEVEL MET?	NOTIONAL REWARD OR PENALTY ACCRUED FOR 2017-18	NOTIONAL REWARD OR PENALTY ACCRUED FOR 2017-18	TOTAL AMP6 REWARD OR PENALTY 31 MARCH 2020 FORECAST	TOTAL AMP6 REWARD OR PENALTY 31 MARCH 2020 FORECAST
			£'m		£'m
n/a	n/a				
978	Yes	Reward	0.0990	Reward	0.0990
99.943	No	Penalty deadband	-	Penalty deadband	-
2,776	Yes	Reward	0.2633	Reward	1.0753
05:23	Yes	Reward	0.5940	Reward	7.9380
202	Yes	Reward deadband	-	Reward deadband	-
4,102	Yes	-	-	-	-
137.1	No	Penalty deadband	-	Penalty deadband	-
66.2	No	Penalty deadband	-	Penalty	(0.1265)
8.7	Yes	-	-	-	-
86.4	No	-	-	-	-
44	Yes	-	-	-	-
94	Yes	-	-	-	-
164	Yes	-	-	-	-
Our Contribution report published	Yes	-	-	-	-
n/a	n/a				
944	Yes	Reward	0.3900	Reward	2.1020
96	Yes	Reward	1.1700	Reward	4.3160
55	Yes	Reward	1.2610	Reward	3.7830
46	Yes	-	-	-	-
199	Yes	Reward deadband	-	Reward deadband	-
2,726	Yes	Reward deadband	-	Reward deadband	-
51	Yes	-	-	-	-
1.33	No	Penalty deadband	-	Penalty deadband	-
105	Yes	Reward deadband	-	Reward	0.1227
34	Yes	-	-	-	-
Delivered	Yes	-	-	-	-
8.7	Yes	-	-	-	-

UNIQUE ID	PERFORMANCE COMMITMENT	UNIT	2016-17 PERFORMANCE LEVEL - ACTUAL
S-D2	Service incentive mechanism (SIM)	score	87.5
S-D3	Domestic customer satisfaction, net promoter score	%	46
S-E1	NWL independent survey on keeping customers informed	%	94
S-F1	Greenhouse gas emissions	nr	188
S-F2	Annual environmental performance report	text	Report published
R-B1	NWL independent overall customer satisfaction score	score	8.5
R-B2	Service incentive mechanism (SIM)	score	87.5
R-B3	Domestic customer satisfaction, net promoter score	%	46
R-C1	NWL independent value for money survey	score	8.2
R-C2	Satisfied with value for money of water services - Northumbrian region (CCWater research)	%	84
R-C3	Satisfied with value for money of sewerage services - Northumbrian region (CCWater research)	%	84
R-C4	Satisfied with value for money of water services - Essex & Suffolk region (CCWater research)	%	67
R-D1	NWL independent survey on keeping customers informed	%	94
R-E1	Greenhouse gas emissions	nr	188
R-E2	Annual environmental performance report	text	Report published
R-F1	Delivering a consolidated Customer Information and Billing (CIB) system	£m	n/a

2017-18 PERFORMANCE LEVEL - ACTUAL	2017-18 COMMITTED PERFORMANCE LEVEL MET?	NOTIONAL REWARD OR PENALTY ACCRUED FOR 2017-18	NOTIONAL REWARD OR PENALTY ACCRUED FOR 2017-18	TOTAL AMP6 REWARD OR PENALTY 31 MARCH 2020 FORECAST	TOTAL AMP6 REWARD OR PENALTY 31 MARCH 2020 FORECAST
		£'m		£'m	
86.4	No	-	-	-	-
44	Yes	-	-	-	-
94	Yes	-	-	-	-
164	Yes	-	-	-	-
Our Contribution report published	Yes	-	-	-	-
8.7	Yes	-	-	-	-
86.4	No	-	-	-	-
44	Yes	-	-	-	-
8.2	Yes	-	-	-	-
78	No	-	-	-	-
78	No	-	-	-	-
71	No	-	-	-	-
94	Yes	-	-	-	-
164	Yes	-	-	-	-
Our Contribution report published	Yes	-	-	-	-
Delivered late	No	-	-	Penalty	(0.1301)

Our performance against our outcomes, measures of success and performance commitments is explained fully on pages [20 to 21](#) of this report. Table 3A reports the full performance in the format required by Ofwat.

Measurement of performance and calculation of any penalties or rewards is calculated using the methodology stated in our PR14 Final Determination, and is subject to robust assurance. Some of the ODIs have earned a reward in the year to 31 March 2018, although this will not be reflected in the RCV until 1 April 2020 in the next price control period.

MoS within our Asset Health baskets are measured on a three year average, therefore 2017/18 is the first year that performance against PCs has been assessed. The 2016/17 comparative has been restated to also show a three year average.

