Severn Trent Water Ltd
Strategic Direction
Statement 2050

Our
Strategic Direction Statement

WONDERFUL ON TAP

SEVERN TRENT

Welcome from our **CEO**

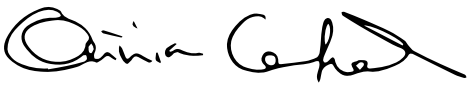
I'm delighted to be able to introduce our Strategic Direction Statement document, covering the period through to 2050.

Having a clear strategic direction is key as we seek a more sustainable path for our company and plan how to best respond to future challenges and opportunities.

Climate change is obviously a huge concern for us – as a water company our business is reliant on natural cycles and the water that provides. The impact of drier weather will make water scarcer in summer when demand is highest and together with more extremes of weather may test our existing infrastructure and pose new questions as to how we can operate sustainably.

Additionally, as society becomes more reliant on technology, we see a greater role for automation, data analytics and artificial intelligence to transform our performance and improve outcomes.

Our priorities set out in this document show our intent and how we propose to deliver for our customers and other stakeholders – not just in terms of supplying safe clean drinking water and removing sewage, but also in terms of making a meaningful and positive environmental and social difference.



This document comprises of **four sections**

1. Introduction

2. Key trends

3. Biggest challenges

4. Future priorities

Summary

- Severn Trent Water is a leading water and waste company, committed to delivering high quality services to its customers both today and in the future.
- This Strategic Direction Statement sets out our long-term priorities based on our view of future trends and the areas of importance to our customers, regulators, investors, employees and wider society.
- Although we cannot predict the future, the **key trends** and resultant **challenges** for our business are clear. As are the **future priority areas** where we need to do more - to enhance operational performance and resilience, better support our customers, and deliver a positive environmental and social impact.

Key trends

- Growing population.
- Changing demographics.
- Evolving customer expectations and attitudes.
- Increasing use of maturing technologies.
- Rising concerns over environmental pollution.
- Mounting concerns over damage to the natural environment.
- Greater impact/experiences of climate change.
- Adoption of emerging solutions to decarbonise.

Biggest challenges

- More demand for water.
- Reduced water availability.
- Increased risk of flooding and pollution.
- Shift in attitudes towards the environment.
- More regulation and policy interventions.
- Requirement to rapidly decarbonise.
- Higher customer bills and impact on affordability.

Future priorities

- Guarantee future water supplies.
- Ensure water is used wisely.
- Deliver a high quality, affordable service.
- Lower the risk of flooding and pollution.
- Protect and enhance our environment.
- Support a more circular economy.
- Make a positive social difference.
- Maintain a safe, inclusive and fair workplace.

- Delivering on these priorities will require a multi-AMP perspective, a greater emphasis on innovation and collaboration, and a more progressive regulatory environment.

1. Introduction

About us

One of the **largest** of the eleven regulated water and wastewater companies in **England and Wales.**

Cover the **heart of England** from the Bristol Channel to the Humber, and from Shropshire to the East Midlands.

Serve **4.6m** homes and businesses.

Employ **6,577 skilled** and **dedicated** employees.

Supply around **2 billion litres** of clean drinking water every day – enough for 25 million baths.

Remove over **3.1 billion litres** of sewage and drain water every day, enough to fill 1,240 Olympic swimming pools.

Maintain **142,000km of water mains** and **sewers**, sufficient to circumvent the world 3.5 times over.

Average cost to our customers of **£1 a day** – one of the lowest in the country.

Donate **1% of our profits** to charitable causes each year.

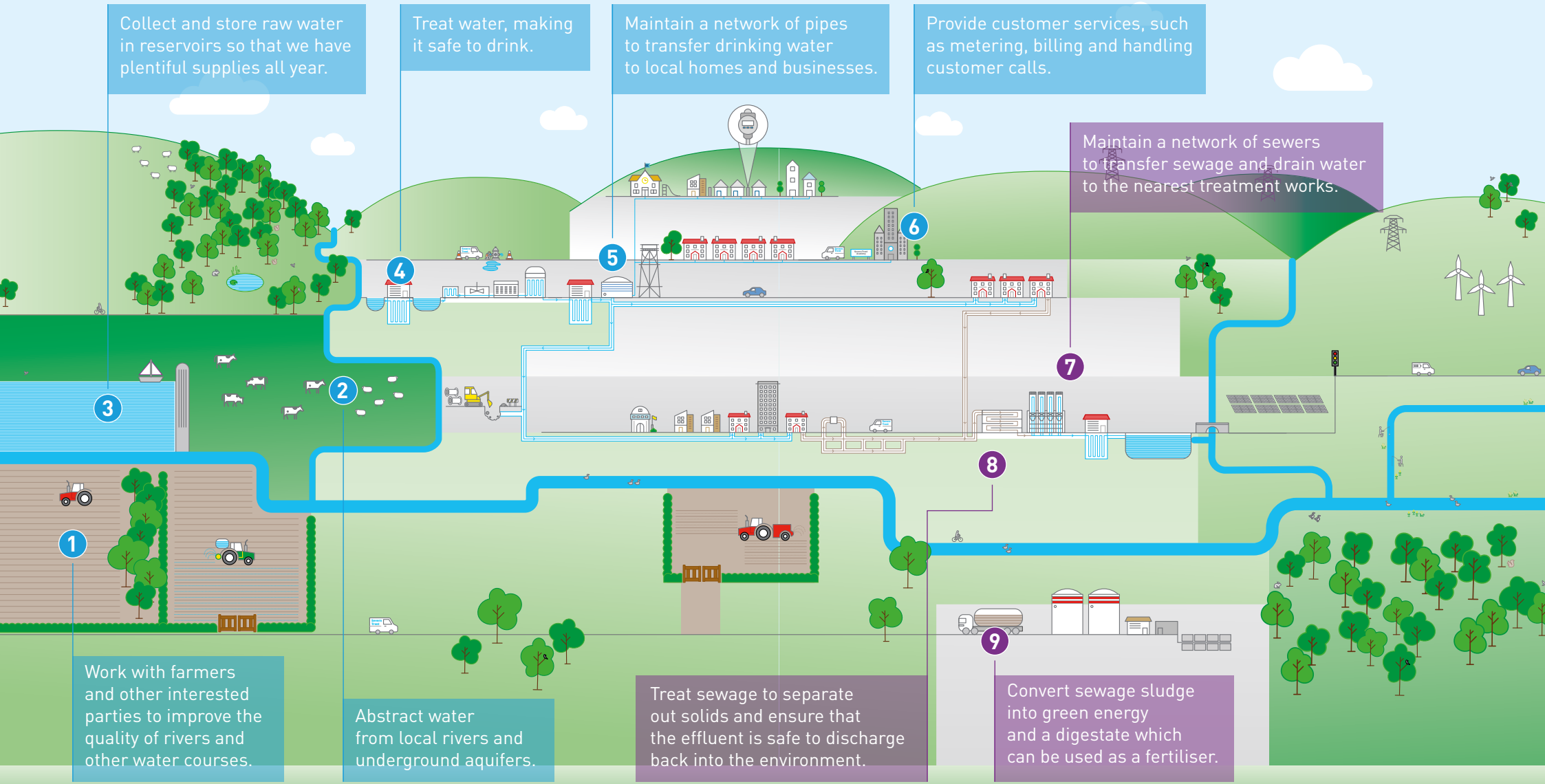
Rated 4* (out of 4*) by the Environment Agency.

Ranked the **highest utility company** in the Social Mobility Employer Index and **8th overall.**

Comparisons based on 80 litres for an average bath; 2.5m litres for an Olympic swimming pool, and 40,030km as the circumference of the world. £1 a day for an average combined water and waste bill.

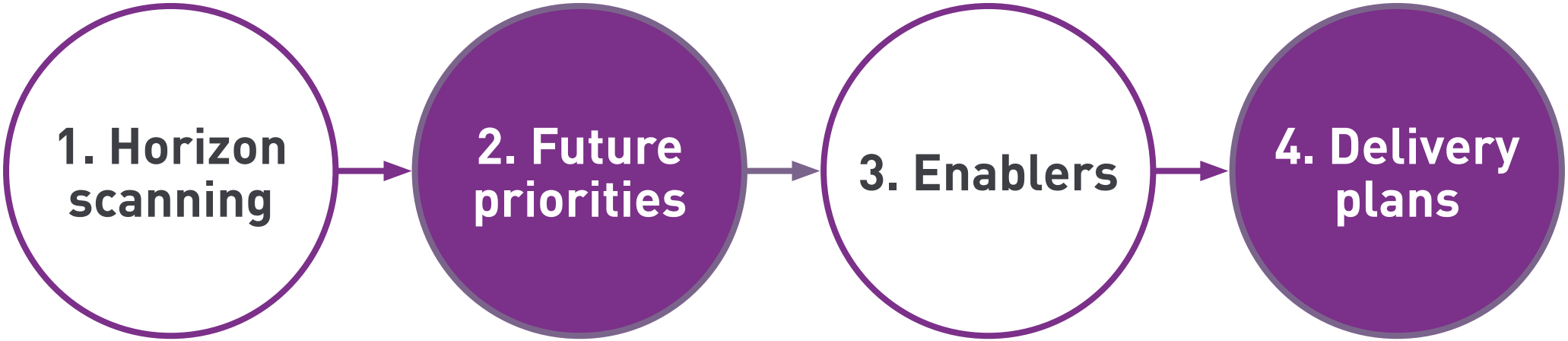
What we do

From providing clean water every time our customers turn on the tap to returning it back to rivers even cleaner than we took it.
We are proud to take care of one of life's essentials.



How we plan for the long term

We recognise that the future is uncertain and that we cannot predict with accuracy what will happen. Therefore, we employ a strategic planning process to understand the risks we may face and identify the most appropriate responses.



Considers key trends and their implications, together with potential market developments, to identify and model alternative versions of the future (scenarios) and the pathways to them.

Describes our future priorities based on the challenges posed by key trends, together with our organisational purpose, the needs of our customers and other stakeholders, and current performance.

Identifies the enablers (activities) which underpin our future priorities, and the level of ambition appropriate for each one.

Allows us to look holistically across our business and ensure we have a coherent overall plan, which balances the needs of different stakeholders.

Creates a plan for each priority area and enabler to deliver on our ambitions, reflecting current commitments, lead times and delivery capabilities.

Includes reference to the implications on our people and IT systems as well as major infrastructure assets.

The purpose of our Strategic Direction Statement

This document is one output of our ongoing strategic planning process and aims to share the broad themes that have emerged from our work.

In the following sections, you will find selected highlights of:

- The most significant and influential trends which we believe will drive the next 30 years.
- The biggest challenges that we, as a water and waste company, expect to face based on the trajectory of those trends.
- Our future priorities which set out where we need to transform ourselves in order to respond to the challenges (and potential opportunities) we may face.
- The enablers which describe the main interventions and changes we will make over the next few decades to deliver on our future priorities.

Other documents you may like

Severn Trent produces a variety of regulatory and informational documents, which provide more detail on specific aspects of our business:

- **Our Annual Report and Accounts**
  Provides an overview of our strategic, operational and financial performance.
- **Our Annual Performance Report**
  Describes how we have delivered against our regulatory measures and for our customers.
- **Our Sustainability Report**
  Explains our sustainability framework and how we intend to deliver on our ESG commitments.
- **Our Climate Adaption Report**
  Explores the risks associated with climate change and how we are building climate resilience.
- **Our Water Resource Management Plan**
  Sets out our long-term plans for ensuring water availability.
- **Our Drainage and Wastewater Management Plan for PR19**
  Details our plans to improve wastewater resilience between 2020-25. A new long-term plan is due for publication in 2022.

These documents and many more can be found on our websites **www.stwater.co.uk** and **www.severntrent.com**

2. Key trends

How the next 30 years will unfold is unclear.

By considering what the most influential trends might be, we can assess the different drivers of change and start to visualise how the future may look.

Here at Severn Trent Water, we think that there are eight trends which are particularly important.

Key trends over the next 30 years

Growing population

Likely to result in:

- Higher demand for drinking water.
- Increased pressure on existing housing stocks and calls for more home building.
- Greater need for food and subsequent demand for water in agriculture.

Changing demographics

Likely to result in:

- Higher proportion of older people.
- Changing household composition and falling property occupancy levels.
- Continued urbanisation.
- Greater diversity in society.
- Shifts in workforce skills and capabilities.
- Higher levels of remote, hybrid and flexible working.

Evolving customer expectations and attitudes

Likely to result in more emphasis on:

- Convenience: 24/7, next day or on-demand.
- Direct-to-consumer business models.
- Personalisation of offerings and services.
- Climate change and becoming more sustainable.
- Environmental credentials, buying locally and responsibly.
- Health, well-being and social issues.
- Fairness, affordability and vulnerability.
- Transparency and information sharing.
- Meaningful customer and community engagement.
- The role businesses play within society.

