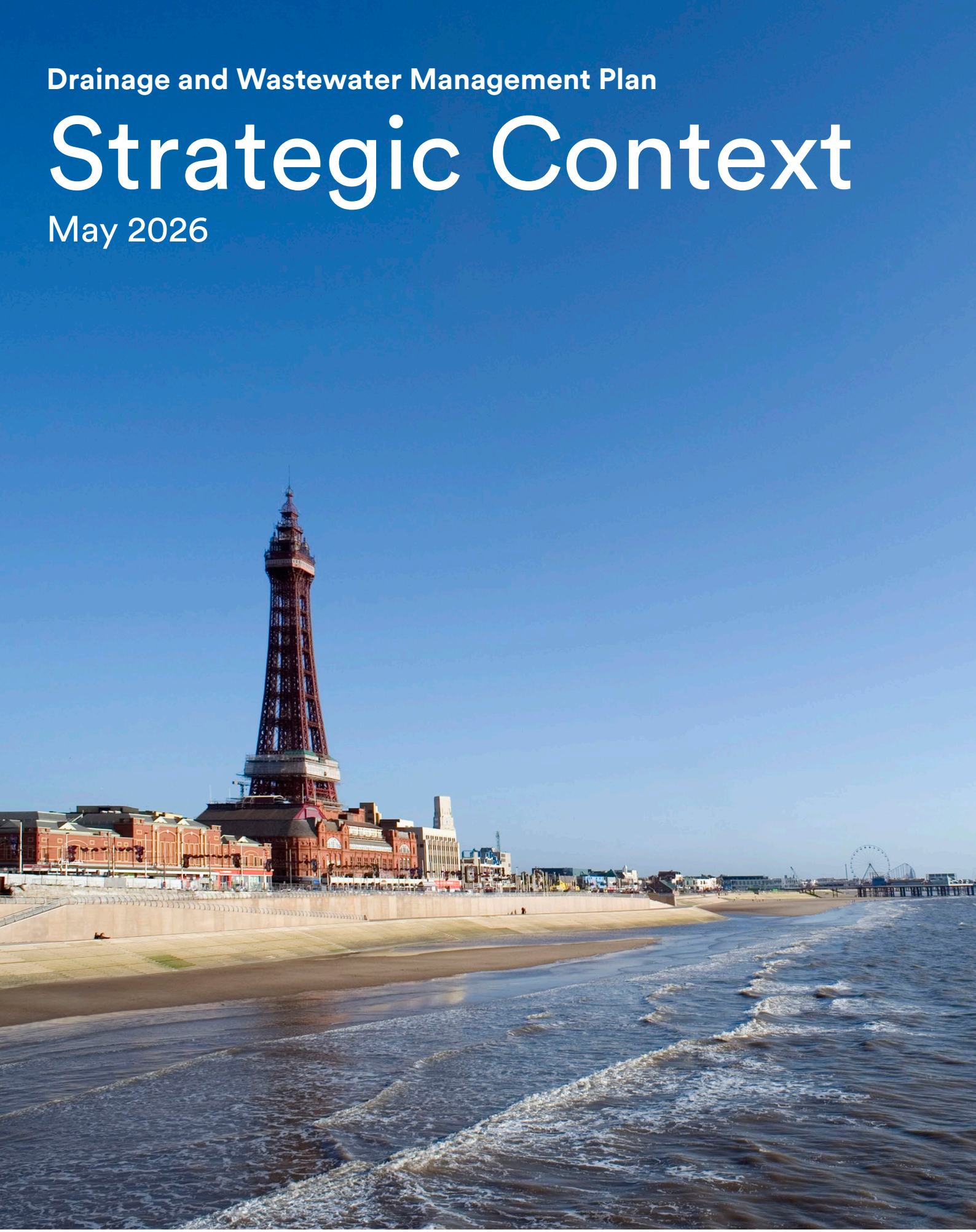
Drainage and Wastewater Management Plan

Strategic Context

May 2026



United Utilities

Water for the North West

Foreword

We're excited to begin the journey towards the publication of our second Drainage and Wastewater Management Plan (DWMP), our long-term plan which will set out how we plan to secure resilient and robust wastewater services for generations to come. Our DWMP represents our plan for building a stronger, greener and healthier North West.

The water sector is facing unprecedented changes, from regulatory reforms to the challenges brought by increasing climatic extremes, and we must adapt and plan for the future. Our DWMP will address these challenges and opportunities head on, identifying the investment required in our wastewater systems between 2030-2055.

Our first DWMP, DWMP23, was instrumental in building our PR24 business plan (2025-2030), securing the largest investment in wastewater infrastructure in more than a century, including a £2.4bn programme focused on reducing spills from combined sewer overflows (CSOs). This time we want to be even bolder and we have been busy engaging with stakeholders across the North West to understand their strategic priorities to drive our ambition for DWMP28.

We will:

- Deliver a reliable, affordable wastewater service for our customers with targeted support for those who need it most;
- Work in partnership to enable sustainable growth, delivering place-based, integrated solutions reflecting the needs of communities across the North West;
- Significantly reduce the risk and impact of sewer and surface water flooding;
- Protect and improve rivers, bathing and shellfish waters and coastal environments by reducing spills and pollution.

Delivering an ambitious and effective DWMP requires strong, sustained collaboration. United Utilities has been a pioneer in delivering an integrated approach to water management across the sector. Our Integrated Water Management (IWM) approach recognises that addressing the risks and impacts of climate change and a growing population cannot be achieved in organisational silos and therefore facilitates integrated long-term planning. The development of our DWMP will be underpinned by this philosophy.

This Strategic Context document represents the first stage in our DWMP journey, setting out how we will approach the development of our DWMP and our overall strategic ambition for the next 25 years.

I look forward to working with our communities across the North West over the coming months and years to co-create an ambitious DWMP that delivers lasting improvements to drainage and wastewater services.

Jo Harrison
Asset Management Director

Contents

1. What is the DWMP?

We are developing our second Drainage and Wastewater Management Plan (DWMP) – our long-term wastewater plan for 2030-2055. Our DWMP will set out how we will maintain a resilient wastewater system in the face of challenges such as climate change and population growth, futureproofing our services for generations to come.

What is the DWMP? | Our foundations | What will the DWMP measure? | The future of the North West | Our ambition for the North West | Assessing value | Delivering in partnership | Moving forwards

We are excited to be developing our latest DWMP, an ambitious plan that will shape the delivery of resilient drainage and wastewater services for customers over the next 25 years and beyond. Preparing, maintaining and publishing a DWMP is now a statutory requirement, but it is about more than just compliance. The DWMP places the current and future needs of customers, communities and the environment at the centre of wastewater and drainage.

We know that customers and stakeholders want to see a meaningful and lasting change in the water sector and our DWMP is our plan for doing just that. Our DWMP will tackle the long-term challenges, such as climate change, population growth, and urban development, which face the entire wastewater system. We cannot resolve such complex challenges in isolation. Collaboration is at the core of the DWMP, bringing together partners such as the Environment Agency and local councils to ensure we deliver truly integrated water management.

Our first DWMP was published in 2023 and set out our wastewater plan for 2025-2050. You can find out more about DWMP23 on the DWMP website **here**. We are now developing DWMP28, for final publication in August 2028, which will set out our plan for delivering resilient wastewater services between 2030 and 2055. We will publish a draft DWMP in November 2027, followed by a 12-week consultation period, to seek stakeholder feedback prior to final publication.

Updated every five years, the DWMP creates a continuous cycle of planning and improvement, enabling adaptive planning and ensuring the implementation of flexible, best-value solutions.

1.1 The stages of the DWMP process

As we develop our next DWMP, we will follow a six-stage approach (Figure 1) to ensure that we understand our current system performance and the likely future trends that will affect that performance prior to progressing detailed forecasting and options development. Our plan will be assessed annually to identify any material changes in circumstance that may necessitate a revised plan.

Figure 1: The stages of the DWMP process

The remainder of this document will summarise the strategic context for our publication, setting out:

- Who we are;
- How we will measure performance in the DWMP;
- The future trends that may affect our wastewater system;
- Our long-term strategic ambition for the North West;
- The value framework that we will apply to ensure our plan delivers best value for customers; and
- How we will engage with our stakeholders moving forwards

2. Our Foundations

United Utilities provides essential water and wastewater services to around 8 million people in the North West every day. We are driven by our desire to provide a great service to customers and a stronger, greener, healthier North West.

What is the DWMP?	**Our foundations**	What will the DWMP measure?	The future of the North West	Our ambition for the North West	Assessing value	Delivering in partnership	Moving forwards

2.1 Who we are

United Utilities provides essential water and wastewater services across the North West. Every day we provide clean, high-quality drinking water to around 8 million people across the North West, taking away wastewater to safely treat it before returning it to the environment. Our wastewater operations include 583 wastewater treatment works and nearly 80,000 km of pipes – enough to reach twice around the earth.

Our purpose is to provide great water for a stronger, greener, and healthier North West (Figure 2). This drives us to deliver our services in an environmentally sustainable, economically beneficial, and socially responsible manner, and create sustainable long-term value for all.

Figure 2: Our Purpose

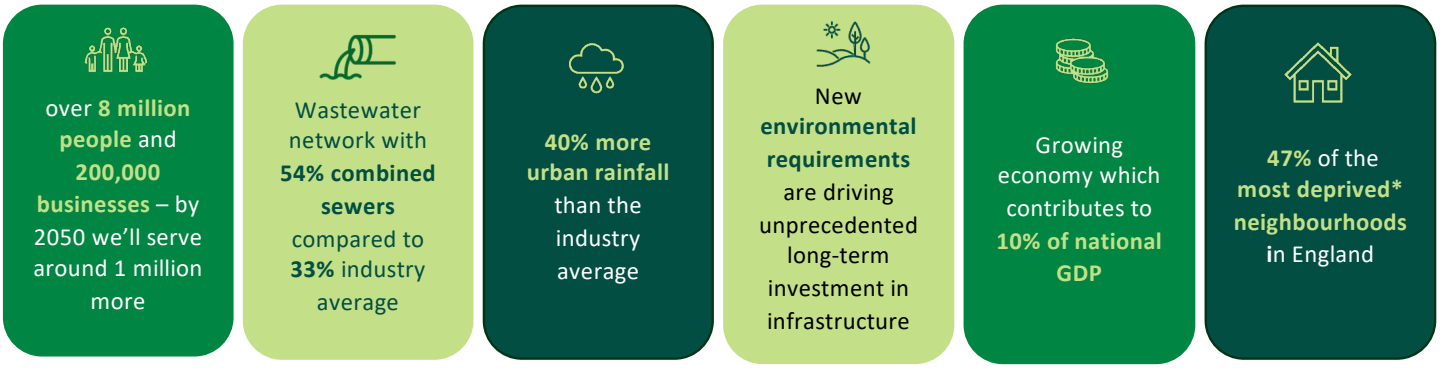
2.2 The North West

The North West is a place we are proud to serve and call our home. From the dramatic mountains and breathtaking landscapes in the Lake District, to the vibrant urban centres of Manchester and Liverpool, the North West has a thriving culture built on a world-renowned legacy across food, literature, sport, music and entertainment. It is a region shaped by innovation and resilience, where pioneering industries grew during the industrial revolution and where today our communities continue to drive growth in the new economy.

