
Climate Adaptation Report

Executive summary

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Climate change: Why it's such a big deal

Global warming is disrupting our climate.

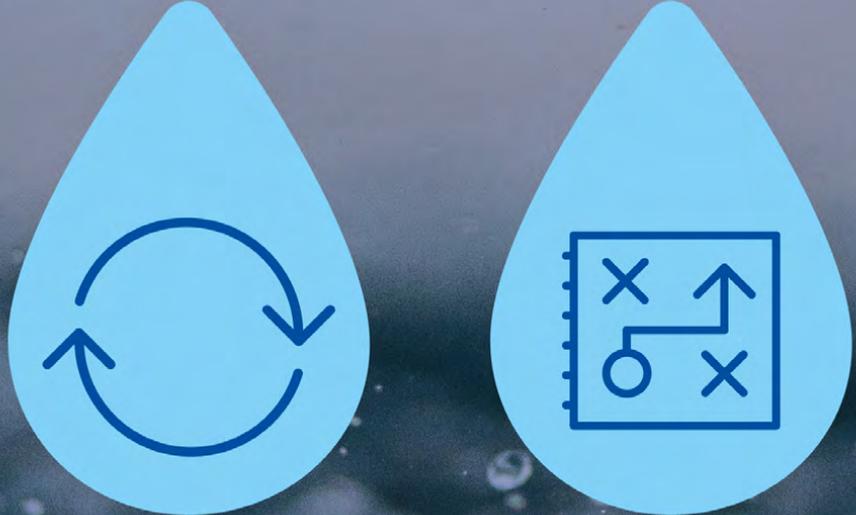
Affecting weather patterns. Causing serious challenges to the world's water supply. Our infrastructure is ageing. Clean, clear water is an essential need of our communities and the environment now, and for generations to come. That's why the work needs to happen now. The investment needs to happen now. The time. The effort. Preparing for, and responding to, climate change had to become a core part of our work.

Thunderstorms. Drought. Extreme temperatures. Flash floods. The water industry is so susceptible to these climate hazards. Our customers recognise this too. They've told us that investing now for the future to prepare for severe weather is important to them, and we're listening.

Our goal is to adapt to a world that is 2°C warmer in 2050. At the same time, we will assess the risks and plan for the effects of more extreme warming by the end of the century. This way, we will be able to prepare for projects that take a long time to implement.

We will use this goal as the basis to plan and decide on investment in water resources and drainage for the long term.

OUR CLIMATE ADAPTATION GOAL IS TO:



**ADAPT TO 2°C
IN 2050**

**PREPARE FOR 4°C
BY THE END OF
THE CENTURY**

Our key climate risks

Climate change increases the likelihood of climate hazards such as drought, flooding, extreme temperatures, and sea level rise in the UK. We've assessed our key climate risks to understand how they will change, looking towards the end of the century, for our communities in the north east and south east of England.

KEY CLIMATE RISK AND CLIMATE METRIC	RCP 4.5 - 2050S (ADAPT TO 2°C) HAZARD TREND	RCP 8.5 - 2090S (PREPARE FOR 4°C) HAZARD TREND
FLOODING  <ul style="list-style-type: none"> Mean winter precipitation (% change) median projection Local sea level rise (NE England) Local sea level rise (SE England) 	<ul style="list-style-type: none"> ↑ 6% 0.07 to 0.23m 0.18 to 0.35m 	<ul style="list-style-type: none"> ↑ 21% 0.25 to 0.76m 0.46 to 0.97m
DROUGHT  <ul style="list-style-type: none"> Mean summer precipitation change (% change) median projection (NE England) Mean summer precipitation change (% change) median projection (SE England) Hot spells 	<ul style="list-style-type: none"> ↑ -10% -15% → Minimal change 	<ul style="list-style-type: none"> ↑ -25% -37% ↑ 4 or more hot spells per year
EXTREME TEMPERATURES  <ul style="list-style-type: none"> Daily maximum temperatures, 50 year return period (NE England) Daily maximum temperatures, 50 year return period (SE England) 	<ul style="list-style-type: none"> → Minimal change → Minimal change 	<ul style="list-style-type: none"> ↑ 32°C to 39°C ↑ 37°C to 45°C