Key trends over the next 30 years

Increasing use of maturing technologies

Likely to result in the greater use of:

- Internet-connected or smart devices.
- Big data and real-time analytics.
- Artificial intelligence and machine learning.
- Robotics and automation.
- More efficient and durable appliances.
- Blockchain and other decentralised technologies.
- Virtual reality augmentation and CGI in education, healthcare and retail sectors.
- Genetic sequencing and modification for healthcare.
- Genetically modified crops and animals, and controlled environment agriculture.
- Data and cyber security technologies.

Rising concerns over environmental pollution

Likely to result in increased focus on the levels of:

- Plastics, waste and other pollutants in our seas and oceans.
- Business and agricultural discharges and run-off into rivers (including those from the water and waste sector).
- Land contamination from farming, industrial activity or waste disposal.
- Fouling of groundwater systems reducing quality or availability of clean drinking water.
- Particulate matter and greenhouse gases emitted into the air.
- Recyclable or single use waste created and going to landfill.
- Carbon associated with imported food and goods.

Mounting concerns over damage to the natural environment

Likely to result in increased focus on the levels of:

- Land lost to housing, industrial or leisure purposes.
- Land and soil degradation.
- Intensive farming practices.
- Pesticides and insecticides on pollinators, wildlife and the wider environment.
- Over-extraction of fresh water.
- Over-fishing on fish stocks.
- Iconic habitats and species lost.
- Reduced biodiversity and viability of species.

Key trends over the next 30 years

Greater impact/experiences of climate change

Likely to result in:

- Hotter, drier summers.
- Warmer, wetter winters.
- Rising sea levels and more coastal erosion.
- More extreme weather events, such as storms and heatwaves.
- Gradual warming of water temperatures.
- Deterioration in raw water quality.

Adoption of emerging solutions to decarbonise

Likely to result in the greater use of:

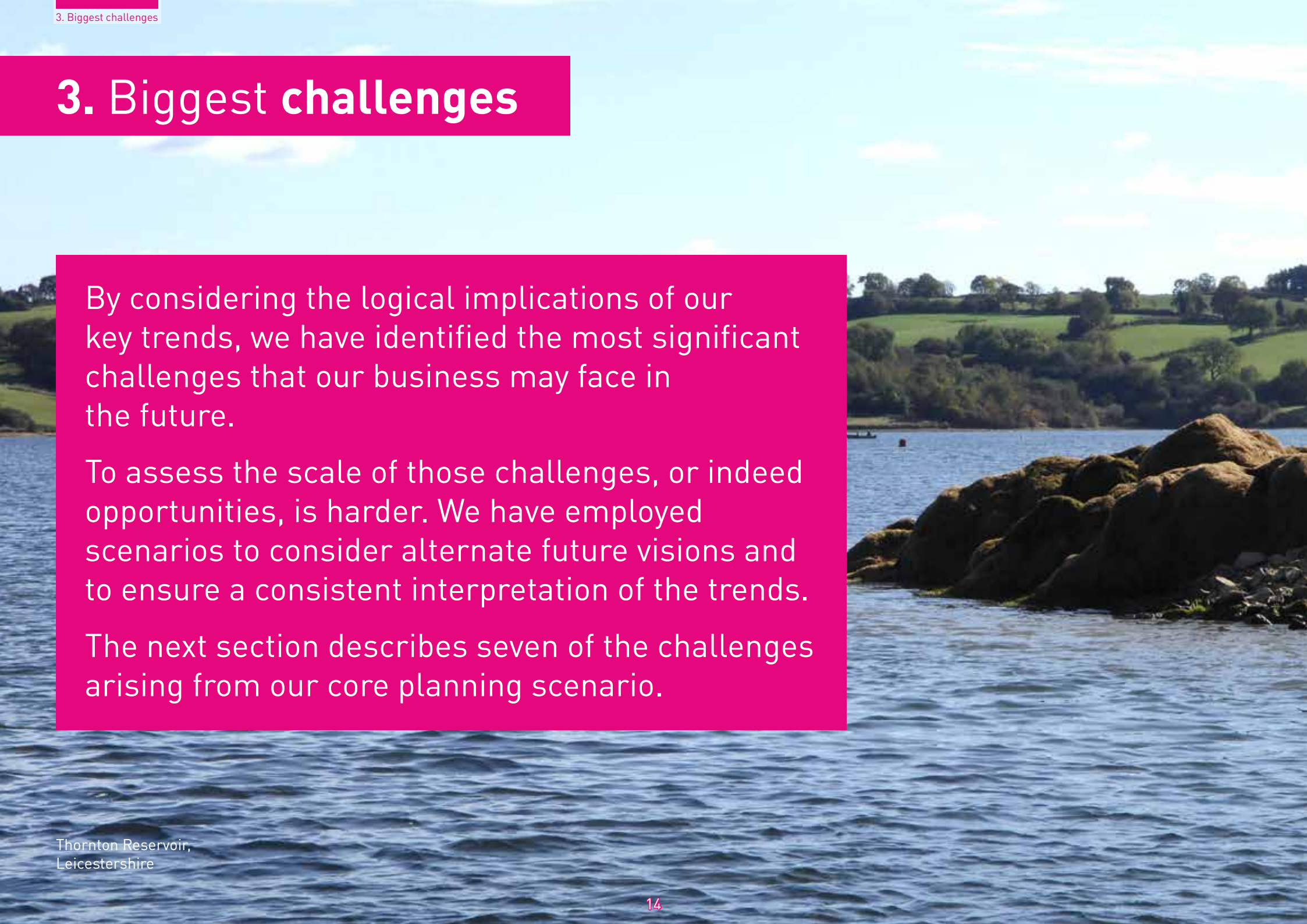
- Low-carbon or zero-carbon electricity generation.
- Carbon capture and storage or large-scale geo-engineering technologies.
- Higher building efficiency and energy use standards.
- Biomethane, hydrogen and electricity for heating.
- Electricity, hydrogen and biofuels for transportation.
- Local or decentralised production.
- Carbon, green or environmental taxes.
- Green financing and movement away from fossil fuel investing.
- Land for carbon offsetting and sequestration.
- Reforestation and restoration to improve natural habitats.
- Recycling and repurposing to reduce waste.

3. Biggest **challenges**

By considering the logical implications of our key trends, we have identified the most significant challenges that our business may face in the future.

To assess the scale of those challenges, or indeed opportunities, is harder. We have employed scenarios to consider alternate future visions and to ensure a consistent interpretation of the trends.

The next section describes seven of the challenges arising from our core planning scenario.

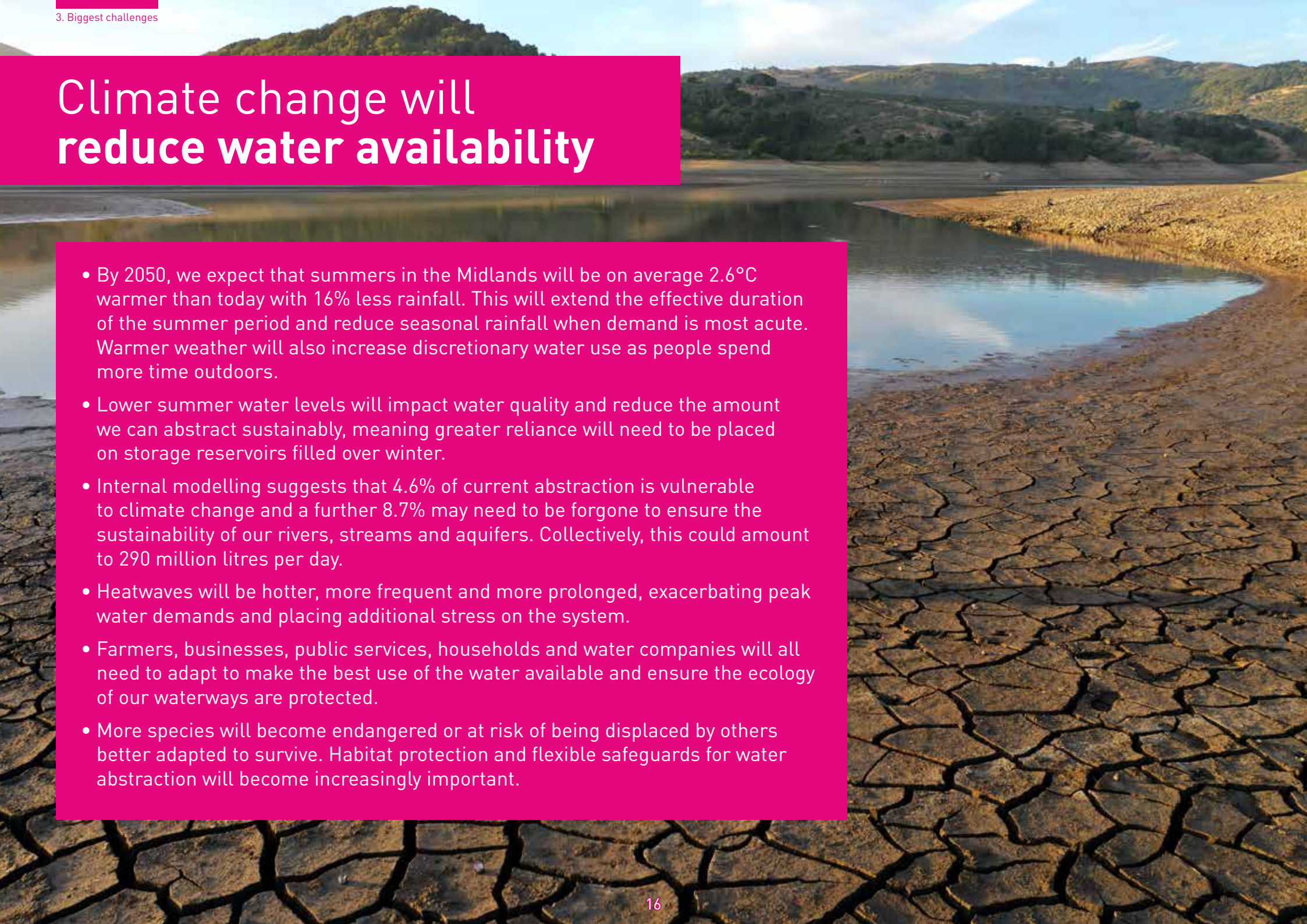


Thornton Reservoir, Leicestershire

Population growth will drive **more demand for water**

- By 2050, we expect that the population we serve will have grown by 12%, the third fastest of any region in the UK, reaching almost 9m people.
- Growth will be concentrated in and around existing urban centres, such as Nottingham and Wolverhampton, rather than equally spread across our region.
- Average household occupancy will fall from 2.34 to 2.19 people per property, as more people elect to live alone or co-habit and as the number of traditional family units decline.
- Higher populations and smaller households will drive additional demand for housing, pushing prices up, and increasing urban density and creep.
- We anticipate we will need to serve around 20% more properties, placing additional burdens on local infrastructure and creating issues especially in highly built-up areas as to how capacity can be expanded economically without major disruption to residents.
- If no action is taken, the effect of more people and households is likely to add a further 130 million litres per day of water demand. This could be exacerbated by changing customer behaviours impacting the volatility and timing of demand.

Climate change will **reduce water availability**



- By 2050, we expect that summers in the Midlands will be on average 2.6°C warmer than today with 16% less rainfall. This will extend the effective duration of the summer period and reduce seasonal rainfall when demand is most acute. Warmer weather will also increase discretionary water use as people spend more time outdoors.
- Lower summer water levels will impact water quality and reduce the amount we can abstract sustainably, meaning greater reliance will need to be placed on storage reservoirs filled over winter.
- Internal modelling suggests that 4.6% of current abstraction is vulnerable to climate change and a further 8.7% may need to be forgone to ensure the sustainability of our rivers, streams and aquifers. Collectively, this could amount to 290 million litres per day.
- Heatwaves will be hotter, more frequent and more prolonged, exacerbating peak water demands and placing additional stress on the system.
- Farmers, businesses, public services, households and water companies will all need to adapt to make the best use of the water available and ensure the ecology of our waterways are protected.
- More species will become endangered or at risk of being displaced by others better adapted to survive. Habitat protection and flexible safeguards for water abstraction will become increasingly important.

