Sustainable Finance Framework 2019

YorkshireWater

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FOREWORD

I am delighted to introduce our Sustainable Finance Framework to align our financing with Yorkshire Water's social and environmental responsibilities.

Over the last few years Yorkshire Water, and the wider water industry, has changed significantly. We now understand better than ever the impact of what we do on the environment, the economy and the society we serve. We have moved from an approach which was based on solving problems through traditional hard engineering and assessing impact through our balance sheet, towards a more holistic approach that takes account of our total impact and is grounded in sustainability.

Every day we spend more than a million pounds providing water and wastewater services to more than five million people in the Yorkshire region. Our investment and the services we provide are more than just investment in infrastructure, we play a key role in protecting customers' health and wellbeing, supporting the economy, and safeguarding the natural environment.

Our innovative Six Capitals work has helped us to begin to quantify the total impact of what we do and the value we create. We have built this information into our decision-making approach to ensure we make investment decisions with a rich understanding of their social and environmental impact, as well as their operational benefit and financial cost.

This greater understanding of our social and environmental impact provides a fantastic opportunity to embed sustainable approaches throughout our business, strategy and investment choices.

Our Sustainable Finance Framework is the next step on this journey and will help us ensure our investments continue to deliver strong social and environmental benefits. Through the Framework we will report openly each year on our progress, ensuring we can be held accountable by our customers, regulators and other stakeholders.

This forward-thinking approach brings together green, social and sustainability financing options to allow us to raise truly sustainable debt. By combining existing performance measures with our innovative Six Capitals approach we have been able to create our new Framework based on a whole business approach that will allow us to finance many of our assets and expenditures through sustainable finance options.

This will align the way we finance the business with our social and environmental responsibilities and will ensure everything we do going forward is grounded in an understanding of our social and environmental impact.

I believe sustainable financing will be the standard for future fund raising and Yorkshire Water is well positioned to help lead this change. I look forward to working closely with the financial community to make this happen.

Liz Barber

Group Director of Finance, Regulation and Markets

Yorkshire Water Sustainable Finance Framework

Yorkshire Water Services Ltd (the "Company", "Yorkshire Water" or "we"), together with its financing subsidiaries Yorkshire Water Services Finance Limited and Yorkshire Water Finance Plc has developed a Sustainable Financing Framework (the "Framework") under which it can raise debt to support the financing and/or refinancing of assets and expenditures of a sustainable nature across its activities.

As a large water and sewerage company serving 5 million customers and 140,000 business premises, we can demonstrate that the majority of Yorkshire Water's operations create, either directly or indirectly, positive social and/or environmental outcomes. As such, the Framework supports the financing and refinancing of the majority of our business - except for Excluded Budgetary Categories (see section 3 - Process for Project Evaluation and Selection).

The Framework is aligned with the ICMA Social Bond Principles ("SBP")[1], Green Bond Principles ("GBP")[2] and Sustainability Bond Guidelines ("SBG")[3], and the Loan Market Association Green Loan Principles ("GLP")[4] (together the "Principles"), which all comprise of four key components that make up the main sections of this Framework:

1. **Use of Proceeds**
2. **Process for Project Evaluation and Selection**
3. **Management of Proceeds**
4. **Reporting**

[1] www.icmagroup.org/green-social-and-sustainability-bonds/social-bond-principles-sbp/
[2] www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/
[3] www.icmagroup.org/green-social-and-sustainability-bonds/sustainability-bond-guidelines-sbg/
[4] www.lma.eu.com/news-publications/press-releases?id=146

Yorkshire Water will aim to, where possible, adhere to best practices in the market and will review the Framework's alignment to updated versions of the Principles as and when they are released.

Yorkshire Water has developed this Framework under which it can issue various funding instruments, including but not limited to:

- Committed Facilities (revolving and term debt from banks and institutional investors)
- Green, Social and Sustainability Bonds (all "Sustainable Bonds")
- Private Placements (including US Private Placements)
- Long Funding Finance Leases

For the purpose of reporting in relation to the Framework, the activities captured by the Framework will be allocated as having a social and/or environmental benefit. It is important to acknowledge and understand that the vast majority of our assets and expenditures (both capital and operational) have, either directly or indirectly, benefits of both a social and environmental nature. A good example of this 'impact duality' is the leakage reduction we have undertaken and committed to go notably further. This reduces the amount of water required to be abstracted from the natural environment, treated with the use of energy and chemicals, and pumped with the use of energy (all environmental benefits). The reduction of leakage also improves the long-term resilience of the region's public water supplies for customers, a critical priority in the face of the growing population and changing climate, with multiple social benefits.

1. Introduction to Yorkshire Water

An Overview of the Business

Yorkshire Water is a regulated water and wastewater company whose primary activities are the collection, treatment and delivery of clean, safe drinking water, and the collection, treatment and recycling of wastewater in the Yorkshire and Humber Region.
We provide around 1.3 billion litres of drinking water and collect approximately 1 billion litres of wastewater every day, serving 5 million domestic and 140,000 business premises customers via a network of 84,000km of pipes and over 600 treatment works.

The region we serve spans 15,408 sq. km and stretches from Sheffield and Chesterfield in the south to Northallerton in the north, and from Bradford and Skipton in the west to Hull and the east coast.[5] The region has a total population of c. 5.4 million people and has three of the UK's ten largest cities.[6]

[5] The operational boundary for water and sewerage services differ slightly as per the diagram.

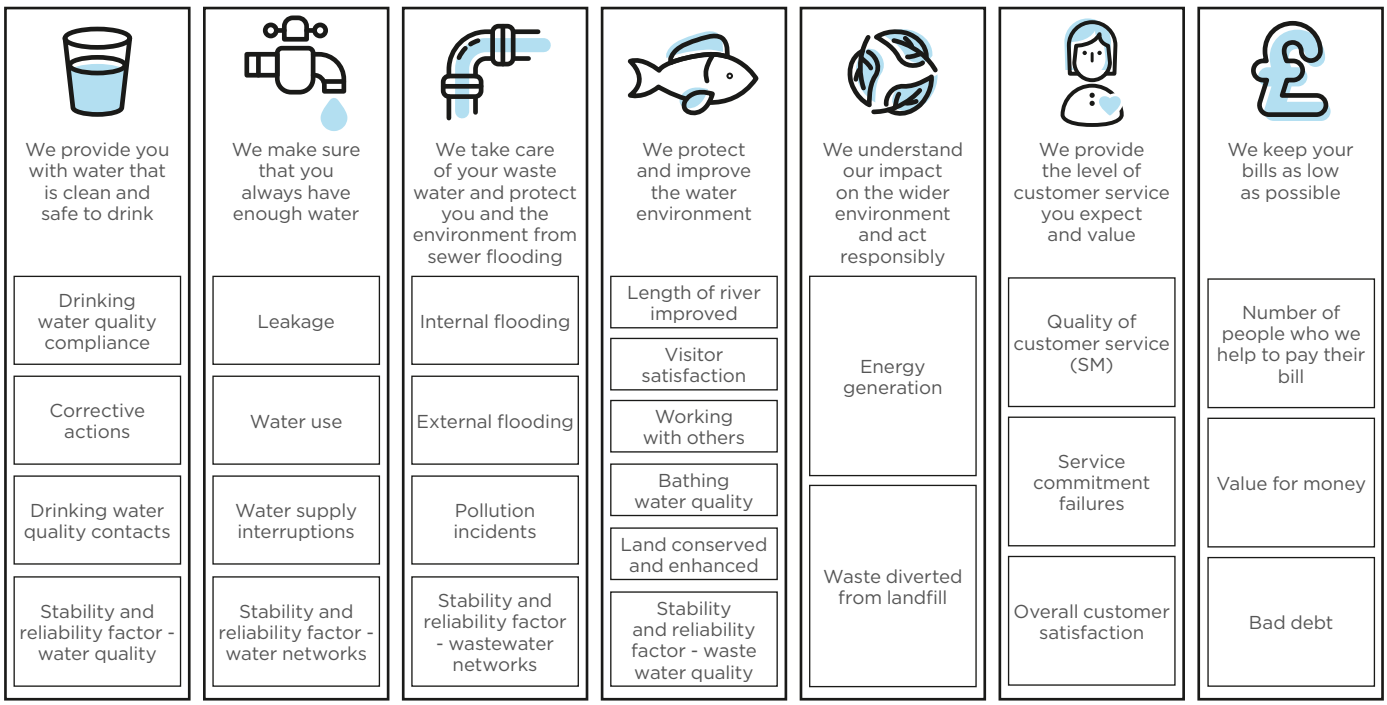
[6] Leeds (782,000), Sheffield (575,000) and Bradford (534,000). Source: Office for National Statistics.

