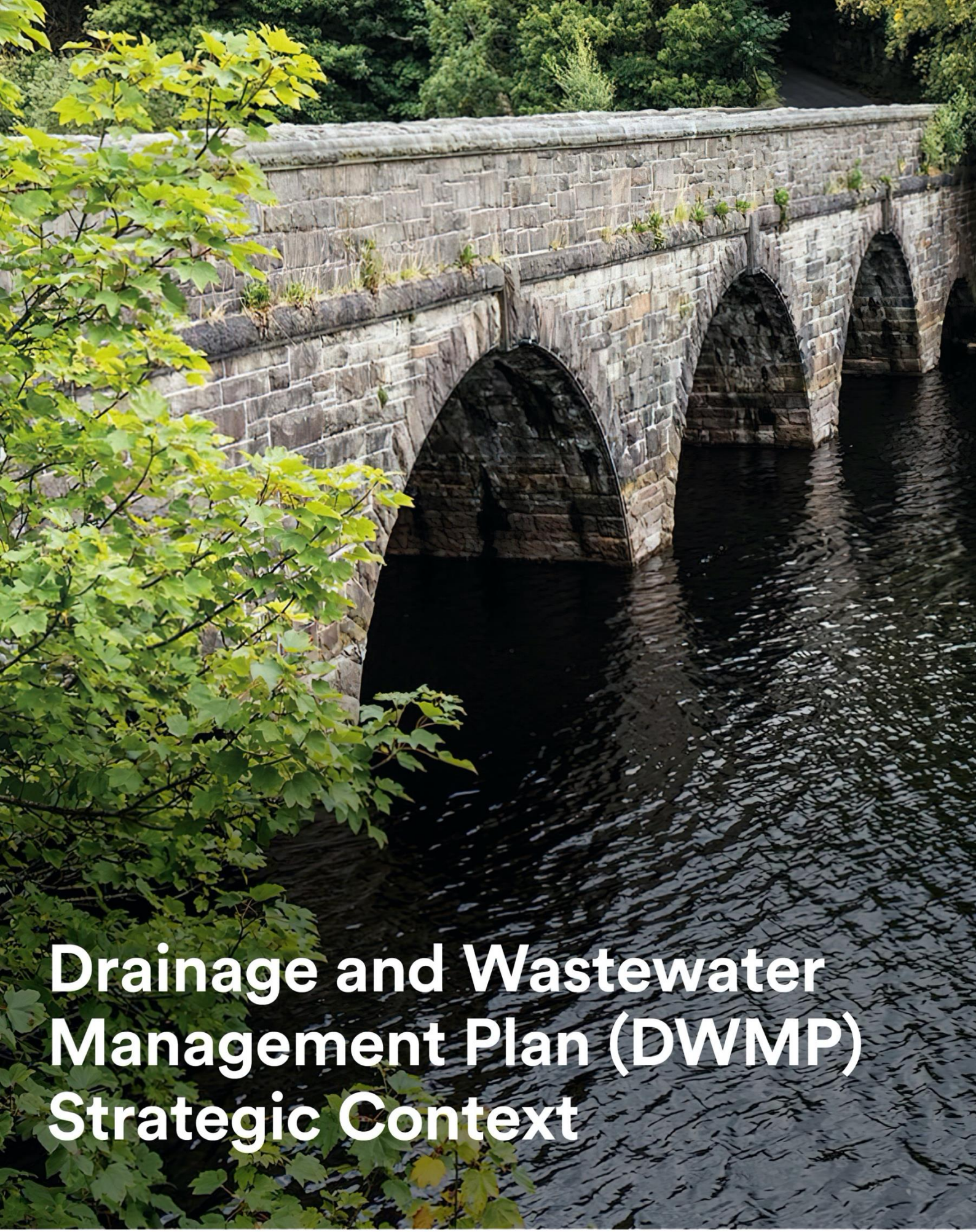


Drainage and Wastewater Management Plan (DWMP) Strategic Context

United Utilities

Water for the North West

Contents

1. Introduction 3
2. The North West 4
2.1 United Utilities 7
3. Future drivers of change and planning for an uncertain future 8
4. Developing the DWMP 10
5. Our long-term goals 12
6. Working in partnership 14
7. What's next? 16

1. Introduction

United Utilities' purpose is to provide great water and more for the North West. To deliver on this purpose we need to work closely with a wide range of stakeholders as the challenges we face are collective and must be tackled together. The North West is facing significant challenges, both environmentally and socially. With a changing climate and a growing population, the future is uncertain. We need to plan now, to mitigate any impact on our wastewater services and the experience customers have.

As a result we are developing a long-term plan, the Drainage and Wastewater Management Plan (DWMP), in collaboration with a broad range of stakeholders, which aims to maintain and improve resilient wastewater and drainage systems, now and in the future.

By developing the DWMP, we have an opportunity to:

- provide a basis for more collaborative and integrated planning alongside stakeholders across the region to tackle shared and interrelated risks relating to drainage, flooding and protecting the environment;
- strengthen partnership working with all Lead Local Flood Authorities (LLFAs) and other stakeholders to drive integrated investment in the environment and communities;
- develop a plan that will help address the increasing environmental expectations from customers and stakeholders and work towards the ambitions set out in Defra's 25 year plan;
- collectively explore innovative solutions such as Sustainable Drainage Systems (SuDS) and nature-based solutions to understand what is best for the North West; and
- embed Systems Thinking to better understand drainage and environmental interactions, and to maximise the potential for integrated solutions.