More extreme weather will **increase the risk of flooding**

- By 2050, we expect there to be an increased risk of flooding as a consequence of climate change, more housing and greater urbanisation.
- Winters will be warmer and around 13% wetter across the Midlands, with more extreme heavy rainfall events (such as slow-moving storm patterns) increasing the risk of rivers breaking their banks or saturated ground flooding.
- Summers will be drier overall, but subject to heavier, torrential downpours with the potential to spark localised flash flooding as drains fill and the excess water has nowhere to go.
- The rise in impermeable surfaces caused by more housing will only exacerbate the issue by increasing surface run-off and reducing absorption into the ground.
- Without further intervention – and we're of course assessing what intervention would be appropriate – we could see:
    - 65% more flood water escaping from the sewer network.
    - 45% more properties at risk of internal flooding in a 1-in-a-50-year rainfall event than would be affected today.
    - 16% more spills from storm overflows.

Concern about climate change will drive **a shift in attitudes towards the environment**

- As we move towards 2050, we expect that concern over the level of progress towards climate goals will continue to grow as the impacts of climate change become more apparent and global endeavours risk falling short of what is needed.
- This concern will lead people to be more conscious of the impacts of their lifestyle choices and drive a desire to consume less, lower waste and increase recycling. Our customers will be looking to us to help inform and support their endeavours to use less water.
- Society will also demand that businesses act – to be more sustainable in their own operations, to pay for the damage they cause, and to make it easier and cheaper for their consumers to be environmentally friendlier.
- We have already committed to becoming carbon net zero for our Scope 1 and 2 emissions (i.e., direct and indirect emissions under our control) by 2030 but can also foresee the need to adopt more of the principles of a circular economy. Currently, we create over 264,000 tonnes of dry waste, of which 13% goes to landfill but our ambition is to send zero waste to landfill.
- As all forms of environmental pollution become less socially acceptable, there is likely to more scrutiny of the materials we return to the environment as part of our normal operations (i.e., bio-solids or wastewater effluent) or that are permitted in times of network stress (i.e., sewer overflows).
- Habitat preservation, restoration and biodiversity will be increasingly important as the value and role of nature is more widely recognised and the loss of the globally significant habitats inspires action. As a landowner with an estate covering 10,500 hectares, we will need to show we are making the best use of our land and improving its natural capital.

Combating climate change could lead to **more regulation and policy interventions**

- Through to 2050, we anticipate that Government will need to assume a larger role to overcome barriers that are hindering consumer, business or wider societal change.
- Potential policy interventions, will differ dependent on the prevailing political priorities, but are likely to be focused on speeding up decarbonisation efforts and managing the impacts of climate change, both through adaption and mitigation.
- This will impact all sectors of the UK economy but as designated critical national infrastructure there will be particular emphasis on us to enhance the resilience of our assets and strengthen our contingency measures and plans, for example as required by the Security and Emergency Measures Direction (SEMD).
- We also anticipate changes to laws, regulations and standards related to environmental matters which will require us to adopt more stringent standards alongside increased transparency around data collection and reporting.
- Carbon taxes and other market-based incentives will likely be used to limit fossil fuel use and the carbon content of products and services. Whilst this will increase the cost of large capital solutions, it may present opportunities to make greater use of nature-based solutions or participate in new markets, such as green hydrogen or ammonia.

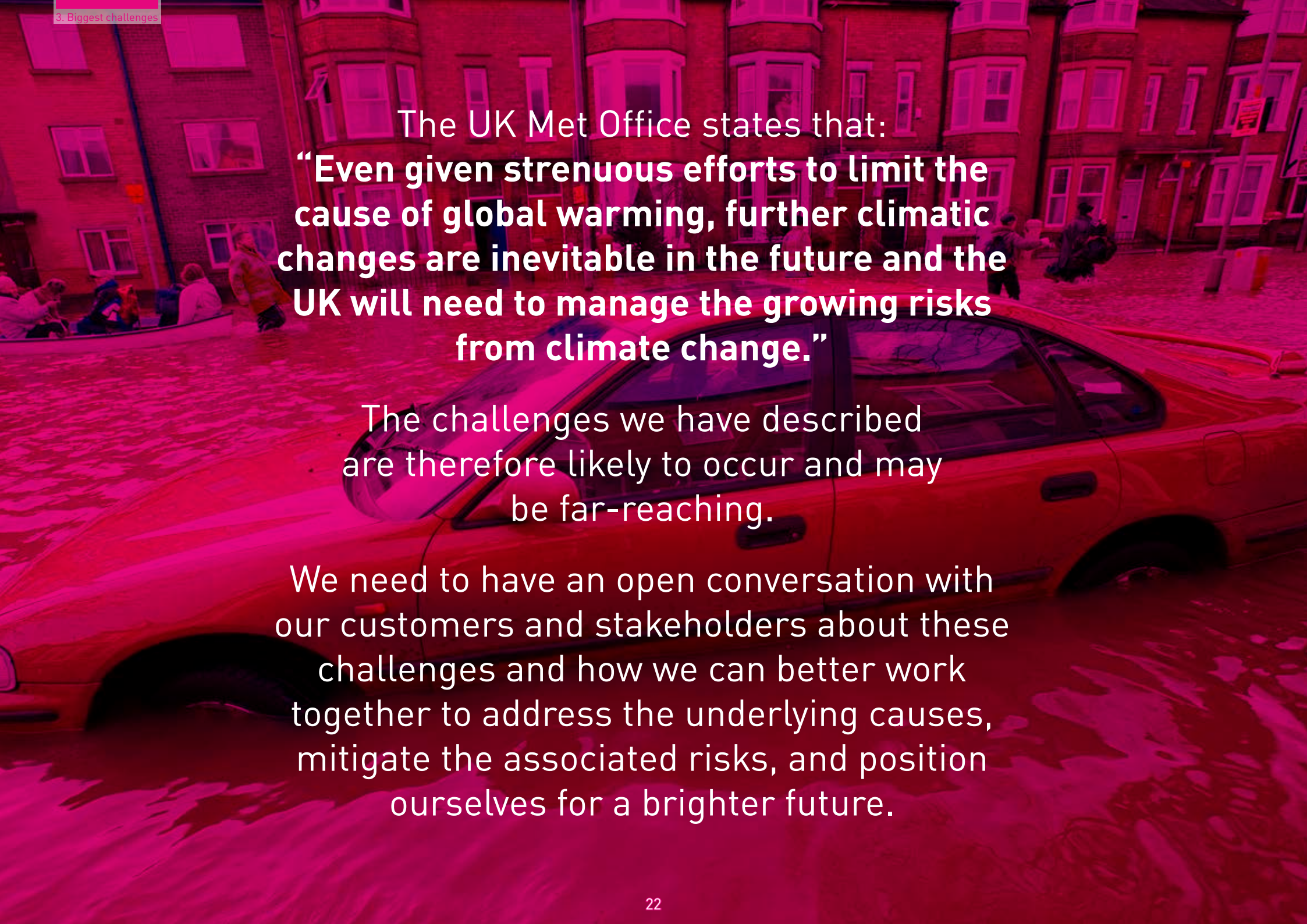
Mitigating climate change will require **rapid decarbonisation**

- The 2008 Climate Change Act enshrines in law the UK's ambition to reduce net emissions of carbon dioxide and other targetted greenhouse gases to zero by 2050.
- For us, that means reducing our total annual operational emissions of 102,113 tonnes CO_2e by finding new ways to use less and adopting zero-carbon renewable alternatives.
- Our direct emissions arise from three main sources:
  - 71% is from waste and sludge treatment, mainly through the release of the greenhouse gases methane and nitrous oxide.
  - 18% is from on-site fossil fuel use. We use gas oil for anaerobic digesters, diesel in our fixed back-up generators, and natural gas for boilers and engines. (We already generate or procure renewable green electricity to cover 100% of our internal electricity needs).
  - 11% from the fuel to power our vehicles. We have a fleet of 2,200 vans, cars and tankers to provide essential services such as meter reads, repairs and to provide emergency water supplies.

Figures taken from our 2021 Sustainability Report and refer to Severn Trent PLC

The investment required will **impact customer bills and affect affordability for some**

- Planning for higher levels of resilience and meeting long-term targets like carbon net zero, lower leakage or reducing the impact of sewer overflows will require material investments in our physical assets and changes to how we operate.
- In proposing new investments, we need to be conscious of the impact on customer bills, especially for those that already struggle financially.
- Though we have some of the lowest average bills in the country, we know from PR19 that 11% of our customers already find their bills unaffordable and that the impact of COVID-19 has created anxiety for around 20% of our customers regarding their ability to pay in the future.
- The challenges we face are:
    - To balance the need for investment which primarily addresses long-term issues, whilst limiting the impact in the near-term on bills.
    - To adequately support those customers who face difficulty in paying their bills.

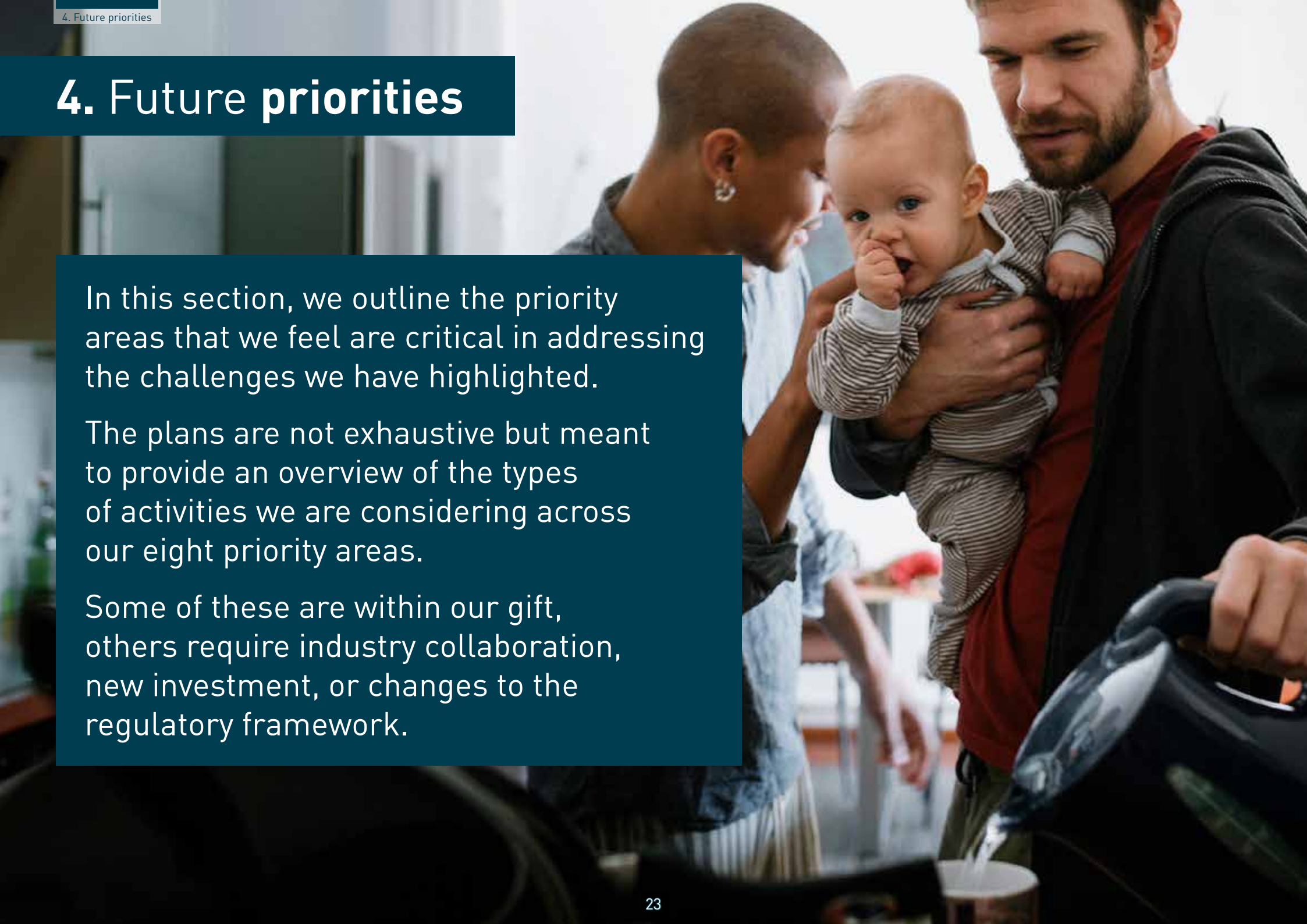


The UK Met Office states that:
“Even given strenuous efforts to limit the cause of global warming, further climatic changes are inevitable in the future and the UK will need to manage the growing risks from climate change.”

The challenges we have described are therefore likely to occur and may be far-reaching.

We need to have an open conversation with our customers and stakeholders about these challenges and how we can better work together to address the underlying causes, mitigate the associated risks, and position ourselves for a brighter future.

