



Delivering what matters

Northern Ireland's Wastewater System

Together with nature,
society, and the economy.

GROWING ECONOMY

HEALTHY AND THRIVING POPULATION

FLOURISHING NATURAL ENVIRONMENT

NI Water is an independently regulated, government owned company created in 2007. Our funding comes from our shareholder - the Department for Infrastructure (DfI) and from non-domestic customer bills.

We have transformed to an efficient provider of water and wastewater services with high standards of service. Yet a legacy of underfunding means Northern Ireland’s wastewater system is performing below the standard our environment, economy and society need – and significantly below that of other parts of the UK.

After an injection of additional funding in the period 2007-2010, this quickly reduced back to levels that only allowed us to prioritise resolving significant issues to maintain the accepted level of operational performance across the wastewater system. Things changed in 2020 when the then Minister for Infrastructure published new Social and Environmental Guidance. We responded with a plan to make urgently needed improvements as part of a programme that will take a generation to deliver.

Our Utility Regulator supported the near doubling in historic levels of funding and approved a £2.1 billion plan (or £2.7 billion adjusted to today’s prices) commencing in 2021. This gave the green light to reducing pollution in our rivers, lakes and seas while creating the capacity needed to enable new developments to connect for wastewater services.

Engineering design work has been progressing at pace and our supply chain is primed to deliver this major infrastructure investment programme. Much of our PC21 delivery plan begins to address our struggling treatment works. This a precursor to addressing spills from the large number of storm overflows which have been deemed to be causing pollution and therefore ‘unsatisfactory’.

Storm overflows are intended to act like pressure relief valves across the catchment. They should only release excess wastewater to adjacent designated water courses during heavy rain to protect homes and businesses from flooding caused by wastewater backing up in pipes. However, many overflows are being forced to operate more frequently resulting in higher levels of pollution. This is due to a combination of new housing and business developments occurring without investment in the capacity of the wastewater system. This is leading to an excessive rate of loss of wastewater from many of our networks before it reaches a treatment works.

The Northern Ireland Environment Agency (NIEA) sets standards for overflows to allow spills of dilute wastewater at times of prolonged heavy rainfall when receiving waters are themselves fast flowing. Tighter standards apply to bathing and shellfish waters which are special to all and attract tourism.

Modelling indicates that many operate much more frequently, contributing to the poor quality of our watercourses, loughs and the sea. Assessment is ongoing and of those evaluated to date around three quarters are unable to meet the standard set by NIEA.

Other contributors are agricultural practices and private drainage systems, with the share of pollution greatly varying depending on the characteristics of each catchment. The modelling of drainage systems and catchment environments in collaboration with NIEA is giving us new information on where future investment is best targeted to tackle these spills.

Our predictive models indicate 16 to 20 million cubic metres of wastewater is spilling each year – a figure that may rise by around 10% when all modelling is complete. The spills are mostly rainwater and although it varies, spills contain foul water and during times of heavy rain typically contain 1-2% of raw sewage.

As we look out to 2050, a further £12 billion is likely to be needed to bring our whole wastewater system up to environmental standards and create the capacity to connect future housing and commercial developments.

The commitment to provide adequate levels of funding for our PC21 business plan is welcome and must be maintained. We will see a marked decline to our environment and economy if there is a return to historic levels of underfunding. Society is unlikely to tolerate either the level of pollution, or the increasing restrictions on economic growth through lack of connection capacity were investment to be cut.

Squaring that circle is a challenge not just for us and our shareholder, but for Northern Ireland as a whole. This document seeks to make everyone more informed so the right decisions can be taken now for the benefit Northern Ireland today and in the future.

This document is formed in three parts.

Part One (‘A system in need of investment’) explains how our approved business plan for the period 2021-2027 starts to address the legacy of underinvestment.

Part Two (‘Facts and figures’) provides more explanation of how the wastewater system works and how it is struggling.

Part Three (‘Roadmap to resolve’) describes what customers can expect to see delivered and when – and what it will cost going forwards.

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A System in need of investment

NI Water is established

NI Water was created in 2007 from what was formally Water Service, a division of the Department for Regional Development (DRD). We are a public service organisation and a government owned company ('Non-Departmental Public Body') that operates as part of the Northern Ireland Public Sector. Our shareholder is the Department for Infrastructure (DfI). We have a Board, led by a Chair, with a mix of executive directors and independent non-executives.



We deliver water and wastewater services across the region. We abstract water from the natural environment to produce drinking water at the tap, before taking away wastewater, treating it and safely recycling the water back into the natural environment.

We are independently regulated by:

- The Northern Ireland Authority for Utility Regulation who has a statutory duty and central responsibility to ensure the services we deliver are affordable.
- The NIEA who set strict regulations on what we can and cannot do when interacting with the environment.