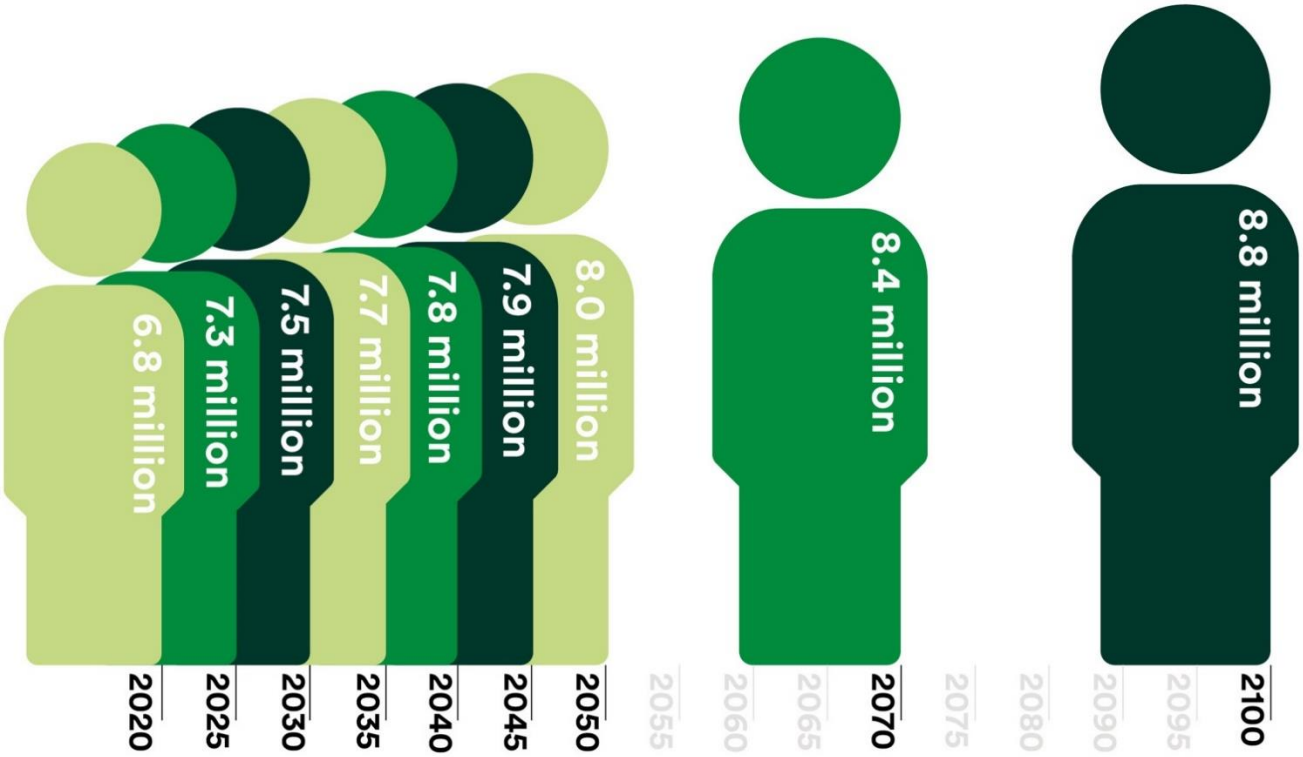
Since starting our DWMP journey, we have engaged with stakeholders across the region, listened to what their priorities are, and have incorporated the feedback into our planning such as setting the long-term objectives.

We recognise that the success of the DWMP relies on the continued support from stakeholders across the region. Pressures due to challenges such as climate change and population growth are affecting anyone with roles and responsibilities relating to water and environmental management.

This document will set out our long-term approach for sustainable drainage and wastewater management across the North West, how we intend to get there and who we intend to work with along the way to ensure that the North West thrives now, and in the future.