The Our Performance section within this report describes both the three year average performance and actual annual performance.

We have engaged with our Water Forums to discuss our performance and further information about our performance is available in a more customer-friendly presentation on our websites at www.nwl.co.uk, www.eswater.co.uk and www.welivewater.co.uk.

3B SUB-MEASURE PERFORMANCE TABLE

For the year ended 31 March 2018

NWL does not have any sub-measures to report in table 3B. All performance measures are reported in table 3A.

3C AIM TABLE

For the year ended 31 March 2018

ABSTRACTION SITE	2017-18 AIM PERFORMANCE [MI]	2017-18 NORMALISED AIM PERFORMANCE	CUMULATIVE AIM PERFORMANCE 2016-17 [MI]	CUMULATIVE NORMALISED AIM PERFORMANCE 2016-17 ONWARDS [NR]	CONTEXTUAL INFORMATION RELATING TO AIM PERFORMANCE
Ormesby Broad	-	-	-	-	Water level did not fall below AIM trigger of -0.14mAOD

NWL agreed with the EA and Ofwat that Ormesby Broad was our only abstraction point to include in the Abstraction Incentive Mechanism (AIM) for 2016/17. The water level in Ormesby Broad did not fall below the trigger threshold of -0.14m AOD during the reporting year.

A mud pumping project solution, identified through the Review of Consents process, was completed in May 2017 which is expected to resolve the abstraction sustainability issue.

3D SIM TABLE

For the year ended 31 March 2018

	SCORE
Qualitative performance	nr
1st survey score	4.33
2nd survey score	4.53
3rd survey score	4.51
4th survey score	4.53
Qualitative SIM score (out of 75)	65.16
Quantitative performance	
Total contact score	75.25
Quantitative SIM score (out of 25)	21.24
SIM score	
Total annual SIM score (out of 100)	86.40



SECTION 4: ADDITIONAL REGULATORY INFORMATION



4A NON-FINANCIAL INFORMATION

For the 12 months ended 31 March 2018

RETAIL - HOUSEHOLD	TOTAL COMPANY		NORTHUMBRIAN WATER		ESSEX AND SUFFOLK WATER	
	2017/18		2017/18		2017/18	
	UNMEASURED	MEASURED	UNMEASURED	MEASURED	UNMEASURED	MEASURED
Number of void households	53.6	41.8	40.9	21.2	12.7	20.6
Per capita consumption (excluding supply pipe leakage) l/h/d			147.0	136.5	157.2	149.4

WHOLESALE	2017/18		2017/18	
	WATER	WASTEWATER	WATER	WASTEWATER
Volume (Ml/d)				
Bulk supply export	0.6	-	3.1	-
Bulk supply import	-	-	86.2	-
Distribution input	668.5		450.3	

4B TOTEX ANALYSIS

For the 12 months ended 31 March 2018

	CURRENT YEAR		CUMULATIVE 2015-20	
	WATER	WASTEWATER	WATER	WASTEWATER
	£'m	£'m	£'m	£'m
Actual totex	344.3	174.5	904.0	517.9
Items excluded from the menu				
Third party costs	8.1	0.3	29.0	4.7
Pension deficit recovery payments	6.2	2.7	17.6	8.3
Other 'Rule book' adjustments	0.3	2.9	0.9	3.2
Total items excluded from the menu	14.6	5.9	47.5	16.2
Transition expenditure	-	-	-	4.0
Adjusted Actual totex	329.7	168.6	856.5	505.7
Adjusted Actual totex base year prices	293.4	150.0	785.0	464.7
Allowed totex based on final menu choice – base year prices	281.4	212.2	811.2	623.2

Wholesale totex reconciliation to FD

Our aim is to deliver the business outcomes of our wholesale activities as efficiently as possible, whilst maintaining the health of our assets and supporting excellent customer service. We are confident that we will outperform the wholesale totex allowed in our PR14 Final Determination over the five year price control period, based upon our implementation of a new operating model for efficient delivery of our capital investment programme, our ongoing focus on our opex efficiency programme and our innovation strategy.

However, it is important that one-off exceptional adjustments are taken into account to gain a more realistic view of the underlying efficiency position.

Atypical items

There were no atypical items in 2017/18.

The 2015/16 results included an exceptional pension credit in respect of a pension curtailment. This related to changes made to future benefits from the Northumbrian Water Pension Scheme, a defined benefit pension scheme, after consultation with employees. Of the total pension credit of £38.9m, £19.7m related to the water service and £10m related to wastewater.

In 2016/17, an exceptional water cumulo rates credit of £10.7m was recognised, relating to a revised 2005 cumulo valuation agreed with the Valuation Office Agency.