Funded by government and customers

Our costs are funded from two sources. Business customers are billed for the services they receive. Costs for domestic customers are paid for via a subsidy provided to NI Water by DfI.

Capital investment to maintain and enhance the system to meet new standards or demands can only be funded by borrowing from DfI through loan notes. We are not able to raise investment through other channels such as banks and the private capital markets.

We operate in what are called price control periods. The current period is called PC21 and runs from 2021 to 2027.

In 22/23 we paid £53m in interest on our previous borrowings. Our shareholder also asks for dividends in recognition of the amount of public investment being made by the taxpayer. In 22/23 this was £21m. Since we were formed in 2007, we have paid around £430m in public dividends back to our shareholder, returning well over £200 for every person in Northern Ireland.

In the top quartile of efficiency

We are a transformed organisation from what was Water Service, now delivering record levels of service for our customers for less money.

We are recognised as a highly successful example of a Northern Ireland public sector organisation achieving private sector levels of performance and efficiency.

In commenting on our PC21 business plan, our Utility Regulator reported that we have steadily improved our operating cost performance since the inception of the company in 2007. Back then we were assessed as being 49% less efficient than the leading UK water utility in England and Wales. By the end of PC21 we expect to have closed the gap and be operating at an equivalent level of efficiency to the upper quartile of comparators. These improvements in operational efficiency alone will save consumers £62m during the period 2021-2027.

Inheriting an underperforming system

Largely unseen, our infrastructure is the foundation for all economic activity in Northern Ireland as almost every new home, public building and business requires a connection to the water and wastewater system. We share the government's ambition for the region to be recognised as having world class economic infrastructure supporting the sustainable growth of a modern, dynamic, connected, and competitive economy.

The wastewater system adopted back in 2007 was unable to achieve standards required in other parts of the UK due to a historic lack of investment. Recognising it would take many years and much funding to address, NI Water was given special dispensation to operate on the basis that pollution levels did not get any worse – generally referred to as standards that ensured 'no detriment'. This was done on the understanding that investment would eventually enable the region to meet NIEA's desired standards.

Continued underinvestment.

Through the period 2007-2010, public funding was increased to start to address the backlog of improvements needed in our wastewater infrastructure, particularly in addressing some badly failing wastewater treatment works.

However, this boost in funding proved short lived and was cut back by a third in 2010-11. From here it gradually reduced in real terms to around half what was originally envisaged.

All this has meant that for many years, investment has failed to keep pace with the needs of the wastewater system. By way of example, for the period 2015-21 we were underfunded at £990m compared to the £1.7billion required.

Creating social and economic value

Having a fully functioning wastewater system is vital for a successful economy. The Department for the Economy's 10X Strategy of July 2023/24 explains that 'Our economy remains a poor performer' and that 'We need a more productive and innovative economy and this enhanced economic activity must be diffused throughout the region.'

Homes, businesses, and public buildings must all be able to connect so their wastewater is taken away safely and without causing pollution.

Demand for new homes remains high. Our world class education system is attracting students who need appropriate standards of accommodation. More than 100 global investors and businesses came to Belfast in September 2023 for a summit where innovative local businesses were showcased in areas like cyber security and green technology manufacturing.

Tourism is growing with new hotels emerging. Northern Ireland is aiming to capitalise on a predicted 20 years of sustained global growth in this sector. A major draw is our natural environment, with the region having some of the most spectacular beaches in Europe. In addition, our lakes and rivers offer some of the finest destinations for fishing and water sports.

All this requires a fully functioning wastewater system that protects the environment. DAERA's latest environmental statistics report highlights that the level of public concern about environmental issues is high, with 80% very or fairly concerned about the environment.

The need to raise environmental standards is highlighted in the recent HM Government Safeguarding the Union paper as it sets out plans for 'a greener Northern Ireland.'

Green for go

In 2020 the then Minister for Infrastructure published new Social and Environmental Guidance to set the direction for water and sewerage services in the period 2021-2027. This said that ‘by investing in water and wastewater services, high levels of drinking water quality will be maintained and the risk of pollution incidents / out of sewer flooding will be reduced.’

In response to this policy direction, our business plan submission went to considerable lengths to draw stakeholder attention to the poor state of Northern Ireland’s wastewater system – both network and treatment works. The headline “no cranes without drains” was used to stress how our economic prosperity depended on badly needed investment in our wastewater system.

We were pleased that our Regulators approved the plan giving the green light for an increase in Capital investment to £2.1 billion (at 18/19 prices); a 75% uplift from the previous price control period.

Our plan starts to address the shortfall in environmental performance against the current standards that apply in other parts of the UK, something that will take over 25 years to fully resolve. This at a time when the relevant environmental protection in Great Britain is being increased further and more investment being made.