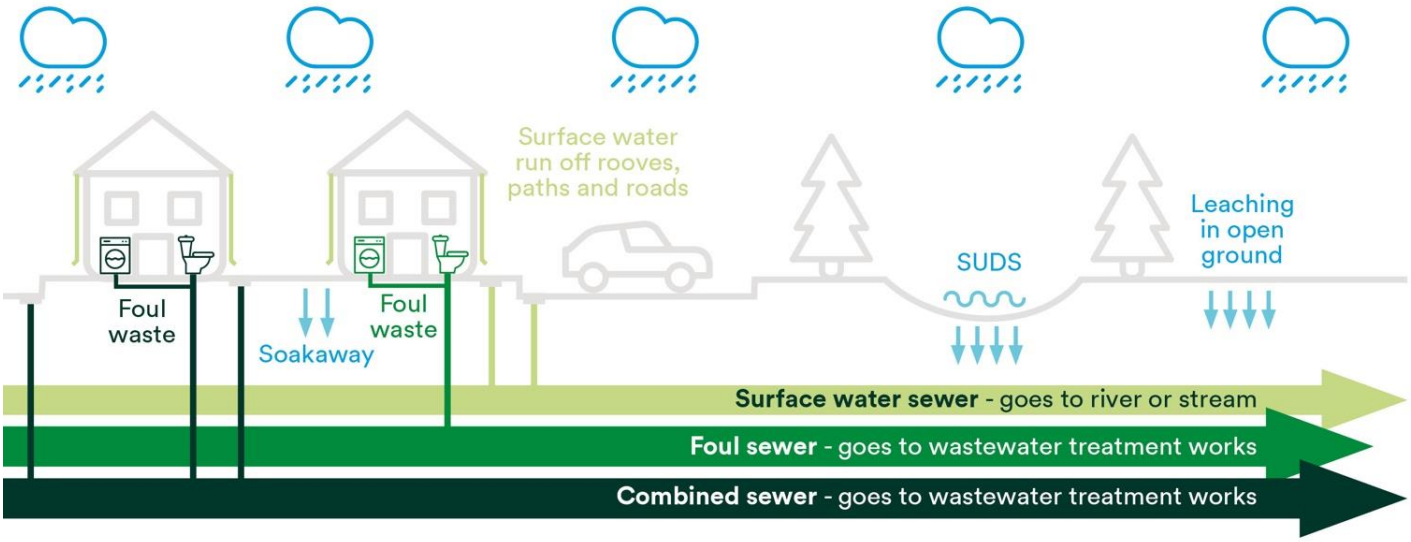
2. The North West

The North West has a varied landscape, from the Scottish borders to Cheshire plains, and from the Pennines to the Irish Sea. The region is home to National Parks such as the Lake District, Peak District and Yorkshire Dales, which offer vast spaces for nature. There are also significant urban areas such as Manchester, Preston, Blackpool and Liverpool. The coast is home to many estuaries, beaches and bathing waters from the Dee Estuary to the Solway Coast.



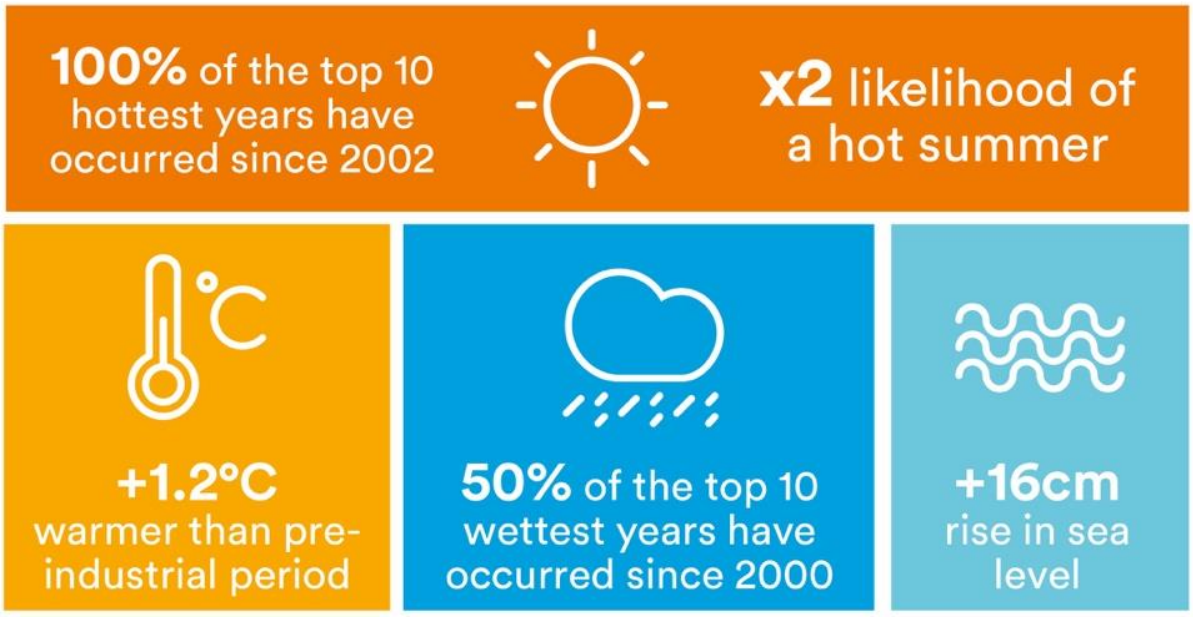
In the coming years, the population of the North West is predicted to increase by 14% by 2050 with growth expected across smaller towns through to major cities. The core of the sewerage system within most towns and cities is combined, which means that there is less capacity for sewage as combined sewers also convey rainwater. When compared with other regions in the UK, the North West has the highest portion of combined sewers at over 50%.

This is a legacy of when many of these areas first developed in the Victorian times. As cities grow, urban rainfall is also likely to increase which will pose a risk to sewer flooding. Managing these risks from an increasing population, urban rainfall and combined sewage systems will be a key challenge for the region in effectively balancing the demands from an increasing population whilst protecting the environment, customers and communities.