The North West is underpinned and sustained by a rich natural environment that is vital to the health, wellbeing and prosperity of the region. Across our region, 60% of United Utilities' owned land is protected, such as National Parks, Areas of Outstanding Natural Beauty or Sites of Special Scientific Interest and we take our part in protecting this landscape very seriously. Through our operations, we help protect over 1,300km of coastline and around 7,000km of rivers flowing across the region.

We know, however, that our region faces some unique challenges in the provision of wastewater services, including a highly combined legacy sewer system and high rates of deprivation (Figure 3). Our DWMP will tackle these challenges head on, identifying solutions to more sustainably manage rainfall and extend our affordability support. In this way, we can work together to shape a stronger, greener and healthier North West.

Figure 3: The North West



*top 1% according to multiple indices of deprivation

2.3 Tailored plans for our communities

To meet the needs of our diverse region, we will create local plans for our communities. The DWMP will be structured into 4 levels for collaboration, analysis, studies, and reporting (Figure 4). We also introduce an additional spatial scale at the 'Level 2' level, namely the five counties of the North West: Cheshire, Merseyside, Greater Manchester, Lancashire and Cumbria.

Figure 4: Geographical levels of the DWMP

Level 1

This is United Utilities wastewater area, used to set the strategic direction of the DWMP. We will produce a company level plan to summarise the overall investment in the North West. Level 1 provides the basis for engagement with regulators and stakeholders at a regional scale.

1

Company level
- covers the whole area of operation.

Level 2

Our area is divided up into **14 Regional River Basin Management Areas**. We will work with key stakeholders to explore catchment-scale solutions and produce a plan for each area.

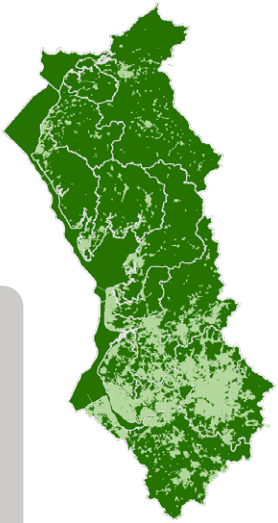
14 **River catchment boundary** - main level for collaboration with stakeholders.

We will also produce **five county plans** to make our proposed investment meaningful for customers across our five counties: Cheshire, Merseyside, Greater Manchester, Lancashire and Cumbria.

5 **County level** - to tailor the plan to the communities we serve.

Level 3

Level 3 boundaries include the area of our sewered network that drains to each WwTW. We will produce summary reports for Level 3 areas.

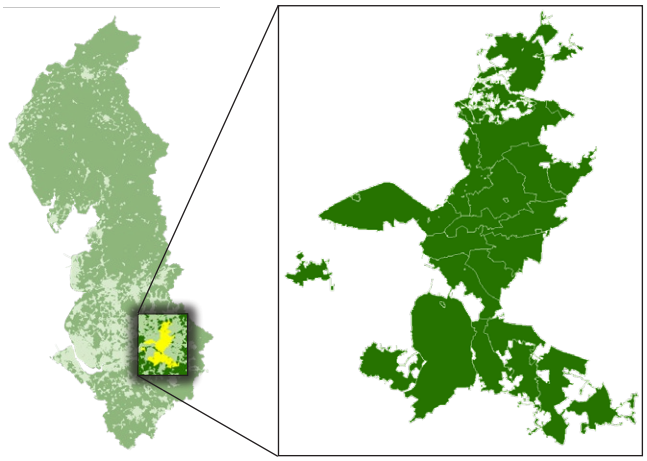


583

Sewerage catchments - main level for assessing and developing the plan. Smaller catchments will be considered as part of the study of a larger adjacent catchment or grouped with other smaller catchments into one study.

Level 4

These are local smaller scale sub-catchments. Working at this level allows planning on a more granular scale. For example, Davyhulme level 3 in Greater Manchester is a large, complex catchment. We have subdivided it into its smaller level 4 sub-catchments to make planning more targeted and manageable.



Each county is varied in nature, experiencing a range of different social conditions and natural environments from predominantly rural and sparsely populated Cumbria to the urban and densely populated cities of Liverpool and Manchester in Merseyside and Greater Manchester respectively (Figure 5). We consider it important to produce county-level plans to ensure the outputs are meaningful to the communities we serve.

Figure 5: The five counties of the North West

Cumbria

265 WwTW | 8916km of sewer

- Cumbria has over 2000 square kilometres of national park, two world heritage sites and over 200 protected areas;
- There are pockets of significant growth in Carlisle as well as in Penrith, Ulverston and Whitehaven;
- Cumbria is home to Britain's Energy Coast, where 5.6% of the nation's electricity is generated.

c.**300** projects in AMP8

Lancashire

103 WwTW | 15,612km of sewer

- Lancashire is home to three major rivers, the Ribble, Lune and Wyre as well as many protected landscapes;
- We are enabling significant growth around Preston and Lancaster;
- The economy is varied including agriculture, manufacturing and tourism which rely on resilient water and wastewater systems.

c.**350** projects in AMP8

Greater Manchester

64 WwTW | 27,025km of sewer

- Greater Manchester is home to the Pennines and the Peak District National Park, as well as the Mersey, Irk and Irwell rivers;
- Approximately three million people live in the region and population continues to grow. Salford's population has grown by 15.4% since 2011. It is the fastest growing metropolitan district in the UK;
- Manchester is a trailblazer for devolution, enabling place specific growth strategies.

c.**400** projects in AMP8

Merseyside

18 WwTW | 15,534km of sewer

- Merseyside has an iconic coastline with protected areas for nature and tourism. The River Mersey is an iconic part of this vibrant county;
- Population in Merseyside is steadily increasing, driven by regeneration and economic growth in Liverpool City Region;
- Merseyside is diverse and growing quickly, with people wanting high skilled jobs and a greener economy.

c.**100** projects in AMP8

Cheshire

133 WwTW | 12,204km of sewer

- Cheshire is home to internationally important wetlands and aquifers which are sensitive to nutrients;
- Population growth is 1.5% lower than UK average;
- Cheshire is the centre of the North West's planned hydrogen production and storage.

c.**800** projects in AMP8

2.4 Our 2025-2030 plan for wastewater

DWMP28 will be built on strong foundations. Our 2025-2030 business plan will see us deliver the largest investment in water and wastewater infrastructure in more than a century, delivering transformational improvements for the environment and customers for generations to come. Between 2025 and 2030, we will:

- Protect and enhance over 500km of rivers and improve bathing waters and shellfish beds;
- Deliver a £2.4bn combined sewer overflow (CSO) programme to achieve at least a 60% reduction in spills from storm overflows relative to 2020;
- Accelerate environmental improvements via our £231 million Advanced Water Industry National Environment Programme (WINEP), working with partners to remove rainwater from combined sewers and reduce future storage requirements for storm overflows;
- Invest £539 million to prevent nutrient pollution by removing pollutants from treated wastewater and investing in wetlands to absorb nutrients;
- Promote sustainable growth across the North West by investing at least £100 million to enhance capacity at our WwTWs;
- Enhance our resilience to climate change by investing approximately £50 million in high priority catchments to implement rainwater management measures for flood resilience;
- Engage with third parties to reduce the amount of phosphorus entering the Windermere catchment, delivering a cumulative reduction of 77.4 kg of phosphorus;
- Improve asset health across our asset base, including undertaking targeted proactive surveys and remediation, replacing 20.8km of rising mains and delivering an overall 5% reduction in sewer collapses.

You can read more about our AMP8 business plan **here**.

DWMP23 underpinned the investment cases required to deliver these improvements and DWMP28 will build on these strong foundations to sustain ambitious performance into AMP9 and beyond.

3. What will the DWMP measure?

Performance indicators are the metrics we use to measure how our system is performing now and into the future. We propose to incorporate 25 performance indicators into our plan, including seven bespoke indicators to reflect the specific needs of our stakeholders across the North West. Taken together, these 25 indicators will allow us to gather a comprehensive understanding of performance across our system between 2030 and 2055.

What is the DWMP? | Our foundations | **What will the DWMP measure?** | The future of the North West | Our ambition for the North West | Assessing value | Delivering in partnership | Moving forwards

3.1 Performance indicators

Performance indicators are a core component of the DWMP. They provide a clear, forward-looking way to anticipate future performance, understand long-term risks, and demonstrate the value of maintaining and improving service outcomes over time.

Our approach aligns with the national DWMP performance framework, which provides a common structure for long-term wastewater planning. Within this framework, 12 core performance indicators are considered across three broad themes:

- **Flooding**
- **Water environment**
- **Economy and community**

We will systematically assess the 12 indicators to build a clear, evidence-based picture of future risk and opportunity across our system.

In addition, we will assess performance against six emerging indicators. These indicators are currently more challenging to forecast but improved understanding is becoming increasingly important for effective long-term planning. We will work with our stakeholders to develop, test and refine methodologies for these emerging measures.

Our stakeholder engagement and horizon-scanning activities have also highlighted priorities that are particularly important to us and to the communities we serve across the North West. In response, we are going beyond the common requirements and introducing seven bespoke performance indicators to reflect what we have heard and integrate local needs, risks and ambitions.

These additional indicators will enable us to:

- Forecast future sewer flooding risks in open spaces, such as highways;
- Ensure that we have sufficient capacity to treat and dispose of, or recycle, all wastewater sludge that is generated now and in the future;
- Predict future blockages and collapses and identify proactive interventions to prevent service failures;
- Track progress towards achieving our science-based targets for greenhouse gas emission reduction

Taken together, these 25 indicators (Table 1) will enable us to gather a comprehensive understanding of performance across our system between 2030 and 2055. The full definitions are shown in Appendix A.

