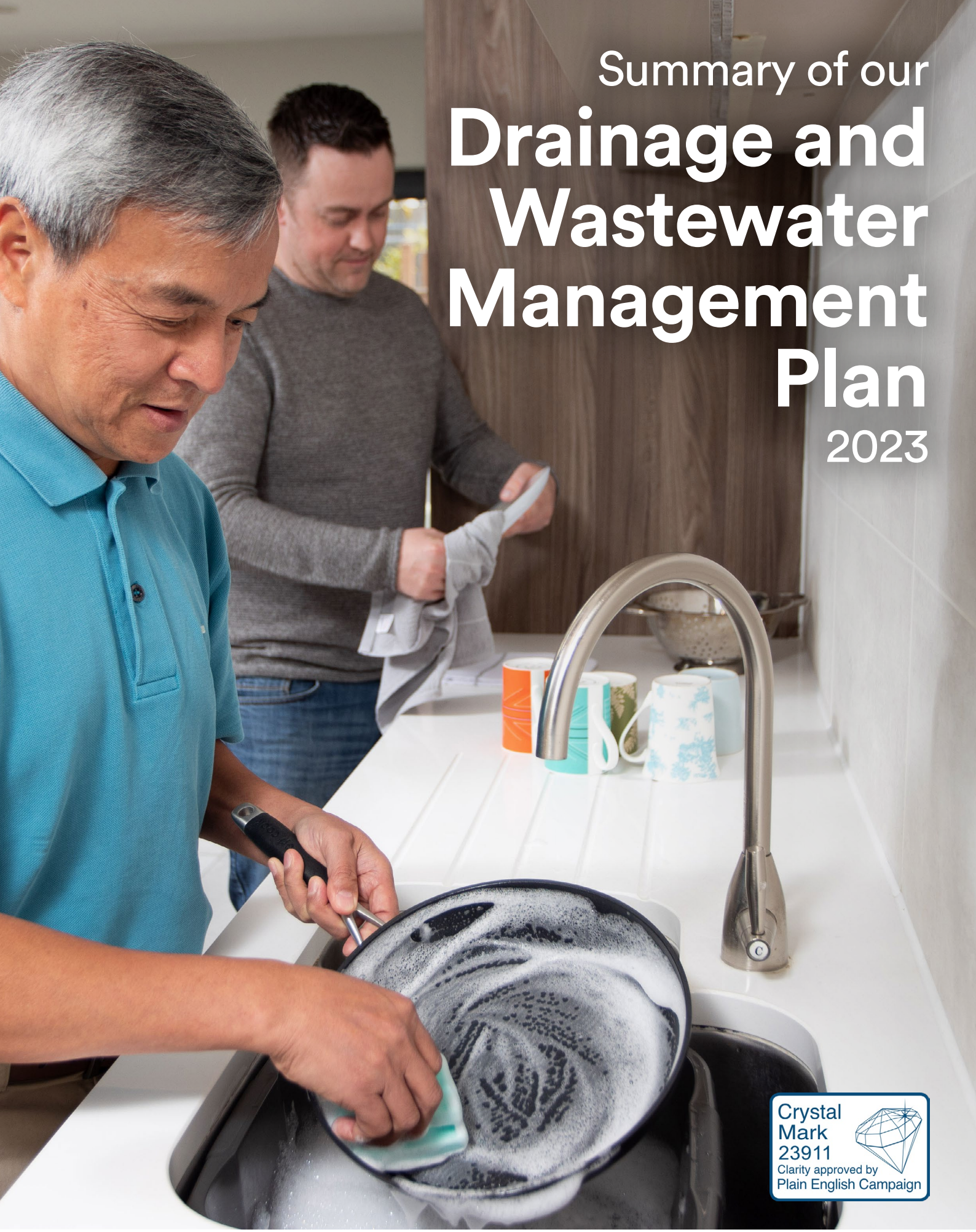


Summary of our

Drainage and Wastewater Management Plan

2023

Crystal Mark 23911
Clarity approved by Plain English Campaign

United Utilities

Water for the North West

Who are we?

We are one of the largest water and wastewater service providers in the UK, and our purpose is to 'provide great water and more for a **stronger**, **greener** and **healthier** North West'.