We operate under a five-year regulatory review cycle set by our principal regulator, Ofwat. The current regulatory period, also known as Asset Management Period 6 ("AMP6"), lasts from 1st April 2015 to 31st March 2020. These periodic reviews determine our formal regulatory performance targets and the amount we are allowed to earn as a return on our regulatory assets (also known as "Regulatory Capital Value" or "RCV"). This process also determines what we can charge customers in their water and wastewater bills. Price Review 2019 ("PR19"), which is the price review for the next regulatory period (AMP7), is due to be finalised by December 2019 and will come into effect from 1st April 2020 to 31st March 2025. In the financial year ending March 2018 Yorkshire Water Services generated revenues of £1.03bn and had an RCV of £6.45bn.

Our Business Strategy

As a water and wastewater company we provide some of society's most essential services and we are a custodian of the natural environment and critical infrastructure. Our vision is "taking responsibility for the water environment for good," which captures our ambition to go beyond regulatory requirements and our commitment to long-term sustainability. The essence of our vision is doing what is right for customers, colleagues, partners, the environment and investors, both in the short and long-term. This holistic and integrated approach is critical to the resilience of our essential water and wastewater services, and of our business. Central to our strategy is the delivery of our customers' priorities, defined for the AMP6 period in seven Customer Outcomes and 26 Performance Commitments, summarised in the diagram below. These were shaped and agreed through engagement with over 30,000 of our customers, and with our stakeholders and regulators.

OUR CUSTOMER OUTCOMES AND PERFORMANCE COMMITMENTS



We have recently consulted with customers and stakeholders over our new long-term strategy #notjustwater, which sets the context for our detailed business plan for AMP7. Central to the strategy is the need for change. As a company whose core business fundamentally relies on financial, natural and social resources, we know that there are major challenges to the resilience of our essential water and wastewater services, such as climate change, population growth and resource constraints.

We have welcomed the UN's definition and adoption of the Sustainable Development Goals (SDGs) as a granular and globally agreed definition of sustainable development. We recognise we have an important role to play in contributing to achieving the global goals, and are aligning our strategy and are developing how we report our impact on them.

To help us make sure that our decision-making deals directly with these challenges, we are using the concept of the Six Capitals, shown to the right. We are working to apply these capitals to enhance our resilience and sustainability in our risk management, decision making and investment choices. Considering positive and negative impacts and dependencies across all the capitals, rather than just thinking about financial capital, helps an organisation improve its understanding of how to make decisions which have a balanced impact, and which take account of risk and value. This is so that more long term sustainable approaches can be targeted.

FINANCIAL CAPITAL
Our financial health and efficiency

MANUFACTURED CAPITAL
Our pipes, treatment works, offices and IT

NATURAL CAPITAL
The materials and services we rely on from the environment, especially water

HUMAN CAPITAL
Our workforce's capabilities and wellbeing

INTELLECTUAL CAPITAL
Our knowledge and processes

SOCIAL CAPITAL
Our relationships and customers' trust in us

In October 2018, Yorkshire Water won the Finance for the Future award in the category of 'Embedding an Integrated Approach' for the Company's work on developing the Six Capitals and embedding it throughout the business. The 'Our Contribution to Yorkshire' report and our use of the Six Capitals in the Decision Making Framework that helped shape our AMP7 plans were particularly commended - please see Further Reading section for a link to the report. The awards are supported by the Institute of Chartered Accountants and the Prince's Accounting for Sustainability ("A4S") Project, which aim to recognise best practice in building sustainable organisations, particularly where a company's Finance teams are driving a sustainable transformation.

A further demonstration of our ongoing commitment to sustainability is that Yorkshire Water has successfully retained the Carbon Trust Standard since it was introduced several years ago. The Standard is a respected, independent verification of an organisations success in reducing carbon emissions. Further investment will help us continue to retain the Standard.

Our Expenditure on Crucial Social Infrastructure, and Our Financial and Social Contribution to the Economy

Providing essential water and wastewater services to a region as large as ours requires a substantial amount of operational ("Opex") and capital ("Capex") expenditure together these are our Total Expenditure or ("Totex"):

- Yorkshire Water spends billions of pounds in Totex during each AMP, including spending hundreds of millions per annum on capital and operational expenditure.
- In its PR19 submission[7] for AMP7, Yorkshire Water has committed to approximately £4.9bn in Totex, split between £2.1bn in Opex and £2.8bn in Capex (including £0.5bn in Infrastructure Renewal Expenditure. £860m of our total expenditure over AMP7 will be spent on reducing phosphorus levels in some of our rivers to comply with legal requirements in the Urban Wastewater Treatment Directive and the Water Framework Directive under the Water Industry National Environment Programme ("WINEP").
- Infrastructure renewal spend, which is the actual expenditure incurred to maintain the operating capability of assets in the network through renewal or renovation of those assets, makes up a large portion of our Totex bill each AMP.
- As one of the region's largest landowners with over 70,000 acres of land, Yorkshire Water aims to be an exemplar landlord and to keep much of the land open for customers and visitors to enjoy activities such as walking, cycling, horse riding, sailing and other outdoor activities – all of which yield substantial health benefits.
- Yorkshire Water's investment in renewable energy has been predominantly focused on various forms of anaerobic digestion ("AD"), allowing us to generate energy from sewage sludge. Over recent years we have invested in AD to generate approximately 10% of our substantial energy requirements, however this contribution is set to grow sharply with our £72m investment in Knostrop (Leeds) and further investment at our Huddersfield works which, when both are online, will mean virtually all of Yorkshire Water's sewage sludge is captured for energy generation and nutrient recycling.

We also contribute a significant amount to the local and wider UK economies, with over £100m per annum paid in taxes[8] and, through the employment of over 2,700 employees, paid wages and other benefits[9] of approximately £118m per annum. We also contribute financially to the local economy in other ways, which include but are not limited to:

- Saving customers money by keeping bills low (second lowest levels in the country in 2017-18) and proactively checking customers are on lowest bill available to them; and
- Supporting nearly 29,000 of our customers who struggle to makes ends meet by providing financial support to help pay their water bills. Support comes in the form of our WaterSure, WaterSupport, Community Trust, Resolve or Water Direct Schemes[10].

[7] www.yorkshirewater.com/sites/default/files/Yorkshire%20Water%20PR19%20Business%20Plan%20Submission%20Document_0.pdf

[8] For more detail and a breakdown of these taxes, please see page 40 of the Yorkshire Water Services Limited Annual Report and Financial Statements March 2018 ("FY18 ARFS")

[9] Other benefits include Social security and pensions.

[10] For further details please see the "Struggling to pay your bill" section of Yorkshire Water's website.

2. Use of Proceeds

Yorkshire Water will use the Framework to raise finance in a variety of forms to meet its funding requirements. An amount equivalent to the net proceeds from the finance raised under the Framework will be allocated to finance new and/or refinance existing assets and expenditures of Yorkshire Water.

Assets and expenditures falling within the Social Eligible Categories ("Eligible Social Investments") will be aggregated to form the Eligible Social Portfolio. These are assets and expenditures that have a benefit for societies and communities.

Assets and expenditures falling within the Green Eligible Categories ("Eligible Green Investments") will be aggregated to form the Eligible Green Portfolio. These are assets and expenditures that have a benefit for the natural environment.

Under this Framework:

- The Social Eligible Categories and Green Eligible Categories together form the Sustainable Eligible Categories;
- Eligible Social Investments and Eligible Green Investments are together Eligible Sustainable Investments; and
- The Eligible Social Portfolio aggregated with the Eligible Green Portfolio forms the Eligible Sustainable Portfolio.