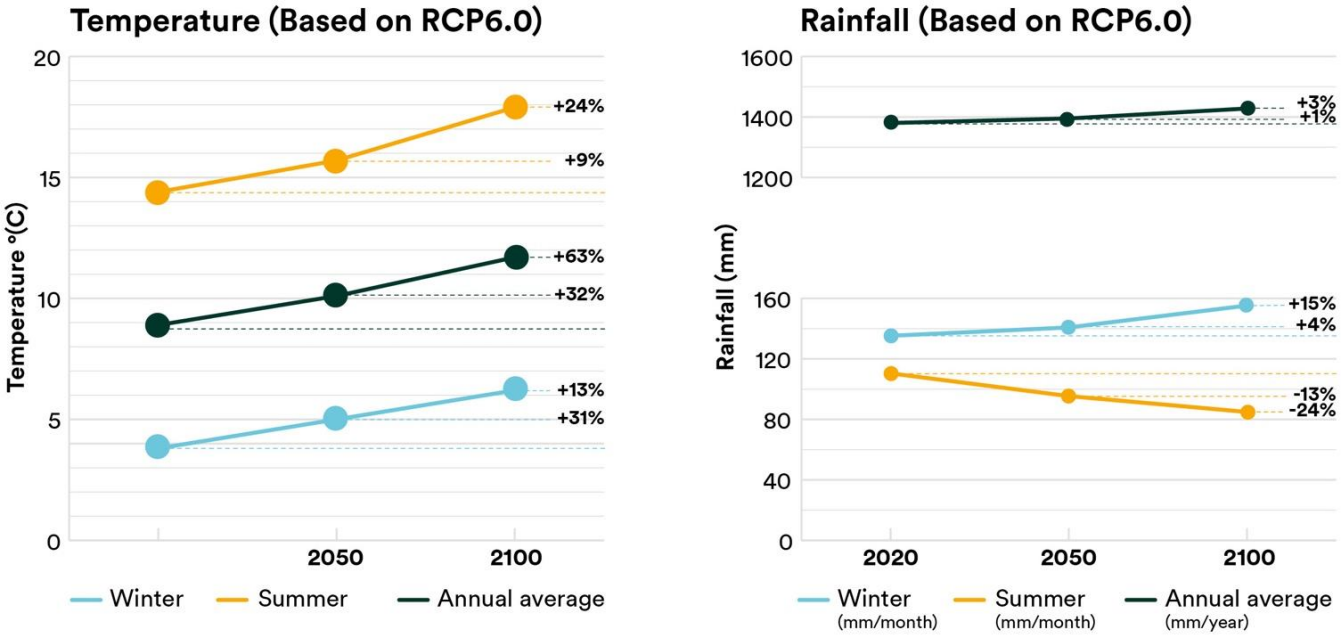


The industrial legacy of the North West means that there are many heavily modified waterbodies in urban areas. This means that natural watercourses have been altered by human activities to allow for use such as navigation and water transfer. This often leads to changes in the river dynamics; for example, river flow, water quality and ecology, which alters and sometimes removes natural drainage routes. Some areas present unique geographical and topographical challenges; for example, the city of Manchester sits in a low-lying topographical bowl, draining rivers that rise in the Pennines through the city before eventually draining into the Manchester Ship Canal, which is a slow-moving, deep canalised river. Compounding drainage issues further, Manchester also receives a higher level of annual rainfall than cities such as Leeds and Sheffield to the east of the Pennines, as the majority of rainfall from the west Atlantic lands on western Pennines and drains towards the city.

The North West is also one of the wettest regions across the UK, with average rainfall ranging between 830mm per year in areas such as Manchester to 3,200mm per year in the Lake District, in comparison to Eastern England which typically has between 500–750 mm per year of rainfall. Climate change is predicted to lead towards even wetter winters and hotter, drier summers along with an increase in the frequency and intensity of extreme events.