4. Future **priorities**



In this section, we outline the priority areas that we feel are critical in addressing the challenges we have highlighted.

The plans are not exhaustive but meant to provide an overview of the types of activities we are considering across our eight priority areas.

Some of these are within our gift, others require industry collaboration, new investment, or changes to the regulatory framework.

Recognising the needs **of all our stakeholders**

In formulating our strategic direction, we have tried to reflect the priorities of all our stakeholders. We note these are not mutually exclusive and there are many shared and interconnected priorities which span multiple stakeholders.

Our customers want:

- Safe and consistently high-quality drinking water conforming to all relevant standards.
- Reliable supplies, with interruptions and low-pressure events kept to a minimum.
- Affordable and fair bills.
- Help when they need it – in emergencies, after incidents or when in hardship.
- Us to minimise sewer flooding and pollution events.
- Us to reduce overall leakage across the network.
- Us to be convenient and easy to interact with.
- A high-quality customer experience, comparable with leading retail organisations.
- Support in understanding how they use water and where they could save more.

Our communities want us to:

- Protect and improve the quality of the natural environment, such as rivers and streams.
- Work with other agencies and stakeholders to solve community concerns, such as flood risk.
- Create new community resources through supporting locally inspired and led projects.
- Support those in society that are vulnerable, disadvantaged, or in need.
- Bring jobs and training opportunities, and support social mobility.
- Reflect the communities we serve in our workforce by improving diversity and inclusion.

Our employees want:

- Meaningful roles which provide job satisfaction and offer a sense of purpose.
- A fair, inclusive and safe place to work.
- A vibrant workplace and high-performance culture.
- Everyone's contribution to be recognised and fairly rewarded.
- Job security.
- Investment in skills and knowledge, and long-term career development opportunities.
- Chances to give back to the communities we serve.

Recognising the needs **of all our stakeholders**

Our partners want:

- Contract security.
- Fair commercial terms, which balance risk and return between all parties.
- Clear deliverables and performance measures.
- Efficient work allocation and management.
- Timely payment.
- Opportunities to work together to create efficiencies or open up new business options (increase order book).
- Clarity on future plans.

Our regulators want:

- Compliance with licence conditions, standards, obligations and performance commitments.
- Long-term resilience of water supply and wastewater systems.
- Improvements to customer outcomes through efficiency, better customer insight and innovation.
- Increased focus on collaboration and multi-stakeholder partnerships.
- Us to provide greater public value, delivering more for customers, society and the environment.
- Us to be open and transparent.

Wider government want:

- A resilient water sector capable of responding to future challenges.
- Increased focus on protecting and enhancing the environment.
- Protection and support for customers that need it.
- Improvements to existing markets to deliver greater value for customers.
- Support in tackling wider social issues.

Our investors want:

- Strong and predictable financial performance.
- A fair return commensurate to the risk they are taking.
- A progressive dividend policy and opportunities for capital growth.
- Robust governance processes and financial discipline.
- Strong ESG credentials.
- An investment grade credit rating.
- Responsible financing with appropriate gearing.

Our **future priorities**

We have identified eight priorities for Severn Trent Water which collectively meet the needs of our stakeholders and address the most important future challenges. These represent areas where we need to transform how we work and what we deliver.

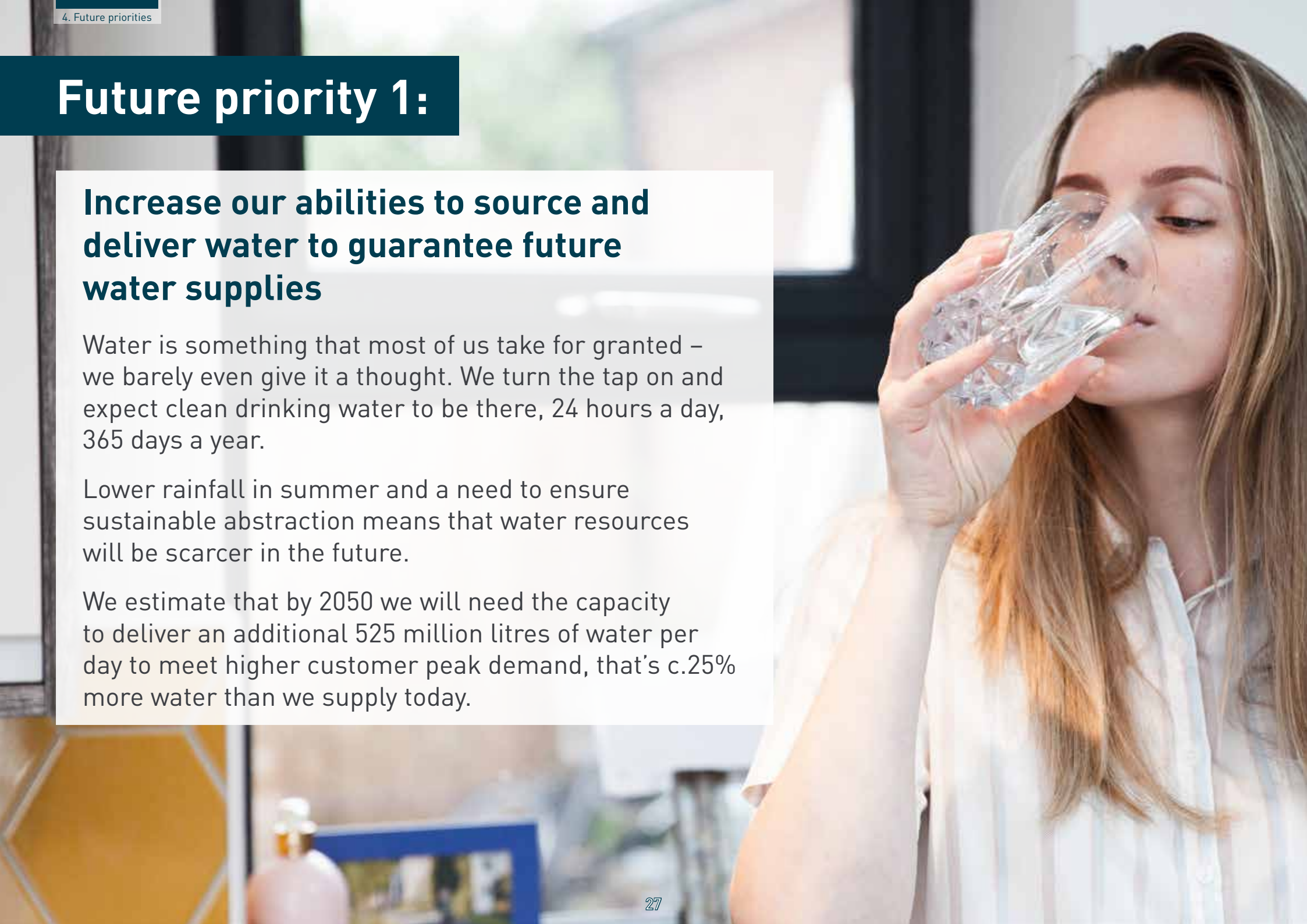
Future priority 1:

Increase our abilities to source and deliver water to guarantee future water supplies

Water is something that most of us take for granted – we barely even give it a thought. We turn the tap on and expect clean drinking water to be there, 24 hours a day, 365 days a year.

Lower rainfall in summer and a need to ensure sustainable abstraction means that water resources will be scarcer in the future.

We estimate that by 2050 we will need the capacity to deliver an additional 525 million litres of water per day to meet higher customer peak demand, that's c.25% more water than we supply today.



Our plans to **guarantee future water supplies**

Deliver high quality drinking water, targeting a risk score (DWI Compliance Risk Index) of less than 1.5, through:

- Working with stakeholders, such as farmers and land-owners, to implement changes to working practices to improve the quality of raw water sources.
- Investing in new technology for water treatment and pipe cleaning to ensure water is safe to drink and consistently meets our customers' expectations in terms of taste, colour and smell.
- Improving our network monitoring capabilities to better predict and prevent the causes of water quality issues.
- Collaborating across the sector to enhance our ways of working and the impact of our Drinking Water Safety Plans.
- Removing lead pipework across our network and on customers' premises to stop lead entering the water supply.
- Utilising our Academy to train and certify plumbers in our WaterMark scheme, to promote best practice for domestic plumbing.

Increase our capability to provide an additional 325 million litres of drinking water per day to our customers, through:

- Increasing or optimising abstraction at current sites where permitted and sustainable to do so.
- Recommissioning former abstraction sites and boreholes, where feasible.
- Acquiring abstraction rights when they become available, to supplement existing licences.
- Developing new raw water resources, where there is a viable long-term supply.
- Enhancing raw water storage capacity by a further 400 million litres through the expansion of existing reservoirs or the creation of new storage sites, for example by repurposing old quarries.
- Investing over £250m by 2035 on upgrading our treatment works to increase capacity and the speed that additional water can be added to the system.

See our Spotlight ON feature for more detail

Our plans to **guarantee future water supplies**

Reduce network leakage by at least 50%, saving c. 200 million litres of drinking water a day, through:

- Strengthening leakage detection capabilities by embedding more loggers across the network to provide early indication of leaks.
- Adopting innovative pressure management solutions which minimise stress on the network and reduce the likelihood of bursts by 15%.
- Investing in targeted mains renewal schemes to replace problematic areas of the network.
- Using artificial intelligence and machine learning to help us predict and prevent issues before they manifest themselves.
- Streamlining our processes to target fixing all visible leaks within 2 days of being reported, 75% quicker than we do today.
- Trialling innovative ways to repair pipes from the inside, improving the speed of repair.
- Exploring the adoption of customer-owned supply pipes, which account for c.25% of our total leakage.

Seek to minimise unplanned outages or their effects by enhancing asset reliability, through:

- Expanding use of proactive and prescriptive maintenance regimes to lessen the risk of asset failure.
- Using sensors and artificial intelligence to enhance asset monitoring and predict issues with health and performance before they occur.
- Improving critical spares availability to allow quicker recovery from asset failure.
- Investigating options to shift to a more standardised, modular asset design to simplify maintenance and lower costs.
- Investing in duplicate capacity for critical assets in which failure would result in a loss of service or risk a water quality event.
- Adapting or designing our assets to withstand the impacts of climate change (e.g. flooding, erosion or subsidence).
- Ensuring our critical systems continue to be protected from cyber threats and malicious attacks.

Our plans to **guarantee future water supplies**

Adopt a data-led approach to optimise network performance, through:

- Rolling out network sensors and meters across the entirety of our network to provide real-time system feedback and inform decision-making.
- Enhancing our modelling and forecasting capabilities to better predict demand patterns and allow us to plan (invest) with greater certainty.
- Using digital twins and machine learning to simulate events on our network and identify areas of weakness.

Ensure 99% of customers have a resilient supply, through:

- Connecting more customers to our strategic grid where they can benefit from multiple sources of supply.
- Creating an alternative source of supply for those customers not connected to the strategic grid and at the greatest risk of experiencing supply issues.
- Extending the use of dynamic control valves to increase our ability to automatically rezone during interruption events.

Support local and national efforts to address water scarcity, through:

- Working with other water companies to create interconnectors to optimise the use of national resources and increase raw water availability.
- Identifying opportunities to share assets such as reservoirs to support regional water availability.
- Exploring common water treatment processes and standards to facilitate treated water trading.