Table 1: The performance indicators we will measure in our DWMP, set across Defra's three core categories: Flooding, water environment and economy and community

	Common	Emerging	Bespoke
Flooding	Internal sewer flooding External sewer flooding	Surface water flooding (shared responsibility)	Open spaces sewer flooding
Water Environment	Storm overflow performance Treatment works compliance • *Numeric* • *Descriptive at numeric sites* • *Dry weather flow (DWF)* • *Flow to full treatment (FFT)* Good Ecological and/or Chemical Status: Public sewerage Pollution incidents • *Serious* • *Total*	Good Ecological and/or Chemical Status: Urban and transport (Shared responsibility) Emergency overflow performance Treatment works compliance • *Descriptive* Groundwater pollution Groundwater infiltration	Sludge treatment capacity Satisfactory sludge recycling, destruction and/or disposal
Economy and Community	Bathing water quality Shellfish water quality		Sewer blockages Sewer collapses Greenhouse gas emissions • *Operational* • *Embodied*

4. The Future of the North West: Future trends

To manage our future performance against the indicators outlined in Section 3, we must plan for the future by looking at trends that may impact our system over the next 25 years. Considering six key themes will allow us to plan for what our catchments will need in the future.

What is the DWMP?	Our foundations	What will the DWMP measure?	**The future of the North West**	Our ambition for the North West	Assessing value	Delivering in partnership	Moving forwards

The North West faces a rapidly changing landscape. Understanding the drivers of change and uncertainty is critical to developing a resilient, adaptive DWMP.

We have carried out a detailed review of our existing data, using information from our ongoing corporate risk horizon scanning activities. We regularly review and update this information through workshops with subject matter experts. This helps us identify which future trends could affect our ability to deliver reliable, resilient drainage and wastewater services, and ensures these trends are included in our DWMP.

4.1 Climate and environmental

Magnitude

Climate change is one of the defining challenges facing our operations and responding to this is central to our long-term ambition for the region. Through our DWMP we will drive options to mitigate the impact of climate change on our wastewater services. We will align to the guidance set out by the Climate Change Committee by adopting a core scenario that is equivalent to a 2°C global temperature rise (Representative Concentration Pathway, RCP4.5). We will also assess the impact of a 4°C warming in the long-term using RCP8.5 (Table 2). In this way, we can ensure we have high certainty in the investment need in the short to medium term whilst identifying adaptive pathways should a more extreme climate trajectory materialise in the long-term.

Table 2: DWMP28 climate change scenarios

Scenario	Met Office projection	Global Warming Level
Core	RCP4.5 (P50)	2°C
High	RCP8.5 (P50)	4°C

The DWMP will address the growing concern regarding the presence of emerging contaminants in the environment. Most of these contaminants are man-made, such as poly or perfluoroalkyl substances (PFAS), plastics, pesticides, pharmaceuticals and personal care products; however, climatic changes may also cause increased production of natural contaminants in previously non-impacted catchments. Emerging contaminants can enter the water system via agricultural runoff and industrial discharge and currently may not be removed by conventional wastewater treatment processes.

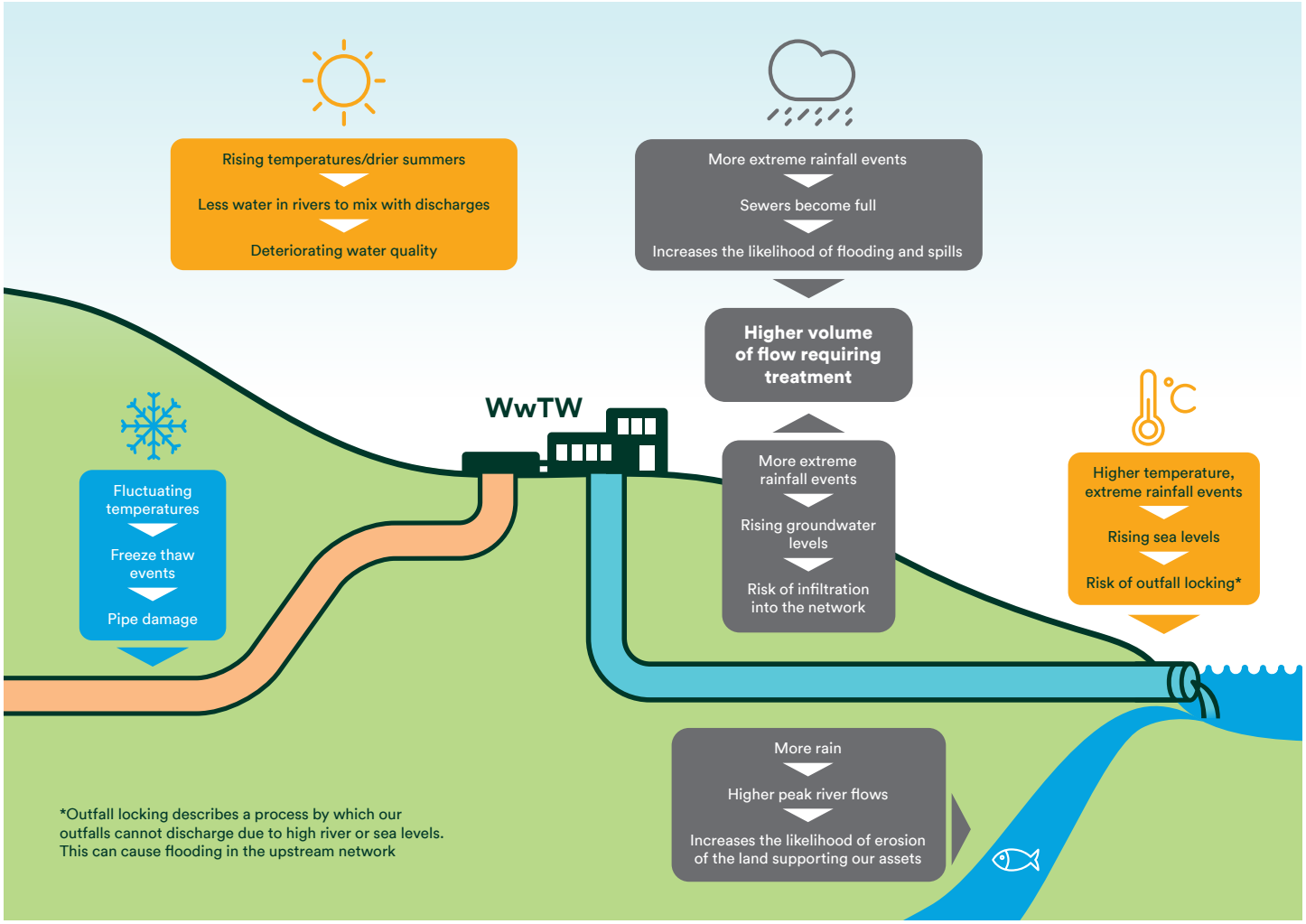
Finally, we recognise, and take seriously, our role as custodians of the environment in the North West. In the North West, 60% of United Utilities owned land is protected as a National Park, Area of Outstanding Natural Beauty (AONB) and/or Site of Special Scientific Interest (SSSI) and the proportion of land designated is likely to increase in the future. Natural England maintains a live designations programme[1] and whilst inclusion within the programme is not a commitment to designate, it does indicate a trend towards expansion of protected areas.

1 https://www.gov.uk/government/publications/natural-england-designations-programme-for-areas-sites-and-trails/natural-englands-designations-programme

Impact

Climate changes have multiple impacts on wastewater systems (Figure 6).

Figure 6: Impact of climate change on the wastewater system and environment



Climate change also increases the risk of power disruption, driven by more frequent extreme weather events and pressure on the energy system. Many of our wastewater assets are energy dependent, so prolonged loss of power can lead to increased flood and pollution risk. Interventions improving power resilience will be driven through resilience assessments undertaken as part of the DWMP.

Concern about the impact of emerging contaminants on environmental health may drive the need for new and innovative wastewater treatment technologies. There continues to be focus on understanding the sources of emerging contaminants, their pathways and potential impacts, along with developing effective detection, remediation, and prevention strategies.

The designation of additional National Parks, AONBs and SSSIs within the North West may introduce new environmental standards that we must adhere to in these areas, including constraints on the types of options that may be considered environmentally appropriate.

In the past National Parks have been focussed on conservation, however recently there has been a shift to more active, nature-based restoration in these areas to improve resilience to climate change whilst increasing public access.

4.2 Development and population

Magnitude

Our region is focused on economic growth and delivering ambitious house building targets. The result is that in the North West alone, the population is anticipated to increase by almost **1 million by 2050**, with **310,000 new homes** projected to be built in the region by 2030. Greater Manchester is rapidly growing, with forecasts predicting that over 3 million people will live in the region by 2040. The city of Salford is the fastest growing metropolitan district in the UK, with the population growing by 15.4% since 2011.

We are committed to enabling sustainable growth across the North West and through our DWMP we will assess the impact of population growth on sewer network and WwTW capacity. Our approach will test a range of scenarios, drawing on Office for National Statistics (ONS) projections and Local Plan allocations (Table 3) to ensure we can continue to provide high-quality service.

Table 3: DWMP28 growth scenarios

Scenario	Description
Low	Based on ONS 2022 projections re-baselined to latest population
Core	**Population growth driven by the change in the number of properties, as defined by the published local authority plans**
High	Linked to the government's Standard Method Local Housing Need figure for each local authority

Impact

A growing population increases the volume of wastewater entering our systems, placing additional pressure on existing infrastructure. Population growth is also frequently accompanied by rising levels of impermeable surface, a process known as urban creep, as gardens, green spaces, and permeable areas are replaced by hardstanding. Urban creep results in greater volumes of surface water runoff entering our sewer network. The combined effect of these changes places higher demand on our WwTWs and our sewerage network, increasing the likelihood of sewer flooding and spills from storm overflows.

Additionally, increased sludge production presents an additional challenge. We anticipate the need for an additional 83,000 tonnes of dry solids sludge treatment capacity per annum over this period. Through our DWMP we will plan for and secure resilient, flexible wastewater and sludge treatment capacities to manage these pressures and ensure the network remains resilient.

