



Scottish
Water

Trusted to serve Scotland

OUR SUSTAINABLE FUTURE TOGETHER

DRAFT LONG-TERM STRATEGY





CHIEF EXECUTIVE'S WELCOME

Water is Scotland's most precious natural resource, and the quality of our water is a source of national pride. We all depend on water day in, day out.

Scottish Water is your publicly owned water company. We operate as a commercially run organisation to ensure we offer you best value for money, and we are subject to robust independent regulation to make sure we always do a good job.

We are proud to provide the services that are essential to everyday life in Scotland. We are custodians of the treatment works, laboratories, water mains and sewers that serve communities across Scotland, and we look after these assets on behalf of the nation. We work hard to deliver excellent services for our customers today and make sure we are investing appropriately so that we can continue to do so in the future. We know that the Scotland of 2050 will look different from how it does now, and this will affect us all. The challenges we face will mean we all need to think about water, waste water and drainage very differently.

The scale of the climate challenge is such that we can no longer just engineer our way out of the problem. Without collective action, we face the very real risks of the quality of Scotland's waters worsening, of floods affecting more homes and businesses in many parts of the country, and of finding ourselves with insufficient water resources to cope with extreme droughts. Even with the amount of water we have in Scotland, we need to adapt now if we are to manage these risks and prevent future generations facing an unsustainable future.





And yet, we can also see a way to face these challenges and enable a bright future for Scotland. This Long-Term Strategy sets out how radical changes can be made over the next 25 years.

Changes in how we deliver more nature-based solutions; work with the grain of our precious natural environment to reduce risks of drought and flood; and drive collaboration to new levels with organisations across Scotland and with our customers, can all help us find new ways to maintain services and enhance the natural environment at the lowest cost.

We are also focused on harnessing the power of innovation and new digital tools to transform how we work, and drive efficiency through moving to proactive solutions rather than reactive management.

Approaches like these can enable sustainable and affordable services for all despite the real challenges we face, and help us to contribute to meeting Scotland's [Water Sector Vision](#).

As a nation we need to rethink our relationship with water – how much we use, what we flush down the toilet, how we manage where rainwater drains to, and how all of this affects our precious natural environment.

By working together, I am confident we can ensure a flourishing Scotland in the years ahead. We will be able to adapt to a changing climate in a way that creates benefits for us all, enabling housing and economic growth alongside a thriving natural environment. And all whilst still providing excellent water quality across Scotland.

I very much look forward to hearing your views on what we set out here, and your ideas as to what you can do to help us navigate to that brighter future.

Alex Plant

BY 2050

IMAGINE A SCOTLAND IN 25 YEARS' TIME WHERE...

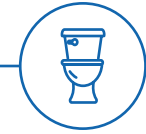
...warmer, drier summers mean an increase in the risk of drought and poor water quality.

More frequent and extreme storms erode our landscapes and damage our pipes and treatment works; and more intense and extreme rainfall increases the risk of pollution in our rivers and flooding to homes and communities.

DESPITE THESE CHANGES, HOWEVER...



You always know that the drinking water coming from your taps is the best quality and it's there for you whenever you need it.



The waste water created when you brush your teeth, wash your clothes and flush the toilet is collected, treated and recycled in an efficient and environmentally sustainable way and the quality of water in your local environment has continued to improve.



BY 2050



You love your water and the way you cherish and value it as a precious resource, in your homes and businesses, reflects that. Every home and business is water efficient, and gardens and public spaces are used to minimise the level of rainwater ending up in our sewers.



You capture rainwater from your roof to water your garden, you have significantly reduced the amount of water you use through smart water-saving appliances in your kitchens and bathrooms, and you can easily and accessibly monitor how much you're using.



In your communities, you can see the great work of water: rain gardens and blue and green spaces at the heart of your communities, which improve the environment and enhance the quality of life for people and wildlife.



Scotland has healthy rivers, lochs and coastlines the length and breadth of the country, which foster biodiversity and provide opportunities for you to support your physical and mental health.



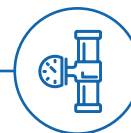
BY 2050



Scotland's water resources are a source of economic potential, helping Scotland become a wellbeing economy and contributing to the Scottish Government's climate and nature targets. We consistently innovate, making the most of digital tools to manage our smart networks.



We have also worked in collaboration with others to increase and secure the health and resilience of the land and nature which provides Scotland's water resources, food and recreation. All of this supports a growing economy and a healthy society across Scotland.



As the custodians of the essential treatment works, water mains and sewers that cover the length and breadth of Scotland, we have done everything needed – working with you and our partners – to ensure future generations inherit assets that have been well looked after.



**WE ARE
ALL HELPING
SCOTLAND
TO FLOURISH**





CONTENTS

CHAPTER 1	
Overview	8
CHAPTER 2	
Piped By Us, Owned By You	17
CHAPTER 3	
For A Changing Scotland	24
CHAPTER 4	
Our Long-Term Outcomes	38
CHAPTER 5	
Our Long-Term Steps	45
CHAPTER 6	
For A Flourishing Scotland	63



CHAPTER 1
OVERVIEW



Prev



Next



01 Overview

02 Piped By Us, Owned By You

03 For a Changing Scotland

04 Our Long-Term Outcomes

05 Our Long-Term Steps

06 For a Flourishing Scotland

OVERVIEW

Scottish Water was formed over 20 years ago. As a publicly owned organisation we invest all the money we receive from charges back into maintaining and improving your services.

Over this time we have made significant improvements to the services you rely on. Drinking water quality, leakage, environmental impact and our efficiency have all improved, helped by effective independent regulation. In the future we can achieve a great deal more, but with the challenges we face we must make changes to how we work, how we collaborate, and how as a nation we think about and use water.

This strategy sets out our plans over the next 25 years to ensure Scotland's water and waste water services continue to be sustainable, resilient and affordable for generations to come.

Underpinned by our **purpose and ambitions**, and framed by Scotland's **Water Sector Vision**, the Long-Term Strategy identifies the **challenges** we must overcome, the **outcomes** we will deliver, and the **steps** we will take over the next 25 years – with our **promise to customers** as a foundation for all that we do.

To develop our strategy, we have used a number of tools to test our choices and support decision-making. We have used customer research to assess the economic and societal benefit of the decisions we have made and tested these against possible views of the future. Uncertainty is inherent when we look forward, which is why we will review our Long-Term Strategy with our partners as part of each Strategic Review of Charges.



OUR STRATEGIC DIRECTION

Our Purpose

We will support a flourishing Scotland by being trusted to care for the water on which Scotland depends

Our Ambitions



Delivering Service Excellence



Beyond Net Zero Emissions



Great Value and Financial Sustainability

OUR LONG-TERM STRATEGY

Our Challenges

The major changes we are facing

The climate crisis bringing extreme weather.

The changing population of Scotland.

Our assets, the network of pipes and treatment works across Scotland, are ageing.

Our Long-Term Strategy Outcomes

The results we will deliver over the next 25 years

Scotland's tap water remains a source of national pride.

The quality of Scotland's rivers and seas has improved, and our communities are protected from flooding, through collaboration with others.

Scottish Water has played a key role in enabling Scotland's sustainable economic and housing growth.

Our Long-Term Strategy Steps

The steps we will take to deliver our outcomes

Lead partnerships with organisations, customers and communities.

+

Transform and drive efficiency through innovation and technology.

+

Reduce demand on our services and assets, by reducing demand for tap water and managing rainwater.

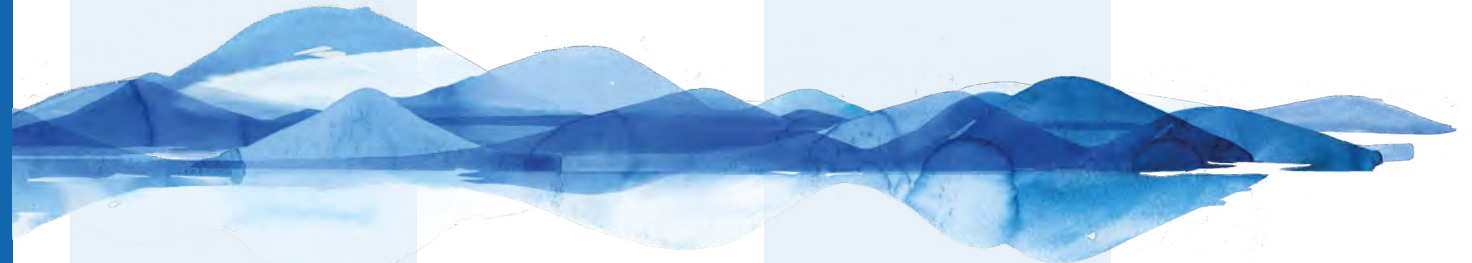
ONLY THEN

Seek the funding we need.

Our Promise to Customers

The foundation for all that we do

Improving the lives of our customers, communities and the environment, and help Scotland to flourish come rain or shine.



OUR AMBITIONS

We have three strategic ambitions.