See our Spotlight ON feature for more detail

Spotlight ON

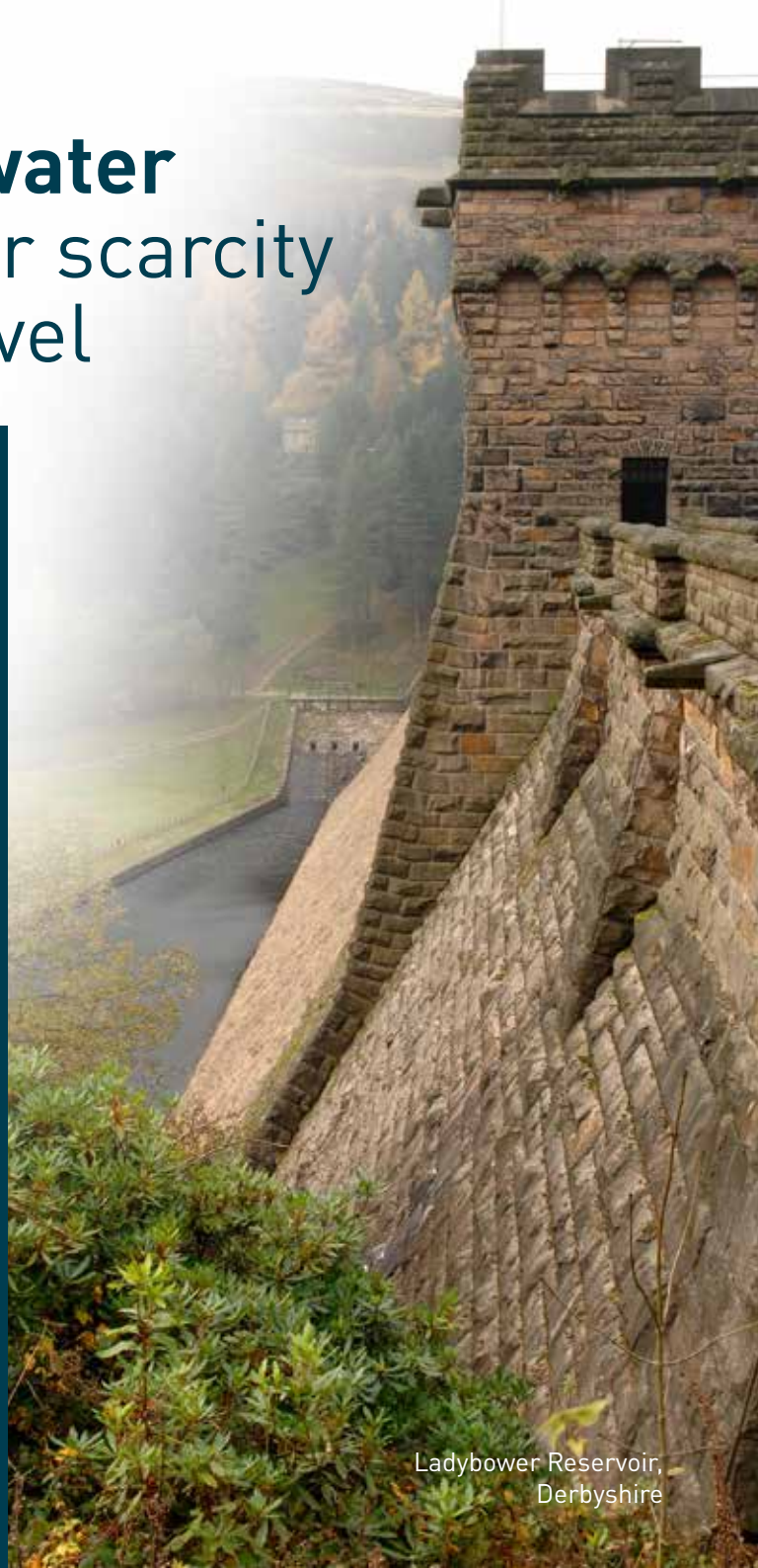
Investing in innovation to deliver the highest possible quality drinking water

- We know how important delivering safe, clean drinking water is to our customers and so we're trialling and investing in new technology.
- Recent examples of our innovation include:
  - **Eliminating pressure transience** - We're working in partnership with an Imperial College start-up to reduce pressure transient waves associated with start/stop operations at our pumping stations. By reducing flow and pressure fluctuations we're able to minimise the risk of disturbing sediment in the pipework that can impact water quality.
  - **Tackling discoloured water at source** - Our analysis has found a strong correlation between the presence of manganese and discoloured water complaints. As a result, we've built a pilot plant to inform how to optimise manganese removal using existing processes and new technology.
  - **Rapid bacteria detection** - Methods for detecting bacteria in water supplies are traditionally slow and inhibit proactive intervention. By leveraging technology and insight from the medical profession, we have worked with developers to create portable devices that are able to provide sample results in minutes; a first for the UK water industry and a game changer in preventing customer impact.
  - **Predicting pesticide levels in rivers** - We've developed the world's first metaldehyde prediction model which uses information on crop types, soil characteristics, land topography and rainfall data to forecast the likely metaldehyde concentration in our rivers over a 48-hour window.
    This allows us to change our abstraction regimes until concentrations have dropped to a safe level.

Spotlight ON

Creating an integrated water network to support water scarcity at a local and national level

- Due to our position in the country, local geology and mix of surface and groundwater sources, Severn Trent Water is well placed to adapt to the dual challenges of lower water availability and higher demand.
- We already share resources with neighbouring water companies and bilaterally trade water. Our position at the centre of the country may also allow us to act as a key transit route for North–South and West–East raw water transfers to help those regions who cannot sustainably self-supply themselves.
- As part of the Regulatory Alliance for Progressing Infrastructure Development (RAPID) established by Ofwat we are actively exploring to transfer water via:
    - **Rivers** – for example, working with United Utilities and Thames Water we are looking at the possibility of moving water from sources in Wales, the North West and the Midlands to the South East by releasing water into the River Severn and then transferring it onto the River Thames. This could deliver an additional 300 to 500Ml/d of raw water to the South East.
    - **Canals** – for example, working with Affinity Water and the Canal & River Trust to investigate using the existing Grand Union Canal infrastructure to transfer 50 to 100Ml/d of treated wastewater from Minworth to Affinity Water in Hertfordshire and North West London.
- Alongside these options we are also investigating ways to supplement water availability for transfer by changing abstraction and discharge arrangements at some of our existing water and waste treatment works.



Ladybower Reservoir, Derbyshire

Future priority 2:

Help our customers to be more water conscious to ensure water is used wisely

Our water supplies will be under pressure from the impact of population growth, climate change and environmental restrictions on abstraction.

Furthermore, we have recently been designated as operating in an area of serious water stress and new, higher standards mean we must plan to be resilient to a 1 in 500-year drought by 2039.

It is, therefore, vital that our customers understand the value of water and that we help them in their efforts to use less, to protect water sources for the future and keep bills low.

Our plans to ensure **water is used wisely**

Improve the quality and usefulness of data, through:

- Accelerating our water meter roll-out programme to achieve 100% household coverage by 2035.
- Transitioning to smart meters for future meter installations.
- Replacing our billing platform to accommodate greater data and enable more flexible tariffs, products and services.
- Upgrading our data analytics capabilities to provide more actionable insight, both for us and our customers.

Give customers information and tools to make more informed decisions, through:

- Educating consumers about the importance of water and how to better understand their use.
- Offering more personalised insight to increase efficacy of messaging and encourage behavioural change.
- Empowering customers to make informed choices about investing in water conservation measures for the home and garden.

Lobby for change on behalf of our customers, through:

- Campaigning for all new residential developments to achieve a minimum estimated water efficiency of 110 litres per person per day.
- Lobbying regulators to improve the water efficiency of products and introduce tougher minimum standards.
- Working with manufacturers and retailers to improve water efficiency labelling, so customers can make better choices.
- Promoting the wider adoption of science-based targets for business customers.

See our Spotlight ON feature for more detail

Our plans to ensure **water is used wisely**

Incentivise customers to reduce their demand, through:

- Harnessing media campaigns to reinforce the need to conserve water.
- Offering financial rewards and innovative tariffs to reduce consumption.
- Leveraging business and retailer incentive schemes to flex demand in times of stress.
- Providing discounts on clean water infrastructure charges if house builders install water efficient fixtures and fittings.

Help our customers to reduce consumption, through:

- Expanding the reach of our home water checks and audits.
- Supporting customers to find and fix leaks (while at the same time reducing network leaks, see page 29)
- Growing the range of free and paid for products we offer to support water conservation and efficiency in the home and garden.
- Offering discounted smart water appliances which promote efficient water use.
- Partnering with business customers and their supply chains to identify opportunities to lower water use and promote best practice.

Increase water recycling to replace primary water consumption, through:

- Auditing high-use businesses in our region and partnering to install grey-water systems.
- Retro-fitting rainwater harvesting and grey water recycling systems for our household customers.
- Exploring dual flood-drought storage opportunities whereby we store and divert potential flood water and use it at a treatment works downstream.
- Investigating options to utilise treated wastewater as a direct feed into a treatment works (closed loop recycling).

Spotlight ON

Leveraging smart metering data to **reduce water consumption**

- Building more infrastructure can provide sufficient water to meet our customers' needs, however we recognise that customers can also play a role by modifying their consumption, especially at peak times. This could reduce the amount of infrastructure we need to build and the carbon footprint associated with treating and transporting water.
- Between now and 2050, we intend to increase the proportion of smart meters across our region providing better insight into consumption, more accurate bills, and helping to ensure everyone pays their fair share.
- Having 15-minute granularity on usage data will be a game changer – identifying leaks which customers never knew they had and helping customers understand how they can reduce water wastage through behavioural changes, choosing more efficient products, and increasing water recycling.
- It will also help us as a supplier to understand differing demand patterns across our network and how sensitive demand is to warmer weather, and how our advice and services can best be targeted to customers who would benefit the most.
- We already offer water efficiency advice, free and subsidised products, plus our more proactive targeted home water efficiency checks – and we want to do more to help our customers save water and money.
- Indications are that consumption could be reduced by 10% on average, supporting our goals of helping our customers reach 118 litres per day per person by 2050.

Future priority 3:

Leverage data and technology to deliver a high quality, affordable service

Our customers are at the heart of everything we do, and our teams work tirelessly to provide them with a great experience.

We recognise that different customers need different things from us, and that these needs may change over time.

By rolling out new technologies and evolving the way we use data, we believe we can offer a more personalised, convenient and flexible service, all at a price that remains affordable.

Our plans to deliver a **high quality, affordable service**

Understand more about our customers and their needs, through:

- Improving the completeness and quality of key data.
- Bringing data together from different sources where it provides additional insight or customer value.
- Engaging with selected sub-groups of customers on issues of interest or relevance to them.
- Utilising social media data and interaction analytics to better understand customer behaviour and preferences.

Deliver a great customer experience, putting us in the top quartile in the industry, through:

- Utilising technology and better data to provide a more personalised and consistent omni-channel experience.
- Integrating behavioural science into our service design to improve the quality of customer interaction.
- Increasing levels of self-service so customers can choose how to interact with us and access services 24/7, 365 days a year.
- Enhancing our cyber resilience to protect customer data from malicious attacks.
- Creating a single customer view for more holistic account management.
- Improving first-time contact resolution through process simplification, better training and staff empowerment.
- Increasing coordination and proactivity of communications, preventing the need for customers to contact us.
- Partnering with best-in-class organisations to share learnings and best practice.

Our plans to deliver a **high quality, affordable service**

Maintain one of the lowest bills in England, through:

- Minimising unbilled usage from void properties.
- Sharing data to identify gap sites and bring them into charge.
- Minimising bill non-payment, from those able to pay.
- Leveraging advancements in technology, robotics and AI to drive process efficiencies and automation.
- Reducing network losses.
- Realising the benefits from efficient delivery of capital projects.
- Collaborating with others to share assets, resources or services.

Offer support to all our customers when they need it, through:

- Increasing customer awareness of the support we can offer to those that are in financial hardship or are vulnerable.
- Improving our identification of customers experiencing both long-term and transient hardship or vulnerability.
- Offering specific support for customers in water poverty or financial hardship through specialised tariffs, deferred payment plans, or grants.
- Ensuring that all vulnerable customers are registered on our Priority Services Register and their needs are understood.
- Providing tailored 1-2-1 assistance for vulnerable customers or those that have specific needs.
- Helping everyone on the Priority Services Register during emergencies (e.g. during supply interruptions).
- Assisting customers and communities impacted by flooding.

See our Spotlight ON feature for more detail

Spotlight ON

Eliminating water poverty in our region

- Although our water and wastewater bills are among the lowest in the UK, a significant minority of our customers still struggle to pay their bills.
- Research suggests that around 11% of our customers – that's roughly 1 in every 9 - find their bills unaffordable, which translates to approximately 440,000 customers in the Severn Trent Water region.
- Currently, we support around 1 in 3 of those customers and are actively considering how best we can extend our existing schemes and develop new measures to catch more households in difficulty and broadened the support that is provided.

  Examples of our existing support schemes include:

  - **The Big Difference Scheme**, our social tariff which offers eligible customers a discount on their bill based on household income.
  - **Severn Trent Trust Fund**, an independent local charity established and funded by us, to support those in financial difficulty with grants. Since it began in 1997, it has helped more than 600,000 households.
  - **Our Through Care Scheme** in conjunction with Coventry City Council, which supports young adults leaving the care system and adjusting to independent living by providing discounted bills up until the age of 25.
- Our aim is to eliminate water poverty by 2030 - this means supporting all households who spend over 5% of their disposal income after housing on their water and waste bills.
- This will not be simple and will require us to maintain our focus on costs, help our customers to reduce their consumption as well as providing direct financial assistance.

