

Delivering our strategic priorities

The world in which we operate

Our global world

We live in a resource constrained world and have a responsibility to ensure that our planet earth is sustainable for those who come after us. The United Nations has developed 17 goals to deliver a more sustainable world by 2030 and we are proud to play our part in supporting delivery of at least 12 of these goals:

SUSTAINABLE DEVELOPMENT GOALS

3 GOOD HEALTH AND WELL-BEING 	4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND



Watermains Improvement scheme.



Leakage detection.

Strategic areas of focus

Right place,
right time,
right channel

Caring
for you

Getting
smarter

Protecting
you

Sustainable development goals



Principal threats/opportunities



Page 76 Read more about principal threats and opportunities.

Strategic performance indicators

Customer	Unit of measurement	Target 2022/23	Actual 2022/23	Pass/Fail	Target 2023/24
Reduction in customers reporting service failures	Number	66,100	57,327	Pass	65,200
First point of contact resolution	%	84	84	Pass	84
More customers singing our praises (Net Promoter Score)	Number	42	36	Fail	42

Right place, right time, right channel


Our social media and digital channels provide us with fantastic platforms to keep our customers informed of the challenges we face delivering great tasting, clean drinking water and recycling wastewater safely back to the natural environment. Our Website, Facebook and X accounts allow us to reach out to our customers when there is an incident impacting the services we provide and to change how they think about water to help reduce the pressure on our infrastructure and nature.

Facebook and web chat boost

In our ambition to deliver an exceptional customer experience, we are embracing new ways to meet rising customer expectations. Since increasing the operational hours of our social media platforms and introducing a web chat to our service update page,

our social media base has continued to grow, now surpassing 33,000 followers. Monthly web chat usage has also increased by over 100%. Feedback from customers for these channels has been very positive with both web chat and social media registering high consumer advocacy scores.

We expanded our customer base for web self-serve. In 2022/23 we launched the web self-serve for developers, providing them with a service to submit applications, track progress and pay online. This is a major step change for the business and transforms the way we interact with our customers. Analysis of our range of social media offerings in comparison to other utilities is encouraging with around a quarter of our customers now choosing to contact us through a digital channel.



Self Service portal
Online portal for paying your bill, Article 161, New Connections, Trade Effluent and Septic Tanks
[Click Here](#)

Right first time

We have introduced a comprehensive programme of initiatives to minimise the need for customers to contact us and for those customers that do make contact, ensure we resolve their issue first time.

During 2022/23, we commenced an end-to-end water quality journey review and made changes to our high-volume call handling process resulting in a significant reduction in unwanted repeat water contacts. Over 2022/23 we delivered against both our target of 66,100 for unwanted customer contacts, and also against our First Point of Contact Resolution target of 84%. Our Net Promoter Score (NPS) of 36 compares favourably with other utilities and UK water companies, although it is below the challenging target of 42 set by the Utility Regulator. We also introduced early warning text notifications for metered non-domestic customers experiencing high water consumption.

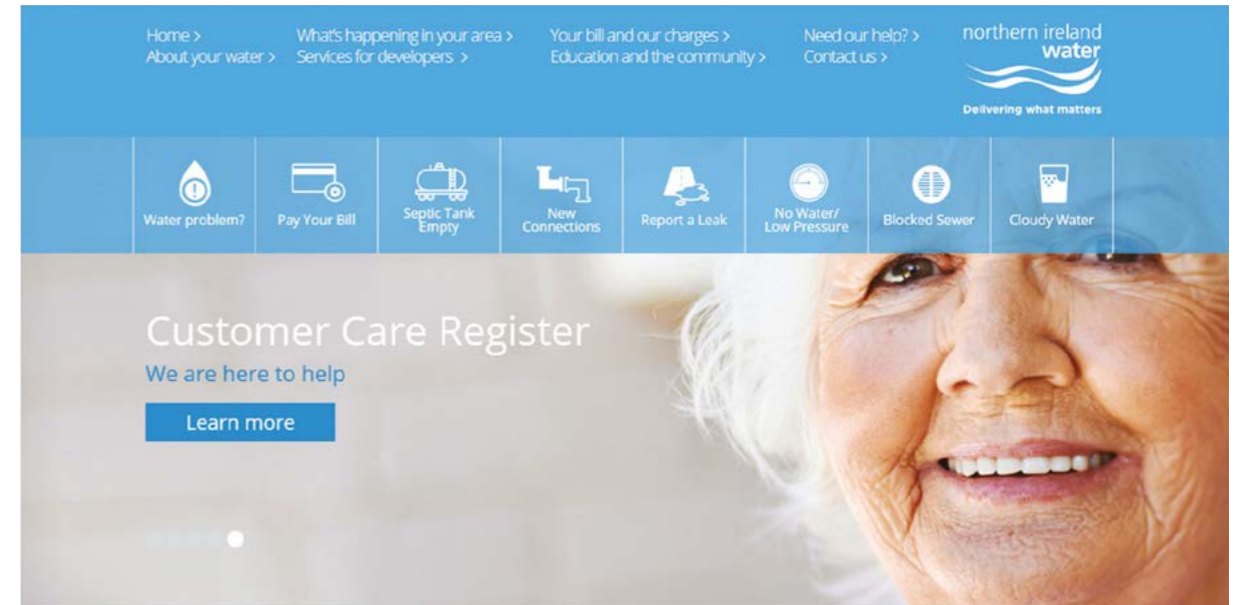
We expanded the use of robotics to automate manual processes, focusing on how we manage leakage defects that are identified by our contractors and continued with our programme of improvement initiatives focusing on septic tank and billing journey improvements.

During 2022/23, we introduced social media and web chat services until 11pm, seven days a week. We offer a range of telephony and self-service channels to suit our customers' needs, including our waterline service, which is available 24 hours a day.

In the UK Customer Satisfaction Index Results for the first six months of 2022, NI Water was named in the top 20 most improved organisations and listed as the second highest performing water company for overall customer satisfaction. In the complaint handling section of the measure, NI Water was ranked second highest out of all 279 registered companies.

Voice of the Customer packs are circulated monthly to business areas to provide an understanding of what is working well and to highlight areas for improvement.

Over 2023/24, we will undertake several customer journey reviews based upon customer feedback, along with our annual omnibus survey to gain the opinions and thoughts of the 'silent majority' of customers that use our services.



Caring for you

Our Customer Care Register offers a range of free additional services for those customers who need extra help, such as an alternative water supply when supplies have been interrupted for a prolonged period. We continue to work with Health Trusts, Councils, and other Utilities to promote our Customer Care Register. A further 128 customers have been added to the register, with a total of 2,822 customers/organisations registered. We continue to engage with the Utility Regulator, CCNI and other utilities on the Consumer Protection Programme Best Practice Framework, which will standardise

the approach to consumer vulnerability across the Northern Ireland utility sector. We are also liaising with the British Standards Institution and the NOW Group regarding the process for attaining the internationally recognised consumer vulnerability and Just a Minute (JAM) accreditations.

You can join our Customer Care Register at www.niwater.com/customer-care-register/ to get the extra free services you or anyone in your household would like to receive. Alternatively, telephone Waterline on 03457 440088.



Getting smarter

In response to customers feedback requesting a modern, interactive web-based platform where they can submit applications for our services, track progress, make payments and digitally sign documents

without the need for paper or telephone contact. We launched a digital application process for new connections to our network, wastewater adoptions and applications for trade effluent.



Launch of self-service portal at NI Water's Intelligent Operations Centre.

Working smarter by automating work scheduling for all our frontline staff

In 2022/23, we implemented an automated scheduling solution known as 'Click Schedule'. This major milestone marks the first time that all mobilised teams, across the Customer and Operations Directorate, are enabled in a common work scheduling solution. Robotics were used to automate the input of this information into Click Schedule. A comprehensive round of testing and scheduling simulations over several weeks followed, to ensure jobs were scheduled to the right operatives, with the required skills in the right priority.

In the months following implementation, we observed a range of potential benefits of automated scheduling, including clear visualisation of schedules in a structured, graphical format; improved situational awareness, prioritisation and scheduling of work orders. Additionally, NI Water will benefit from a deeper experience of how future scheduling products can be effectively implemented for our asset-focused teams alongside our customer-focused teams.



NI Water staff training on the new automated scheduling solution, Click Schedule.

Protecting you

Cybercrimes are increasing in both frequency and in their disruptive potential. These crimes could lead to an interruption in the delivery of our essential services, damage our computer control systems, or lead to a data breach. During 2022/23, we delivered bespoke security training and awareness for staff working with our operational technology assets. Our education campaign involved issuing simulated phishing emails to our staff. The campaign proved to be extremely successful in lowering user's click-rate as well as increasing cyber awareness. We also undertook an exercise with our cyber insurers to simulate the support that can be drawn upon during an actual incident. Further improvements have been made to our operational technology used to run the NI Water sites as part of the cyber resilience programme, supported by collaboration with the National Cyber Security Centre.





Solar panels at Moneymore Borehole in County Derry/Londonderry.

Strategic areas of focus

Improve at source

Enough water for all

Tasty, clean and safe

Drive down leakage

Always on

Sustainable development goals



Principal threats/opportunities



Page 76 Read more about principal threats and opportunities.

Strategic performance indicators

Water	Unit of measurement	Target 2022/23	Actual 2022/23	Pass/Fail	Target 2023/24
Water quality compliance*	%	99.83	99.91	Pass	99.83
Leakage	MI/d (Million litres/day)	156.00	162.30	Fail	154.00
Reduction in supply interruptions in excess of: **					
• 6 hours	%	0.687	0.145	Pass	0.666
• 12 hours		0.087	0.000		0.084
• 24 hours		0.009	0.000		0.010

* Calendar year target.
 ** The >12 hr target is a Final Determination target. The >6hr and >24hr targets feed into the Supply Interruptions Overall Performance Score, which is also a Final Determination target.



This 10-hectare peatland plot along the shores of Lough Bradan Reservoir, County Tyrone, has been restored using the innovative 'cell bunding' technique.

Improve at source

NI Water is one of the largest landowners in Northern Ireland and our largest land holdings tend to be in upper areas of drinking water catchments where peatbogs and heathland dominate. The peat bogs in our water catchments are amongst nature's superstars, providing a range of eco-system services. They provide a natural form of water purification by naturally filtering water, protect against floods by storing water, help reduce greenhouse gas emissions by removing and storing carbon and provide an important habitat for many species thus enhancing biodiversity. They can only do this effectively if they are not degraded.

Peatland resoration at Lough Bradan

Large areas of our peatlands are planted in commercial forestry in agreements dating back decades, which can create problems for both water quality and biodiversity. We have been working closely with Forest Service, Department of Agriculture, Environment and Rural Affairs (DAERA) in our drinking water catchments to negotiate back areas of commercial forestry planted on peat where there might be long-term benefits to water quality. In 2022/23, Forest Service offered to release some areas in Lough Bradan and at

Spelga reservoir catchments, back to NI Water for restoration. It is intended that the conifers on these sites will be felled, and we will then install a range of measures to re-wet and return the land to natural peatland conditions. This rewetting will eventually improve water quality by reducing colour and turbidity fluctuations in the nearby reservoirs as the peatland starts to recover. Over time it will also help enhance biodiversity and sequester carbon.