From Crewe to Carlisle, we provide essential water and wastewater services to over seven million people every day. We put customers at the heart of everything we do, looking for innovation and efficiencies in the way we work so that we can continually improve services at a low cost. This strong focus on customer service has allowed us to deliver significant and continuous improvements across the region.

A stronger North West
Proactively protecting our service against future challenges like climate change.

A greener North West
Reducing water wastage and protecting and enhancing the North West's nature and ecosystems.

A healthier North West
Providing additional social benefits to North West communities.

Collecting and treating water

56,000 hectares of land

165 reservoirs

88 water treatment works

Delivering water to customers

42,000 kilometres of water pipes

1.8 billion litres of clean water every day

7.3 million customers served 24 hours a day

Removing wastewater and generating energy

78,000 kilometres of wastewater pipes

198,000 tonnes of sewage sludge every year

35 renewable energy facilities

Cleaning and returning wastewater

567 wastewater treatment works

7,000 kilometres of rivers

1,300 kilometres of coastline

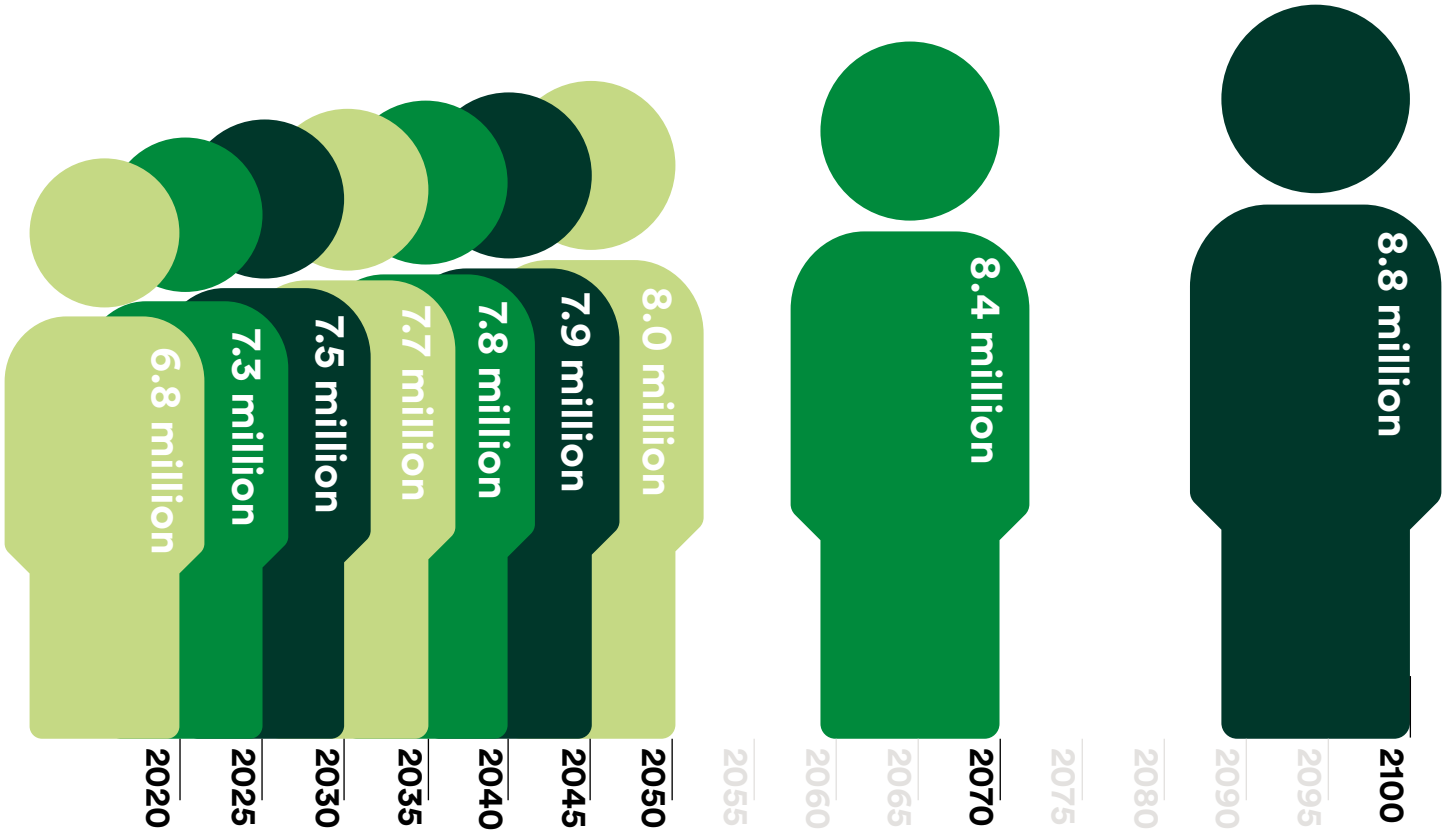
Our changing surroundings

The population of the North West is predicted to increase by 14% by 2050, with growth expected across the whole region – from smaller towns through to major cities.