As the majority of our activities and expenditures are expected to meet the requirements of this Framework, the amounts represented by the Eligible Sustainable Portfolio will greatly exceed the amount of finance raised under the Framework. We will report, as part of the Initial Allocation Report and subsequent Impact Reports, the buffer (in %) of Eligible Sustainable Portfolio in relation to the finance raised under the Framework on an annual basis.

Based on the direction of policy and regulation development, we believe the most relevant primary category in the taxonomy[11] for Yorkshire Water would be "Water resource management and conservation". However we believe a lot of our activities would also fall within most of the other primary categories such as "Access to basic infrastructure" and "Healthy natural habitats".

Based on the latest draft of the EU's Technical Expert Group on Sustainable Finance, we believe the most relevant primary category in the taxonomy[12] for Yorkshire Water would be "Water supply, waste management and remediation activities". The final version of the Taxonomy is due to be released in June 2019.

[11] https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report-annex-3_en.pdf

[12] https://ec.europa.eu/info/publications/sustainable-finance-taxonomy_en

Although most of Yorkshire Water's assets and expenditures could be eligible, when it comes to existing assets and expenditures, we will aim to refinance Eligible Sustainable Investments that have been completed or charged (in the case of operating expenditures) in the last 2 years. However, given the nature of our long-term asset base, this may not always be possible and we reserve the right to finance older assets and expenditures, including expenditures linked to the maintenance and upkeep of existing assets. Yorkshire Water may also finance on-going and future Eligible Sustainable Investments.

Eligible Sustainable Investments will fall within one or several of the following eligible categories (a full description of the categories and associated potential impact metrics can be found in Appendix 1 - Use of Proceeds):

Social Eligible Categories

- Affordable basic infrastructure
- Access to essential services
- Food security
- Socioeconomic advancement and empowerment

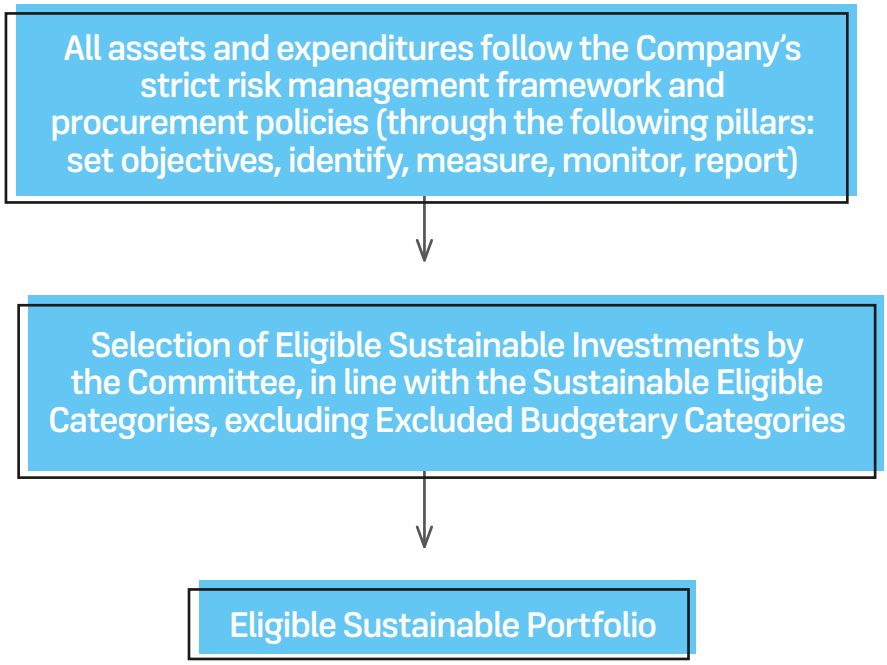
Green Eligible Categories

- Renewable energy
- Energy efficiency
- Pollution prevention and control
- Environmentally sustainable management of living natural resources and land use
- Terrestrial and aquatic biodiversity conservation
- Clean transportation
- Sustainable water and wastewater management
- Climate change adaption
- Eco-efficient and/or circular economy adapted products, production technologies and processes.

Assets and expenses which fall under the Excluded Budgetary Category (please see section 2. Process for Project Evaluation and Selection below) will be excluded.

3. Process for Project Evaluation and Selection

Overview



All investment in assets and expenditures carried out by Yorkshire Water and its subsidiaries must follow the Company's strict risk management (see below) and procurement policy.

Assets and expenditures will be put forward to be assessed for their eligibility and inclusion into the Eligible Sustainable Portfolio by a committee (the "Committee") including representatives from the Yorkshire Water's finance and sustainability functions. The Committee will govern a documented process to ensure all funded assets and expenditures support the need to maintain and improve sustainability, and will review the asset and expenditure categories submitted for inclusion to determine their alignment with the use of proceeds categories above. The Committee will prioritise those activities which they feel best support progress towards our Big Goals[13] and the UN Sustainable Development Goals. The Committee will be mandated and governed by its own terms of reference and will meet at least once per annum.

[13] Our 5 Big Goals are "Customers, Water Supply, Environment, Transparency and Bills". More information can be found at www.yorkshirewater.com/biggoals

The Eligible Sustainable Investments within the Eligible Sustainable Portfolio will change over time depending on the nature of the assets and Yorkshire Water's expenditure priorities in the years to come.

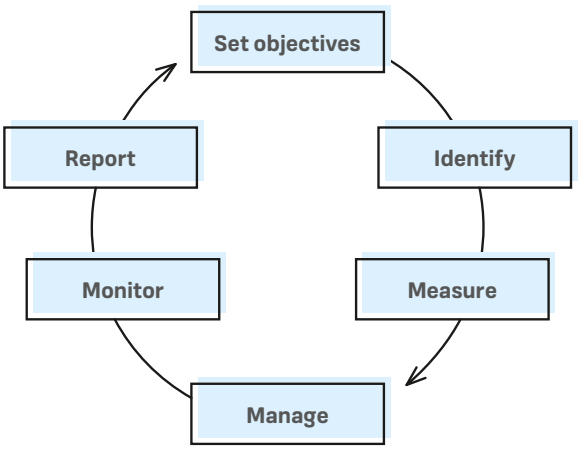
It is expected that the majority of Yorkshire Water's assets and expenditure will be included in the Eligible Sustainable Portfolio under the Framework, taking into account Excluded Budgetary Categories (see below).

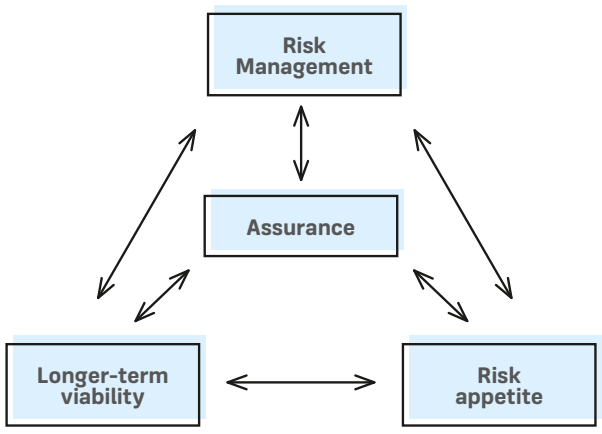
Risk Management at Yorkshire Water

Yorkshire Water provides a critical service to the 5.4 million people who live in the region, the millions of people who visit each year as well as 140,000 businesses. Effective risk management is central to ensuring we meet customer expectations all day, every day. Our framework for identifying and managing risk to acceptable levels is embedded in our normal business process and culture.

Our operating environment is subject to constant and sometimes rapid change, as such we must be able to respond to this change to maintain our customer service and achieve our strategic goals. Our risk management approach applies to all activities, decisions and processes, and we aim to balance the cost of control with the risk appetite and long-term viability of the business.

Set objectives	Identify	Measure	Manage	Monitor	Report
The Board sets our strategic goals and our corporate risk appetite. We tolerate a low residual risk.	Risk identification is embedded in all our operational management systems.	A standard risk scoring matrix ensures consistent measurement.	We tolerate a low residual risk with a strong control environment.	Coordinated three lines of assurance assess the effectiveness of controls.	We have a monthly risk reporting cycle to Risk Committee and Board.
We balance the cost of control with risk appetite and the long-term viability of the business.	Risk owners determine the tolerable level for each risk.	Risk champions aid escalation and consolidation.	Risk action plans manage risk to tolerance.		The risk reports inform business planning and resourcing decisions.