Pressures arise on our water resources from various sectors with agriculture being one of the major pressures. NI Water continues to engage with the farming community through several channels. We regularly attend DAERA Farm Business Development Group meetings (farming education group meetings), Environmental Farming Group Meetings and other events held by DAERA or The College of Agriculture, Food and Rural Enterprise (CAFRE) for farmers and present on local water treatment, water quality protection and pesticides best practice. We continue as active members of the Water Catchment Partnership to promote the message to always use best practice when using pesticides to protect our drinking water supplies.



Collaborating with the agriculture sector to improve water quality remains a key focus area for NI Water.

The High Mourne Management Plan has been completed and is now being implemented by the High Mourne Working Group to holistically plan and deliver land management activities in our Mourne landholdings. A more sustainable and more suitable grazing contract is being rolled out for the areas we lease to farmers in the region going forward. Following from this there are a range of measures to be addressed to manage the Mourne sustainably, so that the public can enjoy recreation for years to come, as well as being a vital water source for NI Water.

We liaise with The Woodland Trust to improve water quality, offset carbon, mitigate flooding and enhance biodiversity through riparian planting around our Faughan, Burntollet and Glenedra river catchments where trees have been planted along watercourses above Caugh Hill and Carmoney water treatment works intakes

to stabilise the banks and prevent erosion from affecting raw water quality. We are also engaging in large-scale tree planting on our landholding. An application has been approved by DAERA Forest Service on our behalf to draw down Forest Expansion Scheme funding to plant more than 90,000 trees in the Annalong Valley within the 2022/23 planting season and areas have been secured around Stoneyford reservoir to plant over 100,000 trees which is important for habitat as well as future water supply provision.

We are exploring a Peace Plus project to build on the success of the Source To Tap INTERREG VA Project and deliver raw water quality improvements in a number of priority catchments. We have plans to undertake further peatland restoration projects in Dungonnell, Lough Bradan and Spelga catchments.



Collaborative work is ongoing in the Mourne Mountains, County Down, to maintain paths and restore natural habitats.

Successful completion of Source to Tap



The project's land incentive scheme delivered:

234

Water Environment Management Plans

€1.16m

On-farm interventions

118

Farms

Weed-wiping

146 acres on **73** farms

76 Pesticide Storage Units

Livestock Exclusion Fencing

55.69 kilometers on **79** farms

Alternative watering facilities

63 farms

Clean & Dirty Water separation

21 farms

Farmer innovation projects

18 farms

Enough water for all

Planning for the long-term

The Water Resource and Supply Resilience Plan sets out how NI Water intends to sustainably maintain the balance between supply and demand for water over the long-term, and the operational and management options and activities available to respond to short-term critical events such as droughts and freeze-thaw issues. This has identified a number of water resource zones that are likely to be in deficit in the future and the next stage in plan development is the options assessment to identify the required mitigations to resolve these potential supply/demand issues.

Several new projects and operational interventions were completed in 2022/23, which have improved current supply/demand and resilience issues. These were driven by both the outputs of the last plan and a review into hot weather incidents. This includes among other activities, a new borehole at Moneymore, the construction of two new filters at Clay Lake water treatment works to improve performance and intake improvements at Lough Fea water treatment works.

Further work is continuing including the progression of the strategically important Castor Bay to Ballydougan project, which will facilitate transfer of additional flow from Castor Bay to Ballydougan.

The new Water Resource and Supply Resilience Plan will be published for public consultation in 2023/24, and once finalised, will support the PC27 Business Plan submission.



Aerial view of Moneymore Borehole in County Derry/Londonderry.

Tankering 10 million litres of water

Extreme weather, hot or cold, can have a major impact on assets, causing increased leakage within our network and on customer properties. Our changing climate is bringing more frequent and severe weather events such as heavy rainfall, heatwaves and extreme cold. These events can affect the quality and quantity of our water sources, placing pressure on our water treatment works.

The recent freeze/thaw in December 2022 is a reminder that our water system is vulnerable to climate change. This major operation started when the freezing weather changed to a thaw resulting in thousands of burst pipes on the water supply network and customer properties. After nearly a week of intense and focused work to repair bursts, ramp up water production, tanker additional supplies to vulnerable service reservoirs, while making appeals through the media for

help to identify leaks and conserve water, demand moved back to normal levels. As well as a maximum daily water production of 740 million litres of water, we moved almost 10 million litres of water through 550 tanker runs - keeping our customers in supply.



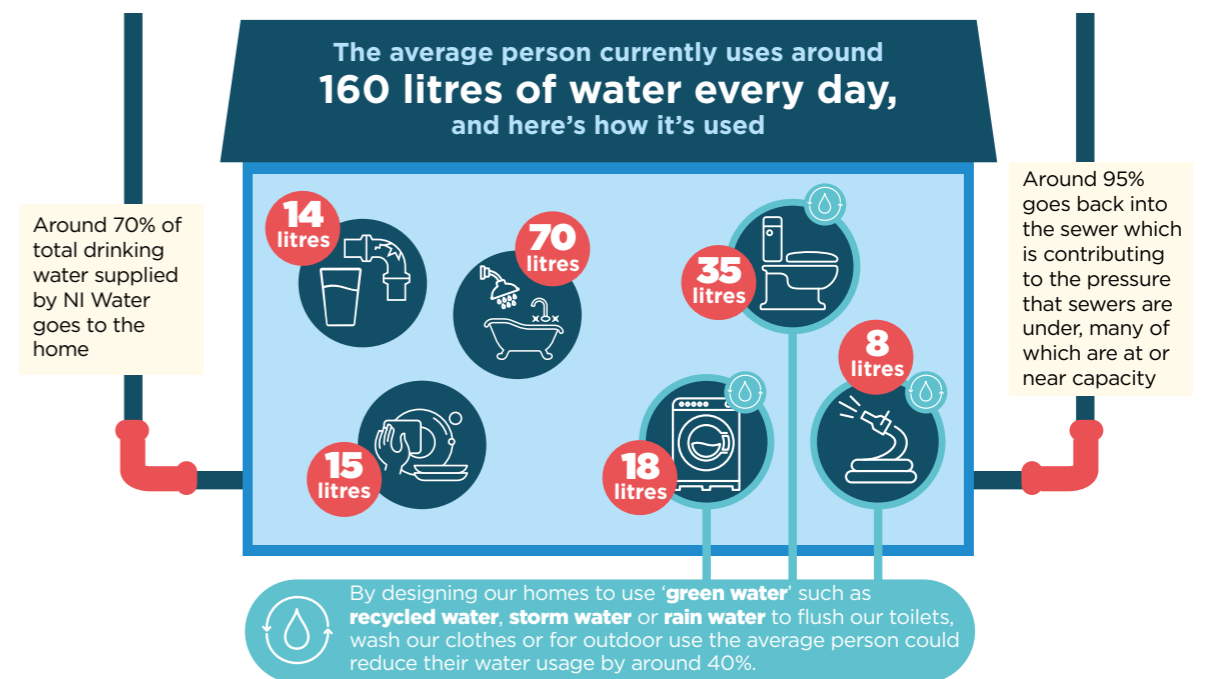
NI Water tanker being filled with treated water before being moved across Northern Ireland.

Using less drinking water

By better designing our homes we could reduce the total demand for drinking water by around 25%. Further reductions in demand can be achieved by installing more water efficient appliances in the home and changing our behaviours e.g., shorter showers. By using less, we can lower our

carbon footprint, improve biodiversity, reduce leakage, increase resilience, and ease pressures on our sewerage infrastructure.

Find out more at www.niwater.com/water-saving/



Pumping £5m into the North West

We completed a £5m Improvement Scheme at the River Faughan raw water pumping station in Campsie. The project involved the upgrade of the existing River Faughan raw pumping station by replacing ageing assets to ensure a reliable water supply to Carmoney water treatment works, including the replacement of the station’s weir gates to provide extra security and resilience.

Head of Water Capital Delivery at NI Water said: “We are delighted to announce the completion of this major water improvement scheme, which will greatly benefit the local water infrastructure and resilience of the water supply for the North West, securing a reliable water supply to Carmoney water treatment works, which supplies water to around 110,000 customers in the North West. This will be particularly important during the winter months and other unplanned events, to provide our customers with an improved, more reliable service.”

Deputy Mayor of Derry City and Strabane District Council added: “I was pleased to

have the opportunity to tour the site and witness the improvements first hand. This new multi-million-pound facility is good news for the Council, as it will enhance the water infrastructure and the security of the water supply for customers in the area supplied by Carmoney water treatment works.”



Deputy Mayor of Derry City and Strabane District Council and NI Water and Contractor staff at River Faughan raw water pumping station, County Derry/Londonderry.

Tasty, clean and safe

Delivery of great tasting, clean and safe drinking water is central to what we do. It underpins the public health and economy of Northern Ireland.

World class on tap

The water we supply for domestic use or food production must comply with the standards in the Northern Ireland Water Quality Regulations, which incorporate European Union standards and more stringent UK national standards. The standards are strict and generally include wide safety margins. They cover: bacteria; chemicals such as nitrates and pesticides; metals such as lead; and how water looks and tastes. To make sure that your water supply is clean and safe, we take samples for testing. Sampling and analysis are carried out 365 days per year to ensure that our drinking water is tasty, clean and

safe. Our sampling programme covers raw waters, water at various treatment stages, treated water going into supply from our treatment works, drinking water in the distribution system and at the customer tap. Samples are analysed by our scientists based in laboratories at Belfast and Altnagelvin. Overall drinking water quality compliance in 2022 was 99.91%, above the target of 99.83%. We publish a Drinking Water Quality Report each year, which is available on our website.

We are engaging with the DWI on potential changes to the Drinking Water Directive post Brexit. We have put in place a monitoring programme of sampling and analysis for the potential new parameters to assess the implications of these new requirements, should new drinking water regulations come into force.

Tackling lead pipes


Replacing **11,000** lead communication pipes in PC21


1,864 replacements in 2021/22
1,873 replacements in 2022/23

The water leaving our water treatment works and in the distribution systems contains only trace amounts of lead. However, where lead has been used for supply pipes between the water main and the kitchen tap or in domestic plumbing, there is a risk of non-compliance at the customers’ tap. So even with the removal of all lead pipes within our network there will be a risk to lead compliance from lead pipe remaining within customer properties.

A review of our website and our lead leaflet was undertaken in 2022/23 to improve the information on lead and lead pipe replacements for our customers. A media campaign to highlight the risk for lead pipework in customer properties and to encourage customers to replace lead pipework is planned for 2023/24.

We continue to engage with stakeholders concerning the potential options for consideration in relation to addressing lead in private supply pipes, including the potential for the establishment of a new grant scheme, to enable private customers to access funds for replacement of their private supply pipe. These stakeholder engagements will help inform a submission to the Minister on options to remove lead from customers private supply pipes.