In addition, our climate is changing. The North West is already one of the wettest regions across the UK, with average rainfall ranging from 830mm per year in areas such as Manchester to 3,200mm per year in the Lake District. Climate change is predicted to lead to wetter winters and hotter, drier summers, along with an increase in the frequency and intensity of extreme weather.

In drier periods, the environment and ecosystems will 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 partnership approach in order to reduce these risks. Customers and the environment will be affected by events such as flooding and overflow from sewers spills, which occur when drainage systems become overwhelmed with sudden increases in flow during intense storms.

Population growth in the North West



The Drainage and Wastewater Management Plan

The North West faces significant environmental challenges. With a changing climate and a growing population, the future is uncertain. We will need to continue to manage the effects these challenges have on our wastewater services, the environment and the experience customers have.

We are developing a 25-year Drainage and Wastewater Management Plan (DWMP) for 2025 to 2050, which aims to maintain and improve wastewater and drainage systems, now and in the future. The DWMP assesses the effects of future pressures on our wastewater systems over the short, medium and long term, and what can be done to address these issues – in partnership with others where possible.

"The DWMP assesses the effects of future pressures on our wastewater systems over the short, medium and long term, and what can be done to address these issues."

DWMP opportunities

Collectively explore innovative solutions to understand what is best for the North West.

Carry out tailored research to understand customers' views and priorities so they drive decision making.

Use Systems Thinking, which involves looking at the drainage and wastewater system as a whole, rather than individual components, to better understand interactions and to allow us to deliver wider-ranging solutions.

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.

Work more collaboratively with stakeholders across the region to tackle shared risks relating to drainage, flooding and protecting the environment.

Strengthen partnership working with stakeholders to drive integrated investment in the environment and communities.

How we have developed the DWMP

It is important that we understand how customers will want to use our services in the future so that we can plan to deliver them efficiently, effectively and to their satisfaction.

We have continued to engage with customers and organisations we work in partnership with, and their views have hugely influenced our DWMP. We have revised and adapted it based on feedback. Our dealings with customers have shown that they care about the state of our local environment more than ever, and that there are important concerns about the affordability of bills. By working with our stakeholders we will be able to deliver our services efficiently and achieve more over the next 25 years.

Talking to customers about their priorities and concerns is a continuous process for us, and will continue to influence the DWMP. We will adapt it when necessary to reflect both a changing environment and changing customer priorities.

We have developed our plan in stages to understand risk at a local level and area wide. Examples of risks we are managing through the DWMP are the likelihood of sewer flooding and risks to water quality. Many of our risks are also faced by our partners, so working in partnership with others can bring many benefits. We have developed separate plans for every river basin catchment area, 14 in total, across our region. This allows us to work with customers and our partners to better understand our local environment and identify opportunities to improve.

Over the 25 years, we propose to invest £21.8 billion to deliver benefits across the North West. £16.5 billion of this will be used in line with our Water Industry National Environment Programme (WINEP), which will deliver benefits over the five years from 2025 to 2030. The diagram below, taken straight from the Drainage and Wastewater Management Plan, demonstrates our proposed investment.

DWMP 2023 (2025–50)

Capital investment - £21.8 billion

Storm overflows | Optimised plan | Wastewater treatment

Benefits through WINEP

Benefits delivered in investment cycle 2025–30 through the WINEP as part of the DWMP.

