



We are United Utilities

Managing the network

Explore >



At United Utilities, we manage the water and wastewater network in the North West of England, providing services to around 7 million people and 200,000 businesses.

Here's what we do...

Provide safe drinking water



Provide quality customer service

Return cleaned wastewater safely back to rivers, lakes and the sea



Prevent sewer flooding affecting homes or gardens and local areas



Ensure sufficient wastewater treatment and drainage for now and in the future



Ensure there's enough water for now and in the future



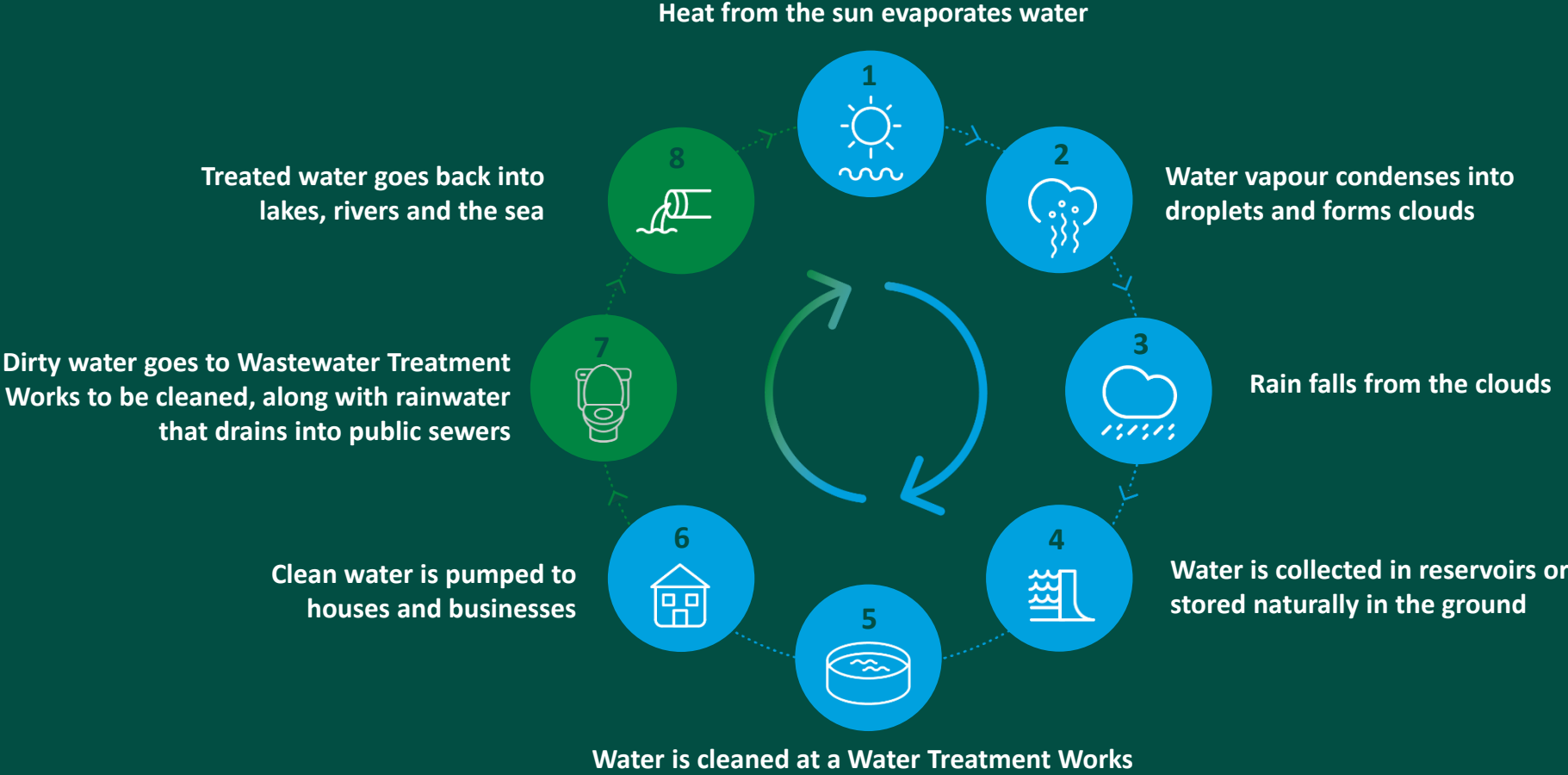
Encourage customers to use water wisely around the home