 Find out more about reducing the risk of lead at: www.niwater.com/lead-pipes/

 https://www.youtube.com/watch?v=9k9FI0_FcZE

Drive down leakage

NI Water’s leakage teams work around the clock locating and repairing leaks, saving water, a precious resource for hygiene and hydration.



Detecting leaks using a dog.

In 2022/23, we were making good progress with reducing leakage. However, in December 2022 the UK and Ireland experienced a major freeze thaw weather event which had a significant impact upon NI Water’s and customer’s pipework. This resulted in leakage being 6.3 million litres per day higher than the 2022/23 target of 156 million litres per day.

Our teams work 24/7 using highly skilled leakage detection and repair techniques. A variety of leakage detection methods are used to find leaks whether they are on water mains or within customer properties. Some of these techniques involve using a listening stick, a tried and tested way of detecting a leak as well as other methods such as satellites, ground microphones, acoustic loggers, drones, and dogs. The combination of traditional and new approaches to leakage management should help improve our leakage performance over the remainder of PC21.



Innovative satellite leak detection technology.

Eye in the sky

Much of the areas we serve are rural, with pipes located across fields and hills. It can therefore be extremely challenging to locate leaks when they do occur and hence the need to find new innovative ways of finding and addressing leakage. One of the innovative technologies being used to detect leaks is satellite imagery. Potential leaks are detected with the assistance of specialist satellite mounted technology which identifies water spreading from underground pipes. Leakage detection teams are then able to undertake follow-up work to determine if there is a confirmed leak.

If there is a leak on your property, then please get it fixed as just over a quarter of leakage is within the boundary of a customer's property. If you see a leak on the footpath or on the road, you can help by letting us know. You can report it by visiting <https://www.niwater.com/report-a-leak-or-burst-pipe/> or by calling our dedicated Leakline number on 0800 028 2011, open 24 hours a day, every day. Calls are free of charge.



Always on

Every week we are repairing bursts that occur on our water network of 27,000 km of water mains. Many of these bursts can result in interruptions to customers' supply or customers experiencing low water pressure.

Every minute counts

Our 'every minute counts' ethos helps to focus on ways to improve our performance and explore innovative solutions to minimise the time customers are off supply and keep them in supply with water.

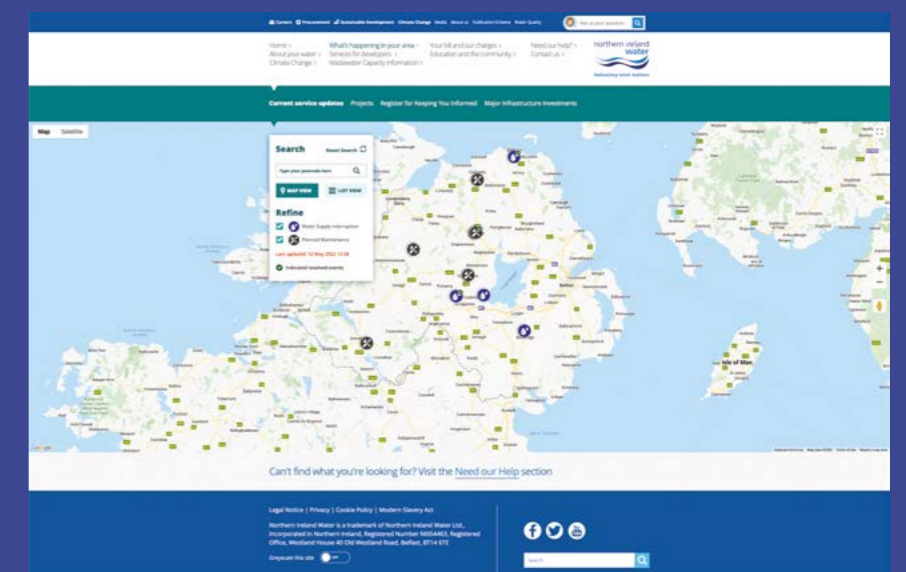
Implementation of our interruptions to supply strategy is delivering real benefits for customers. In 2022/23, we had the best performance in relation to minimising water supply interruptions. We sought to improve our performance by undertaking post interruption reviews to establish key learnings; utilising water tankers in response to interruption to supply events and engagement with internal and external stakeholders. We now use emergency restoration trailers containing specialist equipment such as flexible hoses, pumps, cross-connections to increase our response capability. We have also purchased a new custom-made pumping trailer that has the capability to pump directly into the water network in an interruption scenario. Both types of trailers have been used at events this year, helping to maintain supply to customers.



NI Water's new custom-made pumping trailer.

We have continued to invest in the SMART networks programme to maintain a CALM network and increase visibility on all our water assets. Creating a calmer network reduces transients that can cause bursts and interruptions. We will be improving controls at water base stations and using our new digital tools as well as data analytics through our SMART network to monitor and control our field operations.

Visit <https://www.niwater.com/current-service-updates/>





Ballygowan wastewater treatment works, County Down.

Strategic areas of focus

Funding world class economic infrastructure

Efficient and affordable services

Sustainable growth

Sustainable development goals



Principal threats/opportunities



Page 76 Read more about principal threats and opportunities.

Strategic performance indicators

Economy	Unit of measurement	Target 2022/23	Actual 2022/23	Pass/Fail	Target 2023/24
Increase/(decrease) in customer tariffs*	%	6.6	6.6	Pass	13.4
Number of economic constraint areas removed (cumulative over 2021-27 period)	Number	0	0	Pass	0
Number of serious development restrictions removed (cumulative over 2021-27 period)	Number	4	6	Pass	4
Bathing water quality**	Excellent	Majority excellent or good***	21	Pass	Majority excellent or good***
	Good		3		
	Sufficient		1		
	Poor		1		

* Non-domestic customers only.

** Bathing water at 26 sites is monitored weekly from May to September each year.

*** Other major contributors to bathing water quality include agriculture, wider industry, and consumer behaviour (flushing inappropriate items).

Funding world class economic infrastructure

Largely unseen, our infrastructure is the foundation for all economic activity in Northern Ireland as almost every new home and business requires a connection to the public water and sewerage system. We share the government's ambition for Northern Ireland to have the infrastructure that enables everyone to lead a healthy, productive and fulfilling life; supports

sustainable economic development; and protects our environment. But this ambition can only be realised if we move from a 'stop-start' approach to delivery as a result of underfunding, to multi-year funding in line with that determined by the independent Utility Regulator, supported by a mechanism to deal with financial shocks.

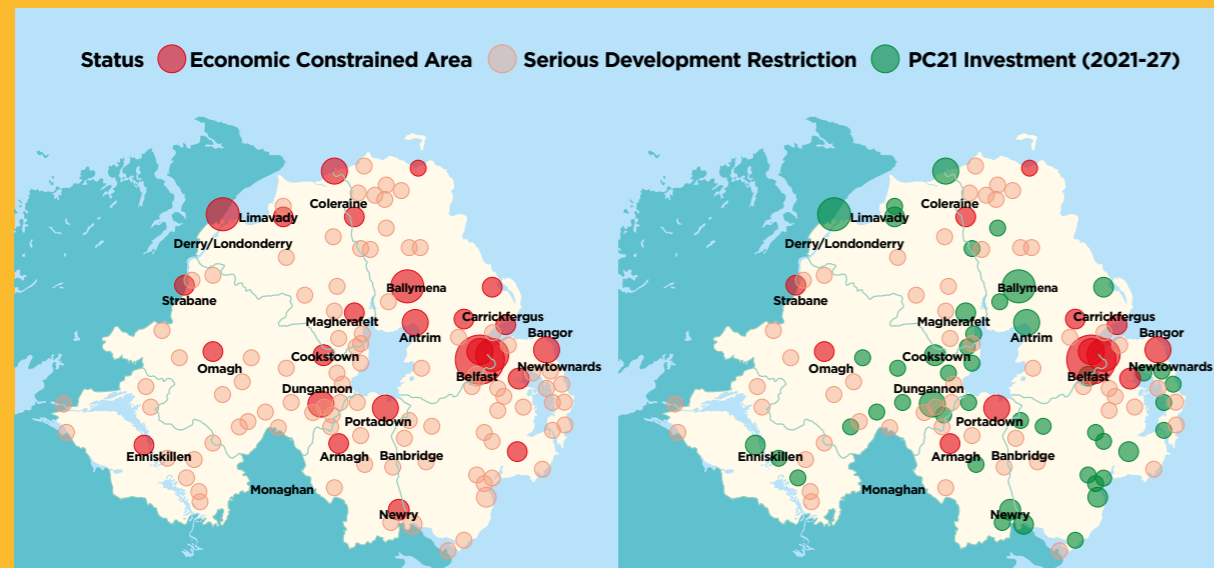
Unlocking development constraints

The public expenditure made available from Government for investment in wastewater services has not been able to keep pace with the investment required to provide increased capacity to facilitate growth or achieve water quality targets. Many of our sewerage networks and wastewater treatment plants are having to operate at or beyond their design capacity, limiting opportunities for new connections and constraining economic development in over 100 towns and cities across Northern Ireland, including Belfast and Derry/Londonderry. Our PC21 Business Plan sets out the investment required to start to address the wastewater capacity constraints. We anticipate that it will take a sustained increase in investment over the next 12 to 18 years to solve the problem of development constraints.

During 2022/23, we continued our engagement with local councils and other stakeholders on wastewater capacity constraints. We also revised wastewater system capacity information across all Council areas and engaged with Council's

local development planning teams. We are developing decision support tools such as Esri ArcGIS and Power BI to help prioritise and target investment on wastewater capacity constraints. One of the key strategies that NI Water has adopted is the introduction of a restructured pre-planning process to help mitigate where possible site restrictions and facilitate connections to our network.

We are identifying innovative wastewater technologies and optimising existing wastewater processes. This may result in some economic growth in the catchments served by wastewater treatment works across Northern Ireland, which are currently operating at or near their capacity. We have assessed a priority wastewater treatment works at Armoy, County Antrim for process optimisation and potential application of innovative technologies. Going forward, we will conduct innovative technology pilot trials at a test centre situated in Ballykelly (North West) and at other identified wastewater treatment works, which are currently constrained.



Development constraints across Northern Ireland at the end of year two of PC21 (2022/23).

Development constraints across Northern Ireland at the end of PC21 (2027).

£1.2bn framework to boost local economy

In 2022/23, we commenced a £1.2bn Major Project Partnership Framework, which will deliver large projects on water and wastewater infrastructure across Northern Ireland. This framework will include upgrades to major water and wastewater treatment works, pumping stations, and network mains. It will run for an initial four-year period. The framework provides further resilience for NI Water to provide our customers with the best financial, sustainable and environmental outcomes, and provides us with access to some of the most innovative providers within the construction supply chain. One of the first major projects on the framework will be upgrade work at Belfast Wastewater Treatment Works, which commenced during 2022/23.



NI Water staff at the launch of the £1.2bn project partnership framework.