A clearly defined risk appetite framework is aligned to our business strategy and approach. There is a strong control environment with a balance of preventative, detective and corrective controls captured in documented processes. Deviations from these processes are tolerated only if formally agreed and the risk captured.

Excluded Budgetary Categories

The assets and expenditures that will not be included in the Eligible Sustainable Portfolio (each an Excluded Budgetary Category) are:

- Personal expenditures
- Financing costs (including costs associated with raising finance)
- Landfill assets and expenditures
- Yorkshire Water's fossil fuel fleet[14]
- Assets and expenditures linked to the incineration of waste[15] (this does not exclude activities for converting incinerators and associated assets to Anaerobic Digestion or other renewable energy generation technologies)
- Potential fines and legal costs associated with pollution incidents (if any)

Although this Framework already covers a broad range of eligible assets and expenses, Yorkshire Water reserves the right to consider additional assets and expenditures within its businesses as eligible in the future if the Committee feel they would contribute to the social and environmental benefits described in the Framework. Any such assets and expenditures will be included after obtaining approval from a Second Party Opinion Provider or other appropriate consultant and will be detailed in the subsequent Annual Investor Report for the year in which they were added.

[14] Yorkshire Water operates a large fleet and undertakes substantial mileage to effectively manage our thousands of sites across the region to deliver our services. The fleet is almost entirely made of up of traditional fossil fuel vehicles at the time of writing, with a recent investment in our first electric vehicles and a commitment to go much further in transitioning our fleet to become low carbon, and to minimise our need for travel.

[15] Yorkshire Water closed the last of its four incinerators in November 2018, and is currently in the process of decommissioning these sites (excluded) and investing in new Anaerobic Digestion plants (included) as a more sustainable alternative for our sewage sludge management activities.

4. Management of Proceeds

The net proceeds of any finance raised under the Framework will be managed by the Treasury team to fund various operations and capital expenses of Yorkshire Water, save for Excluded Budgetary Categories, including, for example, (a) paying down existing drawings under the Company's revolving credit facility; (b) refinancing upcoming debt maturities; or (c) placing on short-term deposit and drawn upon when required.

Yorkshire Water will hold or invest, at its discretion, any unallocated net proceeds as per its internal treasury policy[16]. Where possible and practicable, unallocated net proceeds will be invested in Sustainable Liquid Investments (see below).

As part of its standard business and regulatory reporting requirements, Yorkshire Water already monitors its assets and expenditures on a regular basis to a high degree of granularity. The Finance team at Yorkshire Water will provide a data set of all the Company's capital and operational expenditures annually and on request to the Committee. The Committee will then determine, to the best of its judgement, whether an expense category is Green, Social, Both Green and Social, or Excluded. All expenditure items will be tracked and managed accordingly to ensure no double counting occurs.

Yorkshire Water's Treasury team will always make sure that the amounts represented by the Eligible Sustainable Portfolio will exceed, or at least be equal to, the amount of finance raised under the Framework.

Sustainable Liquid Investments

These are:

- Green, Social or Sustainability bonds issued by Governments and/or Government-related entities with a minimum credit rating of AA/Aa2/AA by all of S&P, Moody's and Fitch; and
- Bank Green deposits, with the counterparty, size and tenor of deposits governed by the Company's internal Treasury policy

[16] Our Treasury Policy outlines the types, amounts and maturities of Authorised Investments the Company is allowed to invest in, based on the credit rating of the investments or counterparty.

5. Reporting

Yorkshire Water will provide investors with information regarding the assets and expenditures financed and/or refinanced under the Framework, the amounts of proceeds allocated, and the estimated impact of these investments in a combined report or a series of reports.

Allocation Reporting

An Initial Allocation Report will be made available to investors within one year of the date of the first finance raised under the Framework, which will detail:

- How much of the financing raised has been allocated and to which sub-portfolio (Social or Green or Both Green and Social);
- A brief description of assets and expenses (re)financed with the proceeds and selected case studies if applicable;
- The balance of the unallocated proceeds and type of temporary investments;
- The division of the allocation between new financing and refinancing.

Subsequent details of allocations will be released annually thereafter within the Impact Report (see below), and as necessary following material developments.

Impact Reporting

Yorkshire Water undertook a pioneering piece of work to embed an array of KPIs and other metrics relating to social and environmental sustainability into the business, known as the Six Capitals. As part of the Six Capitals process the Company produced a report[17] entitled "Our Contribution to Yorkshire", which contains an extensive list of various metrics and KPIs which are relevant to measuring social and environmental impact at Yorkshire Water. Many of the metrics which contribute to our Customer Outcomes are also included in our integrated Annual Report and Financial Statements ("ARFS").

We will publicly report each year on the social and environmental impacts of the Eligible Sustainable Portfolio as accurately as possible. This will align with and build upon our Six Capitals approach and reporting, and our existing sustainability reporting in our integrated ARFS.

[17] www.yorkshirewater.com/capitals

Below we have suggested some of the KPIs that may be included within such impact reporting (a more extensive list of potential measures/metrics is included in Appendix 1a and 1b):

- Number of jobs supported
- Hours of education given on the value of water and how to reduce water usage
- Number of customers receiving support for their water bill
- Inclusive customer service – % improvement in the services provided to customers in vulnerable circumstances (reviewed and assessed by independent third-party organisations and charities)
- Number of internal sewer flooding incidents, and improvement interventions
- Greenhouse gas emissions (tCO_2e)
- Carbon stored in our land (tCO_2e)
- Leakage (Ml)
- Annual water savings: water reuse and/or water use avoided (Ml)
- Per capita consumption
- Drinking water quality
- Bathing water (beaches) quality
  (Legal classifications of Excellent, Good, Sufficient or Poor status)
- Length of river improved
- Renewable electricity generated (GWh).

This report will be published on **http://keldagroup.com/investor-centre/**

6. External Review and Assurances

Yorkshire Water has obtained a Second Party Opinion from independent verifier DNV-GL, which is an assessment of this Framework. DNV-GL have confirmed the Framework adheres to the SBP, GBP and GLP principles. The Second Party Opinion for Yorkshire Water's Sustainable Finance Framework can be found on **www.keldagroup.com/investor-centre**

Yorkshire Water will also engage an independent external auditor to provide third party assurance on the initial and annual allocation reporting, and its conformity with this Framework. The report will assure investors that proceeds from any finance raised under the Framework are being allocated and reported on correctly in accordance with the terms of this Framework.

Appendix 1 - Use of Proceeds

Social Categories

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
S1 - Affordable basic infrastructure	• Maintaining and enhancing water assets and services to reliably supply enough safe water to all our customers, including for example our programmes to: – Invest at water treatment works (WTW) where we observe unacceptable risk to drinking water quality or reliability (e.g. observable deterioration in quality of raw water) – Replace lead customer supply pipes to remove health risk – Scour and line water mains to remove iron and other potential contaminants, to protect quality water supplies – Protect and restore the land catchments from which we source much of Yorkshire's public water supply, particularly to stop soil erosion and pollutants, to help ensure high quality sources of water whilst also delivering wider benefits for recreation, carbon storage and wildlife. • Maintaining and enhancing wastewater assets and services to reliably provide effective sanitation, manage sewer and wider flood risk, and prevent pollution of the water environment, including for example our programmes to: – Invest at wastewater treatment works (WwTW) to ensure sufficient capacity for the growing population, and to meet tighter legal standards to protect rivers and coasts for the safety and enjoyment of people and to protect wildlife – Increasing capacity on the sewer network to ensure sufficient capacity for the growing population and economy, and to reduce risk of sewer flooding of homes and public spaces – Introducing Natural Flood Management (NFM) techniques on our land, and partners' land, to slow the flow and reduce risk of flooding in communities downstream, whilst also delivering wider benefits for recreation, carbon storage and wildlife	• **Water Recycling** - Volume of water recycled (Ml) • **Drinking Water Quality** - Score achieved for Water Quality Compliance against the DWI's Compliance Risk Index • **Water Supply Interruptions** – Average number of minutes lost per property with supply interruptions of three hours or longer • **Leakage** - Volume of water lost in leakage from water pipes (Ml) • **Unplanned Outage** – Lost capacity at water treatment works as a proportion of total company production capacity • **Mains Repairs** – Number of mains repairs per thousand km of total length of mains • **Drinking Water Contacts** – Number of contacts received about drinking water (taste, odour and appearance) • **Low Pressure** – Number of properties receiving low water pressure • **Repairing or Replacing Customer Owned Pipes** – Number of residential supply pipe repairs & renewals • **Per Capita Consumption** – Average amount of water used by each customer in a household property (litres per head per day) • **Internal Sewer Flooding** – Number of incidents of internal sewer flooding • **External Sewer Flooding** – Number of external flooding incidents caused by the escape of water originating from public sewers, affecting properties or single curtilages