Reduce disruptions to water supply

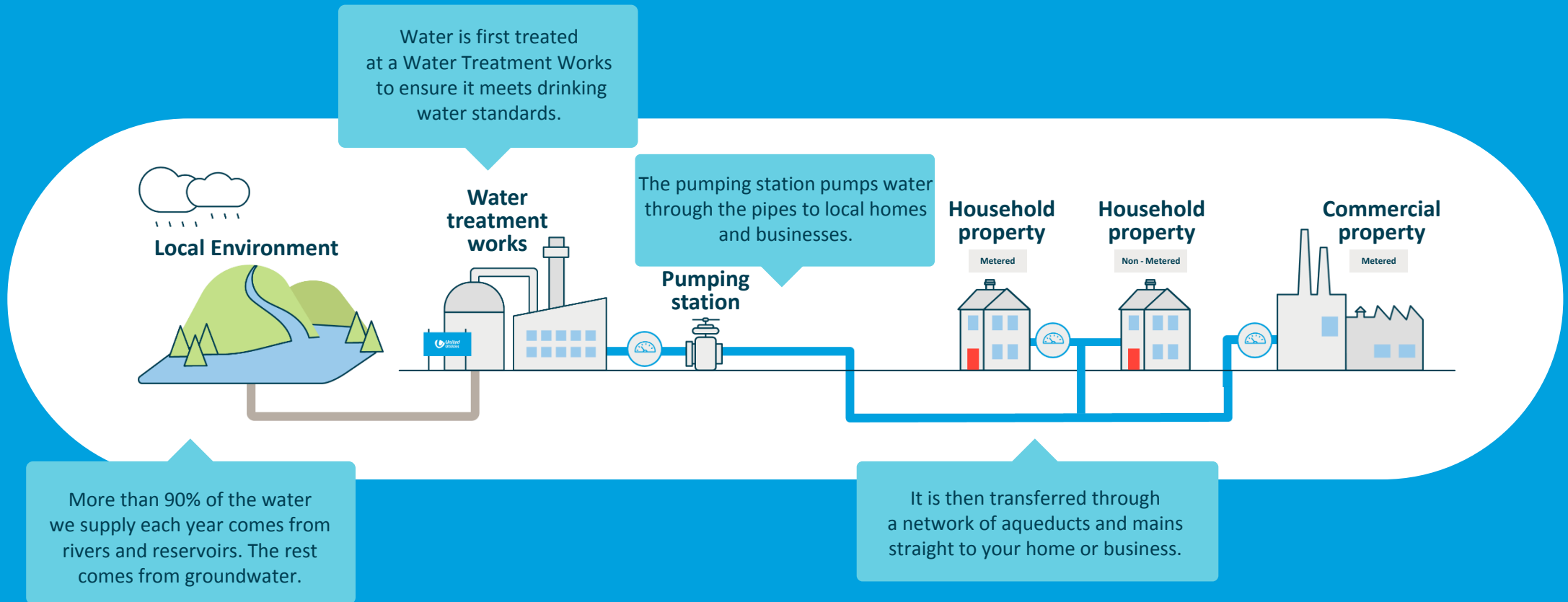


The Water Cycle - Where do we come in?



How does your water get to you?

We provide water to around 7 million people and 200,000 business customers.