Improvements to Sites of Special Scientific Interest (SSSIs)
6,987 hectares

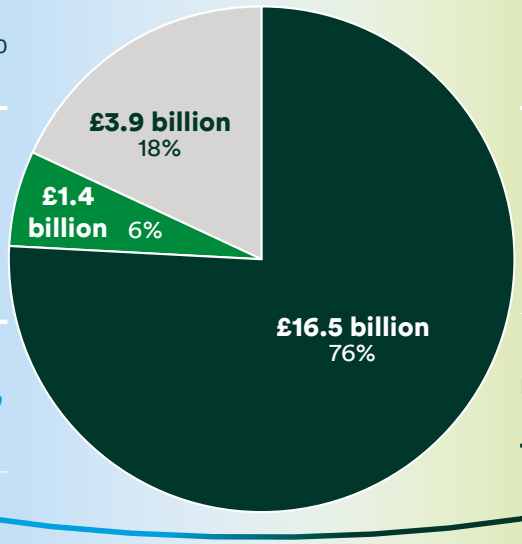
Length of rivers improved
411.7 kilometres

Improvements on storm overflows

Affecting shellfish waters **27**

Affecting bathing waters **30**

Reduced activation frequency
Over **29,000** per annum



Benefits through DWMP

Benefits delivered across the 25 years through DWMP.

Reduction in incidents from the 2020 performance baseline

Internal flooding **62%**

External flooding **28%**

Pollution incidents **57%**

Sewer collapses **36%**

Storm overflows meeting targets
100%

Storm Overflow Discharge Reduction Plan

Storm overflows are an important part of the sewerage network and include combined sewer overflows (CSOs) and storm tank discharges. They act as a 'pressure relief' valve when there is too much rainfall, allowing rainwater, mixed with sewage, to rise inside the sewer and eventually enter a separate pipe which flows into a river or the sea. This helps to prevent rainwater and sewage from flooding streets, homes and businesses. When we do need to use storm overflows, they can temporarily affect the quality of river and bathing waters.

In August 2022, Defra published the Storm Overflow Discharge Reduction Plan (SODRP). This set out new targets for all water companies to reduce the number of times storm overflows are used, in order to improve the health of our waterways and coastlines. These targets include the following.

- By 2035, water companies will have improved all overflows discharging into or near every designated bathing water, and improved 75% of overflows discharging to high-priority sites.
- By 2050, no storm overflows will be allowed to be used other than as a result of unusually heavy rainfall or to cause any adverse ecological harm.

We support the SODRP and welcome the Government's commitment to a long-term approach to investing in infrastructure to protect the environment.

We recognise the importance of river and water quality across the North West, which is why we are committed to making sure we are doing our bit to improve river health. We are taking action to achieve this change by following our 'Better Rivers: Better North West' plan. Our four pledges in that plan are as follows.

- **'Ensuring our operations progressively reduce impact to river health'**
- **'Being open and transparent about our performance and our plans'**
- **'Making rivers beautiful and supporting others to improve and care for them'**
- **'Creating more opportunities for everyone to enjoy rivers and waterways'**

We are convinced that the best solution is to better manage rainfall, but we cannot do this on our own. We need the help and support of many organisations – local authorities, highway authorities, landowners, farmers and regulators – to work with us to slow the flow of rainfall.

We are proposing over £16.5 billion of investment over 25 years to meet all of the targets within the SODRP.

Forecasting the future

In order to develop the plan we need to assess current and future risks that arise from challenges such as population growth and climate change. This allows us to plan for and manage risks before they affect our wastewater service. Some risks are beyond our control, so we have to plan and allow for them where possible.

We have carried out a number of assessments to work out where there may be issues across our region and how severe those issues are. These include assessments on sewer flooding, discharges from storm overflows, the performance of wastewater treatment works and the effect sewage discharges have on the environment.

We have used various methods and assessments to measure and forecast our performance against a variety of future risks, taking account of climate change, population growth and urban creep (where surfaces that naturally soak up rainwater are replaced by surfaces such as paving, tarmac or concrete). We have used a sector-leading approach of using hydraulic model outputs (modelling which assesses rainfall and how it flows into and through our sewers) to assess flood risk.

Summaries of our findings

Due to **climate change**, the amount of rainfall is due to increase over the next 25 years. There is also an increasing trend of garden areas being changed to hard surfaces like driveways and patios, which increases the volume of rainwater that enters the sewer system rather than soaking into the ground. This reduces the space in the sewers for transporting wastewater, and they instead fill with rainwater, which causes a flood risk.

Our assessments show that if we don't take action over the next 25 years, instances of **flooding inside properties** will increase, as will the number of properties at risk of flooding in a severe storm.