4.3 Statutory and regulatory priorities and challenges

Magnitude

The Water Industry is undergoing a period of major transformation. Customers, stakeholders and regulators are rightly demanding more of water companies and this is accompanied by fundamental shifts in legislation and regulatory guidance. In October 2024, the Government established a new independent commission, chaired by Sir Jon Cunliffe, to undertake the largest review of the water industry since privatisation.

The final report of the Independent Water Commission was published in July 2025 and set out 88 recommendations, many of which the government has proposed to take forward in its A New Vision for Water White Paper[2]. A summary of some of the key proposals in the White Paper is outlined in Figure 7.

2 Defra water white paper 2026 (with correction slip)

Figure 7: Some of the proposals set out in the government's A New Vision for Water White Paper

Through our DWMP we will also consider other regulatory changes:

- The designation of additional bathing waters. Anyone can apply to Defra to designate a bathing water and a growing trend of open water swimming is increasing the volume of applications we expect to see – particularly for inland waterbodies. In February 2026, the government announced a consultation on the potential designation of 13 additional bathing water spots across England, including two in the North West.
- Updates to the EA's Environmental Performance Assessment (EPA) reporting and the new Water Industry Regulation Incidents Guidance, including the inclusion of dry day spills within the definition of a pollution incident.
- Potential changes in the acceptability of utilising treated wastewater sludge as a biosolid for agricultural fertiliser and landbank availability.
- The designation of additional Drinking Water Protected Areas and Groundwater Safeguard Zones. In these areas extra precautions must be taken, such as lining sewers, manholes and pumping station wet walls to ensure there is no exfiltration from the sewer network that could pollute drinking water sources.
- The designation of additional sensitive catchment areas for nutrients. Nutrient Advice Areas (NAAs) are parts of our catchments that are highly sensitive to nutrient pollution, particularly nitrogen and phosphorus handled during wastewater treatment. Areas such as the River Eden and Bassenthwaite Lake in Cumbria are especially vulnerable. New development in NAAs must not increase nutrient loads, so mitigation such as wetland creation or advanced treatment solutions is required to offset any additional impact.

Impact

Many of these changes represent fundamental transformation in the way that the water sector operates. Our DWMP will drive the investment needed to adapt to the shifting regulatory environment, where there is reasonable certainty in need. For example, if a site is designated as a bathing water, we may need to upgrade assets that discharge into the receiving watercourse and include this investment within our DWMP. Similarly, if landbank availability for biosolids decreases, we will explore alternative markets for sludge, such as heat recovery and additional storage.

4.4 Economics

Magnitude

The economy is a major driver in the development of the DWMP. Changing economic factors shape how we can deliver best value for money, work effectively with partners and protect customers and the environment.

Customers across the North West are facing sustained cost-of-living pressures. Affordability must therefore sit at the heart of our long-term planning. With 47% of England's most deprived areas in the North West, United Utilities has a clear responsibility to support and protect customers from financial strain. Affordability will be placed at the centre of decision making, ensuring investment delivers improvements whilst bills remain affordable.

At the same time, operational costs are also increasing significantly, driven by rising electricity and chemical prices and the challenges of maintaining an ageing asset base. Our reliance on energy and chemicals also exposes us to fluctuating carbon values as we transition towards net zero by 2050.

The economic landscape is also being reshaped by rapid growth in emerging sectors, not least the expanding 'new economy' of AI technologies and large data centres. These new developments are often water-intensive and place high demands on our systems, accelerating a transition to a more circular economy.

Finally, changes in government policy influence our partners' ability to secure funding for joint schemes. Recent updates to Defra's Flood and Coastal Erosion Risk Management (FCERM) funding aim to simplify access and unlock more contributions, but partners' capacity to invest remains sensitive to wider economic conditions.

Impact

Within this context, the investment outlined in our DWMP must deliver strong value for money while keeping services affordable. Rising operational costs reinforce the need for efficient, resilient and lower-carbon solutions, including circular approaches that reduce long-term expenditure, such as energy recovery and nutrient recycling.

In response to the biosolid market shocks, our £170 million AMP8 WINEP investment in biosolids resilience directly supports the long-term objectives of the DWMP by strengthening compliance, improving environmental protection and enhancing system resilience.

We must also anticipate the demands of emerging industries and plan for infrastructure capable of supporting future growth. Strong partnership working remains essential to unlock co-funding opportunities and deliver shared interventions more cost-effectively.

4.5 Technological changes

Magnitude

There is significant and ongoing transformation in the water industry with the use of digital technologies, smart data analytics and sustainable infrastructure redefining the way we operate. This is leading to widespread change in ways of working, resulting in water companies enacting multiple technological changes to make things better, faster, safer and cheaper. Artificial intelligence (AI) is having a transformational effect on proactive working enabling us to solve problems before they surface.

Impact

We are not just adapting to this shift, but exploiting the revolutionary change through a number of major digital transformation programmes. Below, we highlight some of the pioneering techniques we're bringing to life, from innovative sewer condition assessments and carbon cutting technologies, to metagenomics and dynamic network management. These aren't future ambitions, but changes we are making now to provide the foundations of a smarter and more sustainable wastewater system.

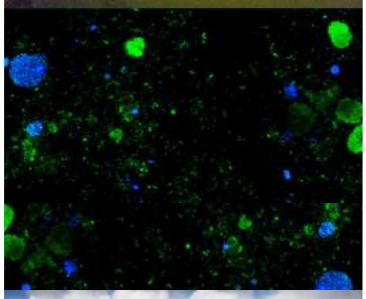
Figure 8: A summary of the innovative technologies being adopted across United Utilities

Sewer condition

Our embedded **VAPAR** capability provides quick, automated and consistent sewer condition coding across our asset base using AI video defect categorisation. High frequency **pressure monitoring** on our **rising mains** is allowing us to detect and locate burst events providing environmental protection from pollutions due to rising main failure

Carbon reduction

We are embedding a strong focus on **carbon reduction** and resource efficiency across our programmes. This includes prioritising the re-use of existing assets to avoid unnecessary construction and reduce both carbon and cost.



Metagenomics

We are currently exploring the use of metagenomics (a complex form of **DNA sequencing**) to understand more about our microbial infrastructure, through an Ofwat funded project. The initial trial (with Newcastle University) looks at how metagenomics could be used to generate performance and risk indicators across multiple UU sites. This project could help UU to better manage our WwTWs in the future.

Drone squad

Our **Drone Squad** helps detect pollution incidents and their sources. Our seven drones have varying capabilities, including infra-red, internal pipe inspections, and LIDAR surveillance.

AI programme

United Utilities' **AI Programme** is centred on building a safe, governed, and sustainable capability for the use of AI across the organisation. A core element of the programme is the establishment of a central AI Platform and **AI Centre of Excellence**, providing the foundational technology, standards, and expertise required to deploy AI consistently, securely, and at scale.

Dynamic Network Management

Our **Dynamic Network Management (DNM)** programme has embedded an operationalised AI solution to drive a proactive operating model across the wastewater network. We are adding a further 10,000 real time monitoring devices in AMP8, enabling real time visibility and proactive intervention across our wastewater system.

To date **c.8,000 blockages** have been detected through the solution, preventing over 3,000 flooding events and 400 pollution events.

River water quality monitoring

The installation of **633 real-time** in river quality monitors will unlock catchment level management, providing live insight into the receiving water environment

This wider visibility will help identify catchment wide root causes more accurately and inform collaborative and timely interventions to protect water quality.

4.6 Customer actions

Magnitude

Customer behaviours and use of water are evolving. For example, changes in the quantity of water use and increasing awareness of the impact of flushing non-flushable items such as wet wipes and sanitary products, are having an impact on the wastewater system. We will assess the impact of these trends in our DWMP.

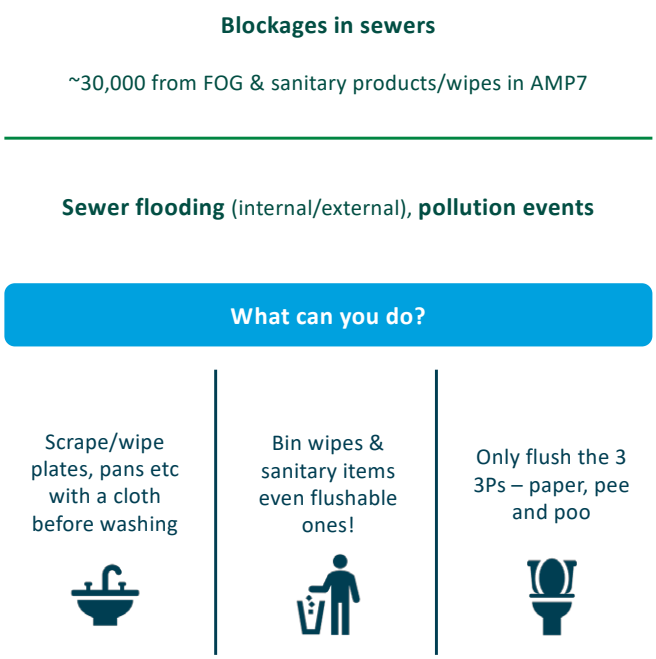
Per capita consumption (PCC, the volume of clean water consumed per person) and subsequent household consumption (the volume of water supplied to all customers) play an important role in wastewater demand forecasting and hydraulic modelling. In our latest Water Resources Management Plan (WRMP24), we set out an ambitious programme of measures, such as increased meter penetration and wider adoption of water efficiency measures, to the reduce the average PCC of water to 110 litres per person per day by 2050. Our core scenario for DWMP28 will align to this 2050 target.

Conversely, industrial demand for water is increasing. Over 50 new industries are emerging across the North West which could increase cumulative average water demand by around 130 Ml/d by 2040. Data centres, hydrogen and power are leading this growth around Manchester, Liverpool and Ellesmere Port.

We are working with customers to make sure that every drop of rainwater in the North West is cherished and is valued for the important commodity that it is. This includes rolling out thousands of rainwater planters and water butts to households across the North West, as well as trialling innovative incentives to reward customers for managing rainwater more sustainably.

Customers can also directly impact the wastewater system by pouring fats, oils and grease (FOG) down the sink and flushing wet wipes, sanitary products and other non-flushable items. Between April 2020 and March 2025, almost 30,000 blockages were caused by fats, oils and greases and sanitary products/wipes (Figure 9).