Other Rule book adjustments

In accordance with RAG 4.07 and the PR14 reconciliation rulebook, the other 'Rule book' adjustments relate to disallowable costs, as defined in the PR14 reconciliation rulebook. The overarching principle is that costs should only feature in the totex menu where it is appropriate for a company to share an over, or under, spend with customers. Disallowable items are costs that do not conform to this overarching principle, examples being fines and compensation costs. NWL has disallowed the following costs:

Water:

- fines and fixed penalty notices related to traffic management legislation: £0.3m in 2017/18 and £1.0m cumulatively; and
- reduction in a provision for a compensation event: -£0.1m cumulatively.

Wastewater:

- provision for enforcement undertakings relating to historic pollution incidents: £2.9m in 2017-18 and £3.3m cumulatively; and

- reduction in a provision for a compensation event : -£0.1m cumulatively.

Water totex compared to FD

The performance reported in the table above shows cumulative actual costs for Water £26.2m (3.2%) lower than the totex allowed in the FD, in 2012/13 prices. The main driver of lower costs on water is the operating model that we have implemented to deliver our capital investment programme as efficiently and effectively as possible. This is based on four key principles: we operate as a well-informed professional client; we offer clear visibility of, and commitment to, future workload to suppliers; we engage suppliers as early as practicable in the delivery process to add value and innovation; and we create the right environment for collaboration and co-operation, incentivising innovation and performance.

The benefits of the capital investment operating model have been offset somewhat by increases in operating costs, most notably significant steps up in water cumulo rates, as a result of the 2017 rating valuation, and abstraction charges.

The performance reported in [Table 3A](#) and in Our Performance Summary on pages [20 to 21](#) demonstrates that we have achieved efficiencies whilst continuing to deliver excellent customer service, meeting the majority of our PCs and maintaining asset health performance.

Wastewater totex compared to FD

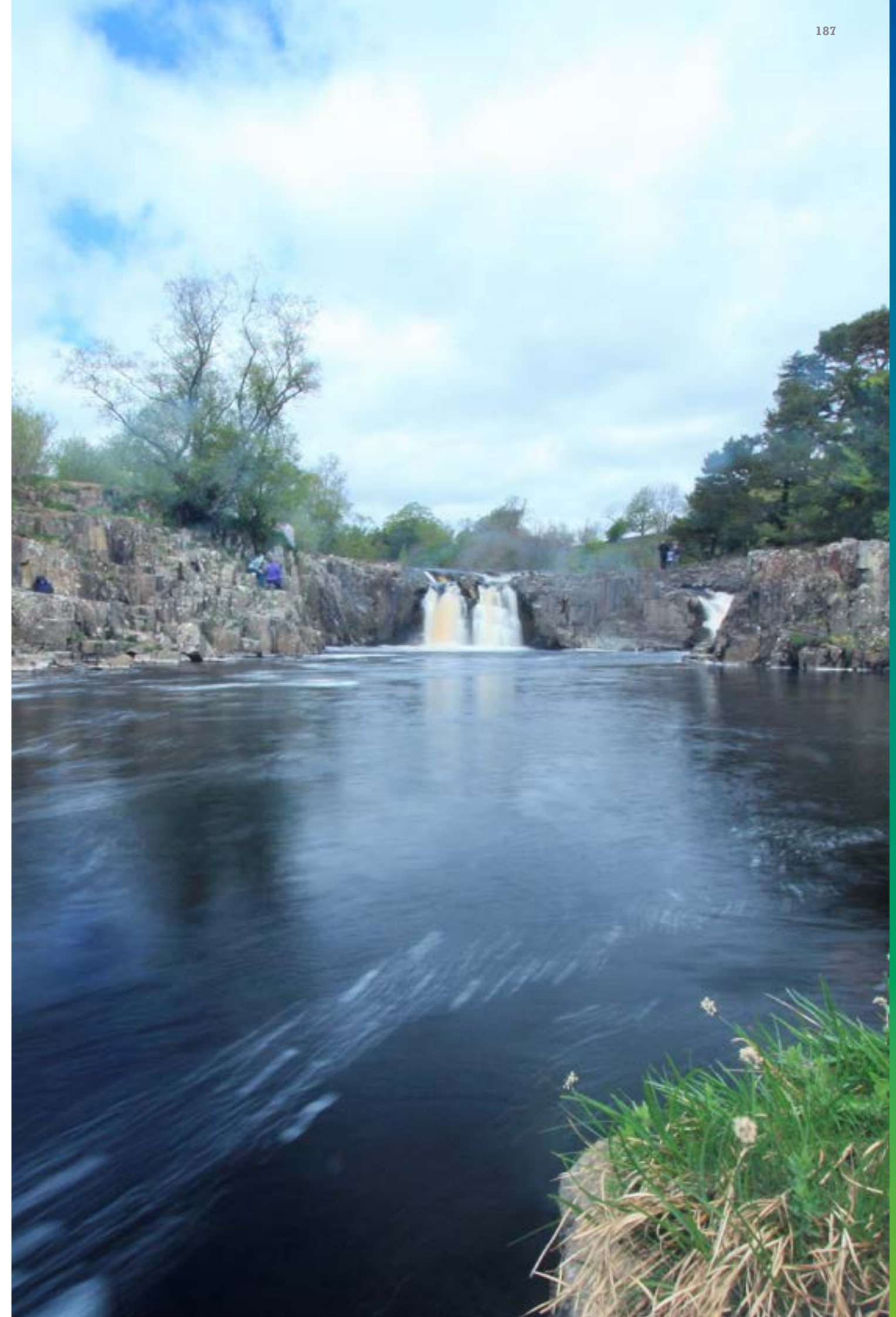
Table 4B shows cumulative actual costs for Wastewater of £158.5m (25.4%) lower than the totex allowed in the FD. This exceptionally strong efficiency has also been driven in part by the new capital investment delivery model, but also by investment in renewable energy generation and sustainable urban drainage solutions