N.B. Hazard trend highlights which of our risks are most pressing, those with icon: ↑ indicates a high-priority area with the hazard increasing, the icon → indicates limited changes so are less pressing issues

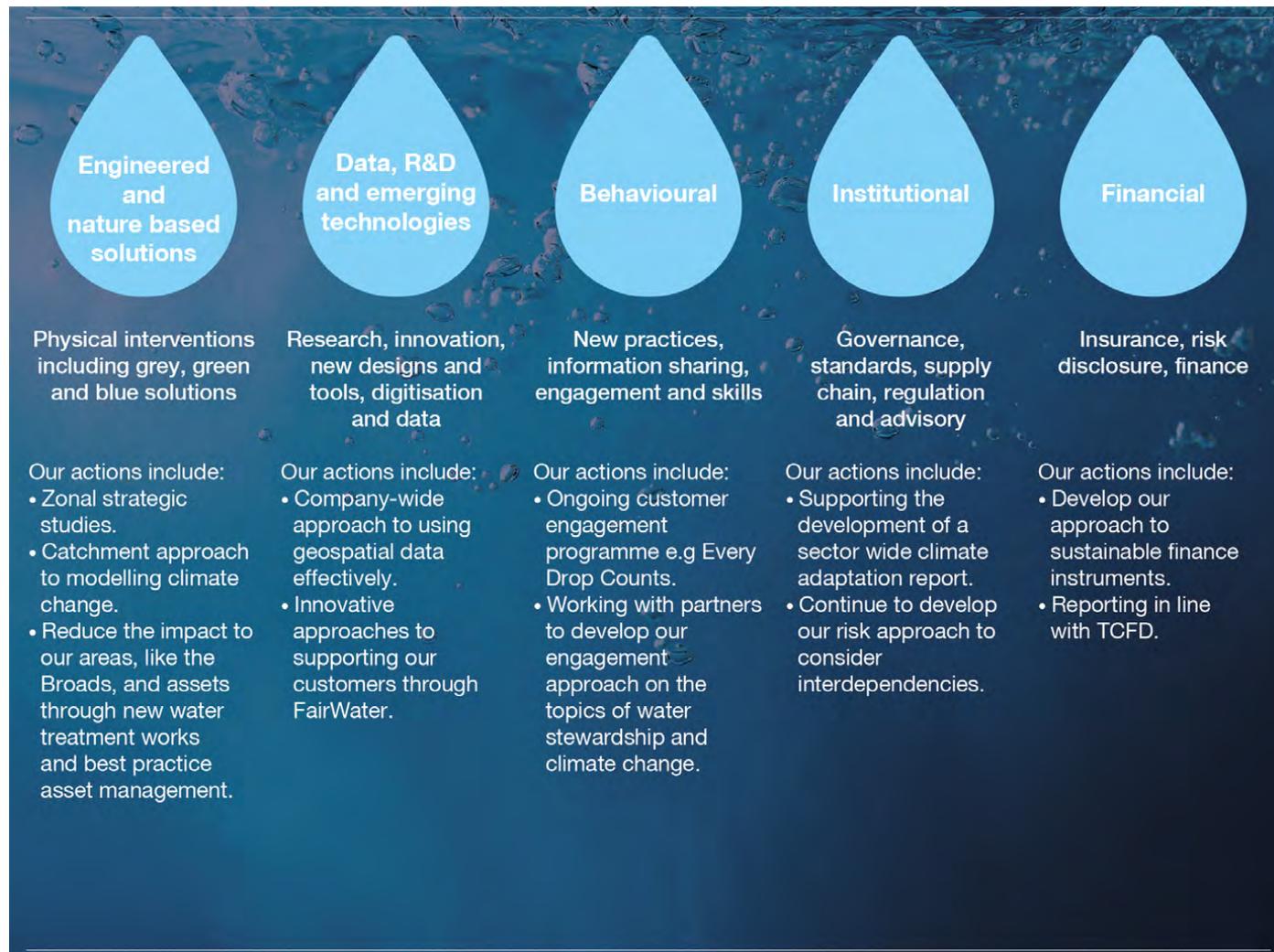
Our ability to provide customers with a reliable and resilient service is based on NWL's complex interdependent systems and assets, on which climate hazards can have direct or indirect impacts. We have considered these interdependencies in our climate adaptation planning. We're also starting to consider compound events (when multiple hazards occur at the same time). Our Water Resource Management Plans (WRMPs) and Drainage and Wastewater Management Plan (DWMP) assess these risks in detail.