Pumping £9m into Fermanagh and Tyrone

NI Water completed a £9m investment at Killyhevlin water treatment works. This will improve the security of the water supply of around 36 million litres of water per day for the 50,000 customers in Fermanagh and Clogher Valley, particularly during periods

of extreme weather. This major upgrade involved the construction of a new clear water storage tank on the existing site, as well as a new pumping station to allow for a future increase in water supply.



Killyhevlin water treatment works Enniskillen, County Fermanagh.

Efficient and affordable service

We continue to promote the need for multi-year funding of the PC21 Final Determination, supported by a financial risk mechanism, through liaison with key stakeholders. Securing government commitment to fund the PC21 Final Determination and provide NI Water with the ability to manage financial shocks remains the highest priority for PC21.

We are preparing for the PC21 mid-term review and received the Utility Regulator’s approach in 2022/23. We will make a written submission to the Regulator at the end of September 2023, setting out proposed changes to funding, price limit requirements and revised output targets. The Regulator will publish their decision in December 2023.

The NI Audit Office is undertaking a review on the funding of NI Water’s infrastructure and plans to publish its report by Summer 2023. We welcome this review and are assisting the NI Audit Office with its enquiries. Further details are available

at <https://www.niauditoffice.gov.uk/publications/work-progress-funding-ni-waters-infrastructure>

Our Achieving Customer Excellence programme is the major vehicle to deliver operational cost and capital expenditure efficiencies and wider benefits. We are optimising the pace at which NI Water transitions to renewable energy, building the capability and capacity to sustainably deliver in asset investment, digitally enabling the Intelligent Operations Centre to better predict and prevent issues and optimise running of our assets. This is supported by a powerful ‘cost to serve’ tool giving operators a deep understanding of production line cost performance and developing and extending our capability to continuously drive improvement, value and transformation.



Read more on our [governance model and funding at page 80.](#)

Lighting up the way

Drummaroad water treatment works is one of our largest sites and produces water for around 25% of our population served. Drummaroad was selected as part of a wider initiative to review sites in terms of energy usage and performance. The LED installation

on site will assist in realising energy efficiency of around 107,000kWh/year as well as improving the lighting inside and outside the building, which will result in a safer working environment.



Energy efficiency LED lighting at Drummaroad water treatment works, County Down.



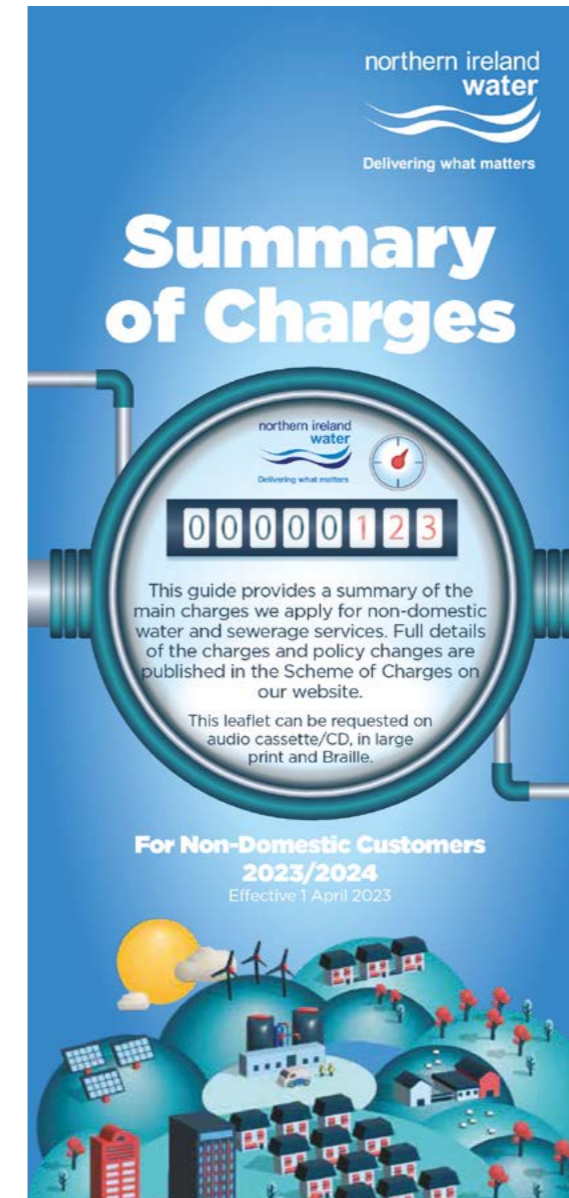
Read more about our ambition on renewables at <https://www.niwater.com/climatechange/strategy/>

Customer tariffs

We are aware how challenging the environment can be for local businesses within the economy right now. In previous years, we have been able to limit the non-domestic price increase to strike a balance between generating sufficient income and minimising the impact on business customers. Whilst NI Water has again absorbed as much cost as possible, the company is facing significant financial pressures from rising energy prices and other cost increases.

We have worked hard to ensure most of our customers will see their bills rise by less than inflation. Specific bill changes operate according to a formula agreed with the Northern Ireland Utility Regulator. It is well documented that NI Water needs to receive full funding to ensure we continue to deliver a water and sewerage service that represents good value for money. The revenue from bills will help support necessary investment in our infrastructure, benefitting the local economy and environment. However, even with full funding and bill increases, historic underinvestment will take in the region of 12 to 18 years to remedy.

From 1 April 2023, non-domestic water and sewerage charges increased by 13.4% on average. Measured customer bills increased by 12.7%, while unmeasured and trade effluent bills increased by 13.7% and 15.5% respectively. This compares favourably with other utilities across gas and electricity sectors.



Find out more at <https://www.niwater.com/siteFiles/resources/pdf/WaterCharges/202324/202324SummaryofChargesLeaflet.pdf>

Sustainable growth

Every aspect of life in Northern Ireland relies on the water and wastewater services we provide, so it is important that any investment we make in our infrastructure is built with the future in mind. In order to improve our long-term resilience, we need to ensure our infrastructure can withstand pressures such as climate change, growth in the economy and the need to protect and restore nature. We believe that our future infrastructure investment can support not only the transition to a more sustainable and resilient business but also help create an affordable, low carbon green economy for Northern Ireland.

Advances in our investment management processes are helping us focus on financial efficiencies in delivering our capital investment programme. These processes are also helping us choose more integrated sustainable solutions to address climate change. Our Investment Planning and Costing tool allows estimates of standardised costs and recommend lowest whole life cost solutions to be calculated for PC21 projects. We are expanding our carbon accounting to capture whole life carbon and land carbon.

Pilot projects are being undertaken over the remainder of PC21 to examine the use of a multi-capitals approach to support our decision making. This approach incorporates the social and environmental costs and benefits not presently captured in market prices.

We are working closely with NIEA on the review of consenting methodologies and source apportionment techniques, which will contribute towards ensuring discharge standards at our wastewater treatment works are proportionate, whilst delivering on the best environmental outcome for the investment delivered by NI Water. We have established an Investment Group, which provides a forum with NIEA to facilitate negotiation of discharge standards, enabling open and transparent decision making, supported by appropriate scientific evidence.



[Read more about wastewater compliance on page 54.](#)

Greening our fleet

To reduce our carbon footprint, NI Water's fleet of 600 vehicles will need to move away from their reliance on diesel. By 2027 we aim to replace 200 of the existing fleet with ones that are powered by alternative fuels. As many of these will be electric vehicles, work began during 2022/23 to install electric charging points at key sites. It is planned that further investment in PC21 will move us close to our aim to install chargers at up to 55 sites. These chargers will be for fleet use only. Consideration will be given to enabling staff and visitors to pay to use the charging equipment. Electric vehicles are not only essential in decarbonising NI Water's fleet, but they also present us with the opportunity to financially benefit from returning electricity to the grid at times of higher grid demand.



NI Water's Education Officer and pupils from St Peter's Primary School, Belfast at one of the rapid electric charging points recently installed at Belfast Wastewater Heritage Centre, County Antrim.



Belfast wastewater treatment works, County Antrim.



Pupils from Loughries Primary School helping to plant the new reed bed at Loughries wastewater treatment works, County Down.

Strategic areas of focus

More resilient network

Sustainable solutions

Keep it clear

Towards net zero

Sustainable development goals



Principal threats/opportunities



Page 76 Read more about principal threats and opportunities.

Strategic performance indicators

Nature	Unit of measurement	Target 2022/23	Actual 2022/23	Pass/Fail	Target 2023/24
Reduction in pollution incidents - sewage (high and medium)*	Number	11	9	Pass	10
Wastewater compliance (% population equivalent served)**	%	94.65	99.19	Pass	94.65
Reduction in number of properties at risk of out of sewer flooding (cumulative over 2021-27 period)	Number	0	7	Pass	20
Reduction in carbon footprint. Relates to reduction in carbon emissions measured in tonnes of carbon dioxide equivalent (tCO ₂ e)	%	***	***	***	***

* Calendar year target.

** Calendar year target. Based on pre-announced rather than un-announced regulatory sampling at the treatment works and the reported wastewater compliance doesn't incorporate flow compliance for the wastewater treatment works or the sewer network.

*** Annual targets to be set in 2023/24 aligned with our new Climate Change Strategy.

More resilient network

Reducing sewer flooding

Flooding and the risk of flooding can constrain economic development, increase the cost of insurance, and pollute our natural environment. Most of the urban areas of Northern Ireland, including road surfaces, are served by combined sewers that carry both wastewater and surface water - such a system would never be built today.

Climate change has contributed to an increase in the intensity and frequency of rainfall. Heavy rainfall can cause the sewers to become full of water and the sewage to back up in the system. Many of our traditional systems include 'combined sewer overflows', which were designed to prevent out of sewer flooding/damage to properties by discharging this excess water directly into the rivers or streams, bypassing the treatment works.



Find out more about climate resilience at <https://www.niwater.com/climatechange/strategy/>

Our PC21 Business Plan includes ambitious infiltration and storm water removal targets aimed at reducing risk of property flooding, enhancing our natural environment, and facilitating economic growth. This programme is underway with the commencement of investigation studies and modelling. NI Water reports the area of surface area removed through direct capital investment, such as storm separation or Sustainable Urban Drainage System projects.

We have removed 93,098m² of impermeable surface area by the end of 2022/23. This is lower than the cumulative target of 729,080m² at the end of 2022/23. However, the removal of incidental storm separation is expected to increase in line with the increase of our wastewater infrastructure programme throughout PC21. A major storm separation scheme will be completed at Ravenhill Avenue, Belfast removing around 88,200m² of storm water from the combined system. This represents

4% of the 2,187,240m² of storm water to be removed from the combined system over PC21.

Investigation work will take place over 2023/24 on storm removal to enable NI Water to meet its targets for PC21. This work will be linked to capital schemes addressing unsatisfactory intermittent discharges from sewer overflows and wastewater treatment works, out of sewer flooding and new development. It is anticipated that the PC21 mid-term review will confirm changes to the PC21 discharge programme.

We are forecasting to remove 57 properties from the register of properties at risk of flooding over PC21. Seven properties were removed from the register by the end of 2022/23 in excess of the target. It is forecast that the Ravenhill Avenue scheme will contribute to us achieving our target in 2023/24 by removing a further 11 properties from the register in 2023/24.