Our assessments show that due to climate change and an **increasing population**, the volume of wastewater that may spill into the environment, and the frequency of this, will increase unless we act to prevent it. Customers are concerned about the quality of our environment, wanting it to be sustainable and to protect it for future generations. We will work with customers and regulators to make sure the DWMP delivers changes to support improvements in how we work.

Storm overflows are critical flood-management features for wastewater companies. They come into use only when sewers are full and need some release to minimise the risk of flooding to properties. Our modelling has shown that over the next 25 years, rising river levels will submerge these storm overflows more frequently, reducing their ability to minimise sewer flood risks to properties in the North West.

Managing risks

The reality of the next 25 years and beyond is that we need to adapt to make sure we can continue to deliver a great service that can adapt to a changing climate with an increased demand for our service. Delivering large improvements comes with a cost and we know that some customers may not be able to afford associated increases in bills.

Our research has found that 94% of customers want us to work with other agencies to deliver benefits. Where we have the opportunity, we will deliver a lot of our work in partnership with strategic organisations such as the Environment Agency, local authorities and The Rivers Trust. This will allow risks identified in the DWMP, and other strategic plans such as the Flood Risk Management Plan, to be created and delivered in partnership to achieve wider benefits.

Historically, we have focused on traditional solutions, such as storm tanks. Although such solutions deliver benefits, they can be expensive and carbon intensive (that is, produce emissions of CO_2) and don't deal with the root cause of the problem. This is why we will be delivering the DWMP through a mix of traditional and innovative solutions. This will create a balanced and adaptable programme of work which addresses customers' concerns relating to the environment and affordability. Examples of what these solutions may be are shown on the right.

What this means for you

To make sure we can continue to provide a great service that can adapt to the future pressures on our wastewater systems, customers' bills will need to increase. In a number of areas the DWMP proposes to offer improved level of service, but will require bills for the average household to increase by approximately £239.46 per year between now and 2050 (before taking account of inflation).

Working with customers

Customers have told us that fixing the root cause of flooding and overflows from sewers is very important. Customers have also highlighted that education and joint responsibility is a priority.

Behaviour can have positive and negative effects on our ability to provide services. Flushing anything other than the '3 Ps' (pee, poo and paper), and pouring fats and oils down the drain, can cause blockages to form and prevents the sewer from carrying away the wastewater.

How we're addressing this

We will continue to work with customers to make sure they know about changes they can make to help prevent blockages. It may involve giving away 'fat traps' to collect excess cooking fat, educating on the '3 Ps', and working with business customers in restaurants and takeaways to reduce fat, oil and grease entering the sewer network. This might also involve working more with schools to educate future customers about the environmental effects associated with water and wastewater.

Slowly draining rainwater

Customers have told us that it is important to meet long-term challenges by working with the existing network and landscape to create efficiencies.

Most of the sewers in the North West are combined, which means we collect both the dirty water from homes and the rainfall from gutters and roads. Reducing the amount of rainfall which enters the sewer system can improve how the system copes during periods of extreme weather.

How we're addressing this

We can use solutions that will mimic natural drainage to prevent surface water from going into the sewers. This will reduce the likelihood of sewage flooding homes and streets, as well as reducing the environmental effect of storm overflows releasing sewage to rivers.

Monitoring our network

We currently find out about wastewater issues, such as flooding or pollution, either during or after the event. Across the whole wastewater system there are many pipes, tanks and pumps involved in transporting, storing and treating the wastewater. Customers have told us that they would like us to find innovative solutions and use technology to improve the management of our network.

How we're addressing this

There are opportunities to improve the way we operate the whole system, using new technology to improve processes and use existing assets to their maximum potential. This involves monitoring changes from normal conditions to detect issues (such as a blockage) early, so we can take action before they cause a problem (such as flooding).

Engineering

Due to climate change and a growing population, there will be instances where we will need to increase the capacity we have to transport and treat wastewater, so that we can make sure we deliver a resilient service.

How we're addressing this

Solutions could be increasing the size of sewers, creating additional storage or increasing the size of wastewater treatment works. Such work is typically disruptive to customers, doesn't deal with the root cause, and has a high carbon footprint due to the engineered nature of the design. We would look to combine these solutions with other types of action to minimise costs and disruption to customers.

06/23/SD/9592c

United Utilities

Water for the North West