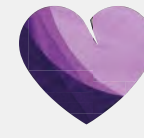
SERVICE EXCELLENCE

Adapting to climate change, managing our ageing assets and meeting customers' evolving expectations.



BEYOND NET ZERO EMISSIONS

Showing leadership in mitigating climate change through our operations, investment and land management activities so that we achieve net zero by 2040 and go beyond this.



GREAT VALUE AND FINANCIAL STABILITY

Customers will receive great value, now and in the future, and we will be financially sustainable as a company.

These ambitions require us to find and deliver solutions that always balance service, climate and cost for the benefit of customers, communities and the environment.

OUR CHALLENGES

We recognise there are three major challenges that will impact our ability to achieve our Long-Term Strategy (find more detail on these in [Chapter 3](#)).



THE CLIMATE CRISIS

Climate change is bringing extreme weather, record-breaking heatwaves, droughts, storms, and floods that have put increasing pressure on our water and waste water systems – some of which were built more than 100 years ago.

And the climate threat is accelerating, which means we must go further and faster in adapting and replacing the assets that will serve Scotland.



POPULATION CHANGE

Scotland's overall population continues to grow, and there is a shift in population from west to east. The number of households has also increased, as more people are now living alone or in smaller family units.

This has resulted in many local authorities across the central belt of Scotland declaring housing emergencies in 2024.

As well as our responsibility to ensure the smooth and swift connection of new homes, these changes also put pressure on our existing network's ability to cope with additional demand.



AGEING ASSETS

Along with many assets which are over 100 years old, responding to new legislation meant a boom in the number of assets which were installed in the 1950s and 1990s. These assets have served us well, but they are all coming to a point where they need to be upgraded or replaced.

To ensure compliance with stricter legislation we have also introduced over recent years additional monitoring and control systems, and more digital assets that require more frequent replacement.

OUR THREE LONG-TERM OUTCOMES

Our outcomes are that:



Scotland's tap water remains a source of national pride.



The quality of our rivers and seas has improved, and our communities are protected from flooding, through collaboration with others.



Scottish Water has played a key role in enabling Scotland's sustainable economic and housing growth.

To respond to these challenges and the changing world we operate in, we are setting three outcomes in our Long-Term Strategy, which we will prioritise over the next 25 years. These outcomes are the critical areas where more work is required, and we will measure and report our progress against them.

These outcomes focus on how we will support Scotland's water, environment, housing and economic growth, customers and communities.

You can find more information about our long-term outcomes in [Chapter 4](#), including more detail on the objectives which sit under them. We know how we will achieve some of these objectives, but others represent a significant change to how we currently do things and will need new ways of achieving them to deliver best value for customers.





OUR FOUR LONG-TERM STEPS

We plan to enable these outcomes by setting out four key steps (find more information about these in [Chapter 5](#)).

Our approach is to deliver as much progress on the first three steps as we can, so that we minimise the funding we must seek from customers (step four).

- 1** We will **collaborate and lead partnerships** with public, private and third sector organisations and with customers and communities, undertaking activities such as contributing to a natural environment that is resilient to climate change and supports water resources, quality and helps us drain catchments sustainably.
- 2** We will **transform and drive efficiency** in the way we work through innovation and technology.
- 3** We will **reduce demand on our services and assets**, by reducing demand for tap water and managing rainwater on the surface.
- 4** We will **seek the funding we need** to deliver investments to maintain the services we all rely on.

And then, having realised as much benefit as we can from steps one to three:

Without major changes to how we currently operate the water and waste water system in Scotland, and given the projections of the impacts of climate change, we are currently forecasting that the funding needed to deliver sustainable services over the next 25 years could be approximately double what it is today, meaning around £50 billion could be invested over that period in your water and waste water services.

Planning for the next 25 years is inherently uncertain and there are both opportunities and risks ahead. Using the first three steps of this strategy, we will relentlessly seek out and embrace opportunities that can reduce the forecast level of funding that would otherwise be required.

The process for establishing our level of funding will be through each Strategic Review of Charges, where we will seek customer support for our approach and for the level of investment we propose, and where our independent economic regulator will determine what the right level of funding will be.

Our forecast of funding will be refreshed every regulatory period as we learn more about the impact of climate change on our services and can assess how far working ever

more collaboratively, driving technology and innovation, and reducing demand has taken us towards delivery of our outcomes.

This means that when we review our plans with our economic regulator for each regulatory period, we will be ensuring that the cost to customers is as low as possible, whilst still ensuring we can deliver high-quality reliable services for current and future generations and protect and enhance the natural environment.



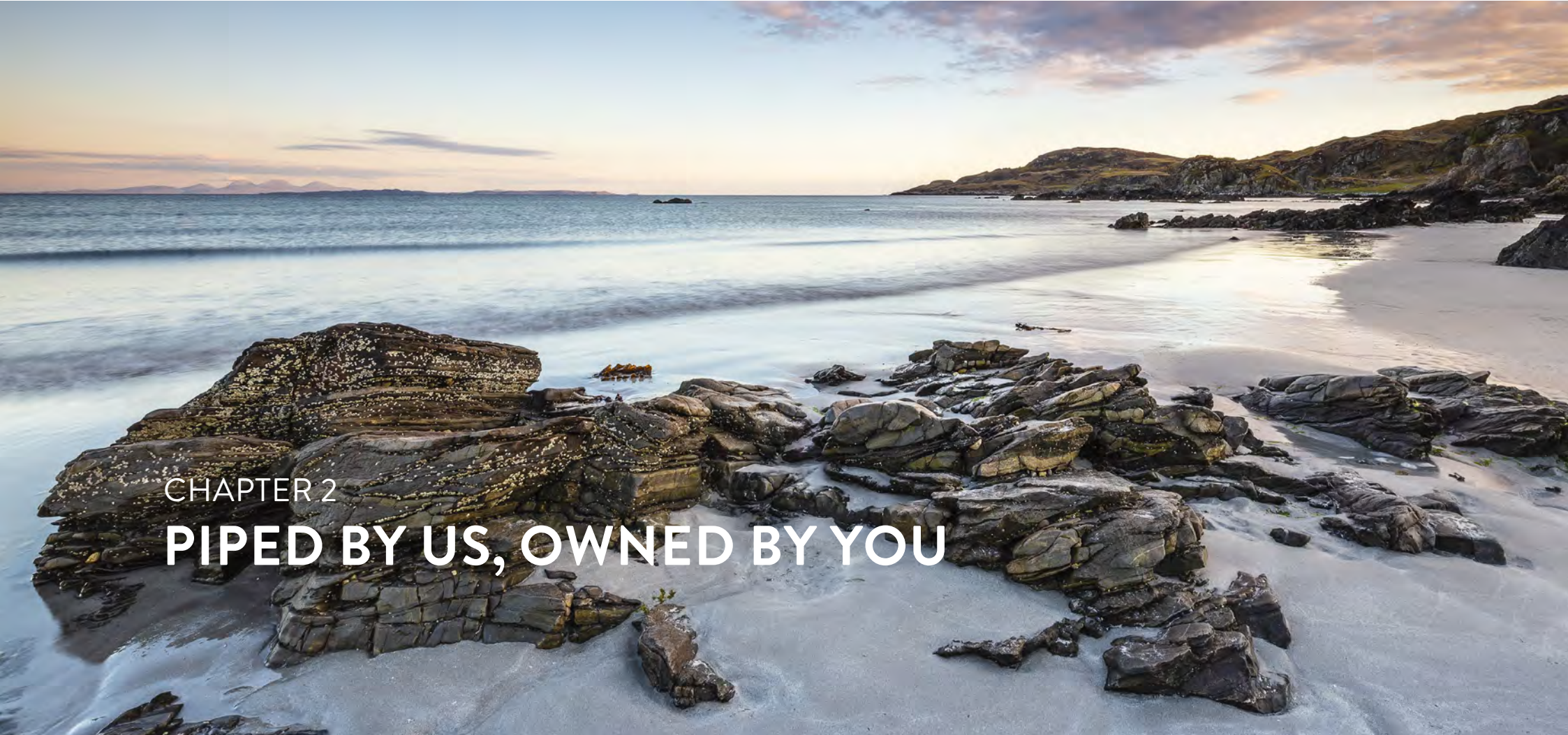
OUR PROMISE TO CUSTOMERS

Customers are at the heart of everything we do.

Through our research we have spoken to over 5,000 customers, which has supported the development of this Long-Term Strategy.

We will continue our work to improve the lives of our customers, communities and the environment, and help Scotland to flourish, come rain or shine.





CHAPTER 2
PIPED BY US, OWNED BY YOU

LET'S START AT THE BEGINNING...

25 years ago, the structure of the water sector in Scotland was quite different. Three regional water authorities looked after water and waste water services for Scotland: West of Scotland Water, East of Scotland Water and North of Scotland Water.

In 2002, these were merged by an Act of the Scottish Parliament to create Scottish Water – a single publicly owned and accountable public corporation serving the whole of Scotland. We were formed to transform the water industry in Scotland by improving service, investing wisely and operating more efficiently.