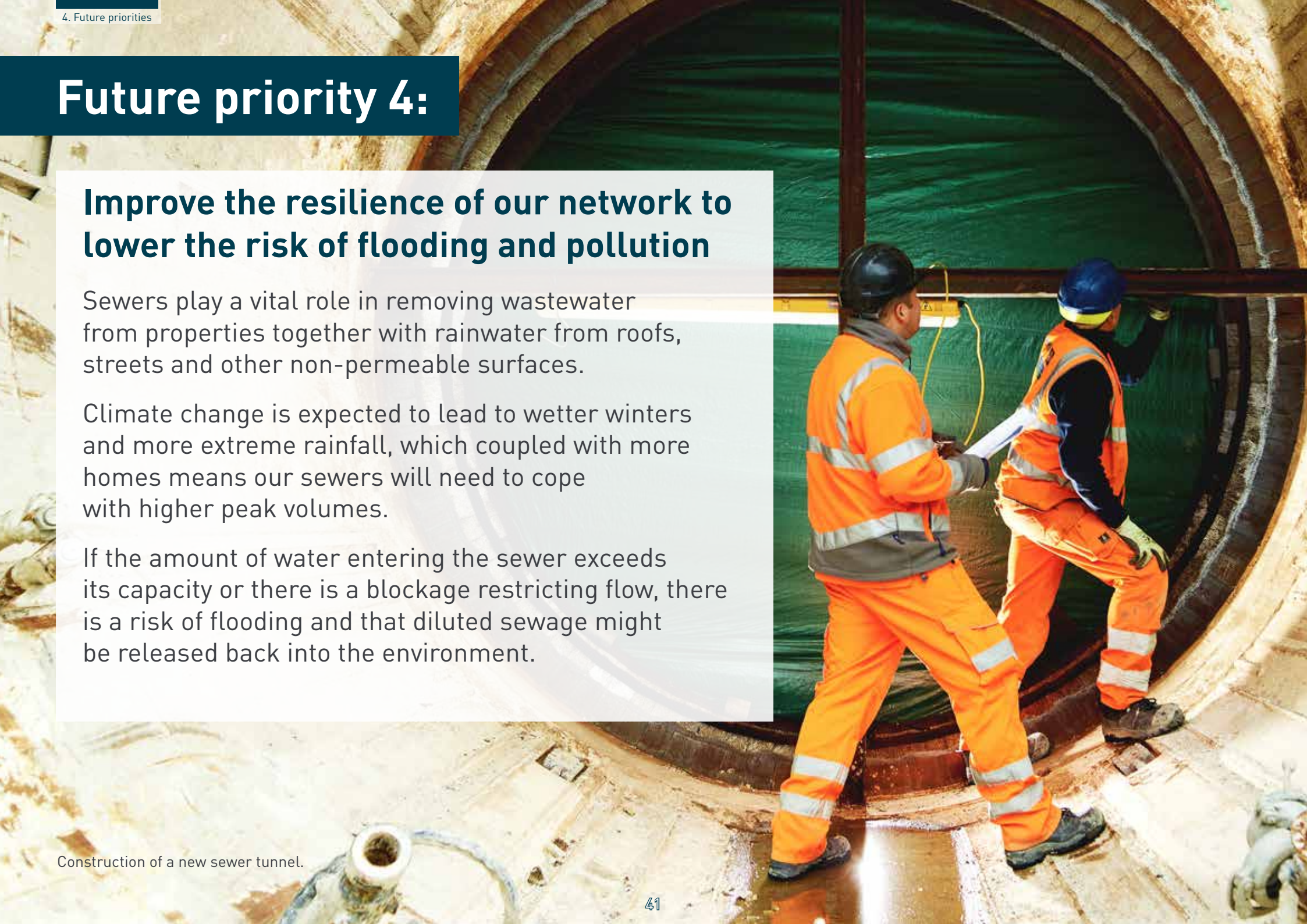
Future priority 4:

Improve the resilience of our network to lower the risk of flooding and pollution

Sewers play a vital role in removing wastewater from properties together with rainwater from roofs, streets and other non-permeable surfaces.

Climate change is expected to lead to wetter winters and more extreme rainfall, which coupled with more homes means our sewers will need to cope with higher peak volumes.

If the amount of water entering the sewer exceeds its capacity or there is a blockage restricting flow, there is a risk of flooding and that diluted sewage might be released back into the environment.



Construction of a new sewer tunnel.

Our plans to lower the **risk of flooding and pollution**

Lower the volume of water entering the network, through:

- Creating more flood resilient communities through catchment-scale initiatives utilising blue-green infrastructure.
- Rolling out more sustainable urban drainage solutions (SUDs) to manage local run-off volumes and slow the rate of flow entering specific sewers.
- Encouraging the use of enhanced water retention materials to capture water during periods of heavy rainfall.
- Promoting rainwater harvesting and grey water systems that can collect, store and re-use water.

Increase our ability to cope with higher flow and volumes, through:

- Enhancing network capacity by increasing the size of sewer infrastructure.
- Investing in greater treatment capacity where volumes cannot be reduced sufficiently and permits allow.
- Separating sewage and surface water in areas prone to regular over-spills, and where deemed the best solution.
- Working with local authorities, planners and developers to ensure new developments meet required wastewater network standards.

Reduce network blockages, through:

- Lobbying for better labelling on flushable products and the banning of non-degradable products.
- Increasing customer awareness of what should not be washed down the sink or flushed down the toilet or external drains.
- Investing more in proactive maintenance and replacement regimes targeted at critical areas prone to blockages.
- Investigating the efficacy of fat, oil and grease dispersal products and techniques (e.g. bio-augmentation).

See our Spotlight ON feature for more detail

Our plans to lower the **risk of flooding and pollution**

Improve our data collection and modelling capabilities, through:

- Ensuring all critical parts of our network are covered by sensors to provide real time visibility on network condition.
- Incorporating additional data sets and variables to improve our predictive modelling.
- Enhancing our simulation and forecasting capabilities to prevent blockages, and flooding and pollution events before they occur.

Seek to minimise unplanned outages or their effects by enhancing asset reliability, through:

- Expanding use of proactive and prescriptive maintenance regimes to lessen the risk of asset failure.
- Using sensors and AI to enhance asset monitoring and predict issues with health and performance before they occur.
- Improving critical spares availability to allow quicker recovery from asset failure.
- Investigating options to shift to a more standardised, modular asset design to simplify maintenance and lower costs.
- Investing in duplicate capacity for critical assets in which failure would result in a loss of service or risk a water quality event.
- Adapting or designing our assets to withstand the impacts of climate change (e.g. flooding, erosion or subsidence).
- Ensuring our critical systems continue to be protected from cyber threats and malicious attacks.

See our Spotlight ON feature for more detail

Spotlight ON

Proving the concept of **large-scale catchment solutions** to manage flood risk

- Reducing and slowing the flow of water into our sewers is a practical way of reducing overflows and the potential for contaminated water to enter the environment.
- One solution we are actively exploring is rainfall management and how we might re-design urban areas (sewer catchment zones) to better manage heavy downpours through the introduction of water management techniques.
- We are investing £85m in a catchment-scale programme in Mansfield, Nottinghamshire, that we hope will demonstrate the value of this approach to residents, local authorities and regulators, and promote the wider adoption of blue-green infrastructure in urban areas.
- This scheme will benefit 90,000 people with increased resilience to surface water flooding and provide a greener environment for them to live in.
- The Mansfield scheme will include:
    - **50km** of permeable paving and surfaces which will allow water to seep through to the underlying soil rather than run straight off into local drains.
    - **4,400** rain gardens and **1,600** tree/flower planters to aid water absorption and retention.
    - **50** large detention basins, to act as temporary water stores.
    - **1,600** smaller bioswales (planted channels or ditches) to concurrently slow and filter surface water and allow either a more controlled absorption into the ground or diversion to a nearby detention basin.
- Rolling out this approach across our top **23** priority locations could have the potential to remove up to **9.6 million** litres of rainwater from entering our network every minute.

Spotlight ON

Utilising **artificial intelligence** to drive **improved network performance**

- To support future resilience, we need not only to continue to invest in our physical assets but also utilise new technologies to ensure we can run those assets efficiently and safely, especially at times of stress.
- We already have around 5,000 sensors and monitors across our waste network providing data to help us understand network performance and where issues are arising.
- By 2050, we will have extended the length of our network and the number of assets that have embedded sensors to provide a network-wide perspective. By bringing this data together in an integrated model – or digital twin – and applying advanced data analytics and simulation techniques, we will be able to take a truly systematic approach to managing our wastewater network.
- This will allow us to make more targeted investments in elements of the network which may be under-performing or to address challenges, such as sewer overflows, where reliable data has not previously been available.
- Combining AI and machine learning will enable us to go one step further and combine real-time sewer data with historical performance and meteorological data to predict network performance and identify problems before they materialise. As a result, we will be better able to proactively manage blockages and prevent flooding.
- Ultimately, we would like to reach a stage where the system can largely operate autonomously, reacting in real-time to changing network conditions and actively controlling pumping stations and treatment processes to optimise flow and efficiency.

Future priority 5:

Adopt more sustainable practices to protect and enhance our environment

Climate change and resource consumption are two of the greatest challenges facing the world today and if left unchecked will pose a threat to both the environment and our ability to continue providing the services our customers rely on.

We recognise that we have a responsibility to play our part in lowering our direct impact and promote solutions which respect and enhance the natural environment.

Roof-mounted solar panel array on Severn Trent Centre, Coventry.

Our plans to **protect and enhance our environment**

Deliver net zero carbon emissions, focusing on reductions rather than offsetting, through:

- Replacing on-site fossil fuel use with renewable electricity, biofuels, and ground-source and solar-thermal heating.
- Optimising working practices to reduce energy consumption associated with our pumping and aeration processes.
- Investing in new technology and better asset design to minimise future waste and sludge treatment emissions.
- Implementing tools to measure embedded carbon in future capital programmes and factoring whole-life carbon into our decision-making.
- Ensuring all company vehicles are electric and where impractical exploring other non-fossil fuel alternatives such as green hydrogen or biogas.
- Incentivising employees to reduce their vehicle mileage and make the switch to electric.
- Working with our supply chain to support them in reducing their own emissions (Scope 3).
- Trialling new technologies and innovation to reduce our reliance on offsetting.

Send zero waste to landfill from our operations, through:

- Embedding a zero-waste culture.
- Expanding the markets for bio-solids to avoid the need for landfill.
- Repurposing excavated highway waste or screening to avoid landfill.
- Recycling or creating new markets for end-of-life products.
- Minimising the use of single-use or non-recyclable products.
- Building waste-related requirements into supplier selection criteria.

See our Spotlight ON feature for more detail

Our plans to **protect and enhance our environment**

Minimise the use of chemicals in our processes, through:

- Improving raw water quality to reduce the level of treatment required (see right).
- Adopting chemical-free treatment across our water and wastewater treatment processes, such as enhanced biological phosphate removal.
- Replacing lead pipework to mitigate the need for additional chemical treatment.

Support efforts to improve overall water quality, through:

- Increasing the real-time monitoring of water quality upstream and downstream of our works and overflows.
- Working with farmers, businesses and interested parties to reduce the level of slurry, chemical residues and other pollutants entering the water system.
- Using natural solutions to enhance local water quality, such as constructed wetlands or riverbank planting.
- Working with the EA and key stakeholders to evolve the Water Industry National Environment Programme (WINEP) and support innovative, catchment-based enhancements to entire ecosystems.
- Creating a team of River Rangers, dedicated to protecting the region's waterways.
- Improving the quality of the water we return to the environment through investing an initial £150 million in treatment works enhancements.

Our plans to **protect and enhance our environment**

Reduce the volume of water we abstract, through:

- Reducing the amount of water lost through network leaks and bursts.
- Reducing customer consumption to decrease the total amount of water that needs to be abstracted and treated.
- Investing in reducing the amount of water used in our treatment processes, which cannot be recovered.
- Limiting abstraction at vulnerable sites to ensure that river flows and groundwater levels support ecology and natural resilience.

Increase the removal of micro-contaminants from the water cycle, through:

- Working with customers to reduce the levels of micro-contaminants (micro-plastics, non-organics, chemical residues and pharmaceuticals) in sewage.
- Investing in new technology to develop better treatment solutions to increase the removal of micro-contaminants from final waste effluent.

Reduce the impact of combined sewer overflows (CSOs), through:

- Installing monitors at CSOs to provide real-time data and prevent unnecessary discharges.
- Focusing investment on CSOs prone to overflowing, ensuring that no CSO causes a water body to fail good ecological status.
- Affixing filters or alternative remedies to individual CSOs, to minimise impact on the occasion they might overflow.
- Reducing the incidences and scale of blockages (see page 42).