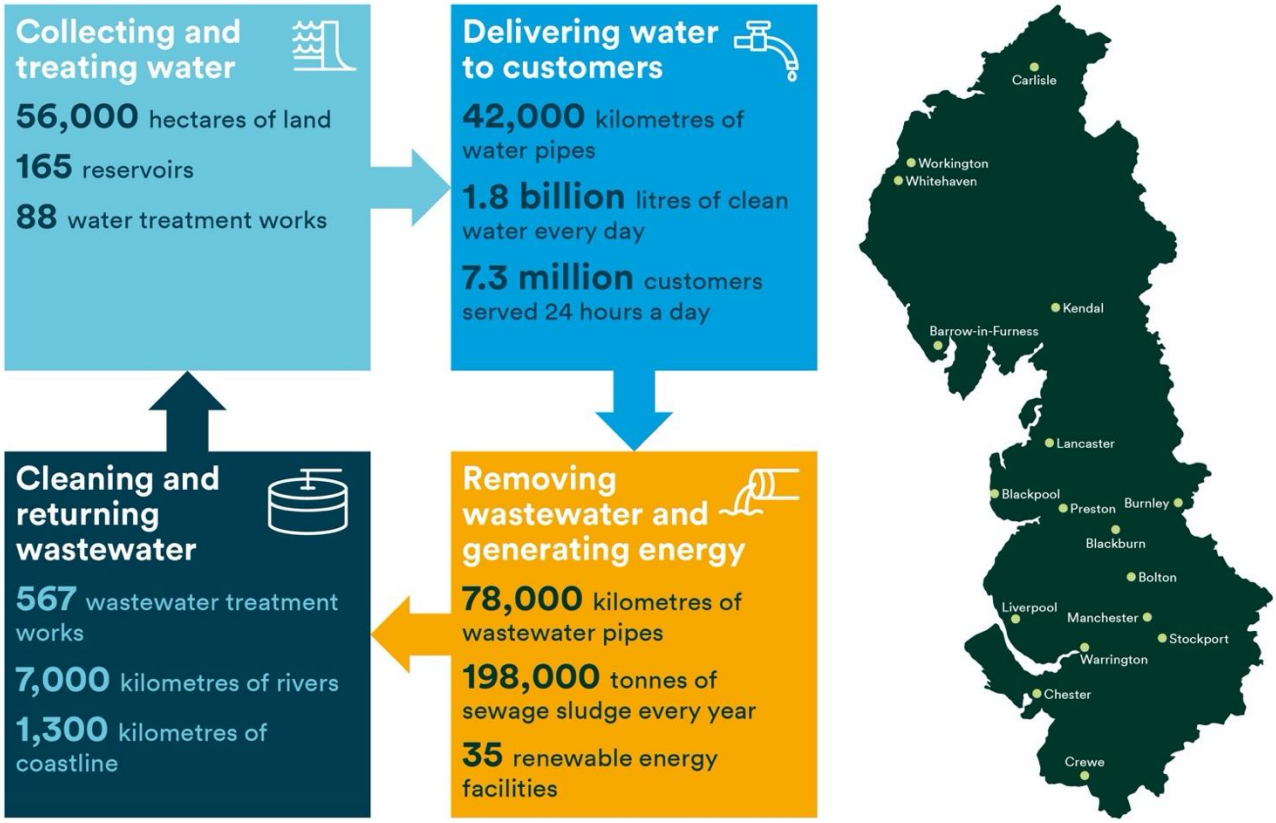
Customers and the environment will be impacted due to events such as flooding and combined sewer overflow spills, which occur when drainage systems become overwhelmed with sudden increases in flow during intense storms. In drier periods the environment and ecosystems can be affected as temperatures increase, ground conditions change and water quality decreases. Climate change is affecting the whole of the North West and will need a collaborative, partnership approach in order to mitigate the risks.



For areas such as Manchester, the above combination of factors of a high proportion of combined sewers, increasing population, higher levels of rainfall and geographical characteristics, all combine to create a unique set of challenges and opportunities. The DWMP is an opportunity to explore this if we are to mitigate against increasing risks such as flooding. Also the unique characteristics of the North West means that we may see greater impacts compared to other regions of the UK.

This is where the DWMP can make a difference in bringing relevant stakeholders together to mitigate against shared risks and to add value for the North West in an innovative way. This is our opportunity to collectively think about the North West in a holistic way and tackle challenges together.

2.1 United Utilities



United Utilities is one of the largest water and wastewater providers in the UK and our purpose is to provide great water and more for the North West. From Crewe to Carlisle, we provide essential water and wastewater services to over seven million people every day. Providing great water means delivering our core water, wastewater and customer services, reliably and to the highest quality. Providing 'more' means creating value for our stakeholders by understanding what matters to them through strong and constructive relationships.

We are a purpose-led organisation. We are clear on why we exist and we focus on what matters to customers, communities and stakeholders across the North West.

Our strategic themes define the way we operate in order to deliver our purpose and work towards our vision, and our core values provide the cultural framework within which we operate. Our pioneering Systems Thinking approach improves efficiency and operational resilience to help us deliver great service to customers. It also feeds into our decisions and how we prioritise our activities.

The DWMP will play a big part in how we operate in the coming years as it will inform our future business plans to ensure that we are doing the right thing for the region both now and into the long term.