At that point Scottish Water's performance was poor compared to other UK water companies. Over the last 20 years we have made huge improvements to the services we all rely on and significantly improved our efficiency. All of this has been helped by effective independent regulation from our regulators.

To achieve these improvements, we have delivered one of Scotland's largest capital investment programmes, investing around £14 billion since 2002. This has also created significant employment and investment in our people and our supply chains, and supported economic and housing growth across Scotland.

As a publicly owned organisation, every penny we collect in customer charges is reinvested into service, so that we deliver the services people need, whilst keeping bills as low as possible.

“

Our economic regulator, the Water Industry Commission for Scotland (WICS) has commented:

There has been significant progress in the 20 years since Scottish Water was formed. Scottish Water's service quality performance – as measured by an overall performance indicator – has more than tripled since 2002. Its customer service and operational efficiency are at least as good as those of the leading water companies in England and Wales.

”

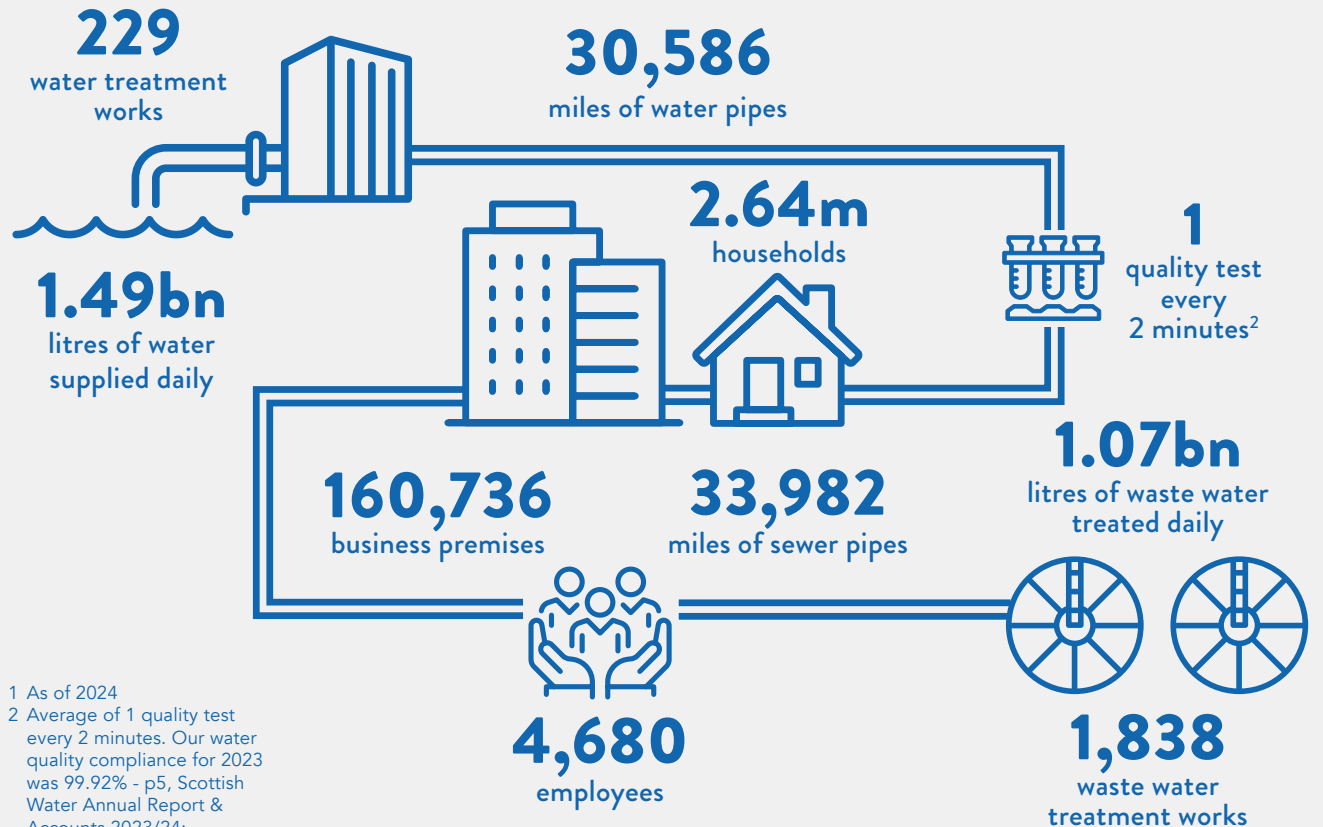
PIPED BY US

Scotland is proud of its water – and we’re proud to be looking after it. We care for and pipe the nation’s water and safely remove and treat waste water, providing a service that is essential to everyday life for household and business customers, communities and the environment.

We serve over 5 million customers and supply the length and breadth of the country: from large cities to remote islands. Some of our water treatment works serve a handful of customers, while others can treat enough water to supply much of the central belt.

And to make sure water is there for everyone, we have an extensive pipe network in place, with over 60,000 miles of water mains and sewer pipes. If we laid them end to end, they would wrap around the world twice.

Our vital role covers¹



¹ As of 2024

² Average of 1 quality test every 2 minutes. Our water quality compliance for 2023 was 99.92% - p5, Scottish Water Annual Report & Accounts 2023/24: Performance and Prospects.

OWNED BY YOU

We work for the people of Scotland and care for water on behalf of the nation; because while it's piped by us, it's owned by you.

Public ownership is about more than just being an essential service, and our responsibilities and ambitions ensure we support a flourishing Scotland. We also have an opportunity to make a positive impact beyond our day-to-day duties – contributing as an organisation towards making Scotland a more inclusive, equitable, resilient and prosperous country.

We're here for Scottish households and businesses who use our services. We're also here for schoolchildren learning about the water environment, young people seeking apprenticeships and career opportunities, and visitors passing through who use our [Top Up Taps](#) across the country.



INDEPENDENTLY REGULATED

The Scottish Government owns Scottish Water on behalf of the people of Scotland, setting the overall objectives for the water industry and leading a programme to develop the policies required to adapt to climate change.

We provide essential services, and independent scrutiny and regulation is essential for customer trust and confidence. Our work is scrutinised by the Scottish Parliament, and there are a number of independent regulators and bodies within the water sector in Scotland, each with an important and unique role.



[Drinking Water Quality Regulator for Scotland \(DWQR\)](#)

Our drinking water quality regulator, responsible for protecting public health by ensuring we are compliant with legal requirements.



[Scottish Environment Protection Agency \(SEPA\)](#)

Our environmental regulator, responsible for ensuring we are compliant with legal requirements.



[Scottish Public Sector Ombudsman \(SPSO\)](#)

Investigates complaints in relation to the service provided by Scottish Water, and shares lessons learned to improve our services.



[Water Industry Commission for Scotland \(WICS\)](#)

Our economic regulator, ensuring that we are never charging our customers too much and are delivering everything we say we will within the funding we receive.

Consumer Scotland

Luchd-Cleachdaidh Alba

[Consumer Scotland](#)

Represents the interests of household and business consumers across Scotland, making recommendations to ensure that positive customer outcomes and engagement with customers are embedded in the services we provide.

We also established the **Independent Customer Group** in 2021 to make sure that customers' and communities' views and research are at the heart of our plans and decision-making. The feedback we hear from the people of Scotland – your priorities and concerns, and your asks for how we can improve – form a cornerstone of our planning process.

The work of our regulators and sector stakeholders is crucial to the success of Scotland's water sector, and we value their part in supporting us to deliver our services. Their role means you can rest assured that water and waste water services are of high quality and that charges are set at a fair, equitable and affordable level.



COMMERCIALLY RUN

We are run as a Public Corporation with an independent Board overseeing all that we do.

We are funded through revenue raised by customer charges and borrowing from the Scottish Government. Our Board is focused on ensuring that we run an efficient business that is delivering value for our customers and meeting the objectives of ministers. We invest all the money we receive from charges back into maintaining and improving your services.

RESPONSIBLE WATER CITIZENS

To achieve the Water Sector Vision, we also need to partner with you – the people of Scotland.

We are engaging with you so that you can shape decisions that impact your community. We hold an annual consultative meeting where customers can have their say on services and investment, and hold local information events and send letters to communities about proposed investment.

It is vital we raise the public profile of the value of water so you can play your part in protecting our precious natural resources to ensure a sustainable future for all. We are doing this through promoting awareness, education, inclusion and involvement – helping to support and inspire positive choices around water.

This could be decisions around using only the water you need, keeping our sewers running smoothly by only flushing the three Ps (pee, poo and paper), and using water butts to save rainwater and take it out of our sewers.

That is why we created the **Generation H₂O** programme for schools, aimed at engaging young people and inspiring them to become responsible water citizens. And there are high levels of support for our mission: according to a YouGov survey, 91% of respondents agree that Scottish Water should work with young people to help them better understand how to protect water³.

We want everyone to be responsible water citizens, both now and in the future.