Spotlight ON

Leading the race to make our emissions **net zero carbon**

- The water sector collectively contributes c.1% of the UK's carbon emissions, and therefore as an industry we are acutely aware of the emissions that arise from our treatment processes, and the amount and source of the energy we use.
- Severn Trent Water is committed to being carbon net zero across our operations by 2030 (for Scope 1 and 2 emissions) and have signed up to science-based targets which includes commitments to work with our suppliers to reduce their emissions as well (Scope 3).
- This is an ambitious undertaking but one which we are proud of. To achieve this will require us to re-think every aspect of our business processes and adopt new ways of working including:
    - **Reducing** our direct emissions of greenhouse gases arising from our operations through process optimisation and the use of new technologies to reduce the level of methane and nitrous oxide produced.
    - **Replacing** traditional fossil fuels with alternative, zero carbon sources e.g. by switching our electricity and heating to renewable-backed sources and transitioning our vehicle fleets to run on renewable fuels.
    - **Removing** greenhouse gases from the atmosphere using our land e.g. by planting more than 1.3m trees, restoring peatland and improving soil sequestration, and developing new technologies to capture and store emissions.
    - **Offsetting** any residual emissions by creating internal offsets (e.g. through the generation and export of renewable energies or the recovery of materials which supplant use of fossil fuel alternatives), or by buying offsets on the open market.

Future priority 6:

Harness the value in our waste to support a more circular economy

Where others see waste, we see opportunity.

As part of the waste cycle, we already seek to maximise the value we can recover from sewage – reducing landfill waste and offsetting the costs of the services we provide. As technologies advance more will become possible and as wider society embraces circularity, new opportunities will arise where we can leverage our competencies.

Anaerobic digesters located at Coleshill, Wariwickshire

Our plans to support a **more circular economy**

Increase the recycling of biosolids, through:

- Improving the quality of bio-fertiliser produced as part of the waste process.
- Promoting the use of treated biosolids as a land remediation product and an alternative to conventional fertilisers.
- Exploring new applications and products, such as bio-char for soil conditioning or carbon sequestration.

Recover more products from waste, through:

- Changing working practices and using new technologies to increase the quantity of minerals, metals, cellulose, or other commercially viable products that can be recovered from waste.
- Working with partners and potential customers to develop new markets for recovered materials.

Maximise the recovery of heat and energy from our processes, through:

- Capturing heat directly from the sewer network using heat exchangers and heat pumps.
- Improving our treatment process to focus on energy recovery.

Our plans to support a **more circular economy**

Expand our production of green fuels, through:

- Improving our biomethane yield by adopting new technologies and practices.
- Increasing capacity to create green biomethane, for example for injection directly into the gas grid or as an intermediary feedstock.
- Investigating opportunities to produce green hydrogen from biomethane/ ammonia or through electrolysis.

Explore options to process and re-use others' waste, through:

- Exploring opportunities to commercially process waste for others, where we have an existing capability or competence e.g. sewage slurry, agricultural or industrial waste.
- Re-using other companies' waste as an input into our processes, for example chemical by-products or for spoil.

Leverage our expertise to help others be more sustainable, through:

- Offering advisory services to support organisations with their ambitions to be more circular or achieve carbon net zero.
- Considering ways of marketing our innovation expertise or intellectual property.

See our Spotlight ON feature for more detail

Spotlight ON

Scaling our production of biogases **from sewage to create green fuels**

- One of our biggest waste streams is sewage. In fact, we transport and process over 3.1 billion litres of sewage per day for treatment in our wastewater and sludge treatment plants.
- This process creates over 144,000 tonnes of biosolids annually that are rich in organic matter. Traditionally once treated to make it safe and remove impurities, the resultant de-watered 'cake' has been used as fertiliser - though its application is currently limited to a certain number of land types and crops.
- However, the same biosolids can be used as a feedstock to create biogas when treated anaerobically in digestors or membrane bio-reactors. The resultant biogas can either be burnt to create renewable heat and electricity, or purified into biomethane and injected into the national gas network.
- This purified biomethane also has the potential to be converted into bio-CNG or synthesized into green hydrogen to be used as an alternate transportation fuel.
- Currently, Severn Trent Water is the UK leader in producing biogas from sewage sludge, generating renewable electricity and exported biomethane equivalent to 25% of our electricity use.
- Furthermore, we have an associated Green Power business which uses our anaerobic digestion expertise, as well as composting, to process a quarter of the UK's food waste.
- Together Severn Trent Water and Green Power generate c. 319GWh of renewable energy from 35 plants, enough electricity to power 90,000 homes for a year, roughly the size of Worcester.

Anaerobic digester at wastewater treatment works,Finham, Coventry

Future priority 7:

Work with our communities to make a positive social difference

Severn Trent Water does not operate in a bubble; we are part of the communities we serve.

As a socially purposeful organisation we recognise that our influence and resources can help tackle issues of local importance and deliver wide-reaching societal, economic and environmental benefits.

Play Area at Staunton Harold Reservoir, Derbyshire

Our plans to make a **positive social difference**

Educate and inspire our communities, through:

- Encouraging more people to visit our sites and understand what we do.
- Broadening the range of educational and leisure activities that young people and families can participate in at our visitor sites.
- Expanding our educational offering in schools to include practical skills and inspire STEM careers.
- Providing virtual sessions via our online learning platform to reach children at home.

Provide people with life skills and learning opportunities, through:

- Utilising our Academy and other training facilities to help boost employability skills, building on the 100,000 hours of free training offered following the Covid-19 pandemic.
- Creating additional sustainable job opportunities through new investments, such as our Green Recovery Programme.
- Providing internships and work experience opportunities to help local school leavers gain work experience and build their CV, inspired by the 500 Kickstarters we're already hosting.
- Offering undergraduate summer placements and mid-degree placement years, to provide practical exposure to the water industry and encourage talented graduates to enter the sector.
- Running apprenticeship schemes to provide on-the-job training and formal qualifications to set people up for a career in the water industry and beyond.

Promote social mobility and help communities thrive, through:

- Providing bursaries (such as our Andy Duff Bursary) and grants to support students in social mobility 'cold spots' through further education and training.
- Ensuring fair and transparent recruitment practices, which promote a level playing field for people from disadvantaged backgrounds or circumstances.
- Creating more opportunities for those without degrees or formal qualifications, by removing educational requirements where not essential, or offering more on-the-job learning.

Our plans to make a **positive social difference**

Support local charities and community well-being, through:

- Using our Community Fund to donate at least 1% of our profits each year to charitable causes that aim to boost well-being across the region.
- Providing ad-hoc support for our communities when they need it, just like the £1m Emergency Coronavirus Fund we launched to help our communities deal with the impact of Covid-19.

Increase community resources in our region, through:

- Creating community resources where the public can safely enjoy water and the natural environment.
- Expanding access to our sites and improving visitor facilities to encourage community use.
- Working to deliver bathing sites on our river network.
- Partnering to create green urban spaces and new forests, inspired by our affiliation with Birmingham 2022, in which we're helping to deliver the first ever carbon-neutral Commonwealth Games.

Enhance biodiversity across our region, through:

- Changing land practices on 10,500 hectares of our own land to support wildlife.
- Making grants available to fund biodiversity projects in collaboration with community volunteer groups.
- Planting 1.3 million trees by 2030 to help improve the environment.
- Committing to a 15% biodiversity net gain across all capital programmes that require Preliminary Ecology Appraisal (PEA).

Support public health, through:

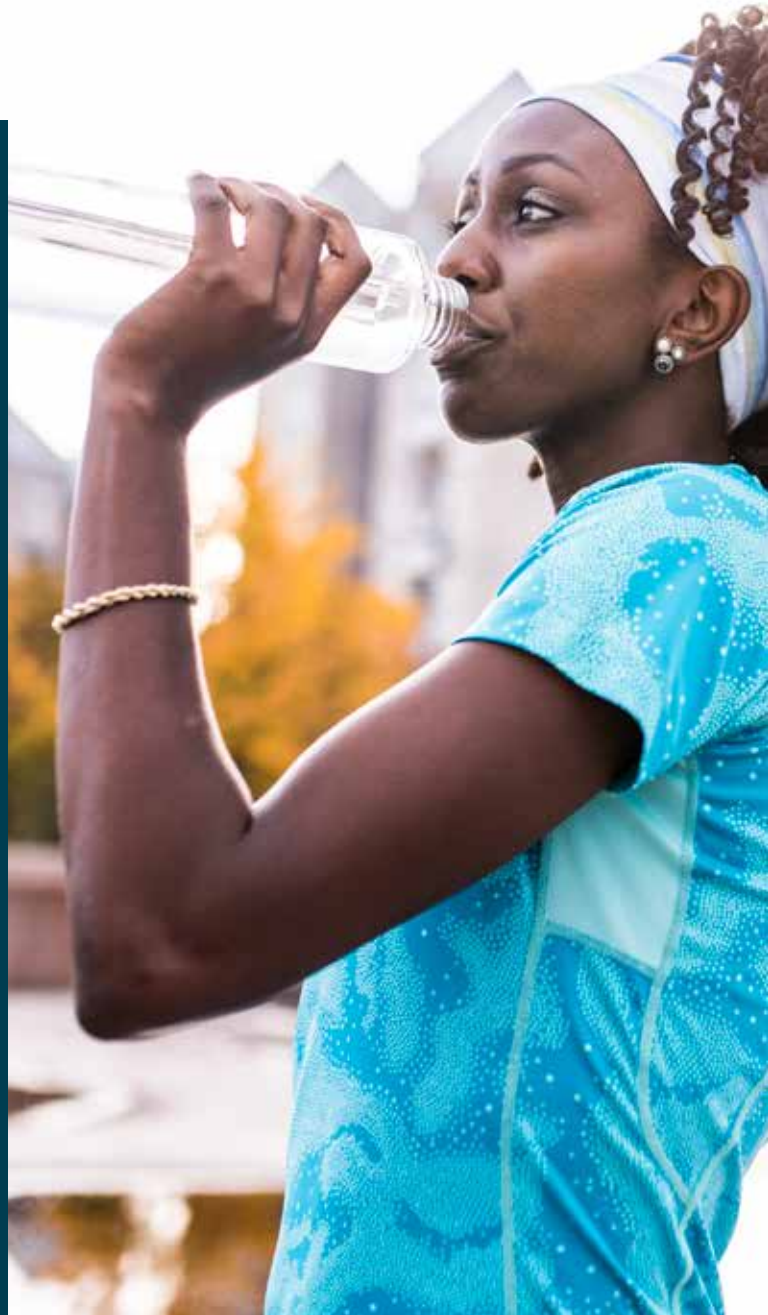
- Removing lead pipework across our network and on customers' premises to stop lead entering the water supply.
- Detecting and tracking diseases present in wastewater to help pinpoint outbreaks.

See our Spotlight ON feature for more detail

Spotlight ON

Supporting our communities by sharing the equivalent of **1% of our profits on local projects**

- Our customers and the communities we serve are at the heart of everything we do – and that's why in 2020 we formed the Severn Trent Community Fund with initial funding of £10 million.
- The money is destined to support non-profit organisations, local charities and community groups with grants of between £2,000 and £200,000 to improve community well-being, such as allowing people to lead healthier lives or gain new skills, creating better places to live in, or helping to look after our natural environment.
- The Community Fund is special because our customers decide, alongside Severn Trent employee representatives, which schemes are most worthy of our support.
- Recent examples have included:
  - A new exhibition space at The National Space Centre, Leicester built in one of our old storm tanks to educate visitors on how to sustain the health of our planet.
  - Rejuvenation of a derelict railway line in Coventry into a new walking and cycling path providing the local community with access to 70 acres of green space.
- Additionally, recognising the short-term impact of Coronavirus on the communities we serve, we have donated £1m to local charities, with £500,000 shared amongst food banks, mental-health charities, and those supporting the elderly. The remainder was shared amongst 339 charities that had suffered financially through the pandemic to enable them to continue their fantastic work and support the most vulnerable and disadvantaged in our society.



Spotlight ON

Working collaboratively to **increase our region's natural capital** and deliver a **better environment for all**

- We support the Government's commitment that this should be "the first generation to leave the natural environment of England in a better state than that in which we found it" and we fully intend to play our part.
- The environment and its natural capital are critical not only to our business, but to society more broadly – as a water company this issue has always been close to our hearts.
- We are committed to protecting and enhancing the environment, through better stewardship of the land we own, by supporting local charities, and by exploring multi-stakeholder catchment-scale approaches.
- Examples of some of our collaborative environmental projects include:
    - Joining forces with local Wildlife Trusts and Rivers Trusts to undertake biodiversity audits on our sites and using these to develop site-specific biodiversity plans.
    - Enhancing measures to protect precious ancient woodland, to make sure no new project causes harm and that we undertake any essential activity in conjunction with the relevant organisations to limit impact.
    - Improving moorland in the Peak District through the Moors for the Future partnership to reduce flood risk, improve water quality and reduce the risk of fires.
    - Offering financial support through our Boost for Biodiversity grant scheme, aimed at helping smaller projects run by councils, schools, and local conservation and community groups.