We have assessed these risks and are responding to them.

Our five action areas

We believe that diverse climate action is key to addressing climate risk. We are already carrying out climate action but we know we need to do more. To make sure we're ready for the future climate, we need to continue to work across our business in its entirety, from our physical assets to our people and strategies.

We have five key action areas, developed based on the action areas in the Climate Change Committee's third Climate Change Risk Assessment (CCRA3)¹.



¹<https://www.ukclimaterisk.org/independent-assessment-ccra3/technical-report/>

Opportunities to benefit our customers

Adapting successfully for one of our biggest challenges, climate change, will support our customers in a number of ways:

Our strategic themes	Customer 	Environment 	Competitiveness 	People 	Communities 
Key linked performance commitments	<ul style="list-style-type: none"> • Water supply interruptions • Event risk • Internal sewer flooding 	<ul style="list-style-type: none"> • Pollution incidents • River water quality • Storm overflows and discharge compliance 	<ul style="list-style-type: none"> • Water supply interruptions • Leakage 		<ul style="list-style-type: none"> • Event risk • Water supply interruptions • Per capita consumption (PCC)
Opportunities to increase the value to our customers	Investing in climate adaptation now will allow us to grow our resilience to severe weather events, making sure we provide the best service to customers.	Investing in climate adaptation now will help us to protect the environment over the longer term, reducing the risk of pollution and improve river water quality. This may have additional benefits of supporting a thriving environment and improving biodiversity.	Investing in climate adaptation now will make us more resilient to climate hazards. This will minimise the reactive costs of dealing with more frequent events and the damage and service interruptions they would cause.	Investing in climate adaptation now will mean that our people are ready and prepared to deal with the impacts of climate change to make sure our customers experience minimal service interruptions.	Investing in climate adaptation now will reduce the impact climate change will have on our communities. Working in partnership and achieving key behaviour changes will mean that our communities and the environment will always have sufficient water.

Our purpose

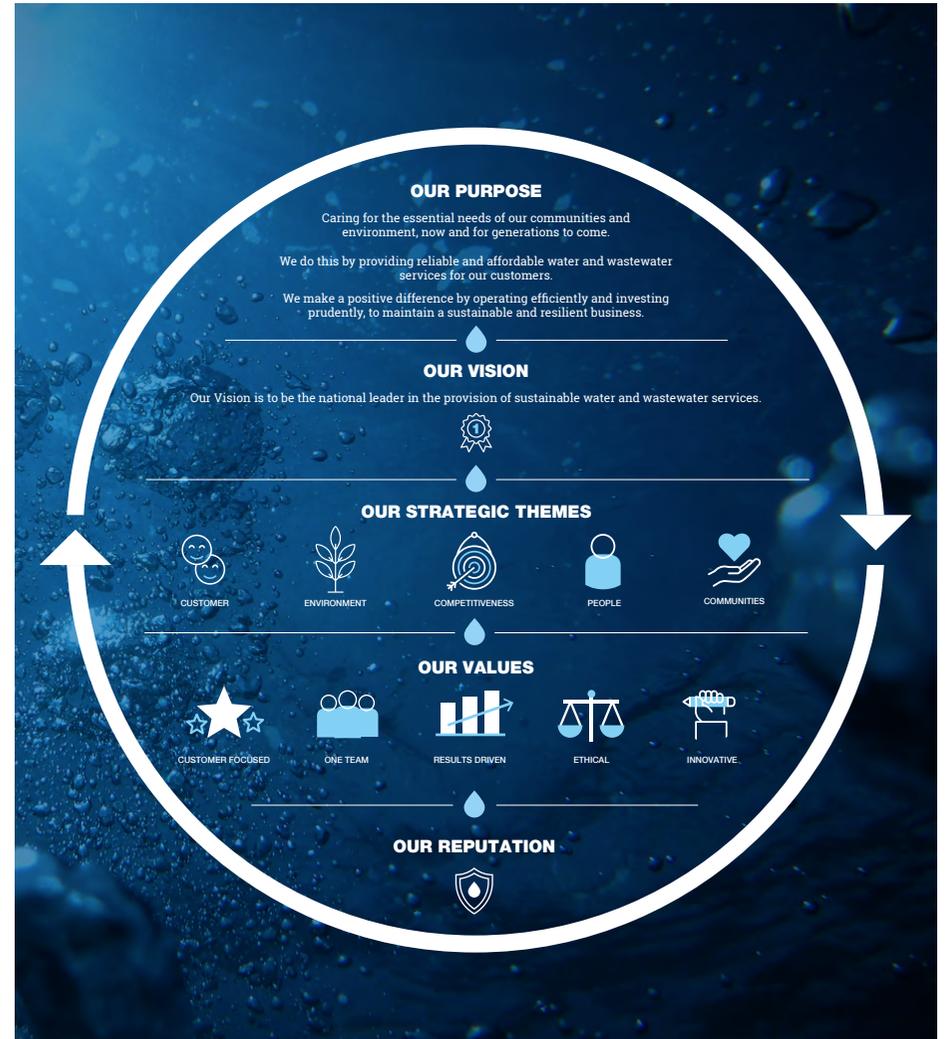
Caring for the essential needs of our communities and the environment, now and for generations to come