NI Water break ground on the new £4.8m Ballyronan wastewater treatment works, County Derry/Londonderry.

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

The new £4.8m 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 £4.8m investment first hand. This new multi-million pound 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."

Completing the picture on wastewater compliance

We recognise the need to improve how we measure wastewater compliance. The current regulatory monitoring programme is based on pre-announced rather than unannounced regulatory sampling at the treatment works and the reported wastewater compliance doesn't incorporate flow compliance for the wastewater treatment works or the sewer network. This provides an incomplete picture of environmental compliance and protection. We are working with the NIEA and other stakeholders to reform the wastewater compliance model to improve compliance across the whole wastewater system. This is known as the water regulation reform programme.

A Wastewater Regulation Compliance Reform Group has been established with senior management representation from NI Water and NIEA. This working group will act as the interface between NIEA and NI Water on the delivery of wastewater regulation reform over PC21. It is recognised that the outcome of the proposed regulation change will result in new evidence, which will highlight non-compliance across our wastewater infrastructure.

The Group is developing a plan for the reform programme and reviewing the wastewater Statement of Regulatory Principles and Intent. This will take account of the regulatory approach for recognised underinvestment, a no detriment approach to dealing with development constraints

Living with Water Programme (LWWP)

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.

and reform of wastewater compliance assessment. Compliance assessment methodologies will be developed over 2023/24, along with clear messages on the impact of these changes. Identification of investment needs for compliance reform will also be considered as part of the PC27 Business Plan.

We continued our wastewater regulatory monitoring programme over 2022/23. This sampling programme is helping to build up performance data, providing insight to treatment works' performance. We plan to establish an independent wastewater compliance team, which will assist with providing assurance on the management of wastewater assets.

Event and duration monitors are being installed on prioritised combined sewer overflows, with 279 monitors in beneficial use. We are validating the data from these monitors and establishing reporting processes for PC27. The monitors will enable examination and optimisation of long-term spill performance trends by helping to understand unusual spills that require either immediate interventions or long-term investment planning. This work is supported by GIS mapping and reporting tools. We are also focussing on the delivery of capital upgrades at works, unsatisfactory intermittent discharges from sewer overflows and wastewater treatment works, and completion of the prioritised programme of drainage area plans.

The £1.4bn Strategic Drainage Infrastructure Plan for Belfast was published by the DfI in 2021/22, with several significant flood alleviation projects carried out in Belfast over 2022/23. A similar approach is being explored for Derry/Londonderry, which NI Water plans to support. We are also working with the DfI to develop the NI version of the Water UK 'Drainage and Wastewater Management Plan Framework' to help sustainably manage our drainage infrastructure.



Find out more at <https://www.infrastructure-ni.gov.uk/topics/living-water-programme>

Sustainable solutions

Every day we recycle wastewater from 743,000 homes and businesses before safely returning it to the rivers and sea. Traditional treatment works are carbon intensive, requiring a lot of energy, concrete and chemicals to ensure treated wastewater can be safely released back to the environment. We are committed to a more sustainable approach to wastewater treatment and have deployed a number of innovative approaches such as lower energy technologies and nature-based solutions.

Sparking innovation at Ballykelly wastewater treatment works

NI Water recently completed a project at the new Ballykelly wastewater treatment works to situate a new solar panel system. This system has now been upgraded with the addition of NI Water's first battery energy storage system - the first of its kind for NI Water.

The primary treatment on the site utilises the well-established activated sludge process as a robust and effective treatment solution. The works effluent then passes by gravity through an integrated constructed wetland, which is a nature based zero energy treatment process.

The wetlands on the site use a mix of native reed bed plant species and solar UV radiation to treat the wastewater effluent. The treatment process has been developed through previous NI Water projects at Stoneyford and Castle Archdale and the large size of the wetland ponds introduces a habitat for wildlife and insects as well as a net carbon sink, while enabling effective wastewater treatment. Around 400 trees will be planted in the wetland, contributing to NI Water's tree planting goal.



Battery and solar panel system at Ballykelly wastewater treatment works, County Derry/Londonderry.

The solar PV system enables the works to operate during the daytime on locally generated renewable energy for most of the year. In a first for NI Water, excess solar energy is stored in the new 134kWh onsite lithium-ion battery storage system. Also, during winter months, it can be used to store cheaper off-peak energy for use during the daytime. The battery energy system was specified and designed in house and will be an excellent learning and development opportunity for NI Water to harness this emerging technology on future projects.

The project scooped a 2022 International Green Apple Environment Award and was named Infrastructure Project of the Year at the 2022 ICE Sustainability Awards and the CEF Construction Excellence Awards.



NI Water and contractor staff receiving the Infrastructure Project of the Year award at the CEF Construction Excellence Awards in 2022.

Boosting biodiversity

As part of our corporate commitment to the All-Ireland Pollinator Plan, we engaged the help of over 60 NI Water colleagues in 2022/23 to map areas within our wastewater assets base. Our volunteers visited around 30 sites and mapped over 20 sites on the mapping portal. This work has allowed us to meet and exceed our pollinator plans for the year. The volunteers also contributed to another citizen science project, which counted the number of pollinators in an area at one time. These data sets help us understand the environment better on our landholding.

We engaged with DAERA farm business development groups to get best pesticide practice message to farmers, reaching around 70 farmers. This is supplemented by our rush control videos, in conjunction with our partners at CAFRE and DAERA, on how farmers can keep pesticides out of raw water. We held rush control events to raise awareness of the adverse effects on water quality caused by the MCPA herbicide. These events involved a farm visit and technical discussions around pesticides, followed by information on ocal water quality.

By continuing our negotiations with Forest Service to obtain more land for peatland restoration, we will be able to help improve designated site habitat condition in Areas of Special Scientific Interest (ASSIs), Special Areas of Conservation (SAC) and Special Protections Areas (SPAs) such as the Garron Plateau, in the water catchment for Dungonnell water treatment works, County Antrim. We are also partnering with the Mourne Heritage Trust in our Mournes landholding on path erosion to improve the current unfavourable habitat condition in the Eastern Mournes ASSI.



Keep it clear

We deal with around 11,500 blockages of our sewers each year. The most common causes of these blockages is the flushing of items which do not dissolve down the toilet such as wet wipes and the disposal of fats, oils and grease down the sink. These combine to form a solid mass in the pipes underground, meaning less waste can pass through the pipe. If enough waste cannot pass through, it leads to flooding in homes, business or our natural environment.

Our customer campaigns over 2022/23 have focussed on the 'Bag it and Bin it' messages. This included a focus on fats oils and greases along with what should and should not be put down the loo and sink. Our campaigns benefitted from a partnership with the Education Authority's 'Period Poverty' campaign, providing an opportunity to highlight the importance of binning sanitary items.

Wet Wipe Monster is 'Flushing Out' the wet wipes!

NI Water's Wet Wipe Monster is taking on blockages and 'flushing' out the worst monsters in Northern Ireland's blocked sewers. NI Water's Head of Environmental Regulation explains, "We are hoping our Wet Wipe Monster will help us spring clean our sewers and 'flush' out the worst offenders in a bid to reduce blockages. The main enemy of sewers is the build-up of baby wipes, cotton buds and sanitary products. These form together into a ball of 'rags' causing blockages and out of sewer flooding. The Wet Wipe Monster message is simple, 'only flush Paper, Poo and Pee!'"



NI Water Wet Wipe Monster with one of our staff and pupils from Parkhall Primary School, County Antrim.

Find out more at <https://www.niwater.com/fats-oil-and-grease-fog/>

Towards a zero carbon and climate resilient business

Addressing climate change is critical to the water sector given the impact on the quality and quantity of water sources, the carbon intensity of our sector’s supply chain, and the exposure of our assets to extreme weather events. We will mitigate emissions from our activities, reduce emissions where we can from our construction and the wider supply chain, and adapt our assets to extreme weather events.

At NI Water, we’re committed to delivering a net zero, climate resilient future for all our customers. Our Climate Change Strategy was published in May 2023 and sets out how we can harness the huge and largely unseen potential for NI Water to address climate change. Several of the approaches we are taking will benefit our society and economy more broadly as it seeks to decarbonise and exploit the benefits of green growth through a just transition. We have challenged ourselves to go further and faster than the net zero 2050 targets set by law. NI Water is committed to achieve net zero for the energy we use by 2030 and net zero for all our emissions by 2040, as measured against our 2020/21 adjusted baseline. We can also play a strategically important role in helping society to decarbonise by planting one million trees; building more renewables on our land; kick-starting our hydrogen economy; and providing sources of warmth for district heating schemes.

We know that we can’t do this alone. Climate change is a systematic problem for Northern Ireland and requires systematic solutions. We also need holistic solutions that address the changes of the global energy crisis and growing pressures on public sector funding that we experience as a government owned company. To do this, we will need support from all of our stakeholders, a positive policy and regulatory environment from government and regulators, innovation from our supply chain, reduced water use from our customers, and collaborative planning from councils and other partners.

Taskforce on Climate related Financial Disclosures

Large sections of the UK economy are transitioning towards mandatory climate change reporting against the Taskforce on Climate related Financial Disclosures (TCFD). This is in accordance with the Companies (Strategic Report) (Climate -related Financial Disclosure) Regulations 2022.

NI Water is transitioning towards TCFD compliance by 2023/24 and have further developed our disclosures over 2022/23. The TCFD framework focuses on four key elements, supported by 11 recommended disclosures:



TCFD elements	TCFD recommended disclosures
Governance	a. Board oversight
	b. Management role
Strategy	a. Climate-related risks and opportunities
	b. Impact on the organisation's businesses, strategy and financial planning
	c. Resilience of the organisation's strategy
Risk Management	a. Risks identification & assessment processes
	b. Risk management process
	c. Integration into overall risk management
Metrics and Targets	a. Climate-related metrics in line with strategy and risk management process
	b. Scope 1, 2, 3 greenhouse gas metrics and the related risks
	c. Climate-related targets and performance against targets

Our progress against the disclosures in the TCFD framework is shown below:

Governance

We are committed to best practice climate governance to ensure robust oversight and successful delivery of our Climate Change Strategy.



Board

The NI Water Board takes overall responsibility for overseeing the management of risks associated with and sets the risk appetite for climate change. Climate change is one of NI Water’s Principal Risks and the Board receives regular updates on the management of climate change risks throughout the year. Find out more about our Principal Risks on page 76.

The Board also provides leadership on climate change. The Board has been actively involved in the development of the Climate Change Strategy, which was approved by the Board in 2022/23.

The Audit Committee and Risk Committee supports the Board on climate risk management and climate reporting and received quarterly updates on these areas and the development of the tools to support the TCFD disclosures. Refer to the reports by the Committee Chairs at page 108 and page 110.

Executive Committee

Responsibility for the management of climate risks rests with the Executive Committee. The Director of Asset Delivery is the designated Senior Responsible Owner for climate change and is supported by designated senior managers and their teams across relevant areas of the business. The Executive Committee receives regular updates on the climate strategy and the management of climate risks. This included a series of workshops to review progress on the development of NI Water’s Climate Change Strategy, the Climate Risk Model and building momentum on the Power of Water Report.