We have been increasing our resources and preparing our supply chain to successfully deliver a programme that is near double the size of previous periods. The engineering design work has been progressing for the scope of work and we are about to move into construction.

Leading the way in Belfast

Belfast requires significant levels of investment in its wastewater system.

Former Infrastructure Minister Nichola Mallon published Living with Water in Belfast: An Integrated Plan for Drainage and Wastewater Management in Greater Belfast. She explained that *‘the current underfunding of our wastewater systems means that many of the sewerage networks and wastewater treatment works across Belfast are at, or nearing, capacity, meaning future connections for new developments may not be accepted by Northern Ireland Water. If this is allowed to continue, there will be significant constraints on economic growth and house building, likely increased pollution and damage to the environment, and an increased risk to the population’s health.’*

Funding for the first phase of this work was included in our approved PC21 business plan. A similar approach is being explored for Derry/Londonderry, which NI Water plans to support.

NIEA has agreed an extension to maintain the current consent at our main Belfast treatment works while we wait for the upgrade to come online in 2027. This is ahead of when we estimate that the current rate of planning applications will use up all existing capacity. Investment in this treatment facility is only one of 182 sewerage network facilities in Belfast that require investment to increase capacity and reduce pollution.

In the City Centre we are putting in place workarounds that are creating a temporary lifeline for several developments, many of which are replacement properties. The planned new investment ensures new applications can be supported beyond 2030.

In South and East Belfast, the investment ensures the system can accommodate new greenfield development.

In North and West Belfast, the situation is more acute. The wastewater system has effectively run out of capacity now has virtually no temporary solutions until the investment is made.

Supporting the whole of Northern Ireland

Seven major towns and cities are currently significantly impacted by wastewater capacity constraints with a further two under assessment. Numerous smaller towns, villages and hamlets are also experiencing various levels of constraint as the system is increasingly unable to accommodate any further development. Investment will enable us to start to reverse this situation.

Looking ahead

There is no getting away from the need for properly funded investment in wastewater. Our PC21 business plan enables corrective action to get underway.

We recognise that the challenges ahead in the next 25 years are pronounced. We will work with senior stakeholders to discuss the tensions and trade-offs between environmental standards, economic growth, and affordability, as we grasp the opportunity to drive delivery more affordably in the longer term through wider collaboration in localised wastewater catchment management planning.

The seeds of this catchment management thinking can be found in the Living with Water Programme – something that must be delivered for the benefit of Northern Ireland.

LIVING WITH WATER IN BELFAST

PROTECT
ENHANCE
GROW

Living With Water is a new multi-agency approach to the provision of drainage and wastewater infrastructure, which promotes holistic and integrated solutions that achieve multiple benefits at reduced cost and disruption.

Open spaces and watercourses can be used to enhance the environment, promoting recreational opportunities and by sustainably managing water to help reduce flood risk. This is commonly referred to as blue/green infrastructure.

In addition to blue/green infrastructure it is recognised that significant investment is also required in more traditional infrastructure, like sewers, pumping stations and upgrades to our wastewater treatment works.

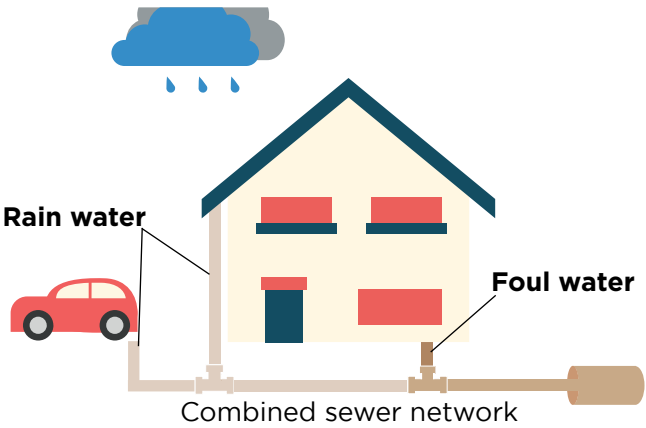
The facts and figures

Combined Sewer System

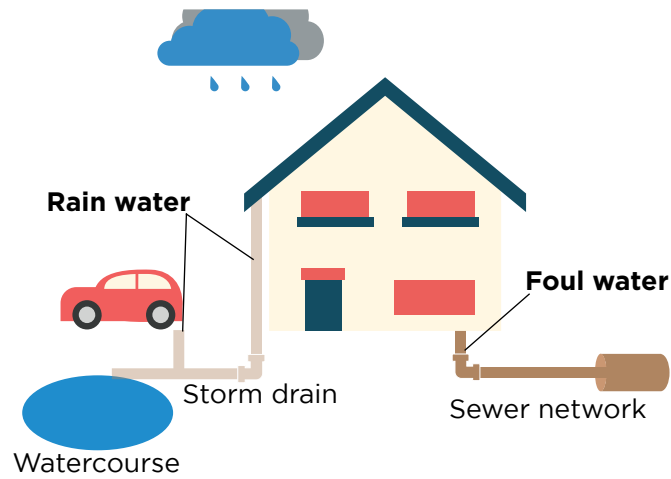
Toilets, showers, kitchen sinks, dishwashers and washing machines all create wastewater or what is also known as foul water. Businesses also produce foul water from their processes. This all contains faecal matter, detergents, fats, oils, and other substances, that must then be collected and treated before the residual water can be returned safely to the environment. This is the primary function of a wastewater system.