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
S2 - Access to essential services	• Ensuring all parts of the community we serve can effectively access our essential services and are supported when they need it and through an emergency, including: - Financial support to those that struggle to pay, through our portfolio of financial packages including our social tariff Water Support - Investment and interventions to reduce our own and customer water consumption, e.g. commitment to help businesses switch to non-potable sources of water where they can (e.g. cooling processes) - Provision of tailored services for those who need them (e.g. help to read, Priority Services Register, Dementia Friends etc.) - Investment to keep bills low, including recovering unpaid debt, investing in renewable energy and energy efficiency measures, and innovation, creating value from waste etc.	• **Direct Support to Customers** – Number of customers receiving financial support through approved schemes • **Affordability of bills** – % of residential customers who find their water and sewage bill affordable • **Cost of bad debt** – Cost of unrecovered residential customers' bills to all customers, expressed as a proportion of the average annual bill • **Priority services awareness** – % of customers that are aware of the services provided under the Priority Services Register • **Priority services satisfaction** – % of customers on Priority Services Register who are satisfied with their experience • **Inclusive customer service** – % improvement in the services provided to customers in vulnerable circumstances (reviewed and assessed by independent third-party organisations and charities) • **Significant Water Supply Events** – Number of supply interruptions lasting for twelve hours or longer • **Risk of Severe Restrictions in Drought** – % of population at risk of experiencing severe restrictions in a 1 in 200-year drought • **Risk of Sewer Flooding in a Storm** – Population vulnerable to a 1 in 50-year rainfall event • **Gap Sites** – % of all legitimate identified gap sites added to the billing file within 12 months of identification • **Voids verification** – % of residential properties in the Region verified as voids • **C-Mex** – a score based on Customer Experience Measure • **D-Mex** – score based on Dev eloper Services Measure • **SIM** scores (until 2020) and **UK Customer Service Index (UKCSI)** scores • **Dementia Friends** – % of workforce Dementia Friendly

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
S3 - Food security	• Investment in sewage sludge storage and process (quality) improvements to ensure a reliably high-quality material which can be safely recycled to land to recover the inherent nutrient value, providing an alternative to traditional fertilisers • Responsibly working with our farm tenants and investing to maintain and restore our catchment land to sustainably produce agricultural products (mainly sheep farming) and protect water quality. In our Beyond Nature Programme we are working in partnership with farmers and other stakeholders to re-purpose and modernise farm buildings and undertake woodland planting and peatland restoration. This is part of plans to demonstrate sustainable farming that secures rural jobs and farm income whilst protecting water quality and delivering wider benefits for carbon, recreation and wildlife • Programmes to protect soils and to control Invasive Non-Native Species (INNS) on our land and work with others on their land	• **Quality Agricultural Products** – % of biosolids sent to agricultural land that achieves Biosolids Assurance Scheme (BAS) certification • **Biosecurity Implementation** – Number of pathways of invasive species spread, where biosecurity interventions have reduced the risk of that spread • **Land conserved and enhanced** – Area of land conserved and enhanced in the region through land management and biodiversity focussed projects and investments • **Beyond Nature Scheme** – Number hectares signed up to the scheme
S4 - Socioeconomic advancement and empowerment	• Training and development programmes of staff, including for example: apprenticeship schemes, graduate scheme, Forward Ladies programme, Managing Excellence Programme, ongoing training and development of all colleagues etc. • Work experience and recruitment schemes, including our programmes for those with particular needs such as schemes with the Lighthouse Futures Trust partnership and Barnardo's which support, respectively, those with autism and children with tough upbringings, and our Industrial Cadets work experience programme • Education on water and water saving. Education centres, mainly aimed at Key Stage 2 to support the curriculum but also open to visitors from across society	• **Education** - Hours of education Yorkshire Water provide to raise understanding of the value of water • **Bathing Water Quality** – Number of bathing waters that exceed EU Bathing Water Directive requirements • **Length of River Improved** – Number of km of river improved in the Yorkshire Water region • **Apprenticeships** – Number of apprenticeships offered and accepted • **Talent City** – Number of internships run in partnership with the Lighthouse Futures Trust to support those with autism • **Employment & Skills Programme** – Number of 18-24 year olds undertaking 12-week placements in partnership with Barnardo's • **Industrial Cadets** – Number of industrial cadets graduating

Green Categories

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
G1 - Renewable energy	• Maintenance and further investment in our large portfolio of renewables, for example: – Anaerobic Digestion of sewage sludge, along with various wind and hydro turbines – Current investments to substantially expand our anaerobic digestion capacity at two of our largest WwTW - Knostrop and Huddersfield – Plans for Solar/PV framework	• **Renewable Energy Generation** – GWh of energy generated from renewable sources
G2 - Energy efficiency	• Investing to reduce our large electricity needs (primarily for pumping and treating water and wastewater) by improving energy efficiency through a range of measures. For example: – replacing old pumps with new, more efficient ones – replacing old halogen lighting with new LED lighting – introducing and improving monitoring and control systems to manage processes more efficiently	• **Energy Consumption** – GWh of energy consumed • **Efficiency Investment** – Amount spent on improving the energy efficiency of our assets and systems
G3 - Pollution prevention and control	• Maintaining and enhancing assets and services to prevent pollution, including for example our programmes to: – Invest at WwTW to ensure sufficient capacity for the growing population, and to meet tighter legal standards to protect rivers and coasts – Increasing capacity and other interventions on the sewer network to ensure sufficient capacity for the growing population and economy, and to reduce escapes from the sewer which cause pollution – Odour abatement at WwTW • Investing to reduce our carbon emissions to play our part in mitigating climate change to ensure a stable climate that continue to provide reliable rain and other weather conditions. We are reducing our emissions by investing in, for example, energy efficiency, renewable energy generation, land protection and restoration programmes, and innovative asset designs	• **Pollution Incidents** – Number of pollution incidents resulting from Yorkshire Water sewage and/or other assets • **Carbon** – Reduction in our total carbon footprint (CO_2e) • **Risk of Sewer Flooding in a Storm** – Population vulnerable to a 1 in 50-year rainfall event • **External Sewer Flooding** – Number of external flooding incidents caused by the escape of water originating from public sewers, affecting properties or single curtilages • **Internal Sewer Flooding** – Number of incidents of internal sewer flooding