Figure 9: Impact and magnitude of customer misuse on the sewer system



Impact

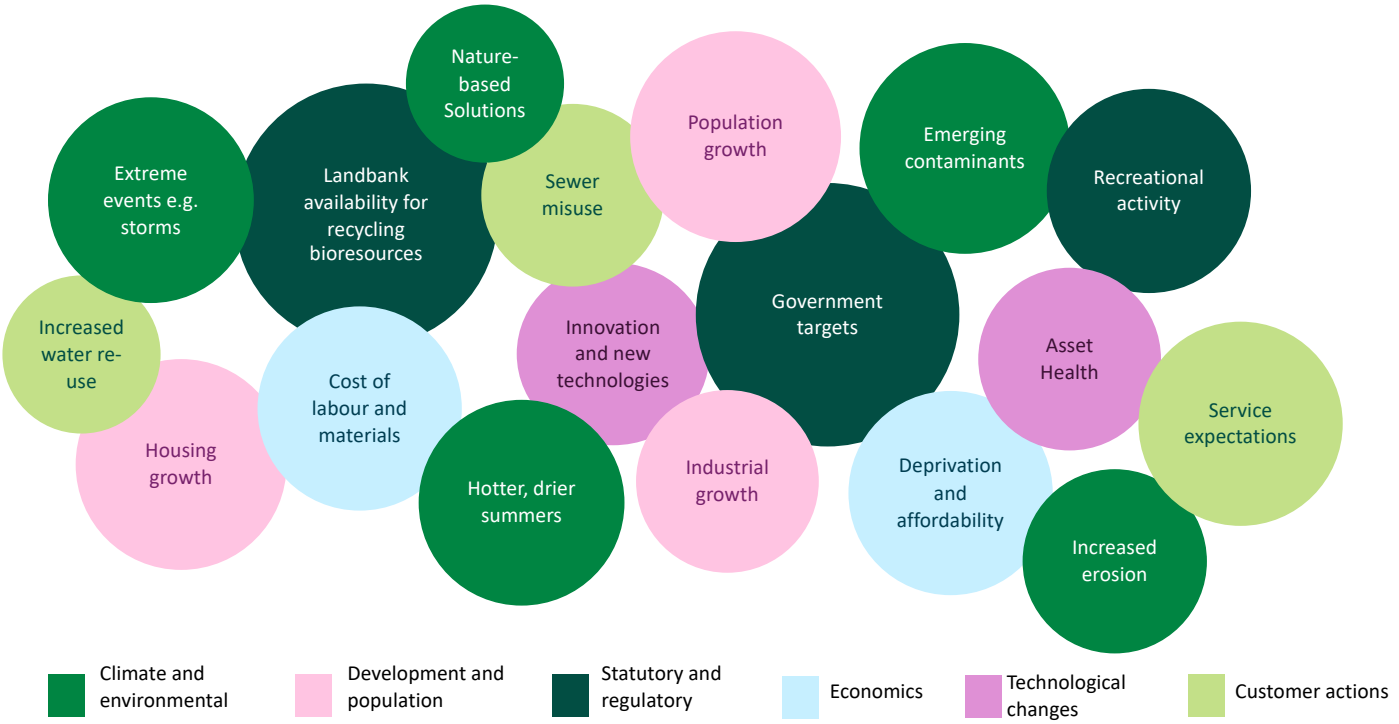
Water consumption impacts wastewater systems by altering the volume, composition and timing of flows into our sewer network. These changes are important for DWMP planning because they may affect network performance, treatment capacity, flow profiles and the future availability of treated final effluent for reuse.

Blockages caused by wet wipes and FOG continue to restrict network capacity and increase flood and pollution risk. Our 'Stop the Block!' behavioural change campaign has helped mitigate these pressures, delivering a 27% reduction in wet wipe blockages between FY21 and FY25. Through the DWMP, we will assess how customer behaviour is expected to evolve and will identify customer side measures and demand management options that can help manage risk, improve resilience, and support the delivery of long-term service and environmental outcomes.

4.7 Summary of Future Trends

A summary of a subset of the future trends explored above, and their magnitude of impact, is provided in Figure 10. We will review these trends on an annual basis to identify material change in circumstances that may necessitate a revision to our plan.

Figure 10: Key future trends – The size of the circle indicates the overall impact score.



5. Our Ambition for the North West

Now that we have a good understanding of the way in which we measure performance and the future trends that impact it, the next step is to define our overall strategic objectives for improving performance and managing future risks. We have been busy engaging with stakeholders to define our long-term ambition for the North West.

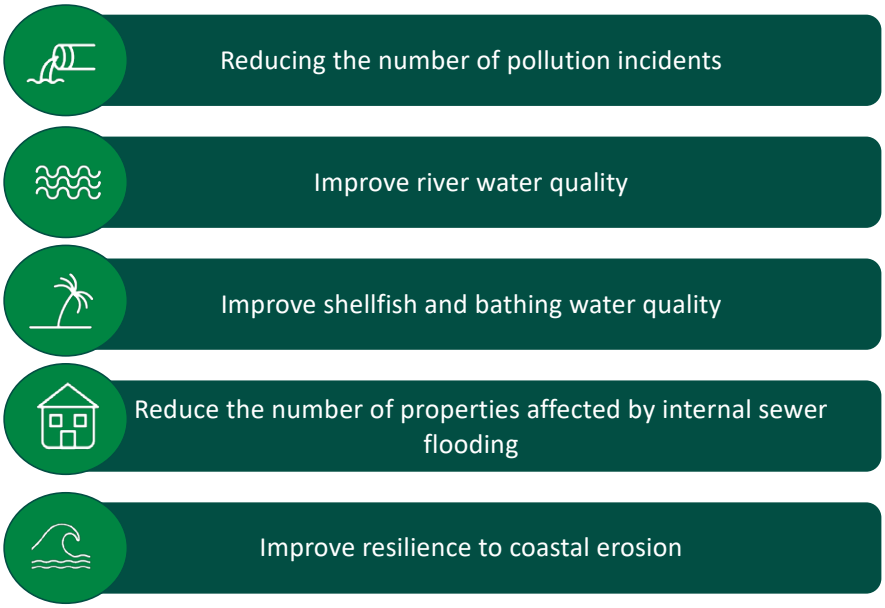
What is the DWMP?	Our foundations	What will the DWMP measure?	The future of the North West	**Our ambition for the North West**	Assessing value	Delivering in partnership	Moving forwards

5.1 Stakeholder priorities

To shape our ambition for the DWMP, we have been engaging with a range of stakeholders, including local authorities, the North West Regional Flood and Coastal Committee (RFCC), the Environment Agency and Ofwat. These conversations have helped us understand regional priorities and ensure our plan reflects the issues that matter most to the communities in the North West.

What we've heard is clear (Figure 11). Customers and stakeholders want us to improve our performance, particularly when it comes to reducing discharges from storm overflows and the incidence of pollution events. Our stakeholders repeatedly emphasised the importance of reducing the number of pollution incidents and improving water quality. Stakeholders also stressed the need to prevent service failures for customers, most importantly reducing the number of properties impacted by internal sewer flooding.

Figure 11: Our stakeholders' highest ranked priorities



Our tailored local engagement also brought additional priorities to the fore. For example, attendees at our rural and urban workshops, with the Cheshire Mid-Mersey partnership and the Irwell Catchment Partnership, respectively, emphasised the importance of ensuring our wastewater system is able to accommodate the planned growth in the region. A primary priority for coastal communities was developing infrastructure resilience in the face of coastal erosion and flooding. Our regional Level 1 stakeholders added the importance of valuing water as a resource and the priority that should be afforded to nature-based solutions in the development of our DWMP.

5.2 Customer priorities

Customer priorities are central to our DWMP. We therefore carried out a piece of research to harvest insight from our customers on their top priorities for wastewater and drainage (Figure 12) and ensure that the DWMP will reflect what matters most to customers.

Figure 12: Customer priorities

Overall, customers showed strong support for increased investment in drainage and wastewater services, particularly where it delivers long-term sustainability benefits. Cost, however, remains a key consideration, and customers value clear, accessible information that explains the balance between costs and benefits. Our commitment to using best value solutions ensures that any bill increases deliver meaningful long-term improvements, while sharing costs fairly between current and future customers.

Customers also expressed high levels of support for innovative approaches, provided they are practical, environmentally beneficial and do not lead to significant increases in bills.

We have a clear ambition to accelerate the use of nature-based solutions (NBS) to manage rainwater more sustainably. Around 66% of customers already recognise that United Utilities is jointly responsible for rainwater management in their area and acknowledge that this will become increasingly important as the impacts of climate change grow. Through the delivery of NBS, we aim to strengthen this understanding and support.

When considering our processes more broadly, customers highlighted human and environmental health and the reduction of pollutants, especially microplastics, as key priorities. They indicated that small bill increases are acceptable where solutions are clearly linked to improved environmental or health outcomes. This reinforces a strong expectation that we should demonstrate ambition and accountability, with customers wanting pollution to be eliminated, not simply reduced. These insights are reflected directly in our strategic ambitions below.

5.3 Our ambition

Stakeholders and customers consistently emphasised the importance of protecting our environment, reducing the number of spills from storm overflows and preventing pollution events. They also rightly expect us to be doing more to reduce service failures, such as sewer flooding, for customers and ensure our infrastructure remains resilient in the face of population growth and the threats posed by climate change.

We have utilised these insights to set our strategic ambition for the North West. Our strategic ambition statement below will guide the development of our DWMP and drive the overall outcomes that our stakeholders and customers want to see. We will aim to:

Improve our rivers

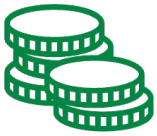
- Deliver upon the government's storm overflows discharge reduction plan targets, going further and faster wherever possible;
- Eliminate environmental harm from storm overflows by 2035;
- Build upon our pollution incident reduction plan, striving to achieve zero pollution incidents;
- Invest in innovative technologies at our wastewater treatment works (WwTWs) to improve water quality.

Create a greener future

- Support the achievement of our ambitious science-based greenhouse gas emissions targets and our route to net zero by 2050;
- Improve the resilience of our assets to future pressures such as climate change and urban creep;
- Treat 100% of sludge by advanced anaerobic digestion by 2050;
- Drive the use of nature-based solutions to sustainably manage rainwater where it lands.

Deliver great service for all customers

- Sustainably reduce the risk of sewer flooding in the North West, including halving the incidence of internal sewer flooding by 2050 from a 2025 baseline;
- Invest to reduce the risk of service failures such as blockages and collapses;
- Support customers who need it most by delivering our affordability and priority services schemes.