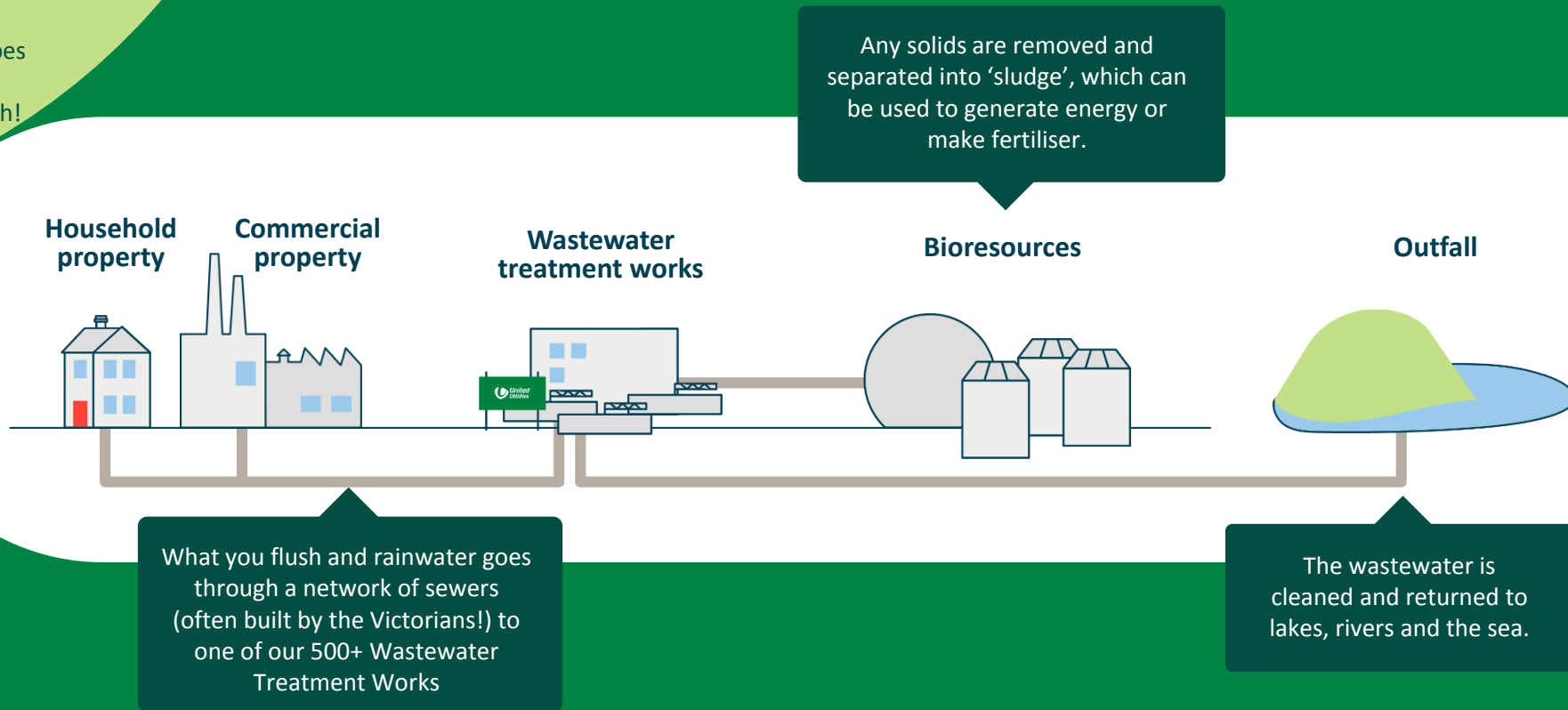




Did you know...

Wastewater Treatment Works range in size, from serving a handful of homes to hundreds of thousands of households, while the sewer network moves wastewater through thousands of kilometres of pipes. It's more than enough pipes to wrap around the circumference of the Earth!

What happens when you flush the loo?



We want to talk to you about sewer overflows...

Sewer overflows have been a topic of discussion for United Utilities and subject matter experts in this area. We'd like to talk to customers about sewer overflows and understand your views to help inform our strategy. In the next slides, you will find information about what sewer overflows are, why they exist and the associated impacts when they spill.

We'd like you to read through the information carefully, and tell us what you think in the community activities that follow. Your views will be taken into account alongside other customers, stakeholders and experts to help inform our strategy.

What is a sewer overflow?

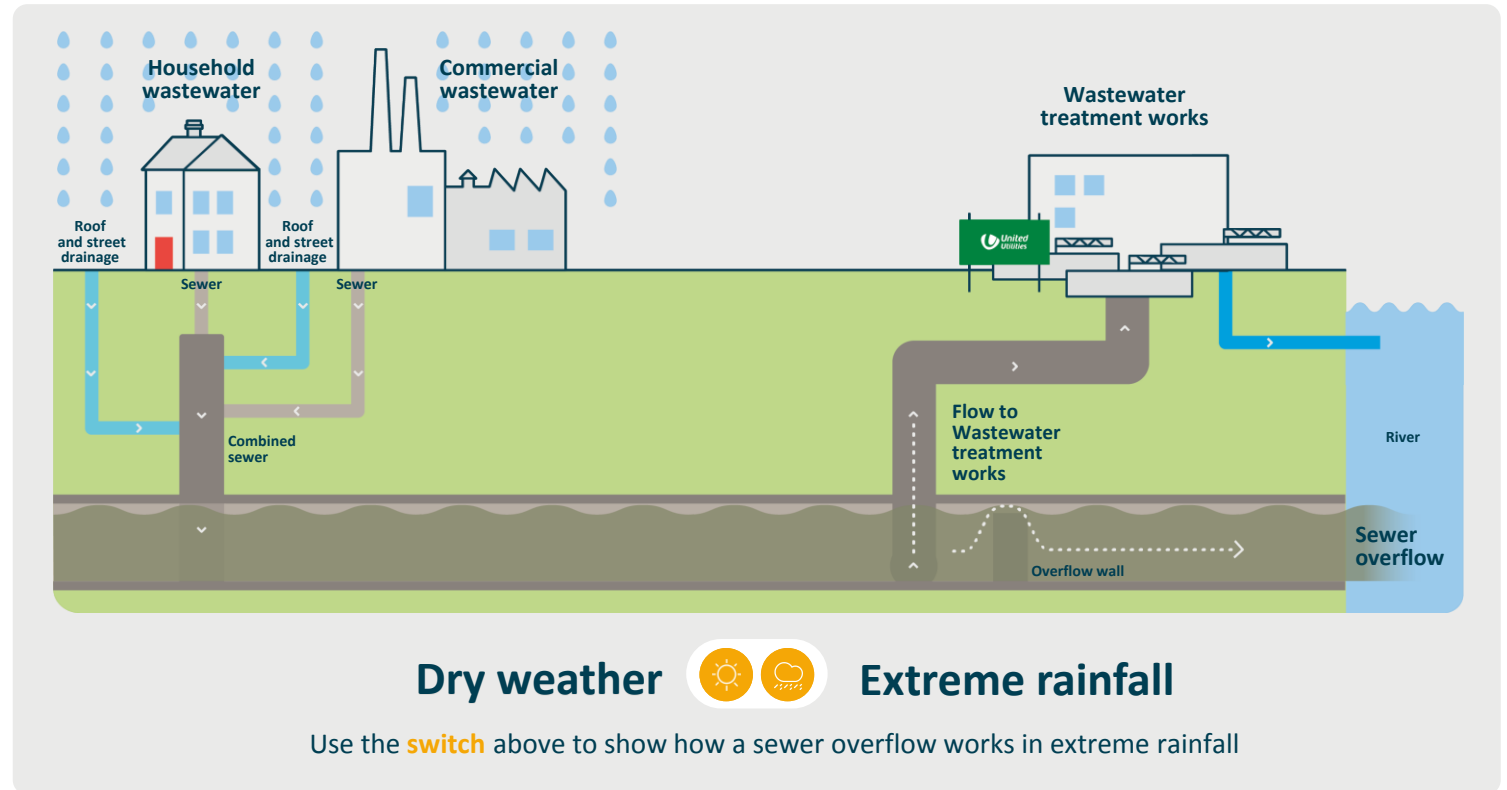
Many of the sewers in England were built to carry both sewage and rainfall which means that in heavy or prolonged rainfall sewers can overflow.