NI Water actions and action owners from across the business have been identified to ensure traction and delivery of the Climate Change Strategy.

NI Water has engaged climate change subject matter specialists to supporting NI Water on the implementation of the detailed action plan which accompanies this strategy. Delivery risks have been identified and will be managed by the Delivery Team. These risks will be reported to the Executive Committee, Risk Committee, Audit Committee and Board.

The Executive Committee received quarterly updates on the management of climate risks over 2022/23.

Strategy

Focusing on climate is not new for NI Water. Since our formation in 2007, we have made significant improvements in water resilience for customers, delivering higher levels of leakage detection, sustained investment in water mains and water efficiency initiatives. We have been developing a Water Resilience and Supply Plan from 2012 and have been partners in the Living With Water Programme to improve strategic drainage infrastructure from 2014. Since 2015, we have reduced our operational carbon emissions by well over 50%, through alternative fuel projects to reduce fossil fuels used in our treatment processes, delivering solar farms, restoring peatland, and planting new woodlands.

Corporate Strategy

Our Corporate Strategy sets the overall strategic direction on climate action in the medium term across PC21 (2021-27) and over the longer-term (2021-2046). Getting to net zero for emissions and ensuring we are resilient to climate change are essential elements within our Corporate Strategy through our strategic priority on nature. We set out our goal to fully exploit innovative approaches to energy and new technology to reduce our carbon footprint and ultimately become carbon neutral. The long-term corporate strategy also recognised the need for a sustained step change in levels of investment to improve asset resilience. We recognised the need to develop a Climate Change Strategy to provide the targets that support this ambition, and begin to identify, co-ordinate and prioritise actions on net zero and climate resilience and align with the TCFD recommendations.

Climate Change Strategy

Our Climate Change Strategy sets out our approach to building a net zero and climate resilient business. The Strategy sets out:

- our pathway to net zero emissions for the energy we use by 2030;
- how we will achieve net zero for all our emissions by 2040; and
- what we will do to ensure resilience of our services to climate change by 2050 and by 2090.



Read more about our Climate Change Strategy at <https://www.niwater.com/climatechange/strategy/>

Risk management

The climate risks we face span transition risks and physical risks. Addressing these helps us to protect our customers where we can from the worst impacts of climate change and presents us with an opportunity to invest for sustainable outcomes, such as the new low carbon energy sources outlined in our Power of Water Report.

Transition risks

Transition risks are about the risks of transitioning to a net zero economy. Limiting warming to 1.5°C means organisations face transition risks from the imposition of government policy and regulation, such as the introduction of carbon taxes, climate litigation, reputational exposure, and shifting consumer preferences, as well as from the ‘green premium’ on new technology. Transition risks can lead to additional funding pressures and the stranding of assets which are no longer useable under new policy and regulation.

Physical risks

With every small increase in average global temperatures there are changes to the climate, which can lead to more severe weather events and degradation of the natural environment. These are the physical risks of climate change. We have already seen the impact of global warming across our region through increased flooding, storms, prolonged periods with no rainfall and more frequent periods of intense rainfall. All of these factors create challenges across our business.

By 2050 Northern Ireland is expected to experience a temperature increase of between a 1.9°C, in a middle emission scenario, and 2.4°C, in a high emission scenario. By the 2090s the temperature is projected to be significantly higher of between 3.3°C and 5.2°C. Climate hazards have potential to cause major disruption to our water and wastewater service.

We have summarised the hazards under the following areas:

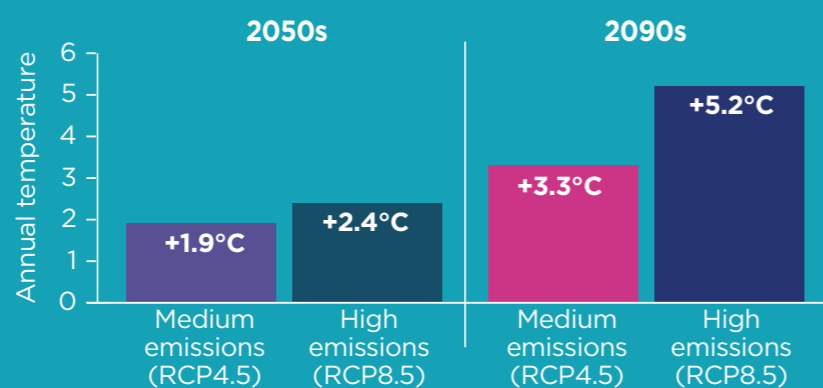
- Warmer and drier summers causing a surge in water demand and risk of drought; and
- Intense rainfall, rising sea levels and severe storms overwhelming our sewers and leading to internal flooding of homes and pollution of water courses, putting our low-lying coastal sites at risk of flooding, and causing damage to our infrastructure.

We recognise that other hazards exist such as extreme cold, which can also cause a surge in water demand. These hazards also pose indirect risks to us by impacting on infrastructure that we are dependent on such as the road network, on our people or on our supply chain.

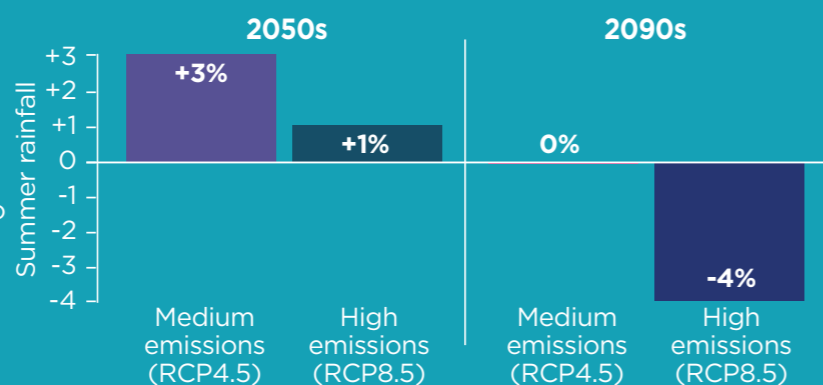
As an operator of critical national infrastructure, we must be ready for climate change. We are moving our business to a higher state of readiness by planning for two degrees of temperature rise by 2050 and preparing for four degrees by 2090. As part of this, we will ensure that our business continuity plans, major incident plan and commercial insurance programme are aligned with this Climate Change Strategy.



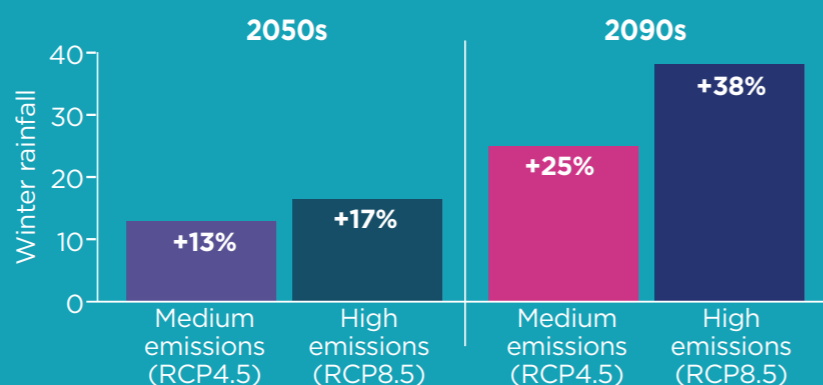
Annual temperatures are set to increase on average by between 1.9°C - 2.4°C by 2050*



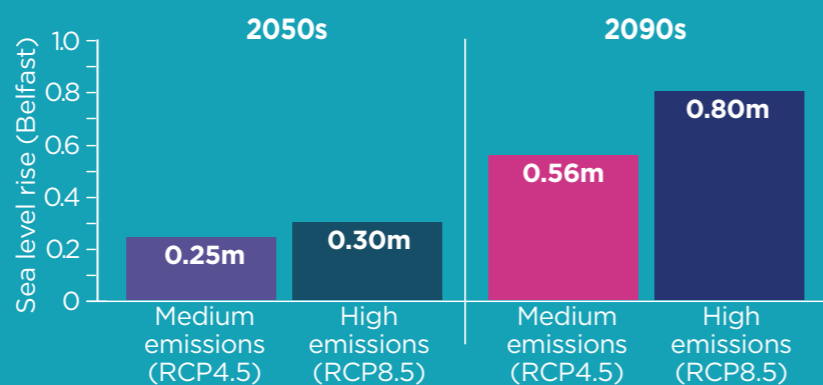
We can expect hotter drier summers, and while overall summer rainfall is projected to decrease, downpours will be more extreme**



Winter rainfall is projected to increase creating warmer wetter winters**



Projected sea level rise has the potential to impact our coastal towns and cities including Belfast



Climate change and sea level rise projections based on the 90th and 95th percentile respectively (compared to the 1981-2000 average).

*UKCP18 key results, available at <https://www.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Key-results.xlsx>.
 **CCRA3 2021, Summary for Northern Ireland available at <https://www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Northern-Ireland-Summary-Final.pdf>.

Opportunities

Investing to mitigate the transition and physical climate risks we face brings a wealth of new opportunities. Our Power of Water Report underlined the potential for NI Water's assets to act as catalysts for transforming the energy system by both producing clean, renewable energy and support flexibility of supply. NI Water and its customers will benefit from our renewable transition in the stability of costs and mitigation of emissions, but this can only be fully achieved with collaboration across institutions and stakeholders in Northern Ireland. Taking the opportunities to mitigate these risks will have wider benefits in reducing inequalities, improving air quality, and creating new jobs and opportunities.

Risk scenario modelling

We have developed a Climate Risk Model to assess the financial impacts of physical and transition risks. The model points to illustrative trends for physical and transition risks over the next three decades. These show transition risks peaking over this decade before being overtaken by physical risks.

The model has helped inform the development of our Climate Change Strategy, particularly in relation to the timing of our targets and actions for net zero and climate resilience. The Model has also helped us identify information required to improve our understanding and climate decision making.