Most modern property developments now have separate drainage systems. Foul water from kitchens and bathrooms goes to the sewer network and off to the works for treatment. Rainwater from roofs and roads goes to a separate storm drain and on to a nearby watercourse.

Combine sewer system for older properties and roads



Seperate foul and rainwater systems for modern developments



Much of Northern Ireland's wastewater system, particularly in our city and town centres, dates to the 19th century. They are served by what is called a combined sewer system where foul water and the rainwater are mixed.

We have around 17,000 kilometres of sewer network hidden underground, the equivalent distance of Belfast to China and back. This connects to 1,021 treatment works.

Not every property is connected to a mains sewer. Northern Ireland finds itself with some of the highest number of properties that are not connected. These septic tanks are under private ownership and the responsibility of the property owner.

Storm overflows

When large volumes of storm water enter the combined system during times of heavy rainfall it can cause our system to be overwhelmed.

Blockages in the wastewater network can further exacerbate the problem. We deal with around 12,000 each year. The most common cause is the flushing of inappropriate items which do not disintegrate down the toilet, such as wet wipes and the disposal of fats and oils down the sink.

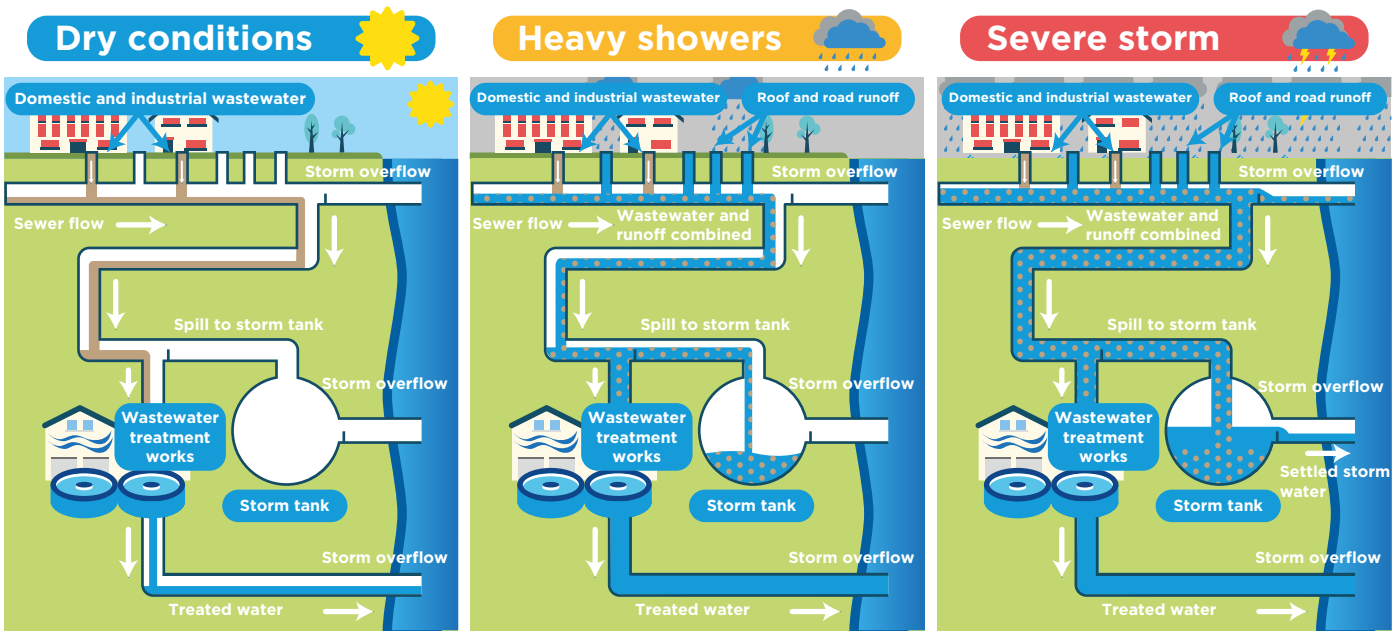
Storm overflows are in place so diluted wastewater can be automatically released to designated waterways if the system is at risk of being overloaded. They are an industry standard solution that has been deployed over many decades.