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
G4 - Environmentally sustainable management of living natural resources and land use	• Protecting and restoring the land catchments from which we source much of Yorkshire's public water supply, particularly to stop soil erosion and pollutants, to help ensure high quality sources of water whilst also delivering wider benefits for recreation, carbon storage and wildlife • Introducing Natural Flood Management (NFM) techniques on our land, and partners' land, to slow the flow to reduce risk of flooding in communities downstream, whilst also delivering wider benefits for recreation, carbon storage and wildlife. For example, we are investing to: – Plant 1 million trees in Yorkshire over the next ten years (by 2028). We have recently started planting the first tens of thousands of trees in the Calder Valley which is an area prone to regular flash flooding. As well as trees, the planting and land management regime is carefully designed with a range of techniques to store and slow rain water while also delivering wider benefits for society and wildlife – Manage flood risk in and around the City of Hull through a range of traditional engineering approaches combined with NFM techniques within the city and its rural catchments – Restoring and protecting peat uplands as part of our catchment management programmes to protect water quality. This involves re-wetting and re-vegetating peatlands to a more natural state in which they can act as a sponge to store water	• **Land Conserved and Enhanced** – Area of land conserved and enhanced in the region through land management and biodiversity focussed projects and investments • **Quality agricultural products** - % of biosolids sent to agricultural land that achieves Biosolids Assurance Scheme (BAS) certification • **Biosecurity implementation** - Number of pathways of invasive species spread, where biosecurity interventions have reduced the risk of that spread • **Integrated catchment management** - % of catchments in which Yorkshire Water operates, where, working with stakeholders, we implement the Natural Capital Operator approach in practice • **Length of River Improved** – Number of km of river improved in the Yorkshire Water region • **Bathing Water Quality** – Number of bathing waters that exceed EU Bathing Water Directive requirements • **Beyond Nature Scheme** - Number of hectares signed up to the scheme
G5 - Terrestrial and aquatic biodiversity conservation	• Programmes to protect and improve SSSIs and other special habitats • Fish Passage Programme to restore fish migration routes for improved spawning • River restoration trials to improve river environments beyond our large capital investments at the WwTW	• **Biosecurity Implementation** – see in G4 above • **Land Conserved and Enhanced** – see in G4 above • **Length of River Improved** – see in G4 above • **Fish Easements** – number of fish easements installed

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
G6 - Clean transportation	• Moving to a low carbon fleet and to solutions to reduce transportation use. For example: – First electrical vehicles purchased, commitment to go much further – Investments into hydrogen vehicles – Investments in new technologies to reduce travel	• **Carbon** – see in G3 above • **Clean Van Commitment** – Number of electric vans • **CO_2 Avoided** – Amount of CO_2 avoided as a result of converting part of the fleet to electric vans
G7 - Sustainable water and wastewater management	• The majority of our assets and expenditures that provide water and wastewater services to the Yorkshire Water region • Working to reduce our own and customer water consumption. – Investing to reduce leakage in our network and our customers pipes – Working with our business and other non-household customers to switch to non-potable sources of water where they can, for example, by helping them use lower grades of water in cooling and washing processes where potable standards are not necessary – Programmes to engage and support domestic customers to use less water, for example, providing free water saving devices for use in the home – Investment in water efficiency measures at our operational sites and in our offices, for example, by minimising the loss of backwash water used in water treatment processes and replacing use of potable water in wastewater treatment processes with lower grades of water	• All our **Performance Commitments** – this Category essentially covers what Yorkshire Water is and its primary function as a provider of essential services and custodian of the natural environment. Key metrics will be leakage, water recycling, per capita consumption, length of river improved, pollution incidents, incidents and carbon emissions
G8 - Climate change adaptation	• Investment at our own assets to protect them from extreme weather impacts like flooding • Investment in programmes across Yorkshire to work in partnership to manage flood risk. E.g. in Hull we are an active part of the Living with Water partnership which has a developing vision and plan to manage water on the surface with new green spaces to support regeneration and quality of life whilst better managing flood risk	• **Water Recycled** - Volume of water recycled (Ml) • **Per Capita Consumption** - Average amount of water used by each customer in a household property (litres per head per day) • **Surface Water Management** – Number of hectares of surface water run-off removed attenuated from the public sewer network as a result of blue-green infrastructure or surface water disconnection • **Length of River Improved** – see in G4 above • **Land Conserved and Enhanced** – see in G4 above • **Risk of Sewer Flooding in a Storm** – see in G3 above • **Risk of Severe Restrictions in Drought** – % of population at risk of experiencing severe restrictions in a 1 in 200-year drought

Categories from the 2018 Principles	Example Yorkshire Water Assets and Expenditures	Potential Measures
G9 - Eco-efficient and/or circular economy adapted products, production techniques and processes	• Esholt Integrated Waste, Water and Resource Recovery ("IWWRR") flagship scheme at our Esholt wastewater treatment works in Bradford, and replicable at other sites. This is a demonstration of the circular economy in practice at the industrial scale by securing new value from under used heat, wastewater and brownfield land. For example, the project involved the development of sustainable housing and light industry on primarily brownfield land at our works to create new employment opportunities. These are sustainable developments that use wastewater, waste heat and other under-used resources from our operations to reduce the need for virgin materials and transportation • Continuation and expansion of our pilot scheme in Bradford where residents are encouraged to collect waste cooking oil in tubs rather than dispose of it down sinks. The tubs are then collected and sold to renewable energy companies to refine and turn into carbon neutral biofuel • Working with large industrial water consumers to switch to using lower grades of water where potable water is not needed – for example the use of non-potable water in the production of concrete	• **Water Recycling** - Volume of water recycled (Ml) • **Value Creation from Waste** – The additional environmental, social and financial benefit we create from resources currently under-used or classified as waste • **Renewable Energy Generation** – GWh of energy generated from renewable sources • **Cooking Oil** – Amount of used cooking oil sold on to turn into carbon neutral biofuel • **Non-Potable Water Recycling** – Number of companies switching some or most of their water consumption to non-potable sources

Important Notice – one of the key underlying themes and messages in Yorkshire Water's Sustainable Finance Framework is that much of what we do has both a social and environmental impact. As such, although we have set the measures and metrics above against specific Social or Green Categories, many of our assets and expenditures will impact both the environment and the societies in which they are located in. Many of the measures and metrics above also fall within more than one sub-category. For example, we believe our Biosecurity Implementation measurement can fall, at the very least, within both G4 and G5, as it could be classed as both sustainable management of the natural environment, and terrestrial and aquatic biodiversity conservation. The potential measures shown above do not constitute the elements of any future allocation or impact reports Yorkshire Water may issue as part of the Framework. We reserve the right to choose the metrics and measures that form part of such reports, which may not include those above and which may include other measures not contemplated in Appendix 1 - Use of Proceeds.

Appendix 2 - Case Studies

Vulnerable Customers and Affordability

Some customers need additional help from us. This could be because they are older, or because a disability or an illness means they need extra help during a water shortage, or they need help to read their bills by receiving them in different font sizes or braille.

Some customers may temporarily need additional help during pregnancy, or while recovering from medical treatment. Whatever the reason, we want to reassure those customers that we are here to help and have a range of priority services for them.

BEING DEMENTIA FRIENDLY

One area of focus for us is to better support those with dementia. Research by Alzheimer's Society shows that 850,000 people in the UK have a form of dementia, and this is growing fast. That's why we are working to become a Dementia Friendly business as part of our work to better tailor our services to individual needs. We have been raising awareness amongst our colleagues by rolling out training to help volunteers become Dementia Friends.

This is an initiative led by Alzheimer's Society to help people understand more about dementia and the little ways they can help. So far we have trained around 100 of our workforce and we want to go much further. The outcome for our customers is that we have staff that can have direct contact in a way that is better for them.

AFFORDABILITY

Affordability in our region is a key concern. Disposable incomes in Yorkshire are on average 12% less than other areas in England and Wales, and we know that 10% of our customers are at a high risk of falling into debt, again higher than the national average of 7%.

Our strategy on this is to:

- Keep bills affordable for customers and free them from worry
- Innovate to deliver services efficiently
- Deepen our understanding of customers' needs, allowing us to anticipate them
- Prevent customers from falling into debt by knowing their individual circumstances
- Deliver prompt and meaningful support when it is needed
- Where debt occurs, help get customers back on their feet as quickly as possible

As part of this strategy, Yorkshire Water offers a range of financial packages for those most in need (see the "Struggling to pay your bill" section of our website). We currently help around 30,000 customers each year through our portfolio of financial support packages, and we are committed to substantially increasing this to 50,000 by 2021. To date, we have spent over £10m helping our customers in this way.

30K CUSTOMERS PER YEAR RECEIVING SUPPORT, COMMITTED TO 50K BY 2021

100 COLLEAGUES TRAINED TO BE DEMENTIA FRIENDLY

Dementia Friends
An Alzheimer's Society initiative

Growing and Maintaining Human Capital

We manage a range of evolving programmes to help keep our colleagues well trained and continuously developing, and also to ensure we can always recruit the people and skills we need now and into the future. With an ageing workforce and increasingly technical operations, we need to capture existing knowledge and expertise, and develop skills in science, technology, engineering and maths (STEM).