Spend customers' money wisely

- Undertake a best value assessment to ensure investment delivers the greatest overall benefit for customers, communities and the environment over the long-term;
- Consider the most appropriate phasing of investment over time to ensure costs are shared equitably between current and future customers;
- Support a zero-waste economy by maximising the value recovered from bioresources.

Contribute to our communities

- Identify place-based opportunities to work in partnership to jointly deliver integrated water management;
- Support regional economic growth by investing in supply and demand schemes to increase capacity at our WwTWs;
- Tailor our investment programme to the bespoke needs of our five counties.

5.4 Creating a high-quality plan

We are committed to creating a high-quality plan that meets the requirements of customers, partners and regulators and reflects specific priorities, such as housing or nature recovery, which can differ between the different counties in our diverse region. In its final guidelines for statutory DWMPs, Defra issued updated guiding principles which it expects companies to meet in the production of their DWMPs, namely: Leadership, governance, input, analysis, outputs, outcomes and innovation. We will align with these guiding principles as follows:

Inputs

We will adopt a systematic approach to forecasting risk, using common assumptions across regulatory submissions where possible;
We will engage subject matter experts (SMEs) to develop, validate and test our inputs and processes.

Leadership

We will lead the way in setting the strategic direction for DWMPs by engaging openly with other water and sewerage companies (WaSCs), our regulators and partners.

Analysis

We will lead the way in developing the analytical tools necessary to assess future risk and capacity.

Innovation

We will develop catchment-scale solutions where appropriate to address risks and leverage efficiencies;
We will explore the market to identify innovative technologies that may deliver better value for money.

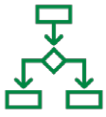
Governance

We will be transparent in our decision-making, ensuring our stakeholders are clear on existing and future risks and options considered for improvement in their local area.

Outputs

We will set ourselves up for success at PR29 and beyond by providing the core evidence base for wastewater regulatory submissions.

Outcomes



We will develop a plan that is 100% compliant with our statutory obligations and go further where possible.
We will encourage sustainable growth across the region.

6. Assessing Value

Our DWMP will investigate options to mitigate the impact of future trends (section 4) on our performance indicators (section 3) to achieve our overall strategic ambition (section 5). Our goal is to invest in options that represent best value for money for customers and deliver the greatest benefits securing a stronger, greener and healthier North West. To achieve this, we must systematically evaluate the benefits our interventions have in the short, medium and long-term and how much value we can deliver per pound (£) invested.

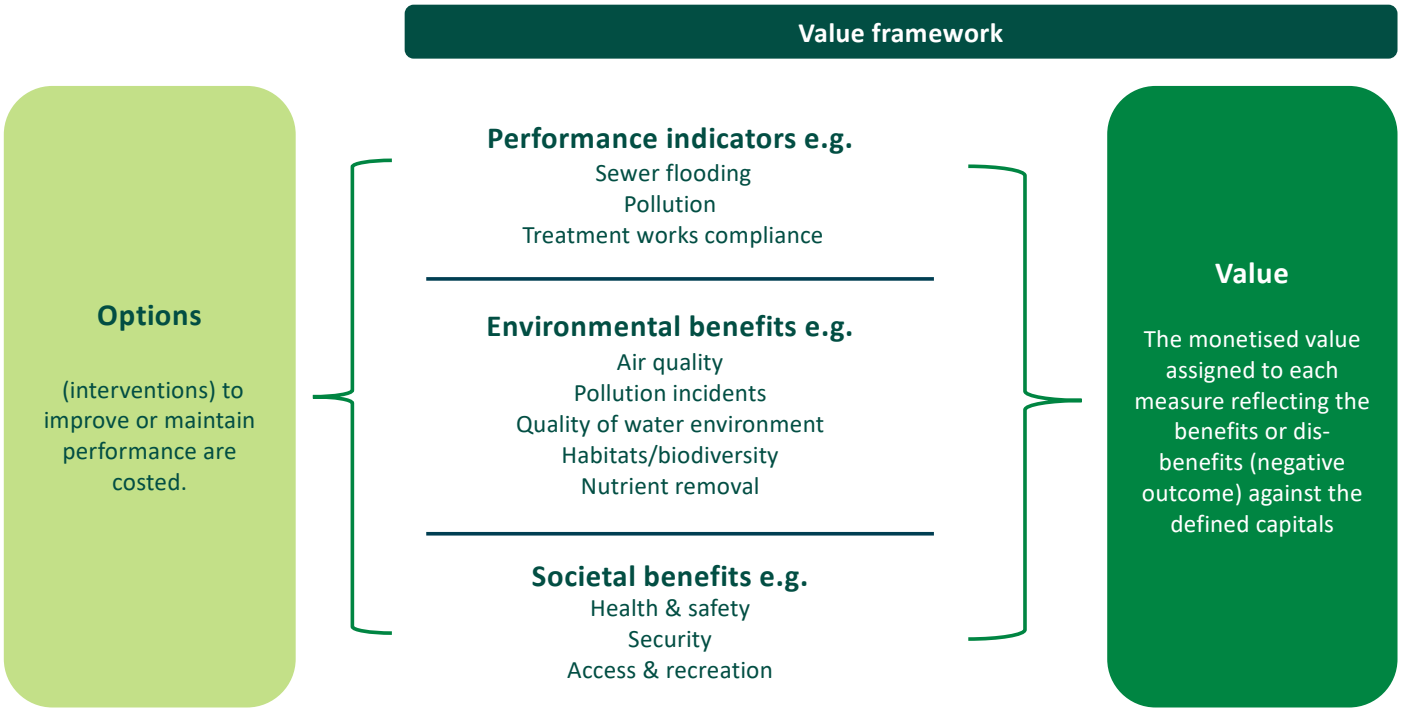
What is the DWMP?	Our foundations	What will the DWMP measure?	The future of the North West	Our ambition for the North West	**Assessing value**	Delivering in partnership	Moving forwards

6.1 What is a value framework?

To deliver our strategic objectives effectively, we need to identify and assess the range of options that could reduce risk and maintain or enhance performance. In many cases, several options could deliver the required service outcome. We therefore undertake a best value assessment to determine which option provides the greatest overall value for customers, communities, and the environment, while remaining efficient and financially sustainable in both the short and long-term.

To do so, we must define the financial, social and environmental values of each of the performance indicators outlined in section 3 and integrate these with a valuation of wider environmental and societal benefits, such as biodiversity net gain and amenity improvements, to create our value framework (Figure 14).

Figure 14: The components of our value framework



A value framework does not decide for us but is a useful decision support tool. The cost benefit ratio produced by applying a robust and complete value framework allows a clear comparison of intervention options.

It does this in a way that is:

- **Comparable and consistent** – across water and wastewater, short and long-term planning and across the sector.
- **Broad** – sufficient breadth in the measures to ensure we capture multiple benefits from schemes which are important to customers, the environment, and communities.
- **Robust** – incorporating valuations with a sound economic/scientific basis, with a transparent audit trail to support decision making.

To ensure that we adopt a whole societal value approach we assess cost and benefits across the six capitals: human, social, natural, intellectual, manufactured and financial.

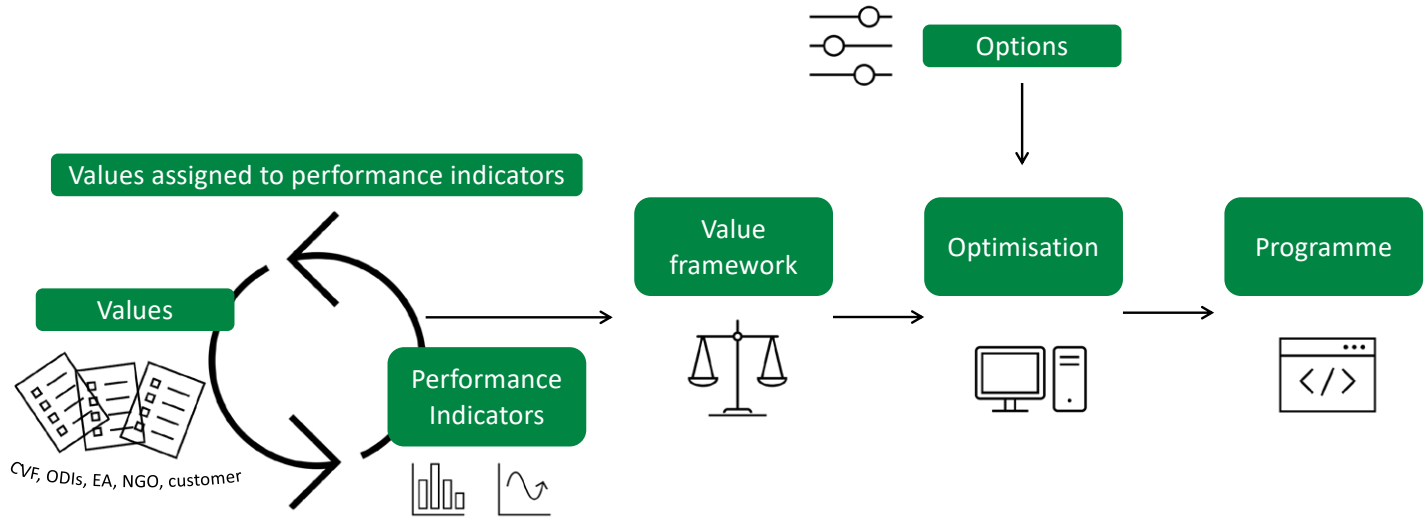
6.2 Valuing benefits

Our value framework assigns a financial value to all measures, to create a common currency, allowing us to quantify costs and benefits for a variety of options, some of which may not traditionally have a monetary cash value.

These benefit values have been selected from a wide range of sources to ensure that they are robust, consistent, and represent the latest best information. This includes ensuring that customer willingness to pay and acceptability are included within the assessment of best value.

Figure 15 below demonstrates the process used to source a robust 'menu' of values from multiple regulators, government bodies and eNGOs and how we have mapped values to performance indicators. Values relating to each performance indicator are assigned in the value framework. The value framework then supports option assessment of 'best value' within the optimisation process. The output of which will be a 'best value' programme that aligns with our KPIs.

Figure 15: The process for developing a best value plan



6.3 Evolution and flexibility

In order to ensure that our value framework continues to support best value decisions it is imperative that we continue to evolve our framework and remain agile to the latest best information and regulatory direction.