We do this by providing reliable and affordable water and wastewater services for our customers.

We make a positive difference by operating efficiently and investing prudently, to maintain a sustainable and resilient business.

We aim to become a truly climate resilient water and wastewater service provider both now and for future generations. To achieve this, we need to work with others across the sector to be climate ready.

Climate hazards are one of our key risks both now and in the future. We will continue to develop and deliver actions that support our climate adaptation.



Delivering for future generations

Planning for the long term

Our future scenarios and strategies

Our long-term strategy for improving and maintaining our services will help us to deliver our vision to be the national leader in the provision of sustainable water and wastewater services.

We are building on this long-term strategy by carrying out further analysis of future scenarios and extending our long-term business strategy and our long-term water and wastewater strategies to 2050. Our Climate Adaptation Plan will feed into our future scenarios and our updated strategies.

Our long-term approach builds on the work we carried out to develop our ARP1 report 'Adapting to climate change' in 2011. This report highlighted the need to improve our understanding of risk and our risk management approaches, as well as the need to develop a focus on water supply. We recognised that climate risk should be incorporated into our over-arching risk management strategy, rather than being considered in isolation².

We also found that these climate-related risks should be quantified for more robust analysis and should be periodically reviewed in line with our risk management processes. The key focus areas identified were security of supply in our Essex region and flood risks in the Northumbrian region³.

We have built resilience into our previous strategies, for example into our PR19 plans, despite some resistance from regulators. We continue our work to help government and regulators embrace an approach to dealing with future uncertainty.

Listening to our customers

Working closely with our customers and communities is essential. For example, our educational programme, The Ripple Effect, involves encouraging school children to learn about water, and about how the community can work together to protect their local water supply. We have also helped communities through the COVID-19 pandemic by donating laptops for children's online schooling in our operating areas and contributing to the vaccination rollout in Durham and Darlington⁴.

We highly value our customers' opinions on make sure our business plans reflect what is important to them and we aim to engage 2 million customers by 2025⁵.

Our customers told us that investing in assets for the future to prepare for severe weather and changing future demand is key. They deemed investing to reduce flooding as especially important; 68% of our customers prioritised future investment in reducing internal, external, and repeat flooding.

Customers also believed that we should be doing all that we can to reduce the risk of cutting off water supply.

We recently carried out a survey to understand our customers' views on climate change. This identified that most of our customers rate climate change as very important. It also highlighted that our customers recognise that climate change will impact them and their communities in their lifetime (67%) - with severe weather, rising sea levels and water scarcity being key events linked to climate change⁶.

Overwhelmingly our customers believe that we need to act on climate change immediately (84%) and that this is the responsibility of many; from the individual, to water companies, to the government⁷.

Interviews identified that the environment was of great importance to household customers, who thought it should be a high priority for us.

²Adapting to climate change 2011 ³Climate Change Asset Impact 2012 Update Report ⁴Our Purpose 2021 ⁵nwg.co.uk/globalassets/corporate/long-term-strategy.pdf ⁶Customer Sentiment Insights ⁷Customer engagement summaries for PR19

Our call to action

We aim to become a truly climate resilient water and wastewater service provider, both now and for future generations. To achieve this, we need to work as an industry to be climate ready.