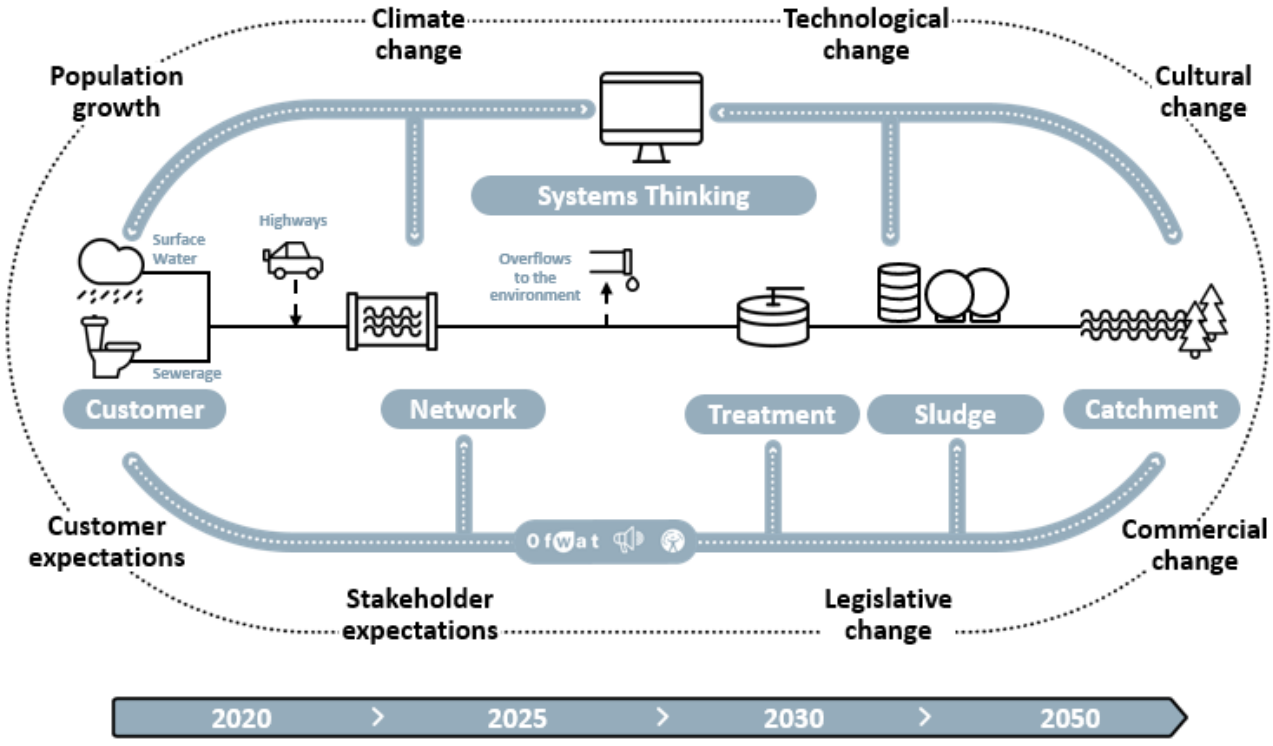
3. Future drivers of change and planning for an uncertain future

The North West is faced with significant challenges which have the potential to impact the region. Environmental expectations from customers and stakeholders are changing, and increased media attention on topics such as plastics has raised consciousness in society that is driving changes in the way that companies operate.

In recent years, we have already experienced how the climate is beginning to change and the sensitive balance is shifting as we are now experiencing more extreme weather patterns. Predictions also forecast that the impacts of climate change are expected to accelerate over the next 25 years, and we need to plan and prepare a resilient wastewater service that can adapt to this challenge.

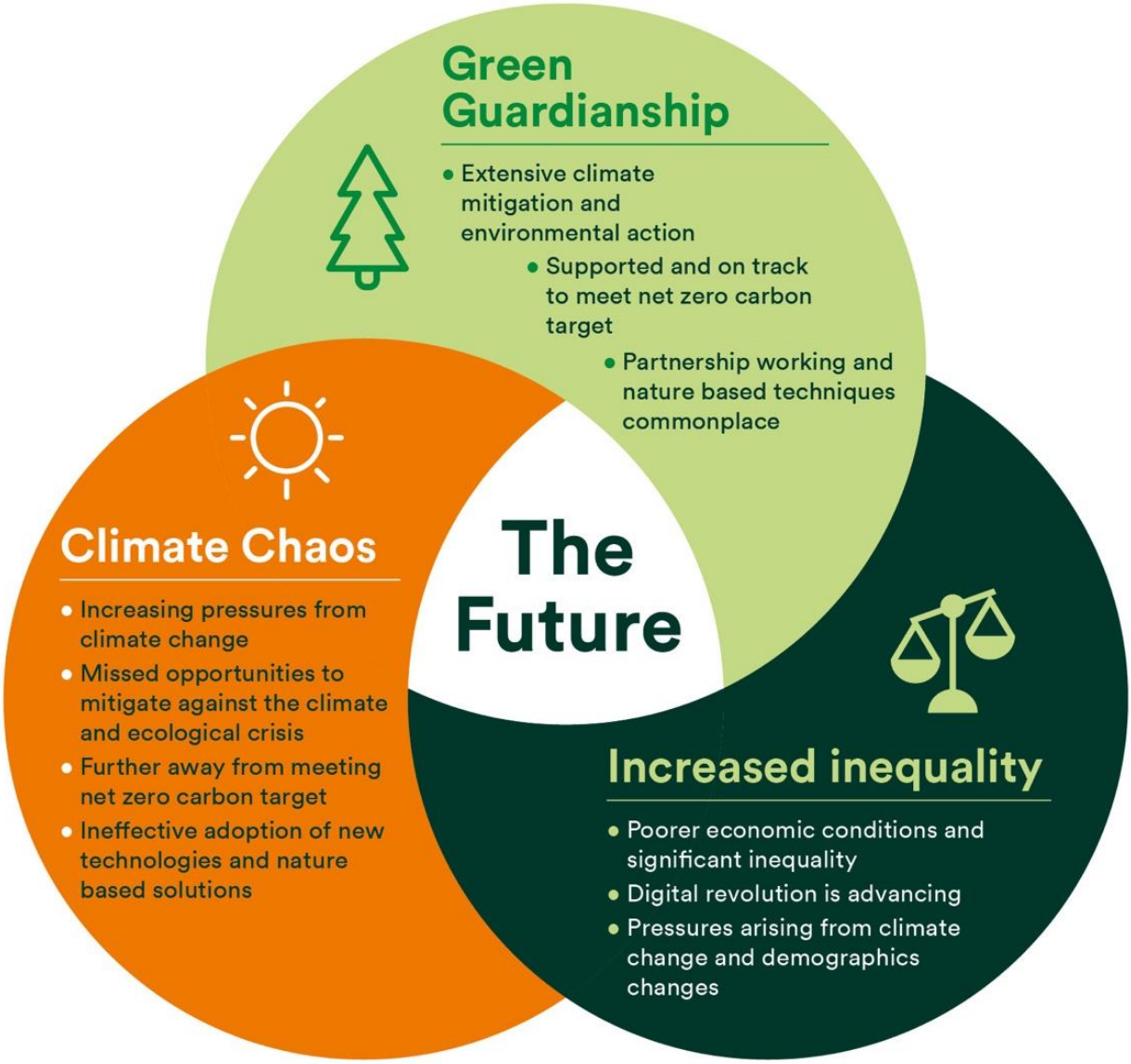
Like many places across the UK, the population of the North West is expected to grow but it will be varied across our region. Our major towns and cities in areas such as South Manchester and Carlisle are expected to significantly expand, but we may also have a small number of areas which are expected to reduce in population. We need to ensure that we are able to respond to these changes in order to maintain services and to protect the environment across the region.