This has also been achieved at the same time as delivering excellent customer service, consistently driving down levels of sewer flooding performance, maintaining excellent sewage treatment works compliance and maintaining asset health performance.

4C FORECAST IMPACT OF PERFORMANCE ON RCV

For the 12 months ended 31 March 2018

	2017/18	
	WATER	WASTEWATER
	£'m	£'m
Cumulative totex underspend so far in the price control period	(29.8)	(180.3)
Customer share of cumulative totex underspend	(15.3)	(95.7)
RCV element of customer share of cumulative totex underspend	(10.3)	(97.2)
Adjustment for ODI rewards or penalties	9.3	5.7
RCV determined at FD at 31 March	2,089.9	2,092.3
Projected 'shadow' RCV	2,088.9	2,000.8



4D TOTEX ANALYSIS: WHOLESALE WATER

For the 12 months ended 31 March 2018

	WATER RESOURCES	
	ABSTRACTION LICENCES	RAW WATER ABSTRACTION
	£'m	£'m
Operating expenditure		
Power	-	6.0
Income treated as negative expenditure	-	-
Abstraction charges/ discharge consents	28.0	0.1
Bulk supply	-	1.0
Other operating expenditure - renewals expensed in year (Infrastructure)	-	3.0
Other operating expenditure - renewals expensed in year (Non-Infrastructure)	-	0.3
Other operating expenditure - excluding renewals	-	6.4
Local authority and Cumulo rates	-	5.0
Total operating expenditure excluding third party services	28.0	21.8
Third party services	5.0	-
Total operating expenditure	33.0	21.8
Cash Expenditure		
Maintaining the long term capability of the assets - infra	-	0.1
Maintaining the long term capability of the assets - non-infra	-	5.0
Other capital expenditure - infra	-	1.4
Other capital expenditure - non-infra	-	1.6
Infrastructure network reinforcement	-	-
Total gross capital expenditure (excluding third party)	-	8.1
Third party services	-	-
Total gross capital expenditure	-	8.1
Grants and contributions	-	-
Totex	33.0	29.9
Cash Expenditure		
Pension deficit recovery payments	-	0.4
Other cash items	-	-
Totex including cash items	33.0	30.3
Unit cost information (operating expenditure)		
Population ('000s)	4,502.0	4,502.0
Unit cost (£/pop)	7.3	4.8
	LICENCED VOLUME AVAILABLE	VOLUME ABSTRACTED
Volume (MI)	678,429	544,076
Unit cost (£/MI)	48.6	40.1

	NETWORK+				TOTAL
	RAW WATER TRANSPORT	RAW WATER STORAGE	WATER TREATMENT	TREATED WATER DISTRIBUTION	
	£'m	£'m	£'m	£'m	£'m
	2.4	-	2.1	13.1	23.6
	-	-	(0.2)	-	(0.2)
	-	-	0.3	-	28.4
	-	-	-	-	1.0
	-	-	-	1.8	4.8
	-	-	0.7	0.3	1.3
	0.5	1.6	34.3	61.0	103.8
	3.5	-	4.7	23.3	36.5
	6.4	1.6	41.9	99.5	199.2
	1.0	-	0.3	1.8	8.1
	7.4	1.6	42.2	101.3	207.3
	0.8	-	-	26.3	27.2
	0.1	-	38.1	36.0	79.2
	-	-	-	18.7	20.1
	-	-	11.3	5.0	17.9
	-	-	-	0.4	0.4
	0.9	-	49.4	86.4	144.8
	-	-	-	-	-
	0.9	-	49.4	86.4	144.8
	-	-	-	(14.0)	(14.0)
	8.3	1.6	91.6	173.7	338.1
	-	-	1.8	4.0	6.2
	-	-	-	-	-
	8.3	1.6	93.4	177.7	344.3
	4,502.0	4,502.0	4,502.0	4,502.0	
	1.6	0.4	9.4	22.5	
VOLUME TRANSPORTED	AVERAGE VOLUME STORED	DISTRIBUTION INPUT FROM WATER TREATMENT	DISTRIBUTION INPUT TREATED WATER		
172,536	49,755	407,157	407,157		
42.9	32.2	103.6	248.8		