Without storm overflows many properties would be flooded with wastewater backing up in sewer

pipes. It is both unaffordable and impractical to remove all storm overflows from the wastewater system as it would cost many billions of pounds and involve digging up every street in Northern Ireland over decades.

The diagram below shows how the combined sewerage system operates and how spills can occur as rainfall intensifies.

NIEA sets the minimum consent standards for treated final effluent at wastewater treatment works and discharges (more commonly known as spills) at storm overflows throughout the sewerage networks and at treatment works.



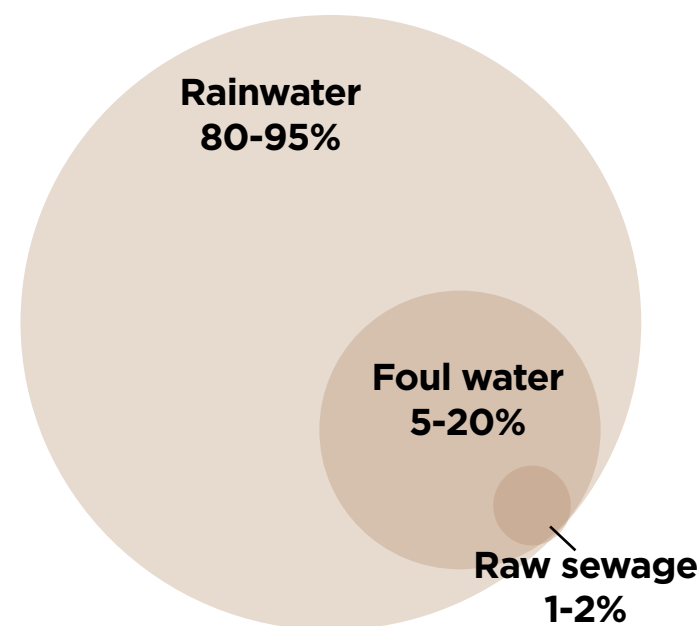
The content of wastewater.

Spills are made up of wastewater from households, industry and commerce that is heavily diluted by the rainwater.

We do not measure the contents of storm water that is spilled from each storm overflow. We estimate that 80-95% of what is spilled each year comprises rainwater.

The remainder is what causes most harm to the environment is foul water that is made up of everyday wastewater from kitchens and bathrooms in homes as well as wastewater from businesses and public buildings. We estimate around 1-2% of what is spilled is raw sewage.

Make-up of typical wastewater spill during storm conditions



Any spillage is undesirable. Yet because storm overflows generally operate during periods of heavy rain, the rivers, lakes, and seas receiving these spills are fast flowing or high energy environments. This means they are better able to further dilute any sewage in these spills within larger bodies of water.

Number and location of storm overflows

As of December 2023, there are approaching 2,500 operational storm overflows deployed across Northern Ireland's public wastewater network, at pumping stations and at treatment works.

Details of these are available on our Storm Overflow web page [Storm Overflows](#).

Northern Ireland has proportionally more storm overflows per level of population than many other

parts of the UK. This is because it was historically cheaper to install more overflows than invest in diverting the rainwater at source and putting in place the larger pipes and holding tanks. This means we have the lowest rate of internal sewer flooding in the UK while the disbenefit is that we have higher quantities of wastewater going into our rivers, lakes, and seas.

This all adds to the impact of agricultural runoff (chemicals and animal waste) that is also going into Northern Ireland's watercourses, loughs, and the sea, with the share of pollution greatly varying depending on the characteristics of each catchment. Modelling of drainage systems and environmental catchments in collaboration with NIEA is giving us new information on where future investment is best targeted to tackle these spills.

Storm overflow status

Each storm overflow is assessed with NIEA based upon several criteria and informed by the results of our hydraulic models (see later section).

This will include considering if:

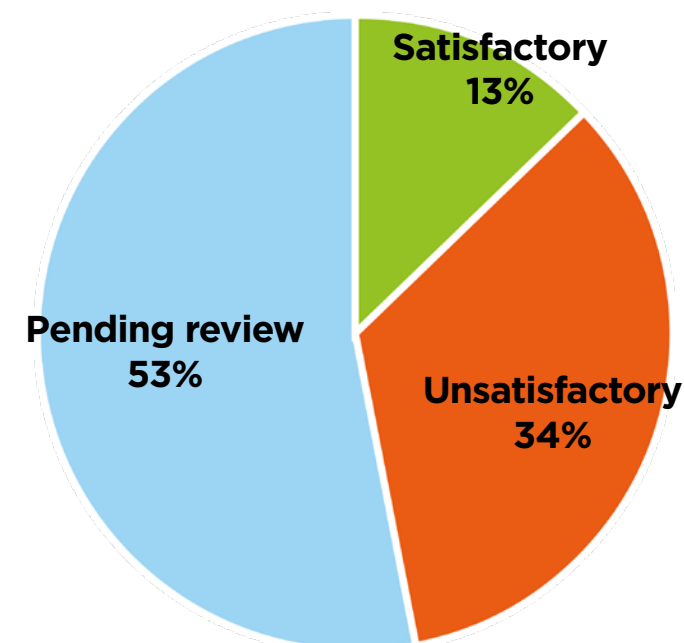
- the wastewater that is being spilled exceeds normal levels of concentration of foul water or the receiving water is too small to sufficiently absorb what it receives.
- for more sensitive water courses like bathing and shellfish waters, the storm overflow is exceeding a set number of spills deemed acceptable each year. The limit is 3 spills in the bathing season for bathing waters or 10 spills per annum for shellfish waters. A spill for regulatory purposes is an event discharging more than 50 cubic metres.
- insufficient emergency storage (typically storm tanks) is in place at a pumping station or treatment works to retain storm water for a period of typically two hours before putting it back into our system for processing.
- the absence of adequate screens that capture solids and other materials that might cause significant visual or aesthetic impact when spills occur.

Those storm overflows that fail to meet the standard are designated as 'unsatisfactory'.

The survey and categorisation of overflows in the Greater Belfast was completed in 2023 to inform the Living With Water Programme. This identified 270 overflows, which is around 5 times the average of comparable parts of England. Of this total, over 80% are assessed to be unsatisfactory.

The chart below shows the overall status of our storm overflow across Northern Ireland as at the end of 2023.

Storm overflow status



These figures cover storm overflows where the status has been confirmed or is pending confirmation with NIEA.

The status of these assets, along with considering the capacity of our wastewater treatment works, is a key factor we must consider when assessing new planning applications and new connections to our wastewater system. This is because adding biological loading and wastewater volume to an already struggling part of the system will increase the likelihood of more frequent and polluting spills to receiving water courses.

Modelling spills

We rely on the analysis and findings of industry standard hydraulic models to simulate observed flows and predict spills across the wastewater networks.

As agreed with our Regulators, we have been investing in developing integrated suites of models to understand more accurately the spill performance of storm overflows and their impact on the receiving aquatic environment. Our Drainage Area Study (DAS) models are built and calibrated to industry best practice (Chartered Institute of Water and Environmental Management) and approved by the NIEA. The models are typically simulated using 20 years of historical rainfall to generate an annual average for frequency and volume of spills.

The models, supported by some flow meters that measure the rate of wastewater flow at various points, give indicative performance predictions but have some limitations. They cannot, for example, take account of operational conditions in the actual network such as the build-up of silt and blockages which can result from the disposal of inappropriate materials to sewer.

The results of the models consider average performance in a typical year. Spill performance during years when Northern Ireland experiences abnormally low or high rainfall is not represented in the models.

Although accuracy has improved, predictive modelling still relies on assumptions that mean that it will not be 100% correct. Despite their limitations, models are important in helping us and the NIEA to understand what is happening in our system and where upgrades are required to better protect the environment.

The coverage of our models has expanded following significant investment and now covers approximately 80% of our network and 50% of our storm overflows.

Volume of spills

Our models forecast the volume of storm water spills in an average rainfall year as 18 million m3, yet we believe it is more realistic to consider this to be a range of 16-20 million m3 to reflect limitations in the simulation.

Around 80-90% of all wastewater that comes into our system is processed through our treatment works and not spilled.

The overall volume is based on 832 storm overflows where modelling indicates they may spill and the 275 where the model is indicating no predicted spills. This spans 54 drainage areas. These cover the most densely populated areas where the highest volume of spills is likely to occur.

We are making the results of our modelling available on our Storm Overflow web page [Storm Overflows](#) in the first half of 2024.

Around half of spillage is from storm overflows in the network and half from pumping stations and storm tanks at our treatment works.

Our modelling shows that our ten largest spilling storm overflows account for around one third of the total volume of forecast spills. These are ranked and shown in the table below.

Storm overflow	Drainage Area	Meeting NIEA standards
Belfast WWTW Storm Tanks	Belfast	Yes
Kinnegar WWTW Storm Tanks	Kinnegar	No
Sydenham Park Avenue TPS	Kinnegar	No
Riversdale WwPS	North Coast	No
Armagh WWTW Storm Tanks	Armagh	Yes
Belfast Tunnel TPS	Belfast	Yes
Upper Falls Boucher CSO	Belfast	No
Riverdale Park South CSO	Belfast	No
Pennyburn WwPS	Culmore	No
Ballycairn Coleraine North Coast TPS	North Coast	No

Key: WWTW - Wastewater treatment works; TPS - Terminal Pumping Station; WwPS - Wastewater Pumping Station, CSO - Combined Storm Overflow

Event Duration Monitors

NI Water carries out manual inspections of storm overflows as part of our maintenance and monitoring activities. These inspections are conducted to assess the condition and performance of the asset. This includes checking for any signs of blockage or malfunction.