Our first priority however is always people's safety and wellbeing. The spread and complexity of our operations presents a range of challenges which we manage through our occupational health and safety improvement plan.

OUR APPRENTICESHIP PROGRAMME

Our apprenticeship programme is a critical and growing part of the business – they are valuable not just for the individuals on the scheme and the Company, but also for the wider society as their increased skills and earning power contribute to the economy. Our assessments have found that for every £1 we invested in apprenticeships in 2014/15, there was a payback of £5.57 in benefits created.

We have been running apprenticeships since 2010 and were recognised for our leading approach in 2015/16 as a Top 100 Apprentice Employer. We continue to grow our programme to meet business needs, and to utilise the government's incentive in the Apprenticeship Levy.

22 APPRENTICESHIPS WITH A VALUE OF £2.5M (2014/15) AND STRONG GROWTH SINCE

OCCUPATIONAL HEALTH & SAFETY

As the result of a tragic fatal accident in 2015, we have reviewed and accelerated our plans to improve occupational health and safety. This includes the development of ten life-saving rules and a range of associated training and resources.

We have also become more proactive in our work to support our staff with mental health. For example, we now offer accredited mental health first aid training available for all staff and mandatory for people managers, and we have made a stress risk assessment mandatory for all colleagues and teams.

TALENT CITY INTERNSHIPS

In 2015/16, only 6% of adults with learning disabilities in England were in paid employment. We are challenging this with our Talent City programme, which is run in partnership with the Lighthouse Futures Trust.

We have developed an internship programme where students work across the business and have access to a trained job coach to support them. We are now in our second year and a number of our first-year interns are now in paid employment within the organisation.

LIGHTHOUSE FUTURES TRUST

HOSTED 250 YOUNG FEMALE STUDENTS DURING WOMEN IN ENGINEERING WEEK 2018

Protecting Communities from Flooding

Our region's communities have experienced the damage, distress and health impacts of numerous flood events in recent years. We play a critical role in managing flood risk by providing the public drainage network and collaborating with other flood management organisations in the region, including the Environment Agency (EA), Highways Authorities, Internal Drainage Boards and Local Authorities, to support a joined-up approach.

Recent investments in the drainage network have greatly reduced the number of properties at risk from sewer flooding, and whilst substantial investment in the sewer network will always be needed, we're also using innovative approaches to keep rain water out of the sewers and in the upstream catchments.

LIVING WITH WATER IN HULL

By working on a single integrated long-term drainage model solution with the EA and local authorities, we have developed a world leading partnership in Hull to solve flood risk. This work has already demonstrated the huge scale of the challenge, showing that 16 million cubic metres of water can fall on the catchment in four hours at the design return period – equivalent to two major dam bursts over the city.

HULL AND EAST RIDING
LIVING with WATER

The Living with Water Partnership has agreed its objectives for the next five years to tackle flood risk including aligned investment schemes, an integrated planning policy and increased customer engagement. In 2018 Hull was also successful in being selected as one of the five global cities to develop a Water Resilient Index. Hull and Haltemprice now have 'blue and green' solutions to managing flood risk.

FIRST TREES PLANTED IN OUR COMMITMENT TO PLANT 1M TREES BY 2028

SLOWING THE FLOW IN THE CALDER VALLEY

Communities in places like Hebden Bridge and Todmorden lived in the steep-sided Calder Valley which has a long history of flooding. We are part of a multi-agency response that includes a pioneering Natural Flood Management plan.

Landscape improvements will see the restoration of 43 hectares of blanket bog to help absorb water on the moorland, and 60 hectares of environmental improvements such as 'leaky dams' and wetlands to slow the flow of water.

As well as a commitment to planning more trees, which will further help slow the flow, we have also been trialling the reduction in water levels to allow for flood storage in some of the reservoirs above Hebden Bridge. We have been working with the EA and Defra to understand whether this approach is safe and feasible, and the implications on the environment and water.

Our 'Soak It Up' campaign is also working with schools and communities across the region to raise awareness and provide workshop-based learning on Sustainable Drainage Systems (SuDS).

40% REDUCTION IN SEWER ESCAPES BY 2020

Helping Customers Improve Water Resilience

As well as reducing leakage and wasted water in our business, Yorkshire Water is also undertaking a variety of measures designed to help our customers reduce their own usage and wastage. In 2015 we introduced the Per Capita Consumption Performance Commitment, which monitors average use across the region. So far, we and our customers have been successful in reducing this measure, and we are currently one of the lowest in the country.

We are also advising customers on how to help reduce the strain on our network caused by what they put down the drain, and encouraging them to think about single-use plastic consumption when drinking water outside their homes.

REDUCING CUSTOMER WATER USAGE

As well as reducing leakage we are going to implement a number of new initiatives to help reduce customer water use even more, such as:

- Increasing rollout of our education programmes on using water and sewers more wisely
- Providing free leakage repairs on all domestic supply pipes which are not under buildings
- Encouraging 100,000 customers to switch to a water meter by not charging installation fees, which will drive more efficient behaviour and save them money
- Providing free water saving devices like tap aerators and shower timers
- Undertaking water audits and piloting professional installation of water saving measures in homes
- Working with large industrial water consumers to be more efficient and switch to lower grades of water where potable water is not needed – for example in the production of concrete

UNFLUSHABLES

We actively encourage our customers to think about what they put down toilets and drains. In a pilot scheme in Bradford local residents are asked to collect waste cooking oil in tubs rather than dispose of it down the sink. The tubs are then collected from doorsteps and the oil is solid to renewable energy companies to refine it and create low carbon biofuel.

YORKSHIRE ON TAP

Millions of plastic bottles are bought across the region every year, with many ending up in landfill. We are aiming to remove 1 million plastic bottles from circulation over the next few years by encouraging the public to stop buying single use plastic bottles. Yorkshire on Tap encourages businesses to offer free water refill services to the public.

AIMING AT 10% REDUCTION IN PER CAPITA CONSUMPTION BETWEEN 2020-25

20,000 HOURS PER YEAR OF EDUCATION AIMED TO BE DELIVERED BY 2020

Sustainable Management of the Natural Environment

Yorkshire Water is on the front line of managing 'Natural Capital', which is the stock of resources in the natural environment that people manage, use and depend on. Our services both fundamentally rely on Natural Capital and also have substantial impacts upon it, both good and bad. This, and the fact we are one of the region's biggest land owners, means we have a huge responsibility to manage and take care of the natural environment.

We want to open our land up to everyone to get more people outdoors, protect the environment and inspire younger generations to enjoy nature and be active outdoors. With our farm tenants, we monitor and manage our land, and work with other land owners, to ensure enough clean water is always available to supply our customers.

CAPITALS VALUATION TOOL AT LITTLE DON

By putting our innovative Six Capitals approach at the heart of our decision making, we are able to better quantity the environmental and social impacts of our actions – allowing us to make better decisions for the benefit of our customers.

We worked with consultants AECOM to develop a tool that allows us to compare the impacts of various land management decisions across the Six Capitals. We piloted the tool in the Little Don area, where we are using the tool to guide the development of the site into a recreational hub for the whole area. Five scenarios for investing at the site were considered: active recreation, active biodiversity, sustainable farming, sustainable forestry and inclusive environment.

Initial results suggest encouraging active sports may have the greatest potential benefits despite having the highest costs. Each scenario had its pros and cons, and we are engaging with stakeholders in the area to decide on the best approach.

FISH EASEMENTS

Fish easements allow fish such as trout and salmon to navigate previously impassable weirs, some dating back more than 125 years, on their way to spawning grounds upstream. We have pledged to build a total of 14 new fish easements in the region between now and 2020, committing £10m.

BEYOND NATURE – FARM TENANCIES

Beyond Nature is about working in partnership to demonstrate and deliver sustainable farming that generates food and a stable farm business whilst also protecting and enhancing nature.

Each scheme has a bespoke partnership management plan that reflects local priorities. Working with the National Trust, we've also started discussions about each approach to sustainable farm tenancies, how we might learn from each other and influence national best practice.