Sewer overflow



In extreme rainfall events, we use sewer overflows. Sewer overflows are legally permitted (by the Environment Agency) to discharge when sewers are full because of heavy rainfall. However, in some instances, overflows may spill outside of these conditions and these are not permitted.

Overflows act as emergency release points to let diluted sewage out to rivers and the sea without being treated. This helps prevent sewers backing up and causing flooding in streets and homes. The more intense winter storms we have, the more we'll be relying on them.



Combined Sewer Network

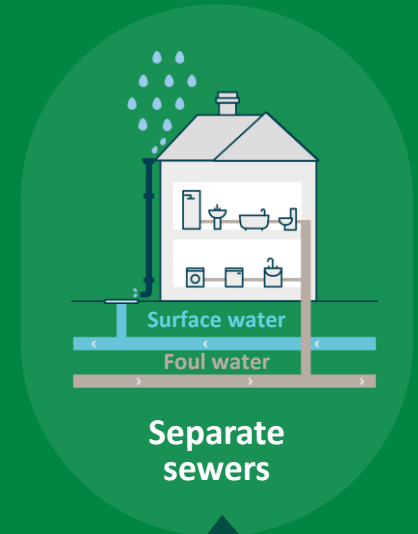
Sewer overflows exist on combined sewers.

In the North West we have the highest proportion of combined sewers in England (mainly built by the Victorians), **54% of the sewer network is combined**. This is likely to result in a greater number of spills from storm overflows.

In periods of heavy or prolonged rainfall, rainwater can overwhelm a combined system causing overflows to spill.



A **combined sewer** collects wastewater from our homes (toilets, showers and washing machines etc.) and rainwater that falls on our roofs and roads. This combined wastewater then goes to a treatment facility to be cleaned before being returned to local watercourses.



Separate sewers keep the wastewater from our homes separate from rainwater on roofs and roads. Rainwater (surface water) is taken directly to rivers the sea whereas the wastewater from our home is taken to treatments facilities to be cleaned first.

Where sewer systems are fully separated there is no need for sewer overflows as the variation in flow in the sewer is significantly reduced and the risk of flooding can be adequately managed. All new developments now built separate sewers for rainwater and sewage

Why do we have sewer overflows?

Protection from sewer flooding



Sewer overflows are an integral part of any sewage system and were an important part of historic sewer designs, their **primary function is to protect people from flooding**. When constructing new sewer networks we try to separate sewage and surface water networks to reduce the need for sewer overflows.

Overflows help to protect homes, business and local communities from sewer flooding by allowing excess diluted wastewater to flow into the river and the sea instead of overflowing into streets and homes at times of heavy rainfall or storms.

Sewer flooding

Where there isn't a release point, sewers may back up causing sewage to flood highways, gardens or homes.

While most sewer flooding is caused by blockages, it can also be caused by a shortfall in capacity.

Sewer flooding can have a significant impact on customers:



It can cause damage to properties and buildings and results in customers having to move out of their homes for months whilst repairs are carried out.



Repairs can also be very expensive for customers or their insurance companies. If claiming on insurance, premiums are likely to increase and may make it more difficult to get insurance in the future. It may be more difficult to sell your house in the future.



Personal possessions could be damaged or have to be replaced entirely



Sewer flooding can be extremely distressing for those impacted by it. It may impact your health and wellbeing.



4 properties in every 10,000 customers'

properties are affected by internal sewer flooding in homes each year.



10 gardens or areas of private land in every 10,000 customers'

properties are affected by external sewer flooding each year.

Why do sewer overflows spill?

Sewer overflows are legally permitted to discharge when sewers are full because of heavy rainfall. If overflows spill due to other causes e.g. blockages or sewer collapsing, these are not permitted. The Environment Agency sets strict protective permits to limit the impact of sewer overflows on the environment. If permits are breached, then action will be taken against those responsible.

The primary cause of sewer overflows spilling is excess rainfall, however, other factors do influence when sewer overflows spill...

Click on each **magnifying glass** to find out more.