³ YouGov Omnibus, base 1,000 adults, Scotland, July 2024





CHAPTER 3 FOR A CHANGING SCOTLAND



Prev



Next



01 Overview

02 Piped By Us, Owned By You

03 For a Changing Scotland

04 Our Long-Term Outcomes

05 Our Long-Term Steps

06 For a Flourishing Scotland

FOR A CHANGING SCOTLAND

We're planning in the face of uncertainty about what the next 25 years will hold for Scotland, amidst major changes that are only going to continue. How much of an impact these changes will have, and the challenges they will bring, are the questions we've been assessing.

The major challenges we are planning for are:



The climate crisis, and the impact of extreme weather causing more flooding and drought, and affecting the quality of the raw water sources we rely on.



The shifting and changing population of Scotland.



Our assets, which are ageing and need to be adapted for the future or replaced.





THE CLIMATE CRISIS

In Scotland we can suffer from both too much water and – in periods of drought – too little.

Climate change is a huge threat to the way we live today. For the water industry, the biggest impact to our services comes from extreme weather conditions that are projected to become more common. Without major and rapid cuts in global emissions the climate crisis is projected to significantly worsen throughout this century.

We have identified the following key climate change risks that we need to adapt to:

- Warmer, drier summers that can lead to drought and deteriorating quality of our raw water sources
- Wetter winters that cause flooding
- Variable rainfall patterns that impact our environmental performance
- More frequent storms that disrupt our assets and services
- Sea level rise and coastal erosion that floods or damages our assets

When it rains excessively across Scotland we are seeing more severe flooding during extreme weather events, particularly in our bigger towns and cities. To date, surface water has been channelled into drains and underground pipes and ultimately into our waste water treatment works, but intense storms can overwhelm these.

Our network is also under additional pressure as it must now both serve more people due to population growth and accept more rainwater into our sewer systems, as the amount of green space within communities reduces, due to increased housing and urban creep (where natural land is replaced with impermeable surfaces such as concrete or paving).

And when summer does come it can bring prolonged dry spells to parts of Scotland. In a country with over 100 creative words for bad weather, we can take for granted that water is in plentiful supply. However, a study by NatureScot has predicted that the number of extreme drought events in Scotland will increase from an average of one event every 20 years (from the baseline period of 1981-2001), to one event every three years by 2040⁴.

On average we abstract, treat and supply 1.49 billion litres of water per day, of which up to 1 billion litres is for household customers. On a hot summer day however, we see total demand (household and business) push us over 2 billion litres per day, which our existing water resources and systems struggle to cope with.

We are working with the Scottish Government and stakeholders, so that we mitigate our own impacts through our Beyond Net Zero emissions work (see more information below), and simultaneously adapt to the changes we are seeing as a result of the climate crisis.

⁴ NatureScot Research Report 1228 - Anticipating and mitigating projected climate-driven increases in extreme drought in Scotland, 2021-2040 | NatureScot



MITIGATION AND ADAPTATION

Our work involves both climate change 'mitigation' and climate change 'adaptation'.

Mitigating climate change is about avoiding, reducing and removing emissions, all helping to minimise the global heating of the world.

Adapting to climate change is about responding to (and proactively planning for) the impacts of our changing climate. We must think about how our assets, which were built for the weather which we experienced in the last century, need to change to respond to the weather we have now, and the weather we are likely to experience in the future.



MITIGATION

To guide our work on mitigation, and report yearly on our progress towards our 2040 Net Zero Emissions target, we created our [Net Zero Emissions Routemap](#). The Routemap sets out the ways in which we are lowering our carbon footprint to reach net zero emissions – through means such as halving our fleet mileage and increasing our renewable energy generation.

We are on track to reach our 2040 target. By the end of 2024 we will have reduced our carbon footprint by more than 30,000 tCO₂e, which represents over 12% of our total carbon footprint – the equivalent of approximately 60,000 return journeys from Land’s End to John O’Groats in an average diesel car.

Our work so far has been wide-reaching with projects across four key areas: becoming more energy efficient, using lower-carbon energy products, embracing low-carbon construction, and storing emissions which cannot be removed.

Some examples of projects include:



Targeting a further reduction in our energy needs by 30 Gigawatt hours (GWh) by 2030.



As of 2024, we have 540 electric vehicles in our fleet and expanded our number of charging points to 374.



Increasing our onsite renewable energy generation, to more than 90GWh by 2030, and generating an additional 300GWh of new wind generation through hosting third party providers, on our land. As well as helping us to achieve net zero emissions, this also makes us more resilient to power cuts due to severe weather.



Restored nearly 200 hectares (around 280 football pitches) of peatland in recent years and are committed to restoring all peatland on our land, making significant carbon, nature and climate resilience gains.



Since 2022 we have created over 70 hectares (around 100 football pitches) of new woodland and are aiming to increase this to around 1500 hectares by 2030.

For regular progress updates and to find out more, visit our dedicated [Net Zero Emissions Routemap website](#).

CASE STUDY: CARBON OFFSETTING

We will always look to minimise our carbon emissions in the first instance. However some are difficult to reduce or avoid, so we are also investing in projects including restoring peatland and creating woodland on our landholdings. These make use of 'carbon offsetting', which compensates for the carbon emitted through our operations.

One example of this is the Loch Katrine land management plan, one of the largest new natural woodland regeneration programmes in Europe. With some 4,600 hectares (over 6,000 football pitches) of new woodland across the catchment, coupled with peatland restoration and habitat restoration the project will help to meet our carbon reduction targets by locking up approximately 900,000 tonnes of carbon over the coming decades.

The woodland will contribute to the Great Trossachs Forest at the heart of the Loch Lomond and Trossachs National Park. The plan spans 10 years and will run to 2034, in partnership with Forestry and Land Scotland.

Across Scotland, where appropriate, our aim is to create extensive native broadleaf and coniferous woodland, regenerate existing woodland on our estate, and restore all our peatlands to capture our carbon emissions that cannot be avoided. As these trees and peatlands mature, they will capture even more carbon meaning we can support Scotland's net zero journey, increase biodiversity, improve the quality of our water sources and improve the value of our landscapes.





ADAPTATION

To guide our adaptation work, we have set out our plans to tackle the impact of climate change to protect water and waste water services – and our need to work in partnership to achieve this – in our [Climate Change Adaptation Plan](#).

We've already responded to the changing climate by assessing risks and building resilience into our operations and investment plans. However, with growing impacts on assets and services from more extreme weather events locally and nationally, the Climate Change Adaptation Plan highlights the steps that must be taken to go further and faster in adapting our assets and services to ensure they remain reliable, resilient and sustainable.

It focuses on key areas which are likely to face further disruption unless we act, and describes the consequences on water supplies, water quality, sewer systems, infrastructure and the environment without adaptation. The plan outlines a range of scenarios as to how we can protect services for customers, and outlines projections for impacts on water and waste water services to 2050 and 2080.

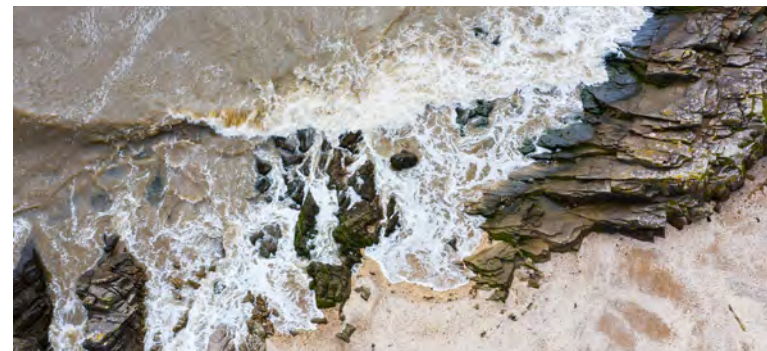
Today, our approach is to plan for 2 degrees of warming in the medium-term to 2050 but prepare for 4 degrees of warming by the 2080s, in line with the UK Climate Change Committee's recommendations⁵. We will keep this approach under review should the evidence change.

The Climate Change Adaptation Plan includes an estimate that over the next 25 years we will need new investment of £2-5 billion to adapt our assets so they are resilient to a more challenging climate. We will need to repeat this risk assessment every few years to reflect the changing climate and improvements in climate science and projection.

To find out more detail, read our dedicated [Climate Change Adaptation Plan](#).

We need to listen to and collaborate with our industry stakeholders including the Scottish Government and our regulators to develop a shared vision of adaptation together and support the change needed. Partnership working is one of our key long-term steps, which you can find out more about in [Chapter 5](#). It represents a major shift for us, and we are working with Scottish Government, through their climate change adaptation policy development.

⁵ CCC Insights Briefing 6, Undertaking a climate change risk assessment, October 2020





CLIMATE CHANGE ADAPTATION POLICY DEVELOPMENT

Collective action will be needed across Scotland to adapt to the impacts of climate change. This can be supported through legislative change for the wider water industry in Scotland.

We are working with the Scottish Government and industry stakeholders to develop Climate Change Adaptation policy, which is considering how to nationally plan for water resources and sustainably manage rainwater. We worked closely with the Scottish Government, local authorities, Scottish Environment Protection Agency and other industry stakeholders to develop these proposals, based on broad support of principles in the public consultation concluded in February 2024.