4E TOTEX ANALYSIS: WHOLESALE WASTEWATER

for the 12 months ended 31 March 2018

	NETWORK+ SEWAGE COLLECTION		
	FOUL	SURFACE WATER DRAINAGE	HIGHWAY DRAINAGE
	£'m	£'m	£'m
Operating expenditure			
Power	5.6	-	-
Income treated as negative expenditure	-	-	-
Discharge consents	1.1	-	-
Bulk discharge	-	-	-
Other operating expenditure - renewals expensed in year (Infrastructure)	1.6	2.6	1.4
Other operating expenditure - renewals expensed in year (Non-Infrastructure)	0.1	0.2	0.1
Other operating expenditure - excluding renewals	1.7	14.3	7.7
Local authority rates and Cumulo rates	0.3	-	-
Total operating expenditure excluding third party services	10.4	17.1	9.2
Third party services	0.1	0.1	-
Total operating expenditure	10.5	17.2	9.2
Capital Expenditure			
Maintaining the long term capability of the assets - infra	4.8	8.0	4.3
Maintaining the long term capability of the assets - non-infra	2.1	3.5	1.9
Other capital expenditure - infra	4.1	6.8	3.7
Other capital expenditure - non-infra	0.6	1.1	0.6
Infrastructure network reinforcement	0.2	0.3	0.2
Total gross capital expenditure (excluding third party services)	11.8	19.7	10.7
Third party services	-	-	-
Total gross capital expenditure	11.8	19.7	10.7
Grants and contributions	(1.8)	(3.0)	(1.6)
Totex	20.5	33.9	18.3
Cash Expenditure			
Pension deficit recovery payments	1.0	0.2	-
Totex including cash items	21.5	34.1	18.3

(TABLE CONTINUED)

NETWORK + SEWAGE TREATMENT		SLUDGE			TOTAL
SEWAGE TREATMENT AND DISPOSAL	SLUDGE LIQUOR TREATMENT	SLUDGE TRANSPORT	SLUDGE TREATMENT	SLUDGE DISPOSAL	
£'m	£'m	£'m	£'m	£'m	£'m
11.7	1.1	-	(0.8)	-	17.6
-	-	-	(7.9)	-	(7.9)
1.4	-	-	-	-	2.5
-	-	-	-	-	-
-	-	-	-	-	5.6
0.8	-	-	-	-	1.2
25.7	0.7	3.8	9.7	1.3	64.9
6.0	-	-	1.3	-	7.6
45.6	1.8	3.8	2.3	1.3	91.5
0.1	-	-	-	-	0.3
45.7	1.8	3.8	2.3	1.3	91.8
-	-	-	-	-	17.1
29.0	-	1.0	4.3	-	41.8
-	-	-	-	-	14.6
9.9	-	-	-	-	12.2
-	-	-	-	-	0.7
38.9	-	1.0	4.3	-	86.4
-	-	-	-	-	-
38.9	-	1.0	4.3	-	86.4
-	-	-	-	-	(6.4)
84.6	1.8	4.8	6.6	1.3	171.8
1.2	-	-	0.3	-	2.7
85.8	1.8	4.8	6.9	1.3	174.5

4E TOTEX ANALYSIS: WHOLESALE WASTEWATER (continued)

for the 12 months ended 31 March 2018

	NETWORK+ SEWAGE COLLECTION		
	FOUL	SURFACE WATER DRAINAGE	HIGHWAY DRAINAGE
	£'m	£'m	£'m
Unit cost information (operating expenditure)			
Population ('000s)	2,616.9	2,616.9	2,616.9
Unit cost (£/pop)	4.0	6.6	3.5

	VOLUME COLLECTED FOUL	VOLUME COLLECTED SURFACE WATER DRAINAGE	VOLUME COLLECTED HIGHWAY DRAINAGE
	MI	MI	MI
Volume	163,830	98,440	53,006
£/unit	64.1	174.7	173.6

NETWORK + SEWAGE TREATMENT			SLUDGE	
SEWAGE TREATMENT AND DISPOSAL	SLUDGE LIQUOR TREATMENT	SLUDGE TRANSPORT	SLUDGE TREATMENT	SLUDGE DISPOSAL
£'m	£'m	£'m	£'m	£'m
2,616.9	2,616.9	2,616.9	2,616.9	2,616.9
17.4	0.7	1.5	0.9	0.5