Blockages



Urbanisation
and development



Climate change and
population growth



Blockages

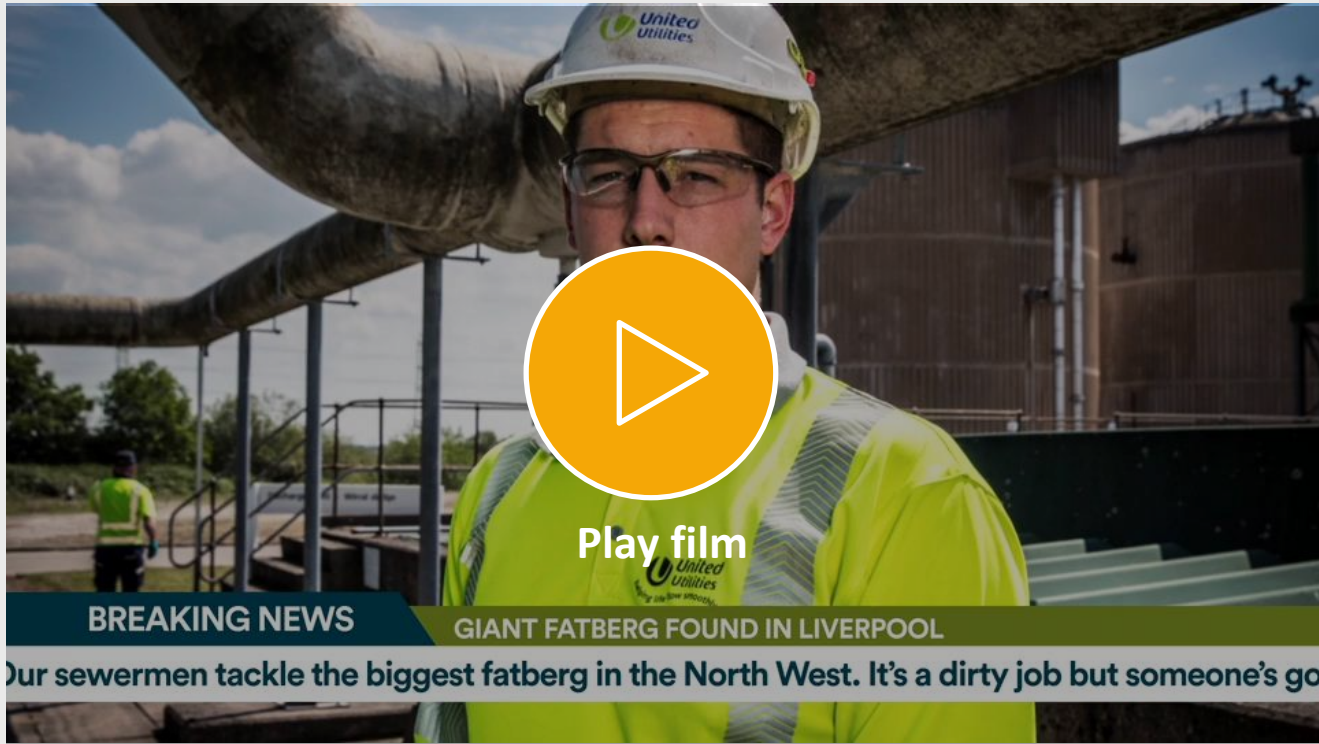


Unfortunately, sewers can become blocked with products that shouldn't be flushed such as rags, wipes and period products; or poured down the drain such as fats, oils, grease and food waste.



Although most overflow spills are caused by excessive rainfall, some spills are caused by blockages. 50% of blockages are caused by items that shouldn't be flushed or poured down the drain.

These blockages mean there is less room in the sewer for rainfall and other wastewater, increasing the likelihood of spills.