The policy development is considering options to understand supply and demand of water resources across all sectors that use water; options to reduce water use (such as leakage or monitoring household consumption); and developing a water efficiency strategy (such as inclusion of more stringent water efficiency measures in planning, building and housing standards). Consideration is also being given to providing drainage as an essential service, and the collaborative planning of infrastructure (including blue-green infrastructure) to manage rainwater more sustainably in our towns and cities.

SCOTLAND'S POPULATION

Just as Scotland the country is seeing large changes, so too are its people. Scotland's population, like many other countries around the world, is steadily getting older, and there are trends that see the population shifting – currently from the west to the east of the country.

To provide the best level of service we can across a country with varying terrain and a widespread population, it's important we forecast for population change. This work means we can better address challenges that significant change may bring, such as the service demands of urban versus rural living, and demographic shifts and changes.

2022 CENSUS ESTIMATE



In 2022

5,436,600

estimated population



By 2043

2.7 million

projected households in Scotland

65+

By 2028

824,000 (+20%)

people aged over 65



Regional growth

+16%

projected for Midlothian

On Census Day, 20 March 2022, the population of Scotland was estimated to be 5,436,600, the largest population ever recorded by Scotland's Census. This represents an increase of 2.7% since the previous census in 2011 and demonstrates an increasing trend in population growth⁶.

It's not just the population that's increasing: the number of households in Scotland is projected to increase to 2.7 million by 2043, a 10% increase on the 2018 total. This equates to an average of more than 13,000 additional households per year, many of which will be one-person and two-person households (without dependent children). The number of people aged over 65 is projected to increase by 824,000 (20%) by 2028. These changes are contributing to a shift towards a larger number of both smaller and older households. Regionally, growth is expected to be fastest in areas to the east of the country, with Midlothian projected to have the biggest (16%) percentage increase⁷.

This predicted increase in population, along with the changes to where people live, will mean that we need to provide more water if we keep using water at the same rate we do today. The increase in housing will also put more pressure on our waste water network and result in a need for new assets to treat the additional volume of waste water. In addition, there will be an increase in non-permeable surfaces, such as driveways, paths and roads that will further reduce green space for natural drainage.

As a publicly owned organisation, we recognise the role we must play in enabling new homes to be connected to the water and waste water networks. We also recognise that we play a key role in mitigating the emerging housing crisis in Scotland, with the Central Belt and surrounding city councils having declared housing emergencies (as of 2024).

⁶ Scotland's Census 2022 - Rounded population estimates | Scotland's Census

⁷ Household Projections for Scotland, 2018-based - National Records of Scotland (NRS)



CASE STUDY: SUPPORT FOR GROWING COMMUNITIES

Perth has been identified as a centre for major housing and business growth over the next 20 years, with the population expected to almost double. Development is already well underway in the west and north of the city, with an initial phase of 3,000 houses, a secondary school and commercial area being developed. This growth will continue through to 2045, with a total of 11,800 houses being built.

To support this level of growth we have been working closely with Perth and Kinross Council to develop a strategy to ensure there is sufficient water and waste water infrastructure to meet this demand. This includes improvements to our water supply network to improve capacity and resilience, a new 'super sewer' to provide additional storage and capacity, and changes to our existing waste water treatment works in the area. Our work is being phased to align with the rate of house building that

is planned, so that we are providing the additional capacity as it is needed.

We are also embracing the circular economy, using innovative techniques and materials to minimise the carbon footprint of the project. For example, we are using steel-reinforced plastic for the construction of the 'super sewer' as it has a lower carbon value than traditional concrete.

Overall, the project is expected to cost nearly £150 million. This is a major investment in one of Scotland's main cities, supporting its economic growth, while also making the city climate-ready by reducing the risk of sewer flooding. This would not be possible without the strong relationship formed with the local authority and the development community.



OUR ASSETS

We own and manage a significant number of assets which were installed to bring public water supplies to communities across Scotland in the 1950s. Further investment since the 1990s has been driven by new drinking water and environmental standards, which has required new treatment works and equipment to be installed, with an increasing use of technology.

The assets we invested in last century, and which are the inheritance of current and future generations, were not designed for the type of weather, service levels and customer demand that we now see. Many are now coming to the end of their effective life and can't withstand the rapid effects of the climate crisis. Treatment techniques and technology are also constantly evolving, and we are constantly monitoring these developments – we may choose to adopt them where there is a benefit to the service we provide.

The money we invest, over the next 25 years, is critical to maintain and operate these essential assets as they age and deteriorate. Otherwise, we will see an increased risk to service levels and possible risks to water quality and environmental performance. When we are planning and designing new or replacement assets, we ensure that we build in future resilience, particularly for assets that are likely to last for 60-100 years. As a responsible business, we must ensure that future generations inherit assets that have been well looked after and are 'future proof'.



We manage
£120 billion
worth of assets

We also need to understand our assets so that we can operate them effectively and efficiently, now and into the future. We currently manage an asset base worth £120 billion, which is central to delivering a resilient and reliable water and waste water service for our customers across Scotland.

We have introduced remote monitoring and developed an inspection programme that improves our knowledge of each asset and how it performs over time. This enables us to make informed investment choices for the future, as the information we collect is used to decide where and when we do work on our assets. The data gathered is also stored centrally and used to conduct advanced analytics, which help us predict the best time to replace them.



CHAPTER 4

OUR LONG-TERM OUTCOMES



Prev



Next



01 Overview

02 Piped By Us, Owned By You

03 For a Changing Scotland

04 Our Long-Term Outcomes

05 Our Long-Term Steps

06 For a Flourishing Scotland

OUR LONG-TERM OUTCOMES

We've chosen three long-term outcomes to work towards achieving by the end of the next 25 years. These are the critical areas where work is required to deliver sustainable, resilient and affordable services, and we will measure and report progress against them.

Significant work has gone into understanding what we might need to do to address the challenges set out in [Chapter 3](#) and make all the improvements asked of us by Scottish Government and our regulators.

We have considered what we must do to maintain current levels of service in the face of a changing climate; what current legislation requires us to do; and the further benefits that could be delivered for you, your communities and the environment. We have then considered how much this will cost, to understand how we can deliver the best value.

Within each outcome we propose a number of more specific objectives, based on an assumption that we can, with others' support, successfully deliver them (see [Chapter 5](#)). Some of these objectives can already be fully costed, as we know how they will be delivered and that they represent good value; other objectives represent a significant change to how we currently do things or need new and as yet unknown ways of achieving them to provide best value. At each Strategic Review we will set out how we propose to make progress towards the long-term outcomes and objectives.

OUTCOME: SCOTLAND'S TAP WATER REMAINS A SOURCE OF NATIONAL PRIDE

Our Focus Area:

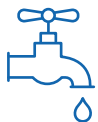


Ensuring excellent water quality

The objectives we will achieve to deliver our outcomes in the next 25 years:

- ④ Maintain the excellent quality of tap water, by continually improving how we treat and distribute your water to ensure it is always safe, clear and tastes great to drink.
- ④ Work across our drinking water catchments to improve the resilience of the water environment, to help tackle the changes in raw water quality caused by climate change that can lead to unpleasant tastes and smells in drinking water.
- ④ Play our part in creating a lead-free Scotland, removing all lead from the public water supply network, and working with the Scottish Government and other stakeholders to support customers to remove lead from their properties.

Our Focus Area:



Ensuring a continuous supply of water

The objectives we will achieve to deliver our outcomes in the next 25 years:

- ④ Continue to ensure no one has persistent low water pressure and fewer people experience recurring low pressure.
- ④ Reduce the amount of water lost through leakage by 20% to 380 million litres per day, focusing on the areas where it benefits people and the environment the most.
- ④ Improve the resilience of our treatment works and pipes, and improve our planned maintenance and operational response to reduce the amount of water which is lost and the impact on the environment in the event of a burst.
- ④ Accelerate the replacement of our water mains pipes that we know are more likely to burst due to their material.
- ④ Reduce the amount of water abstracted and treated every day by 240 million litres, helping to make us more resilient to the worst drought Scotland has experienced.
- ④ Consider localised solutions to reduce demand and maximise the water available from our existing sources in areas at risk of water scarcity, before developing new sources.
- ④ Improve connectivity of our existing systems to increase flexibility to move water around and improve resilience in times of drought, particularly in Edinburgh, Fife and Dundee.

OUTCOME: THE QUALITY OF SCOTLAND'S RIVERS AND SEAS HAS IMPROVED, AND OUR COMMUNITIES ARE PROTECTED FROM FLOODING, THROUGH COLLABORATION WITH OTHERS

Our Focus Area:



Managing rainwater to reduce the discharges from our sewers

The objectives we will achieve to deliver our outcomes in the next 25 years:

- Have no customers experiencing repeat sewer flooding in their homes by 2050.
- Support customers who are vulnerable to sewer flooding in their homes, by delivering solutions quickly to prevent it happening again.
- Accelerate our approach to place-based solutions to manage rainwater, using a mixture of engineered and nature-based solutions to increase the resilience of our network and reduce pollution for localised and strategic drainage issues.
- Increase our monitoring capabilities to improve our understanding of how other drainage systems, such as road drains, culverts, roofs and run-off from roads and pavements interact with our sewers.
- All cities and many larger towns will have strategic drainage partnerships which allow collaborative working to more easily and efficiently undertake the necessary work to manage rainwater better.
- Introduce a community fund to support small-scale, localised initiatives like planters and rain gardens in community buildings such as church halls, community halls, libraries and schools.
- Increase our emphasis on partnerships – ensuring we work with public, private and third sector organisations, and involve householders and local communities – to change how we manage rainwater, creating place-based solutions which will help to increase the resilience of our sewer networks and reduce demand on treated water.