BIOCHEMICAL OXYGEN DEMAND (BOD) SEWAGE	BIOCHEMICAL OXYGEN DEMAND (BOD) IMPORTED SLUDGE LIQUOR	SLUDGE VOLUME TRANSPORTED	SLUDGE TREATMENT DRIED MASS SOLID MASS TREATED	SLUDGE DISPOSAL DRIED SOLID MASS DISPOSED
Tonnes	Tonnes	m3	ttds	ttds
65,180	6,575	799,960	70	28
699.6	273.8	4.8	32,857.1	46,428.6

4F OPERATING COST ANALYSIS: HOUSEHOLD RETAIL

For the year ended 31 March 2018

	HOUSEHOLD UNMEASURED			
	WATER ONLY	WASTEWATER ONLY	WATER AND WASTEWATER	TOTAL
	£'m	£'m	£'m	£'m
Operating expenditure				
Customer services	1.4	0.2	3.2	4.8
Debt management	0.5	0.1	1.1	1.7
Doubtful debts	1.4	0.1	10.4	11.9
Meter reading	-	-	-	-
Other operating expenditure	1.0	0.1	2.5	3.6
Total operating expenditure excluding third party services	4.3	0.5	17.2	22.0
Third party services operating expenditure	-	-	-	-
Total operating expenditure	4.3	0.5	17.2	22.0
Depreciation - tangible fixed assets (on assets existing at 31 March 2015)	0.1	0.1	0.4	0.6
Depreciation - tangible fixed assets (on assets acquired since 1 April 2015)	0.1	-	0.2	0.3
Amortisation - intangible fixed assets (on assets existing at 31 March 2015)	-	-	-	-
Amortisation - intangible fixed assets (on assets acquired since 1 April 2015)	-	-	-	-
Total operating costs	4.5	0.6	17.8	22.9
Capital expenditure	1.0	0.2	2.4	3.6
Demand-side efficiency and customer-side leaks analysis - Household				£'m
Demand-side water efficiency - gross expenditure				1.4
Demand-side water efficiency - expenditure funded by wholesale				(1.4)
Demand-side water efficiency - net retail expenditure				-
Customer-side leak repairs - gross expenditure				2.3
Customer-side leak repairs - expenditure funded by wholesale				(2.3)
Customer-side leak repairs - net retail expenditure				-

	HOUSEHOLD MEASURED				TOTAL
	WATER ONLY	WASTEWATER ONLY	WATER AND WASTEWATER	TOTAL	
	£'m	£'m	£'m	£'m	£'m
	4.7	0.3	4.1	9.1	13.9
	1.6	0.1	1.4	3.1	4.8
	1.5	0.1	1.6	3.2	15.1
	0.9	0.1	1.4	2.4	2.4
	3.6	0.3	3.1	7.0	10.6
	12.3	0.9	11.6	24.8	46.8
	-	-	-	-	-
	12.3	0.9	11.6	24.8	46.8
	0.6	-	0.4	1.0	1.6
	0.3	-	0.2	0.5	0.8
	-	-	-	-	-
	-	-	-	-	-
	13.2	0.9	12.2	26.3	49.2
	3.5	0.2	3.0	6.7	10.3
					£'m
					1.4
					(1.4)
					-
					2.3
					(2.3)
					-

4G WHOLESALE CURRENT COST FINANCIAL PERFORMANCE

For the 12 months ended 31 March 2018

	WATER	WASTEWATER	TOTAL
	£'m	£'m	£'m
Revenue	429.5	306.6	736.1
Operating expenditure	(207.3)	(91.8)	(299.1)
Capital maintenance charges	(133.9)	(102.2)	(236.1)
Other operating income	0.7	0.3	1.0
Current cost operating profit	89.0	112.9	201.9
Other income	5.9	2.4	8.3
Interest income	0.3	0.4	0.7
Interest expense	(67.2)	(67.3)	(134.5)
Other interest expense	(2.4)	(1.1)	(3.5)
Current cost profit before tax and fair value movements	25.6	47.3	72.9
Fair value gains/(losses) on financial instruments	(2.4)	(2.5)	(4.9)
Current cost profit before tax	23.2	44.8	68.0

4H FINANCIAL METRICS

For the 12 months ended 31 March 2018

	UNITS	METRIC
Financial indicators		
Net debt	£m	2,761.3
Regulated equity	£m	1,420.9
Regulated gearing	%	66.0%
Post tax return on regulated equity	%	12.0%
RORE (return on regulated equity)	%	8.6%
Dividend yield	%	8.4%
Retail profit margin - Household	%	1.6%
Retail profit margin - Non household	%	N/A
Credit rating	n/a	Baa1 (negative outlook)
Return on RCV	%	7.3%
Dividend cover	dec	1.3
Funds from operations (FFO)	£m	346.1
Interest cover (cash)	dec	4.4
Adjusted interest cover (cash)	dec	2.5
FFO/Debt	dec	0.1
Effective tax rate	%	17.6%
RCF	£m	226.7
RCF/capex	dec	0.9
Revenue and earnings		
Revenue (actual)	£m	786.2
EBITDA (actual)	£m	439.3
Borrowings		
Proportion of borrowings which are fixed rate	%	64.0%
Proportion of borrowings which are floating rate	%	1.3%
Proportion of borrowings which are index linked	%	34.7%
Proportion of borrowings due within 1 year or less	%	1.4%
Proportion of borrowings due in more than 1 year but no more than 2 years	%	1.4%
Proportion of borrowings due in more than 2 years but but no more than 5 years	%	15.8%
Proportion of borrowings due in more than 5 years but no more than 20 years	%	56.0%
Proportion of borrowings due in more than 20 years	%	25.4%