Climate change and population growth are just two future challenges that we need to prepare for. New challenges and opportunities will arise and this is why we must prepare for the future, manage uncertainties and adapt to changes in order to be resilient and cost effective. There will also need to be an appreciation for additional complexities such as deteriorating asset health.



We have recognised that in order to create the best future for the North West, we must work in partnership to embrace shared risks and opportunities, be innovative, drive efficiencies, and to develop sustainable solutions. This is what the DWMP strives to do.
By thinking about our future challenges and when setting our long-term planning objectives, we recognise that the next 25 years are uncertain. In order to help visualise how these drivers could shape our future, we have created three plausible, coherent and diverse scenarios; shaping extreme and diverse 'futures' for the North West.

These scenarios are focused on the future of water, wastewater and related services in the North West. They will be used throughout the development of the plan to test the North West's performance across a number of indicators at various design horizons and will feed into options development.



4. Developing the DWMP

We recognise the importance of how trends such as climate change, water usage and population growth might affect drainage and wastewater systems. We have taken a comprehensive approach to our first DWMP because we recognise the importance of long-term planning if we are to adequately adapt to climate change and meet the demands of population growth.

The heart of the plan will be built around collaborative and innovative working whilst encompassing all activities relating to drainage, flooding and protecting the environment. We will lead on this plan, but we will be working closely with other organisations, such as the Environment Agency and local councils. Throughout the process, we will continue to engage with stakeholders and share our data and findings, to ensure that the solutions delivered are co-created, drive efficiencies and will benefit the communities and environment that we live and work in.

By developing this plan, our aim is to:

- provide a clear, transparent and consistent planning approach with sufficient adaptability to respond to future challenges;
- facilitate integrated and partnership working and the co-creation of innovative solutions; and
- provide greater confidence to customers, stakeholders and regulators.

The plan will be set out at three levels to maximise the potential for partnership working and for effective engagement between regulators and stakeholders at both company-wide level and more locally.

There are five stages through the plan, which will help to develop the best future for the North West. We have completed the Risk Based Catchment Screening (RBCS) and Baseline Risk and Vulnerability Assessment (BRAVA) stages to understand what risks there are now and in the future. We are now moving to Options Development and Appraisal to explore co-developed and co-delivered solutions to mitigate against the risks identified and harness opportunities.

As we develop the DWMP, we will apply Systems Thinking at each stage. This will help us to understand firstly where we have interdependent risks and as we move into options development it will help us to identify the best value place to intervene in the overall system. We won't constrain ourselves to thinking about our assets; instead we will consider the full system from the customer's home and the wider environment.

5. Our long-term goals

By developing a DWMP, we have the opportunity to push boundaries and our understanding of all drainage system interactions, to test new scenarios, and to assess the impacts from potential challenges more than ever before. To drive our ambitious DWMP with the objective of creating a better future for the North West, we need targets and goals to work towards and to also assess our progress towards achieving them.

In the development of these long-term objectives, we have considered a wide range of key performance indicators. It is essential that these objectives should reflect our long-term ambitions as a company and also be built around the priorities and feedback from stakeholders and customers. In order to do this, we have used extensive customer research and bespoke DWMP research to determine the priorities of customers in the North West.

We have also hosted several workshops in April 2019 and in the autumn of 2020 to hear the views and priorities of stakeholders. This saw attendees from organisations such as the Rivers Trust, the Environment Agency, local councils, Lead Local Flood Authorities and more. We have reflected on what was raised and fed this back into our planning objectives.

From this research and feedback, we know that customers value a reliable service, community support and want a region that is resilient to the impacts of climate change. We also acknowledge that the risk from sewer flooding, sewer overflow performance and environmental impacts are highly important to stakeholders across the region.

We are proud to share our co-developed planning objectives that will be used throughout the process to inform the development of the plan and will help us to create a more sustainable and innovative plan.