Take a look at what is blocking up pipes and contributing to sewer flooding

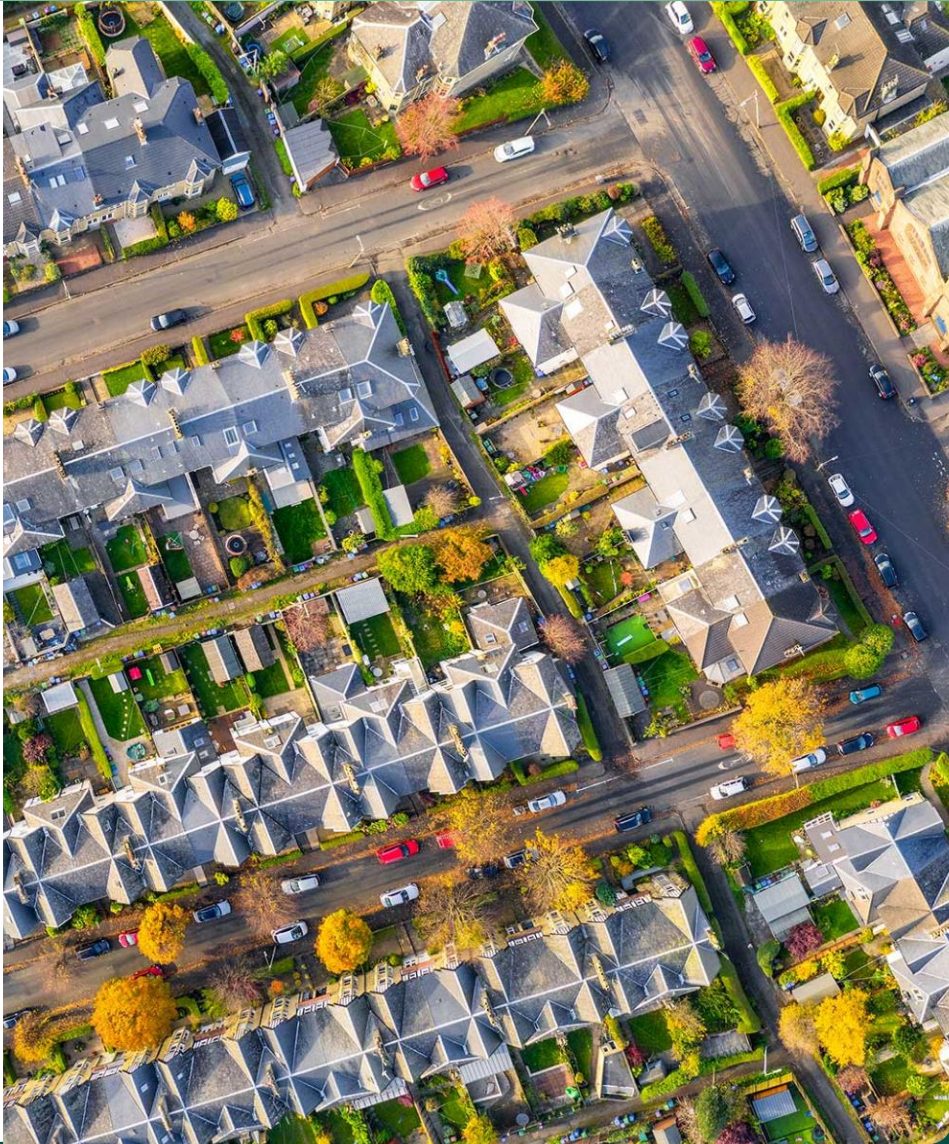
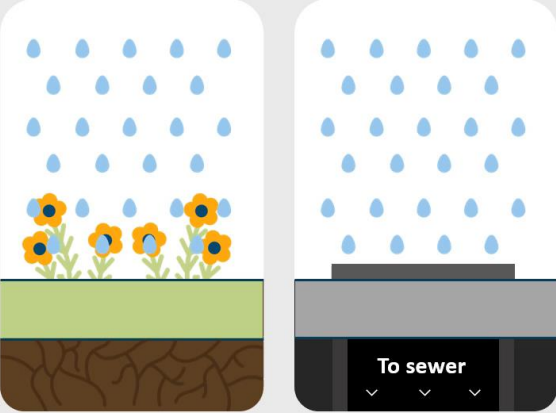


Urbanisation and development

Gardens and other green spaces are often built on or surfaced over, this increases the amount of rain water running off into sewers, which therefore increases the frequency and volume of spills from sewer overflows.

Everybody can help play their part by protecting green spaces in their homes and community.

More green spaces reduce the amount of rainwater coming into the sewers as this gets soaked up or used by plants.