3,568 HECTARES OF LAND SIGNED UP TO BEYOND NATURE

14 NEW FISH EASEMENTS BY 2020, £10M COMMITTED

Innovation

As part of our ongoing focus on research and development we constantly innovate across all areas of our business so that we can continue to deliver high quality services to our customers at an affordable price and without harming the environment. This is increasingly important with the mix of pressure shaping our services, such as climate change and a growing population.

SATELLITE LEAK DETECTION

Yorkshire Water's Innovation Team have funded and managed a project to help the leakage teams in Huddersfield and Dewsbury to find double the number of leaks compared to usual methods, saving 500,000 litres of water per day.

Yorkshire Water shared its data with a specialist satellite company called Utilis, who used satellites to provide microwave ground penetrating imaging to show whether there is a leak on the network.

The next stage of the process involves Utilis providing images on some of our trunk mains in rural areas of West Yorkshire as in remote areas, these are extremely difficult to get to for leakage inspectors and cover vast areas.

CIRCULAR ECONOMY IN PRACTICE

At our Esholt wastewater treatment works, we are trying to create a leading demonstration of the circular economy in practice.

Esholt is one of our biggest sites, covering 120 hectares and serving 750,000 people in West Yorkshire. Here, we are taking a phased approach to create more value from underutilised resources on the site, including sewage, energy, heat, water and land:

Energy from Human Waste: Whilst delivering a major upgrade to the site's treatment capabilities to better protect river life, we invested in a range of renewable energy facilities that have the capacity to make the site almost entirely self-sufficient. Most of this energy is generated by anaerobic digestion.

Recovering Brownfield Land and old Filter Media: Upgrades at the site made 13 hectares of operational land redundant, which contained half a million tonnes of filter media. To avoid a financially and environmentally costly approach to demolishing and disposing of this, we investigated alternatives. For example, 25,000 tonnes of filter media was used as an aggregate in the construction of a nearby train station, which had the added benefit of keeping multiple lorries off the roads.

Supporting Green Economic Growth: We're developing ambitions for the 13 hectares of brownfield land left by the upgrade to become a site for a sustainable light industry that can utilise the treatment works' waste heat and treated water effluent. We're also developing plans for a range of other green growth opportunities on the site, including sustainable housing that takes heat from the works, and a suite of other opportunities.

500K LITRES OF WATER SAVED PER DAY VIA SATELLITE LEAK DETECTION

CO_2 REDUCED BY 9K TONNES EACH YEAR AT ESHOLT

Reducing Carbon

Pumping water around a region the size of ours and treating the waste of over 5 million households requires a lot of energy, not to mention the amount of fuel needed to get our service teams to homes and sites across the region. These and the activities that go on behind the scenes to make Yorkshire Water run smoothly and combined generate a lot of CO_2. We are aiming to cut 280kt CO_2e from our carbon footprint over the 2020-25 period.

CLEAN VAN COMMITMENT

In 2018 we signed up to the Clean Van Commitment, led by Global Action Plan, in a bid to help reduce pollution in the region. It is hoped the scheme will help drive an increase in manufacturing and usage of more zero emissions commercial vans.

We will have 40 electric vans in place by 2020, helping to offset 140 tonnes of CO_2 emissions every year and generating cost savings of over £500,000 over the seven-year lifespan of the vehicles.

Our drive towards electric vehicles has led to the Company being the first in the water sector to be granted 'Go Ultra Low' fleet accreditation, a government and industry campaign to promote the benefits of electric vehicles.

GENERATING RENEWABLE ENERGY

We use solar, wind and hydro to generate some of our renewable energy, however the vast majority comes from a readily available resource to us, poo. We do this by digesting a portion of the human waste sewage we collect and treat.

We have grown our renewable energy generation over recent years, and there is still the potential to go much further, by further utilising our land, waste and water assets.

Knostrop AD: We have invested £72m in creating a new Anaerobic Digestion (AD) plant at our Knostrop treatment works outside of Leeds.

Methane produced from the sludge will be turned into electricity to help power the plant. Once fully operational, it will contribute to recycling 94% of Leeds' sewage sludge by processing 131 tonnes of dry sludge a day and generating enough energy to power 55% of the site's energy needs – enough for 8,000 homes.

Esholt THP: The £34m Thermal Hydrolysis Plant (THP) at Esholt was created to power the sewage works and sell excess energy back to the Grid. In one week in September 2018, the plant generated 490MWh of electricity in excess of that needed to power the site – enough for 3,000 homes.

Brighouse AD: One of our old sludge incinerators in Brighouse, built in 1992, will be demolished to make way for a new state-of-the-art £40m energy and recycling centre. The energy produced from the AD plant will be used to power the site with any excess being fed back to the Grid to power homes in Calderdale and Kirklees. The technology at the site will reduce nitrous oxide emissions, helping to improve local air quality, and improve the quality of the sludge that is produced, helping to divert more away from landfill.

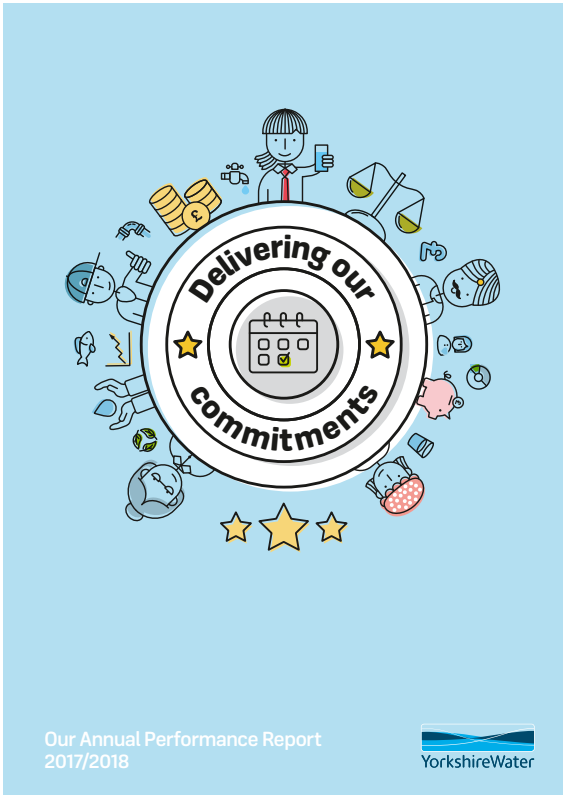
40 ELECTRIC VEHICLES BY 2020, 140 TONNES OF CO_2 OFFSET EVERY YEAR

493 GWH OF RENEWABLE ENERGY P.A. GENERATED BY 2020 (PR19 TARGET)

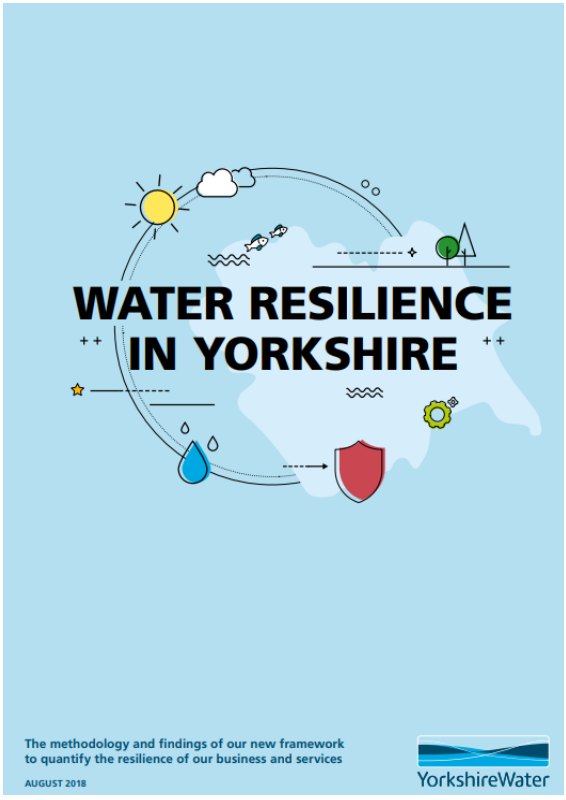
Further Reading

Our Contribution to Yorkshire

Our PR19 Plan



Annual Performance Report



Water Resilience in Yorkshire

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