We have evolved the framework that we used to support our AMP8 business plan submission. While this means that we have a set of valuations mapped to our strategic objectives we will continue to mature this framework with the latest best information, for example when the latest set of Environment Agency National Water Environment Benefit Survey values (NWEBS) are published.

To ensure consistency across plans and planning horizons we apply one value framework, selecting from a menu of values that best map to the strategic objectives of our plans. As part of this menu of values, we are closely following the development, testing and endorsement of the Common Value Framework (CVF) developed through the Mainstreaming Nature-based Solutions project. The CVF acts as a useful reference for the development of our value framework. Additionally, we are closely monitoring emerging regulatory requirements and the implications that they may mean for best value assessment at UU.

7. Delivering in Partnership

Achieving our long-term drainage and wastewater ambitions requires collaboration beyond organisations. We collaborate closely with our partners and stakeholders to deliver integrated, sustainable solutions that create lasting benefits for communities and the environment.

What is the DWMP?	Our foundations	What will the DWMP measure?	The future of the North West	Our ambition for the North West	Assessing value	**Delivering in partnership**	Moving forwards

7.1 Our partners

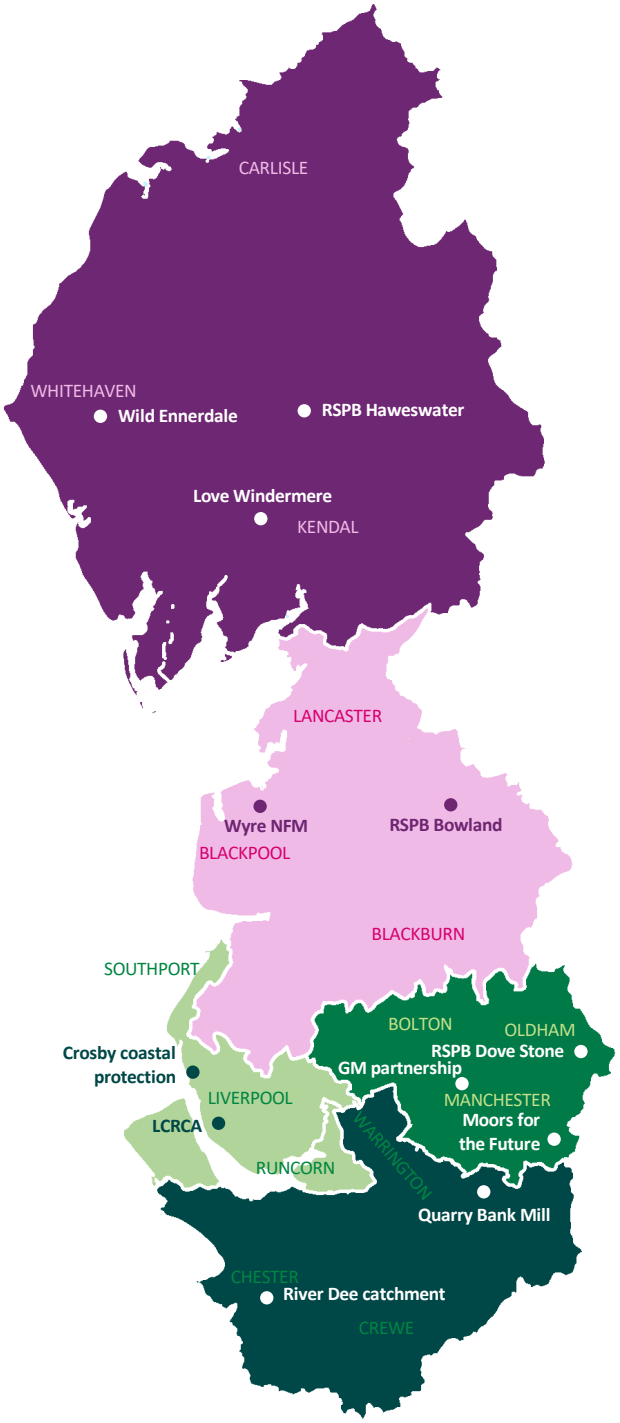
Delivering our ambitious DWMP requires strong, sustained collaboration. United Utilities will lead an integrated approach, working with partners to provide a stronger, greener and healthier North West. We have many longstanding relationships, and we are excited to use the DWMP as an opportunity to continue building existing relationships whilst also forming new ones.

Our approach to partnership working is guided by our organisation-wide partnership strategy (Figure 16), which we have collaboratively created to capture learning from others, as well as building on our own learning and leadership over decades of partnership working. It focuses on four key elements: proactively creating partnership solution opportunities, growing our capability to enable successful delivery, building on our legacy to overcome challenges and delivering benefits and more value through partnership working.

Figure 16: Partnership strategy overview

Collaboration with stakeholders is critical in creating a better North West for all. We have built strong relationships with a wide range of stakeholders that work across geographies and community interests including local government, environmental and social charities, businesses and academic institutions (Figure 17).

Figure 17: Examples of partnership working across the North West



Region-wide

The Rivers Trust
Transformation and protection of river environments

National Trust
Working together to protect and improve the natural environment

Catchment partnerships
Working with catchment based approach (CaBA) partnerships to improve the water environment

Cumbria

Love Windermere
Multiple partner project working to improve water quality in England's biggest lake

RSPB Haweswater
Improving recreational access, nature, water quality and tackling downstream flood risk

Wild Ennerdale
Wildland partnership enhancing the natural environment and connecting people with nature

Lancashire

RSPB Bowland
Enhancing upland biodiversity with a focus on re-establishing hen harrier habitats

Wyre Natural Flood Management (NFM)
Delivering natural flood management through innovative finance mechanisms

Greater Manchester

GM trilateral partnership
Delivering the Integrated Water Management Plan for Greater Manchester

RSPB Dove Stone
Improving the visitor experience and habitat restoration at catchment scale

Moors for the Future
Large scale multi-stakeholder upland restoration programme delivering water and wider benefits

Merseyside

Crosby coastal protection
Working with Sefton Council to protect the coastline, improve resilience and improve amenity

LCRCA partnership
Creating an integrated plan for water management for the Liverpool City Region

Cheshire

Quarry Bank Mill
Working with the National Trust to prevent flooding and reduce storm overflow spills

River Dee Catchment
Addressing water quality through catchment management across national boundaries

Value delivered:

- Engagement
- Financial
- Innovation
- Performance
- Water environment
- Wider social and environmental

7.2 How we will engage

We have a clear plan for how we will consistently engage across all groups throughout the DWMP cycle.

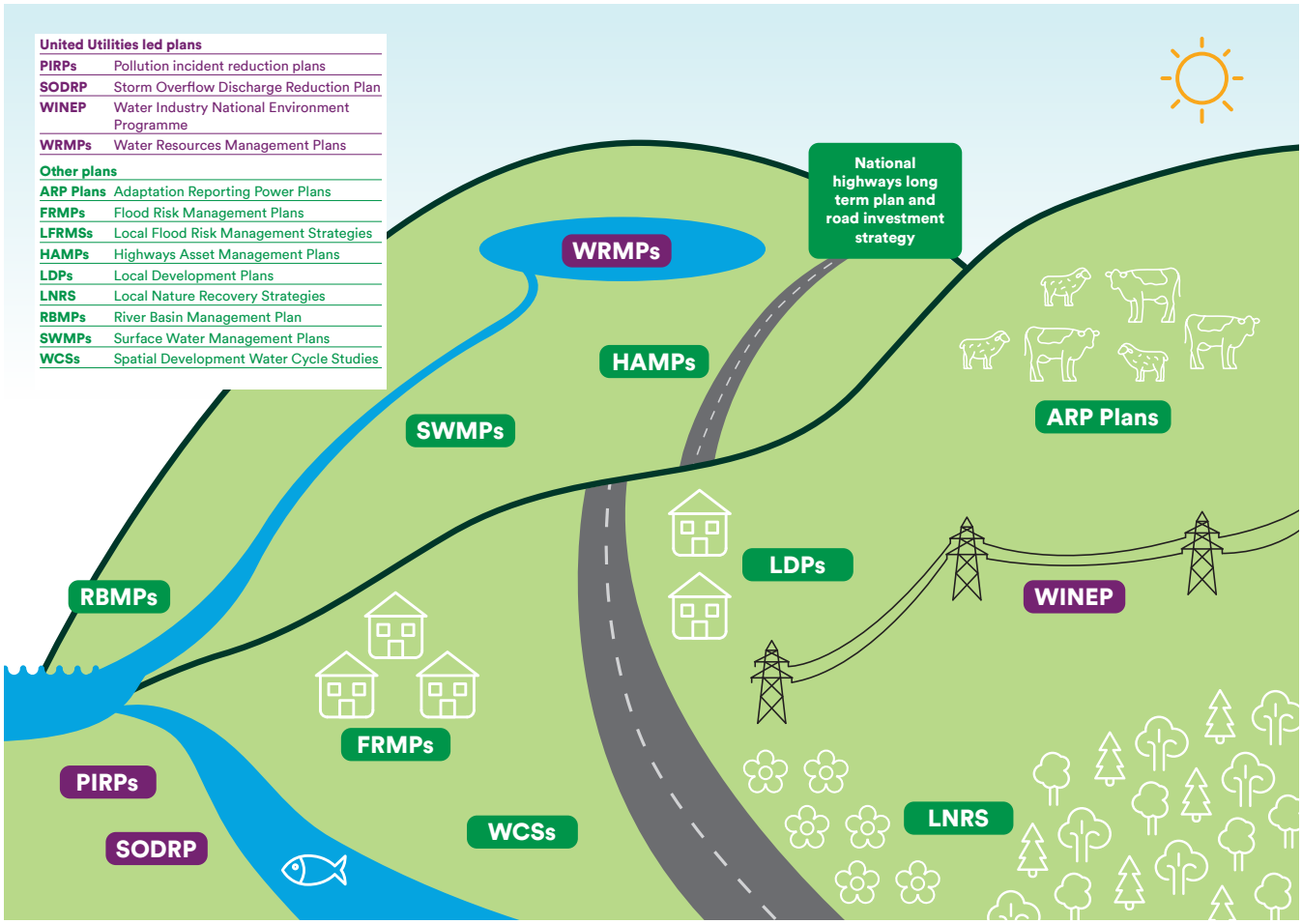
1. We have established a (Level 1) North West DWMP Stakeholder Group to shape the strategic direction and benefits of the plan for customers, the environment and local economy. Stakeholders represented in this group are: environmental and economic regulators, independent challenge group Your Voice and local authorities. We are actively identifying opportunities to expand the group's membership to ensure it is representative of the North West.
2. We will utilise existing stakeholder forums across our river catchment and local authority areas for more detailed discussions and collaboration at the Level 2 and Level 3 scale where possible, with stakeholders such as environmental groups, local authorities and other risk management authorities. It is critical that our DWMP builds on our already strong relationships with partners to develop a collaborative plan and we will engage through existing stakeholder forums where possible, including:
    - Catchment Partnerships;
    - North West Regional Flood and Coastal Committee (RFCC);
    - Strategic Flood Partnerships;
    - Coastal Management Groups;
    - Independent Challenge Group Your Voice Subgroups (customer, stakeholder and environmental);
    - Integrated Water Management Plan Partnerships.