To monitor and record spills, Event Duration Monitors (EDMs) are being installed across NI Water’s wastewater network over a multi-year investment programme. These measure the times when a spill is occurring and for how long it lasts.

Having EDMs gives us telemetry data that can be used to supplement the results of our models. They can also be used to trigger operational response if abnormal spills are occurring such as a blockage or equipment failure.

The first phase of our deployment, as agreed with the NIEA, is focused on discharges to bathing waters and locations near to shellfish breeding grounds.

By 2027 we aim to have 700 EDMs in use, sending reliable information back to our Alarm Management Centre. This will give us around 30% coverage of all storm overflows.

Going forward we will engage with NIEA, the Utility Regulator and DfI to make the funding case for EDM installation at all storm overflows that spill.

We also continue to work with NIEA to establish the best method for future measurement of the quantity of what is being discharged. Monitoring river water quality is a much more accurate and direct method of measuring environmental impacts, rather than monitoring the duration or volume discharges. Yet regrettably our industry remains several years away from being able to achieve this.

We intend to publish for public access our first batch of historic EDM data in the summer of 2024 via our Storm Overflow web page [Storm Overflows](#). We are also exploring how we can alert people to the operation of a storm overflow.

Roadmap to resolve

Period 2021-2027

Our plan for wastewater initially focuses on the need to upgrade our treatment capacity. We can then subsequently prioritise improvements to the network to reduce excess spillage without overwhelming the receiving treatment facilities with the additional wastewater.

Meanwhile we are developing our drainage modelling capability to better identify where issues exist in our network so investment can be best targeted.

Around £1.8 billion is planned to be invested in the wastewater system during the period 2021 to 2027.

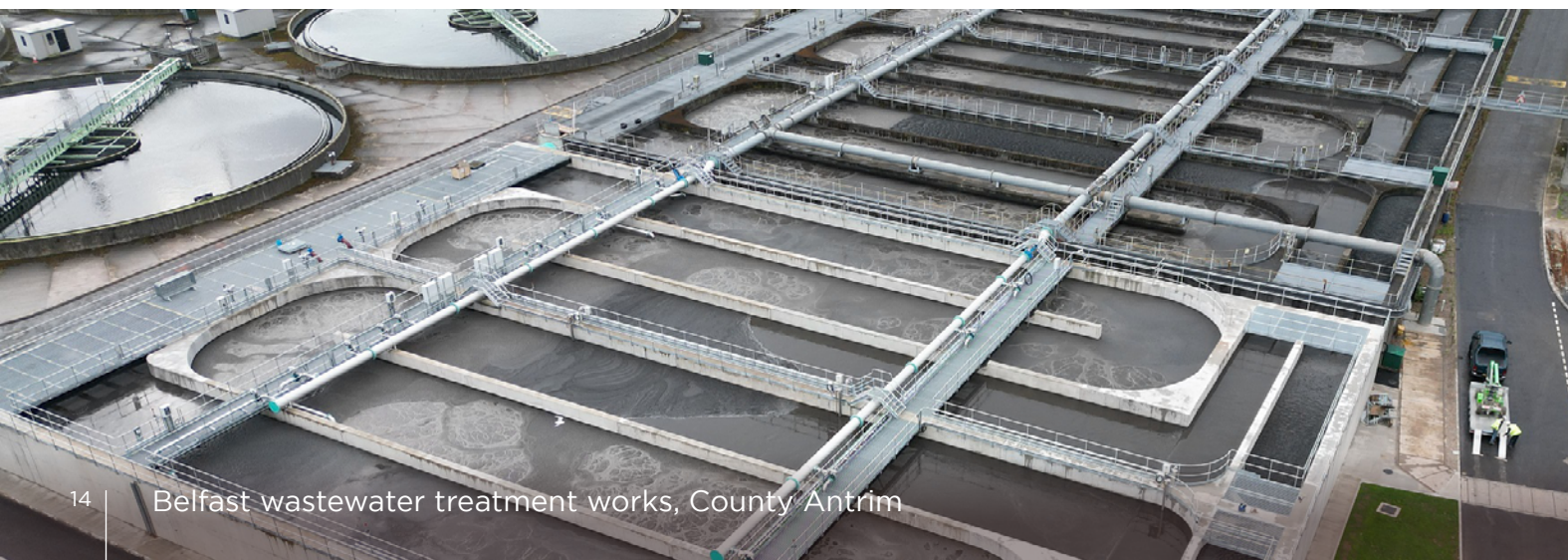
We are coming to the end of the third year of our six-year price control and awaiting outcome of the mid-term review with our financial regulator. The prices shown below are based on the original plan with costs uplifted using the November 2023 Office of Budget Responsibility forecast for inflation. The plan also includes Belfast Living with Water:

- £787 million in improving 42 treatment works. This includes major upgrades at the Greater Belfast main treatment works serving Northern Ireland's key economic hub as well as major schemes in the likes of Dungannon and Newry. It also covers the delivery of 36 upgraded small rural wastewater treatment works and detailed studies to inform future development of works.
- £558 million to address 105 storm overflows that are classified as unsatisfactory and make them perform to satisfactory standards. The prioritisation has been agreed by NIEA. This investment also includes the diversion of rainfall from over 200,000m² of impermeable rainwater collection surfaces (such as roads, pavements, and roofs) that is going into the sewer system and causing spills.

- £445 million in routine capital maintenance to ensure our treatment works, network and pumping stations are stable and continue to operate properly. This for example includes the planned renovation of around 60km of sewer mains as well as ongoing operational reactive interventions.
- £33 million to complete sewerage drainage area plans and environmental simulators to inform and optimise investment in the network and assist development decisions; and money to deploy a further 744 event duration monitors in areas of highest priority such as waters used for bathing or within 2km vicinity of shellfish as agreed with NIEA. This so we can better understand what is happening in the system.

As a result of this work, we expect to:

- Reduce the number of properties at risk for internal sewer flooding (as recorded in the DG5 risk register) from 120 at the start of period to 78 at the end.
- Increase compliance against NIEA permits for wastewater final effluent released back to the environment from 92% to 94%.
- Reduce high or medium annual pollution incidents to 7 or fewer in the final year of the period. This is compared to our target of 12 in 21/22.
- Start to ease constraints in 10 larger suburbs and 37 towns and villages that are inhibiting the connection of new developments.



Belfast wastewater treatment works, County Antrim

Looking beyond 2027

As we look beyond 2027 and out to 2050,, we estimate that the wastewater system will require in the region of a further £12 billion of investment over the period.

Several of these costs are uncertain pending detailed investigations and we have assumed a 1% average inflation from 2027.

In some instances, the solutions are not yet available. This means we are reliant on future technical innovation to create these. Nevertheless, they represent high level estimates. We are confident that they are in the right ballpark and give an indication of the funding challenge ahead and the difficulty of affordability facing our society:

- £1.6 billion over the period, or around £70m per annum, to maintain stability of the wastewater system.
- £4 billion to bring all remaining wastewater treatment works up to current standards and capacity.
- £3.5 billion to meet NIEA's current standards for storm overflows. If the level of investment in PC21 was maintained, it would take until 2050 to complete.
- £3 billion additional investment if the standards applied to storm overflows are further tightened to the levels being pursued in England and Wales.
- £0.5 billion to add tertiary treatment to wastewater treatment to remove nitrates and phosphates in final effluent.
- £0.5 billion to address the issue of Nitrous Oxide (NOX) emissions, a potent greenhouse gas, at all our treatment works.
- £100 million to protect vulnerable wastewater assets from the impact of climate change that is causing more extreme rainfall and rising sea levels.
- £200m to replace our incineration facility that reaches end of life in the 2030s with a greener solution. This processes all wastewater sludge from our treatment works is currently incinerated.
- £20m to complete our deployment of monitoring, adopt intelligent operational control systems, and further enhance our modelling.

This quantum of investment is necessary to bring our wastewater system back to the standard it should be at. Then to enhance it further to meet tighter environment standards, provide capacity

for further connections, address greenhouse gas emissions and ensure resilience to climate change. should be at. Then to enhance it further to meet tighter environment standards, provide capacity for further connections, address greenhouse gas emissions and ensure resilience against climate change.

NI Water break ground on the new £4.8m Ballyronan Wastewater Treatment works



The new wastewater treatment works at Ballyronan, County Derry/Londonderry will deliver important environmental benefits, such as enhancing the water quality in Lough Neagh and has been designed to accommodate development in the area for the next 25 years.

The existing treatment works, which was constructed in the 1970s, remains in operation while the new infrastructure is being installed at the same site.

NI Water Project Manager said: *"This major investment includes the installation of state-of-the-art, fully enclosed, treatment tanks, along with advanced electrical and mechanical systems to provide a robust wastewater treatment solution. This will help enhance the water quality in Lough Neagh, bringing many benefits to the local community well into the future."*

Chair of Mid Ulster District Council's Development Committee added: *"I was delighted to have the opportunity to tour the site and witness the start of this major £4.8 million investment first hand. This new facility is good news for Council, as it will enhance wastewater services for customers in the Ballyronan area and beyond, whilst accommodating future development in the area."*