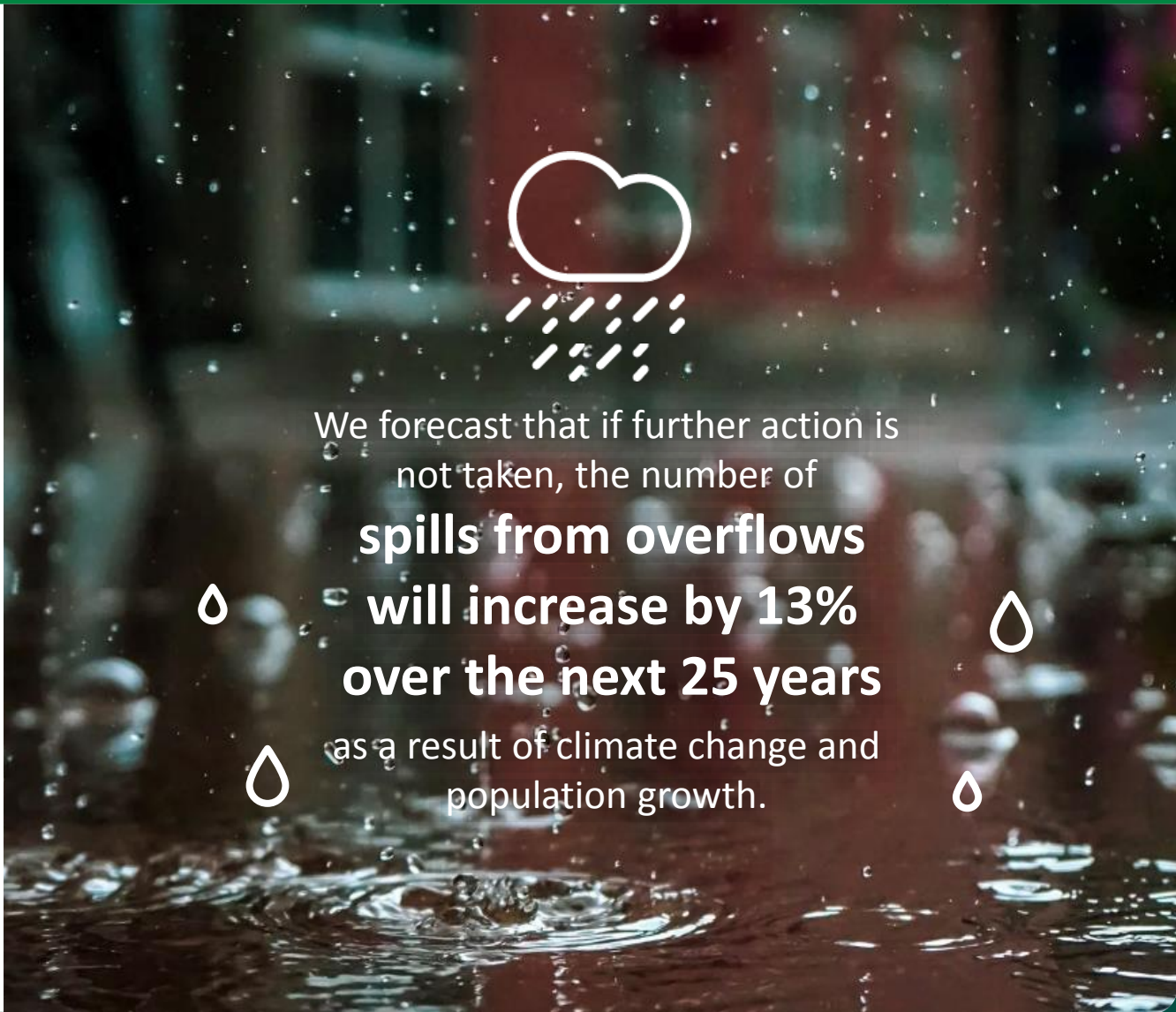


Climate change and population growth



Climate change and population growth also have a role to play in tackling overflow spills. Climate change is predicted to cause drier summers, which will affect our water supplies, but the frequency of heavy rainfall and storms is also predicted to increase, which could result in overflows spilling more often.

The need for more homes to meet increased population demand also puts a strain on our system with more waste water from homes entering the sewers and fewer green spaces for rain water to naturally drain away. In highly populated areas such as our towns and cities there is an increased risk of overflows spilling due to the volume of water that will be entering the sewer in a concentrated area.



We forecast that if further action is not taken, the number of **spills from overflows will increase by 13% over the next 25 years** as a result of climate change and population growth.

What have United Utilities done already to address this?

The North West is home to some of the most beautiful natural landscapes and we take very seriously our role in protecting them so they can be enjoyed by all. United Utilities have invested millions of pounds over many years to monitor the operation of sewer overflows and to improve sewer overflows by reducing the number or impact of spills and to protect the natural environment from the operation of these assets

In the next 5 years we will be undertaking 195 investigations at overflows that spill frequently, these investigations will determine the impact of the overflows on the natural environment and try to identify cost beneficial solutions to reducing the number of spills. In addition we are undertaking several improvement schemes at treatment facilities to reduce the impact of sewer overflows.

Frequency of spills

Frequently spilling overflows can have an impact on our enjoyment of our local natural amenities and beauty spots even if there is no environmental or aesthetic impacts from the spills.



We have **over 2000** sewer overflow mechanisms



In 2020, the average storm overflow in the North West discharged an equivalent of **5 times each month**

The frequency of spills doesn't provide an accurate measure of environmental harm. Some spills may be very small and have no impact on the environment, whilst others may be larger in volume and be in a more sensitive area, therefore having a bigger impact.

What is the impact of sewer overflows?

There are three main potential impacts of sewer overflows on the environment and local communities, these are:

Click on each **magnifying glass** to find out more.



Impact on

The environment and water quality



Impact on

Smell and aesthetics of the natural environment



Impact on

Recreational water use



The environment and water quality



Our rivers are essential habitats for many animals and are vital in supporting our North West's wildlife.



This wildlife relies on these water systems to provide water and nutrients for survival and growth. We can measure how good a river is by assessing the quality of the water. A healthy river will have good water quality and will be able to support more wildlife than an unhealthy river.

When sewer overflows spill, the wastewater is diluted due to the large amount of rainfall that it contains. When overflows spill into rivers and the sea, the flow mixes with the receiving water and becomes more diluted. As a result many overflows have very little impact on water quality and the wildlife that relies on it. However some overflows do have an impact on the water quality and wildlife which are dependant on these environments.



We work with the Environment Agency to identify where overflows may be having an impact on the local water quality.

Recent data has identified **47 river stretches** in the North West (out of 499) where sewer overflows are having or believe to be having an impact on the water quality and therefore may impact upon the wildlife that depend on these waterbodies.



In some instances, poor water quality would not support survival for fish and other aquatic creatures and could prevent them reproducing or cause creatures to find another habitat to survive.



Smell and aesthetics of the natural environment

Sometimes overflows will spill because the sewers have become blocked due to wipes or other materials being flushed down the drain or during heavy rainfall.



When storm water contains litter, rags, wipes, fats and other items that do not breakdown in the sewers, it can leave unwanted deposits behind and have an unpleasant odour when an overflows spills.