The model points to illustrative trends for physical and transitional risks over the next three decades. These show transitional risks

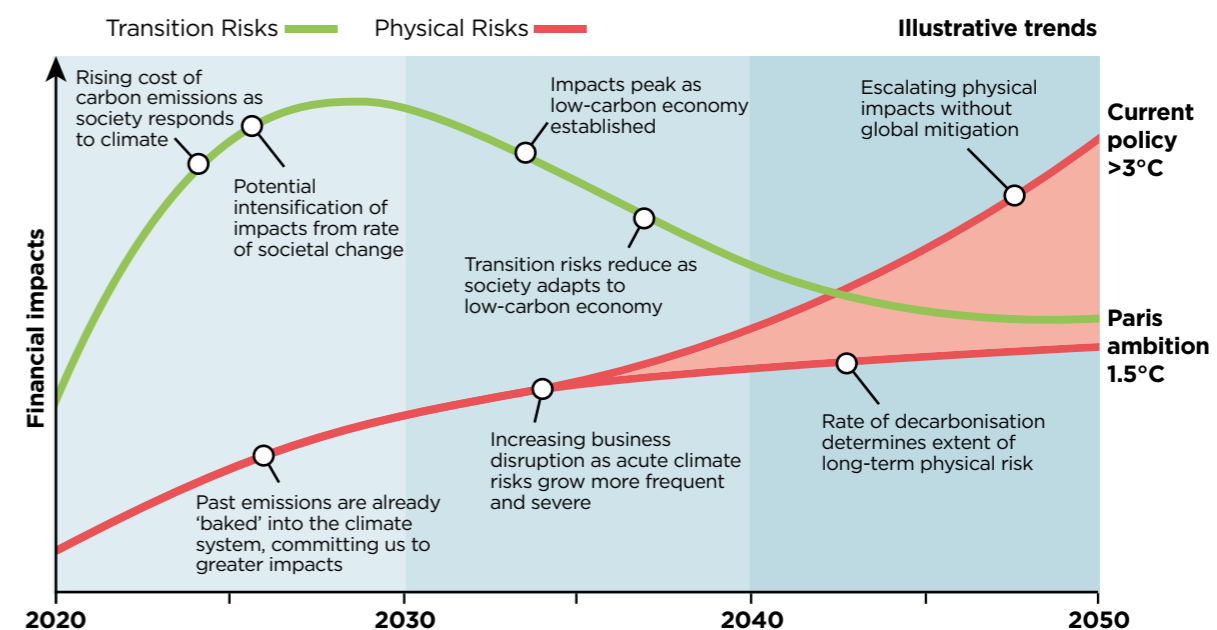
peaking over the next decade before being overtaken by physical risks. These trends reflect that companies and their owners face significant risks from both action and inaction.

The magnitude of the short-term financial impacts over the PC21 period excludes the costs to transition NI Water to net zero. This aligns with the approach taken for the PC21 Business Plan and will likely result in a material increase in the financial impacts once factored in for PC27 (2027-33) and future Price Controls.

The modelling exercise identified several areas for development, which have been incorporated into the Climate Change Strategy action plan:

- transition (policy) risk – more granular assessment of scope 3 supply chain emissions as part of setting of science based targets;
- transition (technology) risk – quantifying the cost to decarbonise the business by 2040 and funding via the Price Controls; and
- physical risk – assessment of granular asset level impacts to inform long-term asset resilience as part of our long-term resilience planning for clean water (updated for latest climate change projections by 2023/24) and wastewater (to be developed by 2023/24).

We are undertaking a re-run of the model over 2023/24 to inform our TCFD disclosures.



Illustrative trends for physical and transitional risks over the next three decades.

Our principal risk on climate change is being aligned with the analysis on physical and transitional risks and the Climate Change Strategy. This will further support the embedding of climate risks through our corporate, directorate and programme/project risk and resilience management systems.

The long-term viability assessment has been updated for the latest analysis on climate risks. Find out more at page 116.

Metrics

We account for our greenhouse gas emissions annually using the UKWIR Carbon Accounting Workbook, designed specifically for water companies to measure and report their emissions. The emissions are split into different categories known as scopes.

The Workbook is used to prepare the disclosures in our Annual Integrated Report and is aligned to the UK Government Environmental Reporting Guidelines, including the Streamlined Energy and Carbon Reporting Regulations.

We report a fourth category of emissions in our Annual Integrated Report. This category is known as 'avoided emissions' and relates to emission reductions that occur outside of our

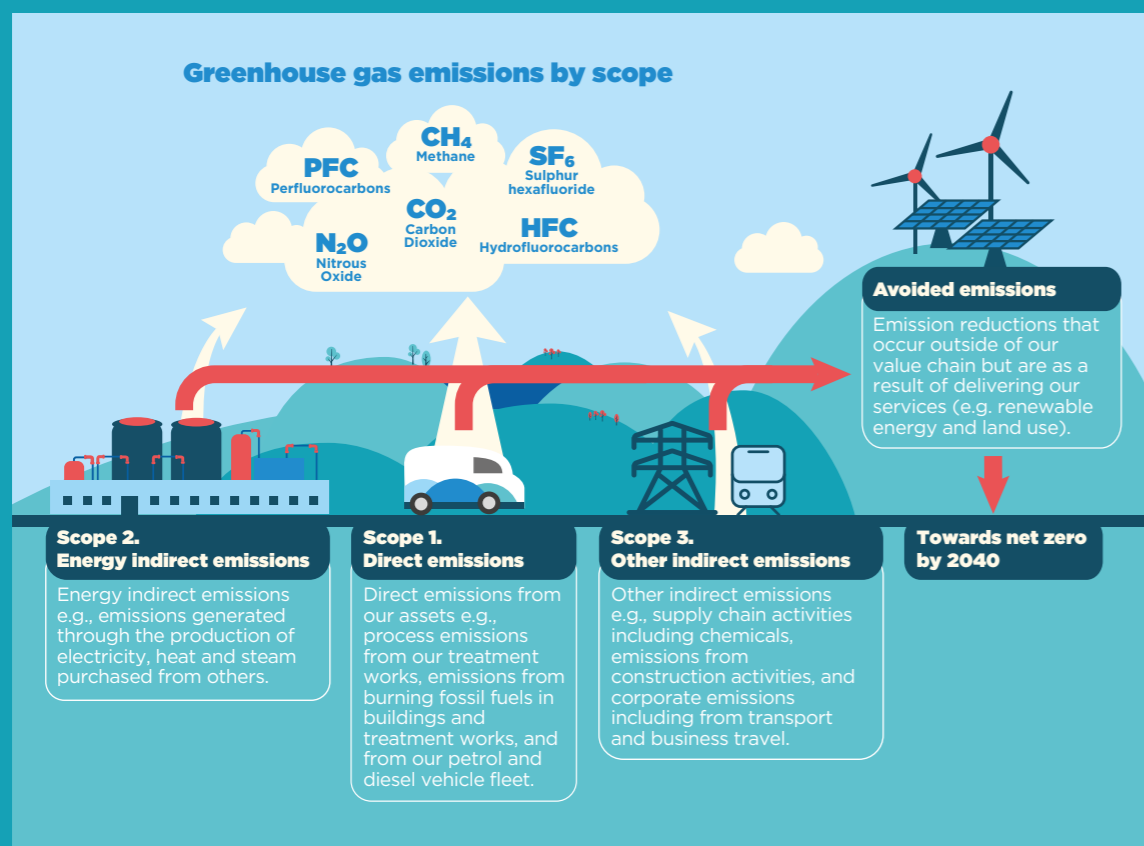
The Directors have considered in the Section 172(1) statement how their decisions support the long-term climate resilience of the business and the consideration of the climate impact of its operations. Find out more at page 123.

We have also considered the impact of climate change on the financial statements across areas such as provisions, impairment, contingent liabilities and accounting judgements and estimates. Find out more at page 145.

value chain but are as a result of delivering our services (e.g., renewable energy).

For the first time ever, we augmented our existing 2020/21 reporting by estimating our full scope 3 emissions, so we have a better understanding of our total annual emissions footprint. This is important as it allows us to set a baseline, which we can now use as a reference point in future years to compare how we have progressed in decarbonising our business.

We have already made sizeable reductions in our greenhouse gas emissions since we began reporting. But we know there is much more to do, and we are playing our part in the water industry's drive to improve the accuracy of our reporting.



Our baseline is made up of 2020/21 emissions from our activities, and subdivided into scopes 1, 2, and 3. The reported emissions for our

2020/21 baseline and the subsequent two years (2021/22 and 2022/23) are shown below:

NI Water greenhouse gas emissions	2022/23 tCO ₂ e Market based***	2022/23 tCO ₂ e Location based****	2021/22 tCO ₂ e Market based***	2021/22 tCO ₂ e Location based****	2020/21* tCO ₂ e Market based***	2020/21* tCO ₂ e Location based****
Scope 1 direct emissions*						
Direct emissions from burning of fossil fuels	1,912	1,912	1,783	1,783	1,850	1,850
Process emissions from our treatment plants	7,185	7,185	10,927	10,927	8,180	8,180
Transport: Company owned or leased vehicles	2,418	2,418	2,390	2,390	2,500	2,500
Total scope 1 direct emissions	11,515	11,515	15,100	15,100	12,530	12,530
Scope 2 energy indirect emissions*						
Grid electricity purchased**	21,263	49,652	25,724	51,802	35,634	66,430
Total scope 2 energy indirect emissions	21,263	49,652	25,724	51,802	35,634	66,430
Total scope 1 and scope 2 (gross of avoided emissions)	32,778	61,167	40,825	66,902	48,164	78,960
Avoided emissions						
Avoided emissions from renewable electricity exported	(281)	(281)	(468)	(468)	(605)	(605)
Avoided emissions from renewable electricity purchased	N/A	(30,983)	N/A	(28,082)	N/A	(28,490)
Total avoided emissions	(281)	(31,264)	(468)	(28,550)	(605)	(29,095)
Total scope 1 and scope 2 (net of avoided emissions)	32,497	29,903	40,357	38,352	47,559	49,865
Scope 3 other indirect emissions						
Purchased goods and services	80,310	80,310	48,550	48,550	43,110	43,110
Capital goods and services	64,560	64,560	45,310	45,310	33,210	33,210
Waste generated in operations	9,410	9,410	8,780	8,780	14,650	14,650
Employee commuting, homeworking and business travel	1,850	1,850	1,650	1,650	1,660	1,660
Fuel and energy	6,200	6,200	6,450	6,450	7,360	7,360
Transport and distribution	3,330	3,330	2,640	2,640	1,120	1,120
Leased assets	100	100	100	100	100	100
Total avoided emissions	165,760	165,760	113,480	113,480	101,210	101,210
Total reported emissions (net of avoided emissions)	198,257	195,663	153,837	151,832	148,769	151,075

*The scope 1 and scope 2 emissions relating to Omega and Kinnegar Public Private Partnership contracts have been reclassified to scope 3 emissions.

**Market-based emissions from grid electricity purchased derived on a pro-rata basis using 2021/22 emissions.

***Market-based figures use emission factors specific to the actual electricity purchased.

****Location-based figures use average grid emissions to calculate electricity emissions.

*Note that any adjustments to the 2020/21 baseline reported in our Climate Change Strategy is due to improved understanding.

NI Water greenhouse gas emissions intensity	2022/23	2021/22	2020/21
Total location-based reported emissions per megalitre of treated water (tCO ₂ e/MI)	0.887	0.608	0.684
Total location-based reported emissions per megalitre of sewage water (tCO ₂ e/MI)	1.487	1.019	1.148

The total reported emissions increased from 151,832 tCO₂e in 2021/22 to 195,663 tCO₂e in 2022/23, an increase of 29%. The increase in total reported emissions was primarily due to increased capital investment. There was a resulting increase in greenhouse gas emissions intensity.