Our Focus Area:



Protecting and enhancing our water environment

The objectives we will achieve to deliver our outcomes in the next 25 years:

- Address all the sewer overflows that are harming the environment, or not operating as they should.
- Install monitors and sensors across our waste water network, creating increasingly intelligent networks which will allow us to optimise how our assets are performing and to respond more quickly to blockages, reducing incidents of flooding and environmental pollution.
- Continue to work with stakeholders to ensure our approach to protecting the water environment focuses on improving the overall health of waterbodies in Scotland, to ensure we can deliver best value for customers, communities and the environment. This will include adapting to the changing uses of Scotland's waters and the designation of new bathing waters.
- Work with SEPA and others to understand the implications of future legislation which could lead to additional monitoring and treatment to deal with pharmaceuticals, microplastics and 'forever chemicals' (per- and poly-fluoroalkyl substances [PFAS]).
- Seek to maximise nature-based solutions, renewable energy and recovery of nutrients and other resources during the collection and treatment of waste water.
- Continuous improvement in the capability of our waste water treatment work assets to deal with changing demand and minimise our impact on the environment.
- Improve the resilience of our waste water systems so they can cope with expected climatic changes over the next 25 years, for example, changes in rainfall and sea level rise.

OUTCOME: SCOTTISH WATER HAS PLAYED A KEY ROLE IN ENABLING SCOTLAND'S SUSTAINABLE ECONOMIC AND HOUSING GROWTH

Our Focus Area:



Supporting economic growth

The objectives we will achieve to deliver our outcomes in the next 25 years:

- Continue to develop our enterprise supply chain model, building collaboration and flexibility and allowing greater productivity and standardisation, while sustaining over 4,500 jobs in our supply chain, including 1,500 opportunities for young people in the next 6 years.
- Continue to support young people to get started in their career, particularly those from areas of social deprivation, through apprenticeships and other opportunities.
- Develop the new skills required for the future in areas – such as artificial intelligence, carbon reduction technologies, and nature-based solutions – and continue to champion STEM skills, working with our partners to build the skills base of Scotland.
- Support new and innovative energy and resource markets, such as heat from sewers and hydrogen, and contribute to Scotland's renewables future.
- Grow our wholly-owned commercial subsidiary, Scottish Water Horizons, to further identify, develop and deliver innovative, profitable and sustainable opportunities from our assets, knowledge and expertise.
- Support Scotland's Circular Economy ambitions, seeking out opportunities to recover resources and reduce the resource intensity of our water and waste water services, embracing a circular economy and increasing the benefits we can deliver for the people of Scotland.
- Understand how we can support a wellbeing economy and broader Scottish Government economic development initiatives – such as Green Freeports, Scotland's Inward Investment Plan, Green Industrial Strategy, City Region Deals, Scottish Cities Alliance, Regional Growth Deals, and Community Wealth Building – and support Scotland's National Strategy for Economic Transformation (published 2022).

Our Focus Area:



Connecting new customers

The objectives we will achieve to deliver our outcomes in the next 25 years:

- Engage with the Scottish Government, local authorities and developers to encourage development in areas where we have existing capacity at our water sources and treatment works, and seek to support developments using our existing assets and infrastructure where possible.
- Continue to encourage the development of homes and businesses which capture rainwater for reuse, and keep rainwater on the surface through sustainable drainage systems (SuDS) and blue-green rainwater management systems, and the use of permeable materials for driveways and car parks.
- Encourage the development of water efficient homes and businesses and provide developers with standard, low-carbon infrastructure, to make connecting to our assets easy and efficient for everyone involved.





CHAPTER 5 OUR LONG-TERM STEPS



Prev



Next



01 Overview

02 Piped By Us, Owned By You

03 For a Changing Scotland

04 Our Long-Term Outcomes

05 Our Long-Term Steps

06 For a Flourishing Scotland

OUR LONG-TERM STEPS

Significant collaboration, innovation and investment is needed to maintain and improve our services to deal with the challenges we face. We have four key steps to ensure we can deliver services which are sustainable, resilient and affordable over the next 25 years.

- We will **collaborate and lead partnerships** with public, private and third sector organisations and with customers and communities, undertaking activities such as contributing to a natural environment that is resilient to climate change and supports water resources, quality and helps us drain catchments sustainably.
- We will **transform and drive efficiency** in the way we work through innovation and technology.
- We will **reduce demand on our services and assets**, by reducing demand for tap water and managing rainwater on the surface.

And then, having realised as much benefit as we can from steps one to three –

- We will seek the **funding** we need to deliver investments to maintain the services we all rely on.

We will focus on delivering progress on the first three steps to limit as much as possible the requirement for the fourth. Only when we have done as much as we can to work in partnership, transform and drive efficiency, and reduce demand will we then look at the funding required to deliver the services we all rely on, and seek customers support for future investment.

COLLABORATION AND PARTNERSHIP

We cannot address the challenges we face in isolation. Collaboration and partnership working are key to ensuring we deliver high quality, affordable and sustainable services into the future. We need to work with the Scottish Government, our regulators, local authorities, farmers, developers, campaign groups, businesses, and politicians (amongst others) to find lasting solutions that are low cost and low carbon to safeguard our water. We will also partner with communities, as we successfully demonstrated in 2018 when we partnered with the community of Dunkeld and Birnam so they could become Scotland's first Water Efficient Village⁸.

Partnership working is vital to both our everyday operations and our major investment projects. It's only going to become more important, and necessary, as we move closer to 2050. In the face of significant challenges such as the climate crisis and changes like population growth, sharing knowledge and working with other organisations and industries will be crucial in our contribution to Scotland's success as a fair, affordable, and prosperous nation.

8 p59, Scottish Water Annual Report, 2019/20



CASE STUDY: BEYOND OUR NETWORK

Lead pipes within our network and in customers' properties can have serious health implications, and we treat our water to mitigate this risk. We are investing to make our network 100% lead free over the next 25 years (see our outcomes in [Chapter 4](#)).

We are also working with the Scottish Government and other stakeholders to develop a Lead Strategy for Scotland, which will encourage the removal of lead pipes from customers' properties to make their supplies lead-free.

Action has already been taken to ensure that long-term rental properties have lead pipework removed before the property is let. There are plans to extend these requirements to short-term lets as well as other buildings. Local authorities have removed lead pipes from public schools and work is on-going to encourage private schools and nurseries to do the same.

We are working in partnership with local authorities, landlords and others to support achieving a lead-free Scotland, tackling an important health and societal issue that will benefit the whole country.



TRANSFORMATION, INNOVATION AND TECHNOLOGY

We will keep our service affordable by transforming, innovating and embracing technology.

Our most recent transformation project started in 2021, when we set out [our 10-year plan](#) to transform how we serve our customers, how we invest, and how we look after our people and support our strategy. We are on track to exceed £100 million net benefits in the current regulatory period (2021-2027), and over £1 billion gross benefits by 2031, which will be reinvested into the services we all rely on. We continually review this work, focusing on improving and simplifying processes, building capability internally and in our supply chain to standardise ways of working, and increasing value for our customers.





A thriving research and innovation programme is essential to build the knowledge and capability we need both now and in the future, to meet the needs of our customers and the environment. We will continue to highlight the challenges we need support in addressing, and to seek out opportunities to help us transform our services.

Our [research and innovation programme](#) is delivered through collaboration across academia in Scotland, the UK and abroad, working with our supply chain and exploring wider opportunities with other water companies. We have also established the [Hydro Nation Chair programme](#), hosted by University of Stirling to act as a focal point for Scotland's water-related research.

We are a member of [UK Water Industry Research](#), who carry out collaborative research on behalf of the water companies in the UK and Ireland, and link into international water sector research. Through [Spring](#) (the UK's water sector innovation accelerator) we collaborate on the common challenges faced by the sector and look to increase the pace of innovation adoption by leveraging funding available in the Ofwat innovation fund and wider.

Technology has played a significant role in supporting our transformation and driving efficiency, and we will continue to embrace a 'digital first' mindset. This means increasing automation of our processes to improve certainty on service outcomes and reduce cost. It also means utilising advancing analytics and artificial intelligence, where appropriate, to help our people and customers make better decisions.

CASE STUDY: UTILISING TECHNOLOGY

We're exploring the ways that innovation and technology, alongside partnership working, can help us to tackle leakage and reduce overall water demand.

We are working in collaboration with other water companies to develop and share new techniques to prevent, measure, locate and mend leaks through the UK Water Industry Research (UKWIR) institute. They have developed an innovation hub, that collates information on the various leakage related research projects across the UK and shares the findings to all members.