Our approach to climate change will be aligned to global commitments in the Paris Agreement and Glasgow Climate Pact goal of 1.5°C.

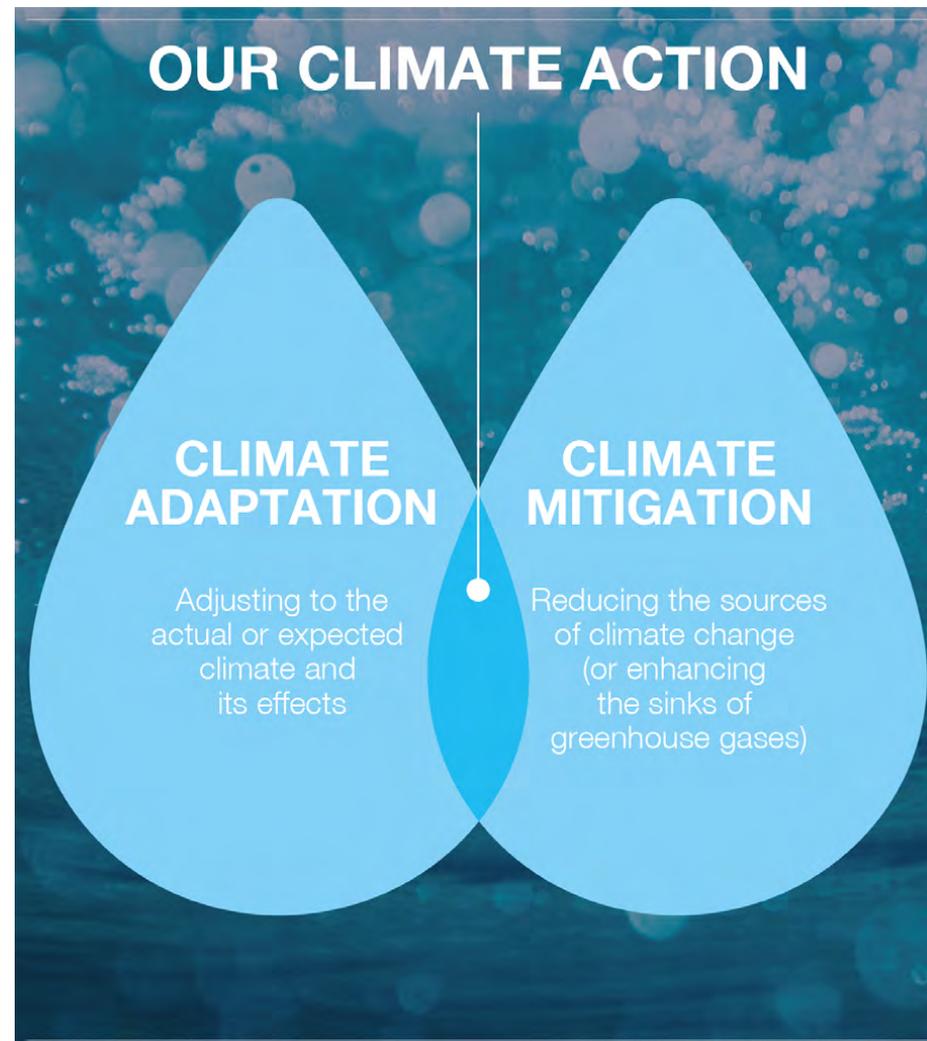
Our goal is to be net zero by 2027, and we aim to adapt for 2°C and prepare for 4°C.

Preparing for climate hazards and future climate uncertainty now will provide our customers with the most reliable and robust service possible. This will reduce the likelihood of service interruptions in future.

Improving our resilience to climate hazards will also provide benefits to our environment by reducing the likelihood of pollution and maintaining raw water quality.

We cannot adapt alone. We want to work in partnership with regulators, customers and stakeholders to develop and deliver climate change adaptation solutions.

We want to hear your views. Start a conversation with us at haveyoursay@nwl.co.uk to share your thoughts.



This report was co-created with support from Arup and UCL to make sure we draw from global best practice and learn from an independent voice in the field of climate change adaptation. Through the co-creation phase we consulted with the following organisations: Blueprint for Water, CCWater, Defra, DWI, Environment Agency and the NWG Water Forum.