This cause impacts to the water environment and affects our enjoyment of these natural amenities and beauty spots as litter is visible in the waterways and river banks.

Water companies do clean sewage litter up where it is safe to do so but this can be expensive.



Having screens on overflow pipes helps to reduce unwanted products leaving the sewer by acting as a barrier to trap litter.



In the North West over 40% of overflows have a screen.



Recreational water use

Along with rain runoff from farmland used for livestock grazing, spills from overflows can contain bacteria which could make bathers unwell.

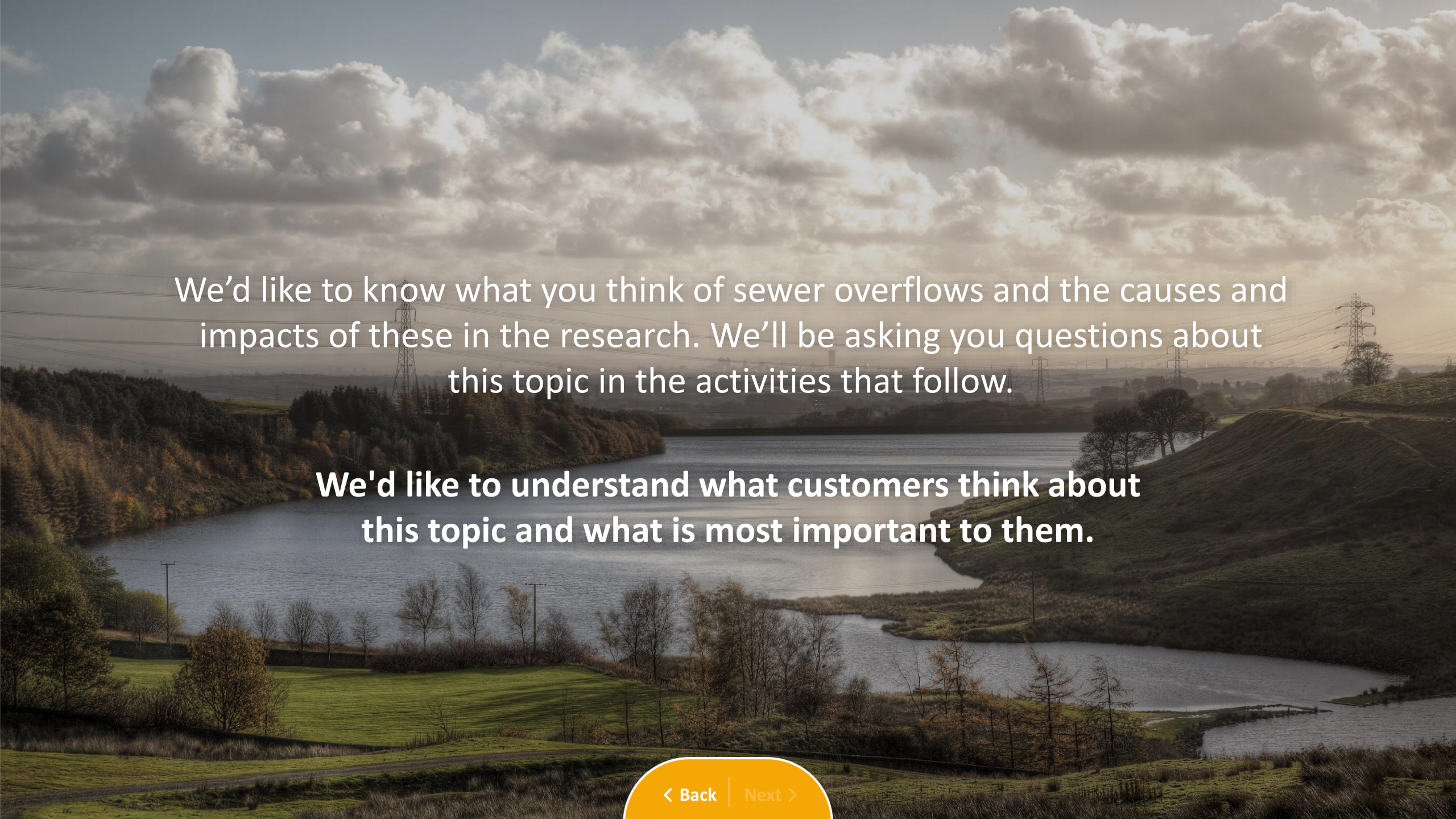


We have invested over a billion pounds since the 1990s to improve bathing waters, helping all designated North West bathing waters to meet the stringent standards. This means these designated bathing waters are safe to swim and bathe in.

However, we do know that people value other waters for wild swimming, water sports or paddling. These recreational waters are not subject to the same stringent rules as designated bathing waters and spills from overflows into these areas where people come into contact with the water could make users unwell.



In the North West there are 29 designated Bathing Waters these are mostly on the coast like Blackpool, Morecambe and Southport but we also have 4 inland bathing waters on Windermere.



We'd like to know what you think of sewer overflows and the causes and impacts of these in the research. We'll be asking you questions about this topic in the activities that follow.

We'd like to understand what customers think about this topic and what is most important to them.