In Scottish Water we are using digital noise logging to identify possible areas of leakage in our water supply network, which we can then investigate in more detail. To support these detailed investigations, we have improved how our field teams record data, improved our processes to minimise water losses, and used insights from data analysis (including using artificial intelligence) to drive decision-making. These improvements will result in further reductions to the amount of water lost from our network.





REDUCING DEMAND ON OUR SERVICES AND ASSETS

REDUCING WATER DEMAND

Water must be available whenever you need it, and we will continue to maintain a consistent and resilient supply of water.

As Scotland's weather becomes more unpredictable, we will see changes to rainfall patterns and longer periods of dry weather. Add to this an increase and movement in population, and it will only become more difficult for us to provide water whenever and wherever you want it unless we change our approach. If we are to continue to provide a continuous and affordable supply of water to all communities, we need to balance both supply and demand in parts of Scotland which we forecast will not have enough water under drought conditions by 2050⁹. To resolve this long-term concern, we need both to take steps to reduce water demand and consider new supply options.

In terms of demand reduction, current forecasts suggest we will have a deficit of 240 million litres (MI) a day, between the amount of water people want and what we can supply, by 2050. As such, over the next 25 years we need to reduce the amount of water we abstract and treat every day by this amount, to continue to provide a continuous supply of water to all communities and minimise the risk of water shortages. A major part of the solution will be reducing the volume of water we take from the environment and to do this we must further reduce leakage across our network, as well as in the pipes owned by households and businesses, and help to support you to only use the water you need.

⁹ p17, Scottish Water Climate Change Adaptation Plan, 2024

REDUCING LEAKAGE

Since 2007 we have reduced the amount of water lost through leakage by more than 50% and have focused on maintaining this reduction in recent years. The work done so far to reduce leakage has avoided the challenge being even greater.

In 2024, the reported value for leakage across Scotland was 462 MI per day¹⁰. This includes leakage both in Scottish Water-owned pipes and from customer pipework (within the boundary of your property).

We will target reducing the amount of water lost through leakage by a further 20% to 380 MI per day, focusing on the areas where it benefits people and the environment the most.

To achieve this, we will continue to invest in leakage reduction measures, including resource to find and fix leaks on our network; increasing our interaction with customers by identifying customer-side leakage; and looking for other industry innovations. We will focus on areas where availability of drinking water might be threatened by water shortages or population growth in the future.



10 p26, Scottish Water Annual report, 2023/24

REDUCING HOUSEHOLD AND BUSINESS CONSUMPTION

On average, a person in Scotland uses 180 litres of tap water per day – through showering, running the taps, washing clothes and dishes, flushing the loo, using the garden hose and more. However, there is little awareness of this as a nation, with over half of people in Scotland thinking they use less than 100 litres per day¹¹.

In Scotland, we use nearly 20% more water per person than in other parts of the United Kingdom, and 30% more than in parts of Europe¹². We have also seen a 5-7% increase in daily household water demand on average when compared with demand before the Covid pandemic, due to more people using water at home.

Everyone in Scotland can help make a difference by only using what you need, whether at home or at work, so that collectively we can reduce the overall water used by at least 20% to 140 litres per day. We know this is difficult when you don't know how much you use, so we are trialling household smart monitoring in specific areas. This will help you understand the difference you can make by taking shorter showers, or using a water butt rather than the garden hose. Businesses can also play their part. Over the next 6 years we plan to install smart meters with 136,000 of our business customers, providing a proactive nationwide service to help them to save water, time and money. We will encourage and equip our customers, both household and business, to make positive and responsible choices in relation to water use.

¹¹ A sample set of over 1200 people in Scotland, Nationally representative domestic customer research, Progressive, September 2024.

¹² DiscoverWater (en-GB)

“

A cultural shift towards a common acceptance of the value, and the finite nature, of water in Scotland is necessary for consumers to be engaged in a move towards more sustainable consumption of water.

Consumer Scotland

”

CASE STUDY: HOUSEHOLD SMART MONITORING

During 2025 we will provide approximately 2,300 households with smart water insights, enabling them to see how they use water in their home each day.

We want to see how knowing how much water you use can help you to use it more efficiently. If this pilot is successful, we will roll it out more widely so that collectively we can protect our most precious natural resource, encourage responsible water citizens, and create a more efficient water system.

Evidence from other water companies tells us this monitoring trial will help both us and the householder identify hidden leaks inside and outside their properties. For example, research indicates that a dripping tap could waste 5,500 litres* of water a year, and that nearly 6% of toilets have a leak which can result in up to 400 litres** of water being lost every day. When leaks are detected, we will support homeowners to find ways to address the issues, preventing damage to homes and helping reduce water demand overall.

*Save Water – Waterwise

** Footnote: Waterwise Water Saving Week 2024



CASE STUDY: SMART METERING FOR BUSINESS CUSTOMERS

We have recently completed a pilot project of smart metering technology for 3,000 business customers in Inverness and Orkney. Smart metering is a significant opportunity for our business customers, allowing us to remotely read water meters in near real-time, providing hourly information on water usage (including possible leaks and bursts) and charges that are accurately calculated, rather than estimated (based on a couple of meter readings a year).

Based on the pilot, and the experiences of other water companies, we believe we can make a sustainable demand reduction of 80 million litres per day, by helping businesses to identify and repair leaking pipes and bursts. This will help us to manage our network more effectively and the investment required to support it.

During our recent pilot we installed a smart meter at a local business, which indicated that water was flowing continuously at 10 times the usual rate. We contacted the business, and the leak was fixed. Without the smart meter the leak may have remained hidden until the next meter reading in 6 months' time. We were able to prevent wastage of over a million litres of water (equivalent to 13,000 full bathtubs) and saved the customer approximately £1,000 in charges.



MANAGING RAINWATER

One of the most important things we do is protect public health by taking away waste water from homes, businesses and communities to be treated and returned safely to the environment. Waste water can include water from toilets and sinks, and rainwater from roofs and gardens.

Most of our sewer pipes are 'combined sewers'. This is usually one single pipe that combines both the waste water from our homes and businesses with the rainwater from roofs and gutters. In more modern developments, there are separate sewers for waste water and rainwater, and from 2003 all new development must have ponds or basins that slow the flow of rainwater, known as 'sustainable drainage systems' (SuDS). However still only 30% of our sewer network contains these separate systems, leaving nearly 17,000 miles of combined sewers at risk from the impacts of climate change.



We have little control over the amount of waste water or rainwater that enters our sewers, and climate change will result in greater volumes of rainwater caused by the increasing frequency and intensity of storms. This can overwhelm the sewers systems resulting in flooding in homes, gardens and streets, which causes significant distress, as well as overflows from our network to the environment.

Looking to the future, climate change predictions show an increase of almost 60% in the number of homes and businesses at risk of sewer flooding if we do nothing (over 2,300 properties are identified as being at risk of sewer flooding across Scotland, and we are forecasting this could rise to approximately 4,800 by 2050), and a 20% increase in overflows to the environment from the combined sewer system¹³. To protect Scotland's people, communities and environment, we need to think differently about how we manage rainwater.

For example, we are maximising opportunities to work in partnership with local and roads authorities, landowners, Scottish Environment Protection Agency and developers to reshape our urban landscape to deal with extreme rainfall and develop 'blue-green' solutions – that mimic natural drainage, slow down flow, and prevent it entering the sewer network. We have started to deliver these solutions in Glasgow, Edinburgh, Aberdeen and Dundee, making these cities more resilient to the impacts of climate change. These blue-green solutions are very different from our current operations, and we will need to develop new skills to support the expansion of these nature-based solutions over the next 25 years.

The Scottish Government's Climate Change Adaptation policy development is also considering how to strengthen Scotland's approach to managing rainwater more sustainably, prioritising blue-green solutions. We believe the proposals will improve the effective management of rainwater in the future. Consideration is being given to providing drainage as an essential service, and the collaborative planning, delivery and operation of infrastructure (including blue-green infrastructure) to manage rainwater more sustainably in our towns and cities.

13 p36, Scottish Water Climate Change Adaptation Plan, 2024

CASE STUDY: WATER-RESILIENT CITIES

Since 2021 we have been working with: Dundee City Council; an extensive network of national organisations, including NatureScot and Network Rail; and local groups such as St Mary's Community Group and Stobswell Forum Group, to look at how we can sustainably manage rainwater in the City of Dundee. The projects developed will help the city respond to climate change now and for future generations, while delivering wider benefits such as increased biodiversity.

This approach is known as strategic catchment planning and considers the whole drainage system, both above and below ground, and can be scaled around priority areas. In Dundee investment has been focused on areas that are at risk of sewer and surface water flooding and areas undergoing regeneration.

So far, a range of projects have been delivered, all helping to reduce the amount of rainwater entering the city's sewer system,

including Craigie Street Pocket Park, Douglas Community Park and water butts installed at Douglas Medical Centre. There are plans to install rain gardens at Craigowl and St Andrews Primary Schools (which will also improve biodiversity), infrastructure improvements on combined sewer overflows (which will improve water quality in the Invergowrie Burn) and schemes to reduce the risk of flooding in parts of Dundee.