RORE (Return on Regulated Equity)

The table below shows the differences between the base RORE set at the PR14 FD and the actual RORE reported in the table above.

COMPONENT OF RORE	VARIATION FROM BASE	EXPLANATORY COMMENT
PR14 base RORE	5.7%	Before adjustments related to revenue under-recovery in the previous price review period under Ofwat's Revenue Correction Mechanism (RCM)
Totex outperformance	1.9%	See table 4B narrative
Retail outperformance	0.2%	Retail cost outperformance against FD
ODI rewards	0.2%	See table 3A and associated narrative earlier in this report
Financing costs	0.6%	Due to new borrowing at lower rates, reflecting market conditions.
Average AMP 6 RORE	8.6%	This is the arithmetic average of 2015/16, 2016/17 and 2017/18 RORE, per Ofwat's guidance

The RORE for 2017/18 on a standalone basis was 9.8%. The RORE excludes the NHH retail activities, as NWL exited from the market on 1 April 2017.

4I FINANCIAL DERIVATIVES

For the 12 months ended 31 March 2018

	NOMINAL VALUE BY MATURITY (NET)		
	1 TO 2 YEARS	2 TO 5 YEARS	OVER 5 YEARS
	£'m	£'m	£'m
Derivative type			
Interest rate swap (sterling)			
Floating to fixed rate	20.0	20.0	150.0
Fixed to index-linked	-	-	250.0
Total	20.0	20.0	400.0
Forward currency contracts			
Forward currency contracts USD	6.1	0.9	-
Total	6.1	0.9	-
Other financial derivatives			
Other financial derivatives	38.1	-	-
Total	38.1	-	-
Total financial derivatives	64.2	20.9	400.0

For the floating to fixed rate swaps, the interest rate receivable has been calculated using a 3 month sterling LIBOR of 0.71%, being the market rate for the last day of 2017/18.

For the fixed to index-linked swaps, the interest rate payable has been calculated using a reference RPI of 3.3%, being the published RPI for March 2018. Both swaps reported in this line are set at RPI minus a fixed percentage.

NOMINAL VALUE (NET)	TOTAL VALUE		INTEREST RATE (WEIGHTED AVERAGE)	
	MARK TO MARKET	TOTAL ACCRETION	PAYABLE	RECEIVABLE
£'m	£'m	£'m	%	%
190.0	(9.9)	-	2.87%	1.11%
250.0	(18.8)	8.9	2.61%	2.17%
440.0	(28.7)	8.9		
7.0	(0.2)	-	0.00%	0.00%
7.0	(0.2)	-		
38.1	(3.9)	-	0.00%	0.00%
38.1	(3.9)	-		
485.1	(32.8)	8.9		

FINANCIAL FLOWS

for the 12 months ended 31 March 2018 (Price Base 2012/13 RPI average)

	%		
	NOTIONAL RETURNS AND NOTIONAL REGULATORY EQUITY	ACTUAL RETURNS AND NOTIONAL REGULATORY EQUITY	ACTUAL RETURNS AND ACTUAL REGULATORY EQUITY
Return on regulatory equity	5.64	4.93	5.64
Actual performance adjustment 2010-2015	1.31	1.14	1.31
Adjusted Return on regulatory equity	6.95	6.08	6.95
Regulatory equity base (£'m)	1,373	1,373	1,201
Financing			
Gearing	-	0.38	0.44
Variance in corporation tax	-	0.04	0.05
Group relief	-	-	-
Cost of debt	-	2.02	2.48
Hedging instruments	-	0.01	0.01
Sub total	6.95	8.53	9.93
Operational Performance			
Totex out / (under) performance	-	1.93	2.20
ODI out / (under) performance	-	0.28	0.31
Retail out / (under) performance	-	0.23	0.26
Sub Total	-	2.44	2.77
Total earnings	6.95	10.97	12.70
RCV growth	3.74	3.74	3.74
Total shareholder return	10.69	14.71	16.44
Net dividend	4.00	7.74	8.85
Retained Value	6.69	6.97	7.59
Dividends reconciliation			
Gross Dividend	4.00	7.74	8.85
Interest Receivable on Intercompany loans	-	-	-
Net dividend	4.00	7.74	8.85