Spotlight ON

Creating a positive **environmental and social legacy**

- We are passionate about making a positive impact on the communities and the environment across our region.
- As an example of this, we have already committed to planting 1.3 million trees and enhancing biodiversity across 5,000 acres of land as part of our Great Big Nature Boost.
- Now, we are partnering with the Commonwealth Games to make Birmingham 2022 the most sustainable games ever.
- As the Official Nature & Carbon Neutral Supporter of Birmingham 2022 we are responsible for delivering a series of initiatives that will offset the carbon generated by the games and which also help to leave a legacy of sustainability in the West Midlands.
- These initiatives include:
    - Creating a 2022 acre forest, providing a haven for local wildlife and opportunities for the local communities to reconnect with nature.
    - Establishing 72 small forests in urban areas across the West Midlands – one for each participating nation – to bring nature closer to these communities, which often suffer from a lack of green space.
- This is just the start, as we develop our societal strategy and implement our wider sustainability agenda, we will seek out further opportunities to deliver legacy projects that have a long term and meaningful social and environmental impact.

Future priority 8:

Invest in our high performing culture to maintain a safe, inclusive and fair workplace

As a responsible employer, we want to look after our people, be that their physical, mental or emotional well-being. All are important to ensure we have a happy, skilled and engaged workforce, who are equipped to safely deliver high quality services to our customers and enjoy their work.

Severn Trent tunnel boring equipment

Our plans to maintain a **safe, inclusive and fair workplace**

Maintain our industry leading safety performance, through:

- Preparing our teams with the necessary skills and equipment to carry out their jobs safely.
- Creating safe environments, systems and behaviours to ensure that nobody gets hurt or is made unwell by what we do.
- Ensuring our suppliers and business partners meet our requirements, share lessons learnt and work together in the pursuit of best practice.
- Leveraging new technology and data to gain insight into team safety, drive accountability and improve knowledge and safety performance.

Care for individuals' mental health and well-being, through:

- Expanding the provision of mental health training programmes to improve awareness and promote well-being.
- Enhancing our Employee Assistance Programme to offer confidential support, information and advice on a wider array of topics and issues to employees and their families.
- Upgrading our sites to improve how our people feel at work and about their workplace.

Reflect the diversity of the communities we serve, through:

- Improving our recruitment practices and the diversity of candidates on shortlists.
- Developing our apprentice and graduate offering to ensure the intake better matches the profile of our communities.
- Growing our outreach programmes to ensure young people are more likely to hear about the opportunities we can offer them.
- Becoming active role-models within the communities we serve to inspire others from the same backgrounds into similar careers.

Create an inclusive working environment, through:

- Enhancing our HR policies to better reflect the society we live in and support the changing way we live and work.
- Ensuring all our employees are trained in diversity and inclusion, and bad behaviours are reported and dealt with.
- Expanding our employee advisory groups to raise awareness, educate our workforce and work with external bodies to drive out discrimination.

Our plans to maintain a **safe, inclusive and fair workplace**

Create the most skilled workforce in the industry, through:

- Investing in new training facilities, such as our new £10m Academy, to develop a skilled workforce fit for the future.
- Developing innovative learning technologies, such as augmented and virtual reality to simulate different environments, enabling our people to practice safely.

Reward the great performance of our teams, through

- Strengthening our reward framework to better attract, motivate and retain people who are inspired by and live our values.
- Promoting a transparent pay and reward structure that recognises great performance.
- Publicly acknowledging outstanding performance through initiatives such as Our Brilliant People scheme and our Awesome Awards events.
- Providing opportunities for employees to plan for the future via our pension or Sharesave schemes.

Nurture and develop talent within our organisation, through:

- Aspiring to fill more vacancies through internal promotions, rather than external hires.
- Expanding our talent and succession planning activities to provide a more systematic, enterprise-wide approach to building our talent pipeline.
- Enhancing our employees' access to the learning and guidance they require to navigate clear career paths where they aspire to develop.

See our Spotlight ON feature for more detail

Spotlight ON

Embracing diversity and creating a workforce that truly **reflects the communities we serve**

- As a responsible employer and socially purposeful organisation, we take our obligations around inclusion and diversity seriously.
- We are committed to creating a fair working environment for all our staff where everyone has the opportunity to succeed and to diversify our workforce to better reflect the communities we serve.
- To help us shape our policies and learn from the communities who are most affected by these issues, we have created four employee-led advisory groups covering ethnicity, sexual orientation (LGBTQ+), disability, and women in Operations & STEM subjects (science, technology, engineering and maths).
- These are sponsored by our Executive team and help raise awareness, educate our workforce, and work with external bodies to help us create the right policies and interventions to drive out discrimination.
- Additionally, we also have a reverse mentoring scheme where colleagues from under-represented groups are matched up with our Executive team, to share insights and propose ideas for positive change.
- We have made good progress on both fronts:
    - For inclusion, our employees have scored us at 8.7 out of 10, while externally we are ranked as 6th out of the FTSE100 for Equality in the Responsibility 100 index.
    - On the diversity front, 29% of our employees are female and 9% from an ethic minority. This is currently less than the communities we serve, but through a more proactive approach we are seeing increased representation in our apprentice and graduate intakes, and more diverse candidate shortlists.

Spotlight ON

Improving the life chances **of our employees** and those in the **communities we serve**

- Our employees and sub-contractors are key to delivering first-class services to our customers day in, day out.
- To help them perform at their best, we have invested £10m in creating our very own Training Academy to provide a mix of formal and informal learning opportunities.
- Our academy offers over 450 workshops and courses, and incorporates not just face-to-face and online learning, but also virtual reality learning and physical simulation rigs.
- The syllabus recognises both our duty of care to ensure those working for us are trained appropriately for their roles and know how to use all the relevant safety equipment and tools, but also our desire to help our people build out their skills base.
- To allow the wider community to benefit from these facilities, we intend to open up our learning spaces and offer courses to non-employees.
- Initially, we have focussed on accreditation schemes for local plumbers so they can learn best practice, but in time, we will look to extend the range of non-technical courses that we offer that help those that are disadvantaged or need help with basic life and employment skills.
- These courses would be intended to compliment the various educational sessions we run at local schools to inspire youngsters to consider careers in the water industry, and our internship and apprenticeship schemes which provide entry points into full-time roles.

Thank you for reading our Strategic Direction Statement, we hope that you enjoyed it!

In this document, we have presented some of our thinking on the key challenges we expect to face over the next 30 years and highlighted eight future priority areas for our business where we will need to change to both respond to those challenges and meet the needs of our stakeholders.

Obviously, as with all forward-looking documents, our thinking is based on what we know today and our current interpretations of the key trends. As the trajectory of those trends becomes more apparent, we will need to adapt and refine our conclusions accordingly.

Key trends

- Growing population.
- Changing demographics.
- Evolving customer expectations and attitudes.
- Increasing use of maturing technologies.
- Rising concerns over environmental pollution.
- Mounting concerns over damage to the natural environment.
- Greater impact/experiences of climate change.
- Adoption of emerging solutions to decarbonise.

Biggest challenges

- More demand for water.
- Reduced water availability.
- Increased risk of flooding.
- Shift in attitudes towards the environment.
- More regulation and policy interventions.
- Requirement to rapidly decarbonise.
- Higher customer bills and impact on affordability.

Future priorities

- Guarantee future water supplies.
- Ensure water is used wisely.
- Deliver a high quality, affordable service.
- Lower the risk of flooding and pollution.
- Protect and enhance our environment.
- Support a more circular economy.
- Make a positive social difference.
- Maintain a safe, inclusive and fair workplace.

Consultation feedback

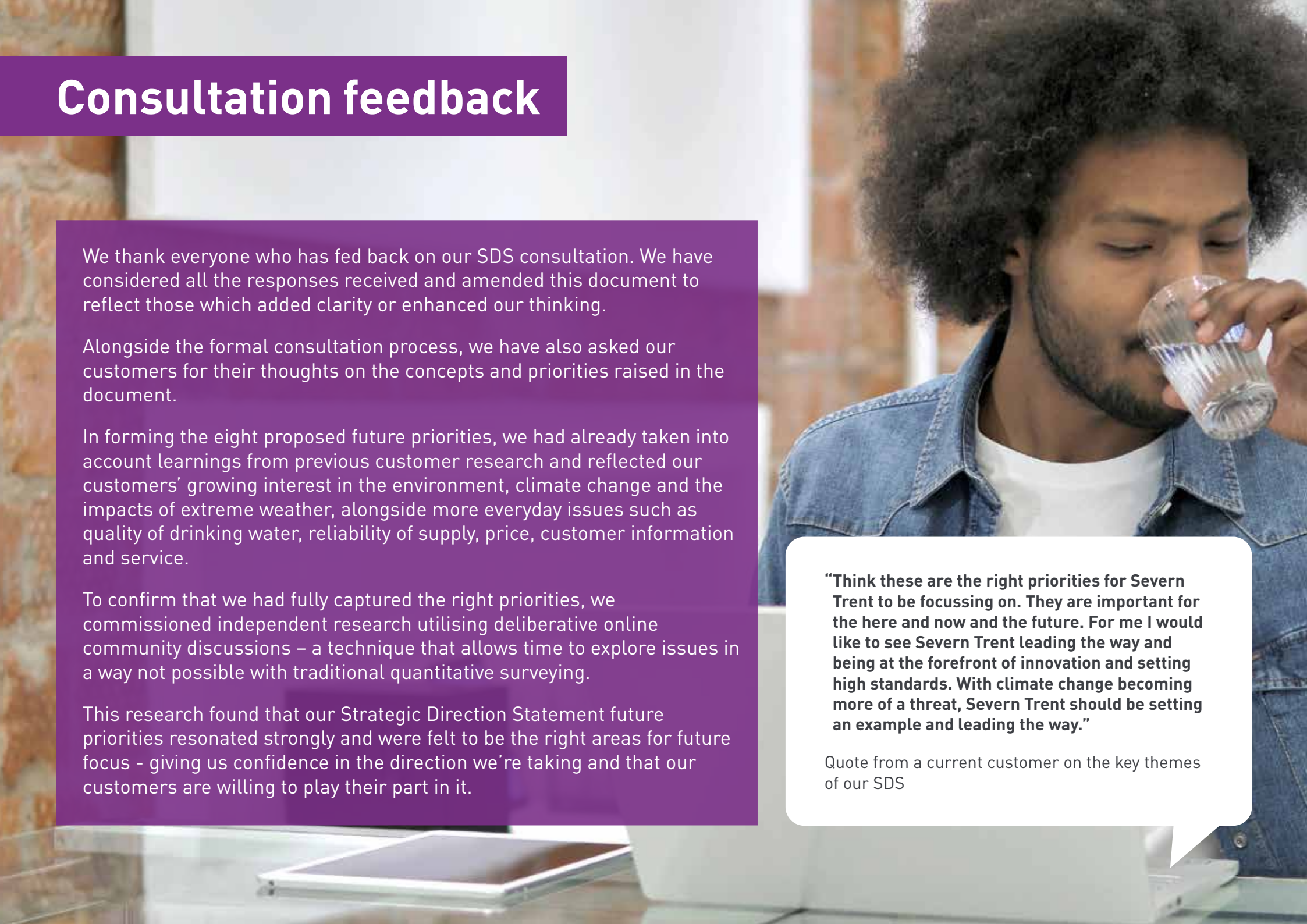
We thank everyone who has fed back on our SDS consultation. We have considered all the responses received and amended this document to reflect those which added clarity or enhanced our thinking.

Alongside the formal consultation process, we have also asked our customers for their thoughts on the concepts and priorities raised in the document.

In forming the eight proposed future priorities, we had already taken into account learnings from previous customer research and reflected our customers' growing interest in the environment, climate change and the impacts of extreme weather, alongside more everyday issues such as quality of drinking water, reliability of supply, price, customer information and service.

To confirm that we had fully captured the right priorities, we commissioned independent research utilising deliberative online community discussions – a technique that allows time to explore issues in a way not possible with traditional quantitative surveying.

This research found that our Strategic Direction Statement future priorities resonated strongly and were felt to be the right areas for future focus - giving us confidence in the direction we're taking and that our customers are willing to play their part in it.



"Think these are the right priorities for Severn Trent to be focussing on. They are important for the here and now and the future. For me I would like to see Severn Trent leading the way and being at the forefront of innovation and setting high standards. With climate change becoming more of a threat, Severn Trent should be setting an example and leading the way."

Quote from a current customer on the key themes of our SDS

WONDERFUL ON TAP

SEVERN TRENT