We have already engaged with 14 existing stakeholder forums, attended by more than 35 organisations, in the development of our Strategic Context. We will continue to engage with stakeholders as we develop our plan.

7.3 Creating integrated plans

We recognise that stakeholders own and maintain a range of plans and strategies (Figure 18) and we will consider, and aim to align with, these in the production of our DWMP in order to deliver integrated water management.

Figure 18: Some of the plans and strategies that our DWMP will consider



United Utilities is pioneering an Integrated Water Management (IWM) approach that is essential to achieving healthy and resilient catchments as well as enabling growth in the North West. We do not operate in isolation in the catchments, and the risks and issues we face, such as climate change and growth, are shared with other organisations. Therefore, the IWM approach identifies risks and opportunities in a specific place and aligns these with the outcomes and plans of others with the aim of maximising the opportunity to deliver with other organisations and achieving wider benefits for nature and communities (Figure 19).

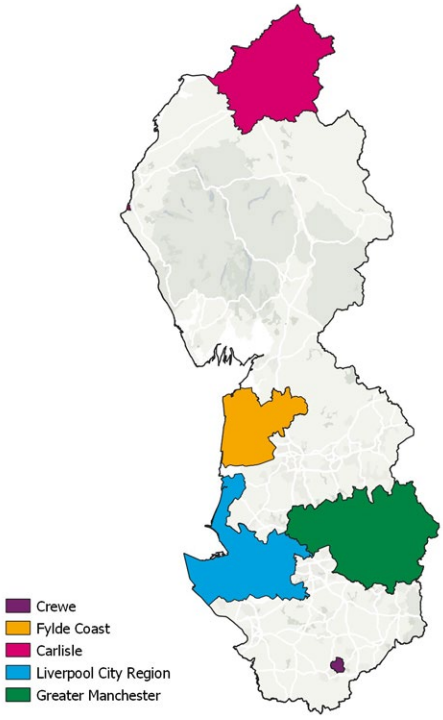
Figure 19: The foundations of Integrated Water Management

- Climate change mitigation/adaption and nature recovery cannot be done in organisational silos;
- A lack of integrated planning in a geography, which is acting as a key barrier to identifying catchment and nature based solutions;
- The need to engage potential partners at the outset to maximise the chances of co-funded schemes;
- The opportunity to deliver multiple benefits for the environment and society

The delivery of IWM is most mature in Greater Manchester, where we have co-developed, and are now co-delivering, an Integrated Water Management Plan alongside the Greater Manchester Combined Authority (GMCA) and the Environment Agency (EA). This plan, which was endorsed by the Greater Manchester Mayor, can be found on the GMCA's website **here**.

The IWMP focuses on all aspects of Greater Manchester's water cycle and brings together various strategic plans into an overall framework and ambition for the city region. It aims to ensure sustainable water management is applied holistically across Greater Manchester to enhance water quality, manage flood risk and increase biodiversity which benefits people, place and prosperity. The collaborative team that delivers this approach has started to implement interventions in places such as Wigan and Stockport and these are case studies that are nationally significant as the water sector transforms.

Figure 20: The areas where we are replicating the IWM approach



The plan provides a blueprint for how water should be managed at scale over the long-term (horizon is 2050) and we are replicating the IWM approach across our five counties in the North West (Figure 20).

In 2025 we signed Memorandum of Understanding with the Liverpool City Region Combined Authority and Mersey Rivers Trust to help deliver the Government's national water quality goals and accelerate the ongoing cleanup of the River Mersey. The collaborative team has created a Vision for Sustainable Water Management in the Liverpool City Region.

Carlisle and Crewe are in the early stages of IWM development after initial meetings with local authorities and the EA and we are exploring opportunities across Lancashire for an IWM approach. Other organisations are starting to be part of the IWM approach as they recognise the need for healthy resilient catchments to support their business objectives.

Our DWMP will support Integrated Water Management, building on existing partnerships and bringing together the plans outlined in Figure 18.

8. Moving Forwards

What is the DWMP? | Our foundations | What will the DWMP measure? | The future of the North West | Our ambition for the North West | Assessing value | Delivering in partnership | **Moving forwards**

We are at the beginning of the DWMP journey. We cannot develop a robust and collaborative plan without the support of our stakeholders. We look forward to working with stakeholders in the coming months and years to ensure the North West thrives now and in the future.

As we develop our plan, our DWMP webpage will provide information on what the DWMP is and how it works, alongside regular progress updates including our annual progress report. It also provides access to our DWMP Resource Centre area which we will utilise, alongside regular newsletters, to keep our stakeholders and customers informed as we work together to build a plan for the future of the North West.

We look forward to sharing the draft DWMP in November 2027, and the final plan in August 2028.

Key Links

Our DWMP Website can be found **here**.

The 2025 Progress report can be found **here**.

DWMP@uuplc.co.uk

Appendix A

Type	Category	Metric	Definition
Common	Flooding	Internal flooding	Annual number of internal sewer flooding incidents normalised per 10,000 sewer connections, in line with the latest Ofwat Performance Commitment definition. The annualised figure is to be based on reported and forecast incidents based on 1/10, 1/20, 1/30 and 1/50 return periods.
		External (curtilage) flooding	Annual number of external sewer flooding incidents normalised per 10,000 sewer connections, in line with the latest Ofwat Performance Commitment definition. The annualised figure is to be based on reported and forecast incidents based on 1/10, 1/20, 1/30 and 1/50 return periods.
	Water environment	Storm overflow performance	Number of storm overflows predicted to be at risk of not meeting Storm Overflow Discharge Reduction Plan (SODRP) targets and/or permit non-compliance for the relevant planning horizon. Baseline of spills is based on a minimum of 10 years' worth of time series rainfall data (2014-2024). 10-year dataset needs to be uplifted to recognise baseline and future pressures.
		Treatment works compliance (numeric)	Annual number of wastewater treatment works predicted to fail numeric effluent quality permit limits.
		Treatment works compliance (descriptive at numeric sites)	Annual number of wastewater treatment works predicted to fail to meet descriptive conditions at numeric permit sites.
		Treatment works compliance: DWF	Annual number of wastewater treatment works predicted to fail to meet discharge permit conditions for Dry Weather Flows.
		Treatment works compliance: FFT	Annual number of wastewater treatment works predicted to fail to meet discharge permit conditions for annual Flow to Full Treatment.
		Good Ecological and/or Chemical Status: Public sewerage	Number of RNAGS (Reasons for Not Achieving Good Status / Deterioration) associated with sewerage assets discharges (including surface water networks).
		Pollution incidents: serious	Annual number of serious (Category 1 and 2) pollution incidents from sewerage undertaker sewerage assets (including public surface water networks). Excludes sludge/biosolids incidents.
		Pollution incidents: total	Annual number of pollution incidents (Category 1-3) per 10,000 km of wastewater network from SU sewerage assets (including surface water networks). Excludes sludge/biosolids incidents.
	Economy and community	Bathing water quality	Number of current and future (if known) inland and coastal bathing waters where predicted performance of sewerage assets discharges will pose a risk to compliance with "sufficient" quality classification and not deteriorating from current standards, with a view to increasing the number as "good" or "excellent".
		Shellfish water quality	Number of current and future (if known) designated shellfish waters where predicted performance of sewerage assets discharges will pose a risk to compliance with the microbial standard specified in the Shellfish Waters Protected Areas (England and Wales) Directions.

Type	Category	Metric	Definition
Emerging	Flooding	Surface water flooding (Shared responsibility)	Annual number of properties per 10,000 properties indicated as at medium (3.3%AEP – 1%AEP) and/or high (greater than 3.3%AEP) areas of risk of surface water flooding estimated from reported incidents, local models from other RMAs and/or most recent EA surface water flood risk maps. In Wales, the flood risk maps can be found on the NRW website. This only covers surface water flooding within companies' drainage and wastewater catchments.
	Water environment	Good Ecological and/or Chemical Status: Urban and transport (Shared responsibility)	Number of RNAGS (Reasons for Not Achieving Good Status / Deterioration) attributed to discharges of urban or highway runoff and misconnections that will not be remedied through investment by you or other organisations. This only covers runoff or connections entering companies' drainage and wastewater catchments.
		Emergency overflow performance	Number of emergency overflows that operate once or more per year.
		Treatment works compliance (descriptive)	Annual number of wastewater treatment works predicted to fail to meet descriptive permits.
		Groundwater pollution	Length (km) of sewer within Source Protection Zone (SPZ) 1s (and 2s in Groundwater Safeguard Zones (SGZ)) where there are likely risks to groundwater from sewer exfiltration.
		Groundwater infiltration	Annual number of discharges during 'dry weather' caused by increase in sewer flow from groundwater infiltration.
Type	**Category**	**Metric**	**Definition**
Bespoke	Flooding	Open spaces sewer flooding	Annual number of sewer flooding incidents in open spaces normalised per 10,000 sewer connections.
	Water environment	Sludge treatment capacity	The percentage of annual sludge production that is processed through sludge treatment facilities compliant with environmental waste permits.
		Satisfactory sludge recycling, destruction and/or disposal	The percentage of sludge production that is satisfactorily recycled to agricultural land, undergoes further energy recovery or disposed of.
	Economy and community	Sewer blockages	Number of sewer blockages per 1000km of sewer.
		Sewer collapses	Number of sewer collapses per 1000km of sewer.
		Operational greenhouse gas emissions	Greenhouse gas emissions (tCO2e) from operational activities.
		Embodied greenhouse gas emissions	Greenhouse gas emissions (tCO2e) arising from embodied (cradle to build) activities.

United Utilities Water Limited
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Lingley Mere Business Park
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03/26/SD/11059

United Utilities

Water for the North West