FORECAST FUNDING AND INVESTMENT LEVELS

Planning for the next 25 years is inherently uncertain. We have undertaken a broad-ranging and comprehensive review of the risks and opportunities across the next 25 years (and beyond). Some of these risks and opportunities are well understood, with a high likelihood of happening, whilst others are much more uncertain, emerging and speculative. The tools and methods which have informed our Long-Term Strategy are based on the solutions we know of today, the evidence we have at this point, but also, critically, on assumptions of what the future may hold, without being either overly theoretical or catastrophic. The existing assets which we are responsible for, and deliver the water and waste water services you rely on, are worth around £120 billion. The investment we have identified will secure our essential services by maintaining our existing asset base, allow us to adapt to climate change, and meet our legislative requirements.

Without major changes to how we currently operate the water and waste water system in Scotland, and given the projections of the impacts of climate change, we are currently forecasting that the funding needed to deliver sustainable services over the next 25 years could be approximately double what it is today. This means that our directional, best estimate is that we could invest around £50 billion in your water and waste water services over the next 25 years. Planning for this period is inherently uncertain and there are both opportunities and risks ahead. Using the first three steps of this strategy, we will relentlessly seek out and embrace opportunities that can reduce the forecast level of funding that would otherwise be required.



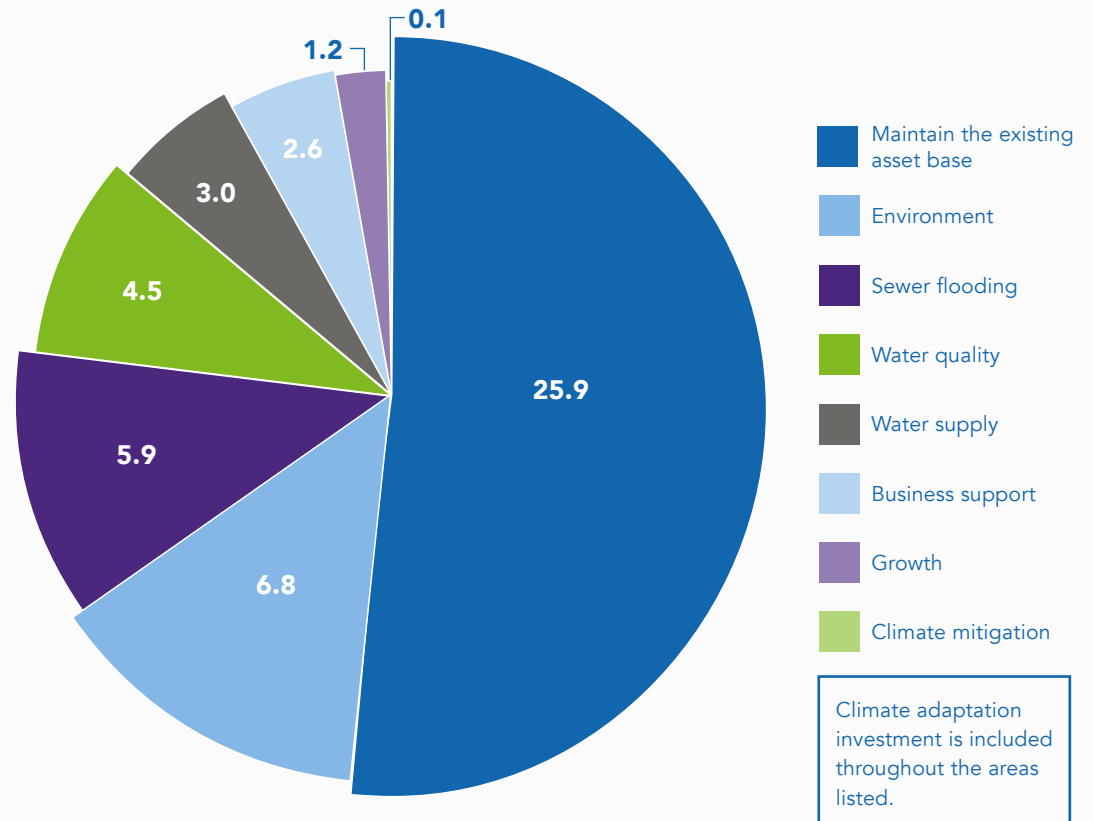
This will be influenced by a number of factors and is dependent on finding innovative ways to deliver more cost-effective solutions and driving down demand by working with customers and partners. However, it could also be influenced by new legislation, climate impacts that differ from our current projections, or having to invest in large and expensive new assets like reservoirs if we don't reduce water demand sufficiently.

We must do as much as we can to reduce demand, transform and drive efficiency, and work in partnership, before we seek your support for future investment.

Customer charges currently make up about 90% of the total funding we have available to invest in maintaining and improving services each year. The only other source of funding we currently have is borrowing from the Scottish Government. Under the current funding model, the cost of future investment will therefore be met mainly through annual charges.

Our commitment is that we will endeavour to continue to provide value-for-money services, ensure affordability and support for customers who are considered vulnerable, and the level that customers pay will be set in the most sustainable way we can to spread the cost fairly across the bill payers of today and the future.

Investment requirements for next 25 years (£ billions)



STRATEGIC REVIEW OF CHARGES

While it is important to set out a best estimate for the long-term funding required, we only agree actual funding and charging levels for each regulatory period through the [Strategic Review of Charges](#). The Scottish Government set out the [Principles of Charging](#) and Ministerial Objectives for the water industry for the period, and we publish a Business Plan setting out the investment and funding needed. Our economic regulator (WICS) then considers whether this represents the best value for money for customers and the environment. Having made this assessment, WICS determine the charges you will pay and the services you can expect to receive over that period (next due to happen 2027-2033).

The next 25 years, taking us up to 2050, is expected to be made up of four regulatory periods, each of which will incrementally deliver our Long-Term Strategy and allow us to adjust our direction to achieve our outcomes. We will review our Long-Term Strategy at the start of each of these periods, updating it to reflect significant changes or new information.





CHAPTER 6 A FLOURISHING SCOTLAND



Prev



Next



01 Overview

02 Piped By Us, Owned By You

03 For a Changing Scotland

04 Our Long-Term Outcomes

05 Our Long-Term Steps

06 For a Flourishing Scotland

A FLOURISHING SCOTLAND

To enable success now and for the future, we have made sure that our work over the next 25 years – what we have set out in this Long-Term Strategy – supports a flourishing Scotland in all aspects, from our customers to our natural environment.

Our customers: Our promise is that we will continue our work to improve the lives of our customers, communities and the environment, and help Scotland to flourish, come rain or shine. We do this through proactively engaging with you, and by delivering exceptional customer experiences when you get in touch with us. Adapting to the climate crisis will depend on us all engaging with the future of water and waste water in a way that protects your services and the environment.

Our partnership approach: Wide ranging, stable and value-driven partnerships are what we need to tackle Scotland's big challenges, foster innovation and improve efficiency in our

projects. Working in partnership is critical to achieving our ambitions and supporting the Water Sector Vision – we do what we do for the people of Scotland. By putting your views at the heart of our decisions, and continuing to work with local communities in our projects and education, we are building a secure and trusting relationship that will endure and thrive for generations.

Our natural environment: Through both mitigation measures to achieve net zero emissions and adaptation planning across our work, we are protecting Scotland's people and environment against the impacts of climate change. We are actively looking to the future for opportunities to think differently, work with others, and tackle the nature emergency. We will also look holistically at our natural catchments and manage them well, to support an environment that is more resilient to climate change that will support our services.





Our people: Our people are our most valuable asset, and they cover the length and breadth of the country to ensure excellent service. Over 4,500 people work at Scottish Water (alongside nearly 5,000 in our supply chain partners) and we want to enable our workforce for the future. Over the next 25 years we are focused on developing skills to equip our teams with the knowledge they need in the face of change and to utilise new technologies. The workforce of the future is critical, and we provide opportunities and support for young people through programmes such as apprenticeships.

Our assets: We are assessing, operating, improving and replacing essential assets across Scotland with the future in mind, to not only meet demand and become more efficient now, but ensure that they are resilient and looked after for future generations to inherit.

Our work: We are transforming and innovating the way we work, from how we approach challenges to the data, information and knowledge we analyse to make decisions. We will show leadership in mitigating climate change, enhancing Scotland's natural environment, support Scotland's circular economy ambitions, and play our role in enabling Scotland's sustainable economic and housing growth.

We are working to move forward in a way that continues to drive value; implements adaptation now to deliver long-term resilience; reinvests surpluses back into our services and our people so they can perform efficiently, develop and thrive; and contributes to a Scotland that sees water not only as part of our national identity, but as a contributor to a flourishing and low carbon economy.

We also know we can't do this alone, and working in partnership is key. That means collaborating with stakeholders, agriculture, energy and other industries. And of course working with you, our customers – the people of Scotland.

Together, we will support a flourishing Scotland.