Planning objective	We will collect, treat and recycle wastewater in compliance with our permits, now and in the future, to protect the natural environment	We will protect, restore and improve the natural capital of the North West through our actions	We will sustainably reduce the risk of sewer flooding in the North West
Metric	Wastewater Quality Compliance Pollution Incidents	Storm Overflow Performance Environmental Obligations (WINEP)	Internal Flooding External Flooding Flooding of Open Spaces Sewer Collapses Risk of 1:50 Year Storm

6. Working in partnership

We recognise that a resilient future for the North West, and also the success of the DWMP, relies heavily on partnership working, and innovative and collaborative solutions. Managing water can be complex and involves multiple agencies. So we are aware that the challenges of the future cannot be met through the actions of individual organisations. Strong and consistent partnership collaboration by all Risk Management Authorities is critical. To drive this even further we will pilot place-based planning in priority areas where there is significant potential to work more closely with stakeholders, including Local Flood Risk Authorities and communities, to deliver a more resilient future.

Catchment Systems Thinking (CaST) and innovative solutions will be key to meeting our objectives. We will need to better manage water close to where it falls, tackle issues at source, and optimise sewer systems by keeping surface water out of combined sewerage systems, which causes issues for others. By addressing the catchment in a holistic way, it will result in multiple benefits of shared interest, such as improving water quality, biodiversity, and the health and wellbeing of communities, reducing flood risk and providing more resilience to climate change. There is also an opportunity to explore nature-based solutions and blue-green infrastructure such as Sustainable Drainage Systems (SuDS).

We are finding new ways to collaborate with stakeholders through projects such as the Dynamic Network Management (DNM) programme. This will highlight opportunities and develop common understandings of how drainage systems perform across the region. This will allow us to further identify flood risk and water quality management partnership opportunities. Close liaison between stakeholders on large strategic developments across the region (e.g. Northern Gateway) should further realise opportunities to work together to deliver the best outcomes for local communities, as part of the roadmap as set out in the DWMP.

The DWMP will provide opportunities for us to do even more with a variety of stakeholders across the region. We are working hard to ensure that we are developing this plan alongside stakeholders who have shared interests and risks across the North West and seizing opportunities as they arise. We will continue to build upon existing, and form new partnerships with stakeholders across the North West.

We are already observing great mutual benefits by being a key partner in projects such as **Natural Course** and **IGNITION** – the purpose of which is to find new ways to improve the environment and communities that we live in.

Natural Course

Natural Course is an EU funded LIFE Integrated Project and is a collaboration of public, private and third sector organisations. The project aims to deliver improvements to rivers and the water environment across North West England. Natural Course is designing projects to better understand and overcome some of the biggest barriers preventing the achievement of 'good ecological status' under the EU Water Framework Directive.

IGNITION

IGNITION is a €4.5 million EU funded project that brings together 12 partners across local government, NGOs, universities and businesses. The aim is to develop innovative financing solutions for investment in Greater Manchester's natural environment to help the city to adapt and mitigate the impacts due to climate change. Working with nature, solutions such as rain gardens, street trees, green roofs and walls and development of green spaces can help to tackle socio-environmental challenges including an increase in flooding events, water security, air quality, biodiversity and human health and wellbeing.

There are numerous strategic management plans owned by various stakeholders, which all aim to create the best future for the North West, but this can pose a challenge as there are varying priorities and timescales. This is where the DWMP is a great opportunity for collaboration, to share best practice and to align with other key management plans as best we can. This will help to highlight common challenges, ambitions and goals and where we share risks.

Collaborative working is something we have kept central to the DWMP as we want to understand the views, challenges and priorities of stakeholders. In addition to the workshops we hosted to discuss our shared aims for the North West, we have also attended various Catchment Based Approach (CaBA) meetings to facilitate collaborative catchment management, working with stakeholders across local authorities, businesses, local communities and farmers.

As the DWMP develops, we are now moving into the creation of our 14 Strategic Planning Groups (SPGs) which invite a host of potential stakeholders to help facilitate, develop and deliver collaborative solutions to tackle shared risks such as reducing flooding and improving water quality. This is our opportunity to be creative and innovative to create great spaces for the environment and customers. Our engagement so far has highlighted the desire and passion across the region to share one vision for the North West.

7. What's next?

Moving forwards, we will be continuing to engage with potential stakeholders through our Strategic Planning Groups (SPGs), which include members from organisations such as the Environment Agency, Lead Local Flood Authorities and Catchment Based Approach (CaBA) partners, to share the results from our Baseline Risk and Vulnerability Assessment (BRAVA).

We are also starting the next step of our DWMP journey; Options Development. Through Options Development, we aim to identify opportunities for co-creation and co-delivery of solutions with our SPGs. Here we have the opportunity to develop strategies that will manage catchments and systems in a better way in order to meet customer and environmental demands. We will also be carrying out market engagement to identify Third Party Options which might contribute to the delivery of our objectives, with a focus on surface water and catchment management that will help to manage systems in a better way.

We are looking forward to sharing with you our draft DWMP plan in summer 2022, and our final plan in spring 2023. The final plan will set out our long-term plans and shape our next Price Review, PR24, to ensure the next five-year cycle is clearly part of the long-term plan. Our progress so far demonstrates the role that integrated planning has when working in partnership and identifying future investment. By working together, we can deliver more value for the North West, both socially and environmentally, as we will be focused on the long term, stretching ourselves in every way to do what is best for both the environment and customers across the region.

.

dwmp@uuplc.co.uk

United Utilities

Water for the North West