	£'m		
	NOTIONAL RETURNS AND NOTIONAL REGULATORY EQUITY	ACTUAL RETURNS AND NOTIONAL REGULATORY EQUITY	ACTUAL RETURNS AND ACTUAL REGULATORY EQUITY
	77.5	67.7	67.7
	18.0	15.7	15.7
	95.5	83.4	83.4
	-	5.3	5.3
	-	0.6	0.6
	-	-	-
	-	27.7	29.8
	-	0.2	0.2
	95.5	117.2	119.3
	-	26.4	26.4
	-	3.8	3.8
	-	3.1	3.1
	-	33.3	33.3
	95.5	150.5	152.6
	54.9	51.4	44.9
	150.4	201.9	197.5
	54.9	106.3	106.3
	95.5	95.6	91.2
	54.9	106.3	106.3
	-	-	-
	54.9	106.3	106.3

The purpose of this table is to provide transparency of financial flows to investors, comparing actual flows, and the main elements of performance which contribute to these flows, against the financial flows assumed by Ofwat under the notional structure at the last price review.

This commentary explains the key features of the report for 2017/18. Note, all of the financial values are expressed in the same 2012/13 price base as the PR14 price review.

Return on regulatory equity (RORE)

At PR14, the base notional RORE was set at 5.64%, excluding any return on NHH retail as NWL exited the NHH market on 1 April 2017. However, in accordance with Ofwat's PR14 methodology, certain company-specific changes were made. For NWL this included an additional return, under Ofwat's Revenue Correction Mechanism, to recover lower than funded revenue received in the previous price control period (from 2010 to 2015) as a result of falling non-household demand. This increased NWL's Adjusted RORE to 6.95%.

The regulatory equity base represents the proportion of RCV funded as equity rather than debt. Ofwat's notional structure for PR14 assumed net debt at 62.5% of RCV, equating to base regulatory equity of 37.5%, or £1,373m. NWL's average gearing in 2017/18 was 67.2%, resulting in actual regulatory equity of 32.8% of RCV, or £1,201m.

Financing

This section of the report relates to performance from financing, including tax.

Gearing is calculated as net debt divided by RCV. NWL's average gearing of 67.2% was higher than Ofwat's notional structure assumption of 62.5%, providing a benefit of £5.3m.

Corporation tax reports the difference current tax funded in the FD and the actual tax rate applied to profit before fair value, adjusted for capital allowances. This shows a small outperformance of £0.6m.

There was no outperformance due to Group relief. All tax losses acquired from related parties in the year were paid for in full.

Cost of debt performance is reported in real terms, rather than nominal. As reported in table 4H, 64% of the Company's debt is at fixed rate and not impacted by indexation. In 2017/18, RPI indexation was higher than assumed in the FD, resulting in NWL reporting a lower real cost of debt and a financing outperformance of £29.8m.

Hedging instruments shows the impact of interest rate swaps on the cost of debt reported in the year, and equated to a benefit of £0.2m.

The net effect of financing and tax in the year was an outperformance of FD allowance by £35.9m, or 2.98% of regulatory equity.

Operational Performance

This section of the report explains how our strong operational performance on wholesale totex, ODIs and retail costs, which has been explained throughout this report, has contributed to higher returns.

Our wholesale totex performance is explained in the commentary to table 4B. The table above shows the proportion of this outperformance which is retained by the Company, being 51.2% or £26.4m in 2017/18. The remainder of the outperformance is returned to customers through a reduction in RCV at the next price review.

ODI performance against our PCs is reported in table 3A, with a net reward earned in the year of £3.8m. This relates mostly to sewer flooding performance, with rewards also earned for interruptions to supply, discoloured water complaints and satisfaction with taste and odour. Our performance against each of these is explained earlier in this report.

The performance of our household retail business is explained in the narrative to table 2C. The operating cost outperformance of £3.1m relates primarily to the reduction in the bad debt provision in the year.

The net effect of operational performance in the year was an outperformance of FD allowance by £33.3m, or 2.77% of regulatory equity.

Total Shareholder Return

The total shareholder return comprises adjusted RORE, outperformance in respect of financing, tax and operational performance and growth in the RCV as allowed in the FD.

Our strong operational and financing performance has generated a total shareholder return of £197.5m, or 16.44% return on regulatory equity, representing a significant outperformance of Ofwat's FD assumptions.

Of this return, 8.85% was paid as dividend with 7.59% being value retained within the business. This retained value was higher than the retained value of 6.69% assumed by Ofwat in the FD on a notional basis.

Our dividend policy is set out in note 8 of our Annual Report and Financial Statements which is available on our websites.

Assurance

The data in the table has undergone the same level of external assurance as the other tables within [Section 4](#) of this report.

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