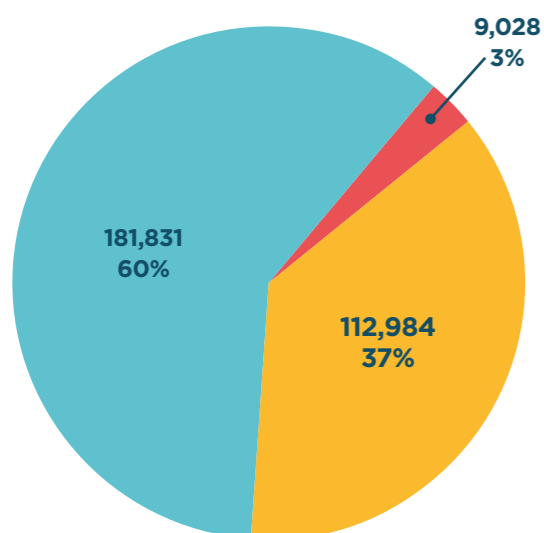
2022/23 is the first year NI Water is reporting scope 3 emissions. The data is based on assumptions and latest understanding.

We plan to develop our methodology and processes in future years.

Based on the uncertainties and current industry practice, our net zero 2040 baseline currently excludes some of the wastewater process emissions and all of land use. We will include all of these in our net zero 2040 baseline and target once we are able to quantify them.

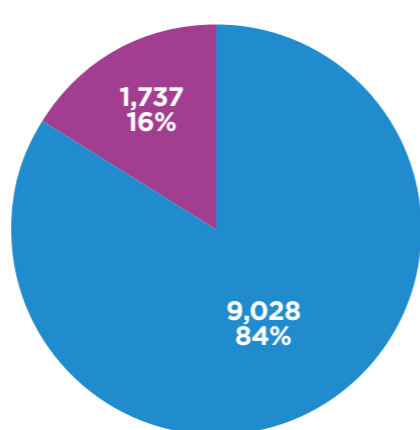
NI Water's electricity consumption and renewable energy generation is shown below:

Total electricity consumption 2022/23 (MWh)



- Grid electricity purchased (excluding renewable energy)
- Grid electricity purchased - renewable energy
- Renewable electricity generated and used
- Total electricity consumption 303,843MWh**

Total renewable electricity generated 2022/23 (MWh)



- Renewable electricity generated and used
- Renewable electricity generated and exported to the grid
- Total renewable electricity generated 10,765MWh**

ISO 14064 (Part 1)

NI Water has appointed a UKAS accredited verifier to review its carbon reporting against ISO 14064 (Part 1). This ISO standard covers the quantification and reporting of greenhouse gas emissions and removals. The verification work covers the 2020/21 baseline in Climate Change Strategy and the subsequent two years (2021/22 to 2022/23).

CDP

NI Water has registered with CDP and uses the 2022/23 CDP questionnaires for Companies and Public Authorities. The CDP aligns with the Climate Disclosures Standards Board (CDSB) framework which helps corporates identify material information and data. The CDP and CDSB are part of a climate disclosure framework, which ultimately supports corporate disclosures under the TCFD framework.



Targets

NI Water is committed to achieve net zero for the energy we use by 2030 and net zero for all our emissions by 2040, as measured against our 2020/21 adjusted baseline. We will refresh this baseline for any structural changes that have a significant impact such as changes in calculation methods, outsourcing or insourcing. Changes to the baseline will be guided by materiality thresholds.

Over 2023/24, we will finalise the decarbonisation trajectories to inform annual targets aligned with our Climate Change Strategy.

Science Based Targets Initiative (SBTi)

Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement - limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

We have committed to set a science-based target with the Science Based Targets Initiative (SBTi), which defines and promotes global best practice in science-based target setting. The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF). NI Water has registered with the SBTi to signal its commitment to setting science-based targets and automatically joined the Business Ambition for 1.5°C and Race to Zero campaigns. NI Water has two years in which to submit its targets to the SBTi for validation.

Future developments in climate reporting

IFRS Sustainability Standards

The IFRS Foundation has established a new International Sustainability Standards Board (ISSB) that will develop a comprehensive global baseline of sustainability disclosure standards. A prototype for the new standards has been published, which aligns with the TCFD framework. The prototype is accompanied by sector specific disclosure guidance. The final version of the standards was published in June 2023 and will replace the TCFD framework. The UK government has confirmed it intends to incorporate these standards into the UK corporate reporting framework. We continue to monitor the development of the standards and the implications for our climate reporting. We plan to undertake a gap analysis with the standards over 2023/24.

Climate Change Act (Northern Ireland) 2022

The Climate Change Act (NI) 2022 was enacted in June 2022. The Department for Agriculture, Environment and Rural Affairs (DAERA) assisted by NI Environment Link and Climate NI hosted workshops in November 2022 on its implementation. This centres around the development of a Climate Action Plan and five-year Carbon Budget (2023-2027).

The Climate Action Plan and Carbon Budget are primarily focussed on greenhouse gas emissions and cover the various sectors across the economy. Infrastructure spans a number of these sectors (wastewater, energy, buildings, land use etc). The Climate Action Plan will contain proposals and policies aimed at support a 38% reduction in emissions by 2027, from 1990 levels (which represents a 22% reduction from 2019 emissions levels). These proposals and policies will also aim to support the 2030 target of 48% lower than the baseline and align with the 2040 and 2050 targets as stipulated in the Act. The 2040 target is to be set in line with the 2050 target of 100% lower for carbon dioxide and 46% lower for methane. The Climate Action Plan may also cover climate adaptation and public body reporting.

We are engaging with DAERA and the Department for Infrastructure to support the development of the Climate Action Plan and Carbon Budget, which are to be finalised by December 2023. As part of this engagement, we submitted a response to the draft Climate Action Plan and Carbon Budget in 2022/23, highlighting the different approaches to greenhouse gas reporting between the water sector and Government. This includes the use of different bases of carbon accounting (carbon consumption versus carbon production) and different baseline years. We have commissioned a reconciliation between greenhouse gas reporting in the water sector and reporting under the Act. The reconciliation will be shared with DAERA and the DfI and will be reflected in our submission to the consultation on the Climate Action Plan and Carbon Budget.

The Act also requires DAERA to make new regulations, which will set mitigation and adaptation climate reporting duties on specified public bodies. NI Water has been identified as a public body under the meaning of the Act. NI Water has issued a response to the DAERA consultation on public body reporting.



NI Water's Apprenticeship Academy graduates.

Strategic areas of focus

Powered by talent

Safe, happy and healthy workplace

Creating a legacy for our communities

Sustainable development goals



Principal threats/opportunities



Page 76 Read more about principal threats and opportunities.

Strategic performance indicators

People	Unit of measurement	Target 2022/23	Actual 2022/23	Pass/Fail	Target 2023/24
Employee attendance	%	96.5	96.7	Pass	96.5
Health and safety incidents	Number	≤7	6	Pass	≤7

Powered by talent

We want to create a great place to work and ensure that NI Water is fit for the future by attracting, developing, and retaining top talent. Our people strategy is focused on driving performance for our customers through building capability, ensuring we have the right people with the right skills performing their roles to the best of their ability. Our plans support the provision of a safe and healthy workplace, helping to make NI Water an organisation in which we are all proud to work.

Whilst many organisations are experiencing the 'great resignation', our staff turnover remained consistently low at around 5%, while average tenure has remained high at over 15 years. Nearly 10% of our workforce were promoted in 2022/23. Our employer brand remains strong in the marketplace, with over 250 new recruits in the last two years.

Over 2022/23, we engaged an expert partner to support the delivery of a comprehensive management development framework that will develop world class management capabilities at all levels. This is a major investment in our leaders and managers over PC21 and continues NI Water's journey

in developing leadership skills, competencies, and behaviours to create a high-performance culture and role model our values.

Your future matters

We continue to grow and diversify our entry level academy to seed our organisation with top talent to support succession planning. Our Apprentice Academy won the prestigious Chartered Institute of Personnel and Development (CIPD) Award for Best Apprenticeship Scheme. Our academy model has grown to 75 apprentices and covers business areas such as operations, mechanical and electrical engineering, civil engineering, and cyber security. We continue to see higher female representation through this programme in typically male dominated areas. We launched a campaign to recruit a further 33 apprentices and higher level apprentices and graduates to join in 2023/24, introducing programmes in new business areas including Science, Finance and Accountancy, Commercial Management, and ICT Telemetry to add to our existing programmes in Water Operations and Construction Engineering. This will bring our entry level academy numbers to 108 people, just under 10% of the workforce.



See it to be it!

Our entry level strategy is supported by promotion of careers in STEM, partnering with further and higher education bodies and influencing early career choices. Over 2022/23, we participated in the 21st Century Girls and Big Conversation schools and college career events, partnered with NIE Networks in the 4CUR future careers event involving 7,500 school children, and held our inaugural online parents evening. Several female leaders from NI Water are taking part in the 'Sisters IN' mentoring programme, which is designed to inspire tomorrow's female leaders.



Three of NI Water's inspirational female leaders with pupils from local schools taking part in the 'SistersIN' Mentoring Programme.

Providing a safe, happy and healthy workplace

It is only with a motivated, safe and healthy workforce that we can deliver exceptional standards of customer service. We do this by placing care for our people front and centre in how we do business, looking after them through all of life's events and providing the conditions for them to perform their role to the best of their ability.

Zero harm

Health and safety is an integral part of NI Water's day-to-day business. NI Water's vision for health and safety for employees, contractors and customers is the 'pursuit of zero harm by raising standards and performance through the identification and adoption of industry best practice and the development of an empowered, valued, engaged, accountable and competent workforce'.

NI Water has a dedicated Health and Safety team, which is key to ensuring that NI Water complies with relevant legislation and best practice. The Health and Safety Focus Group,

made up of representatives from across NI Water, examines NI Water and contractor incidents, reviews health and safety training needs, and general promotion of health and safety. Driver awareness is one of the areas of focus for 2022/23 and 2023/24.

NI Water has a Health, Safety and Facilities Transformation Programme (2021-2025) which sets out several priorities for health and safety. Significant investment continues to be made in our facilities and above ground buildings and related assets.

The Assure health and safety software enables all employees and our supply chain to report incidents, unsafe and good observations and safety suggestions via App or Source homepage using a mobile phone, Toughbook, or laptop. The system has been developed over 2022/23 and will give NI Water real time, accurate and meaningful data that will allow us to appropriately target and resource both our short and long-term health and safety priorities.



Prioritising Health

In recent years, our work on employee wellbeing has been widely recognised as a programme of best practice in Northern Ireland and has earned us several prestigious business awards, including the Belfast Telegraph Award for Excellence in Workplace Health and Wellbeing 2022. More importantly, the programme has proven to have been successful in helping to improve the health and wellbeing of many of our employees. We have had excellent feedback from employees who have benefited from the various programmes including a few notable cases where early identification of health issues prevented more serious consequences.

Our health and wellbeing strategy, is focused around four key pillars of health (mental, physical, social, and financial). Over 2022/23, we hosted a range of

guest speakers, attracting record audience numbers and continued our health promotion and awareness campaigns via the use of storytelling to support Men's Health Week, Mental Health Awareness Week, Carers Week and Smoking Cessation.

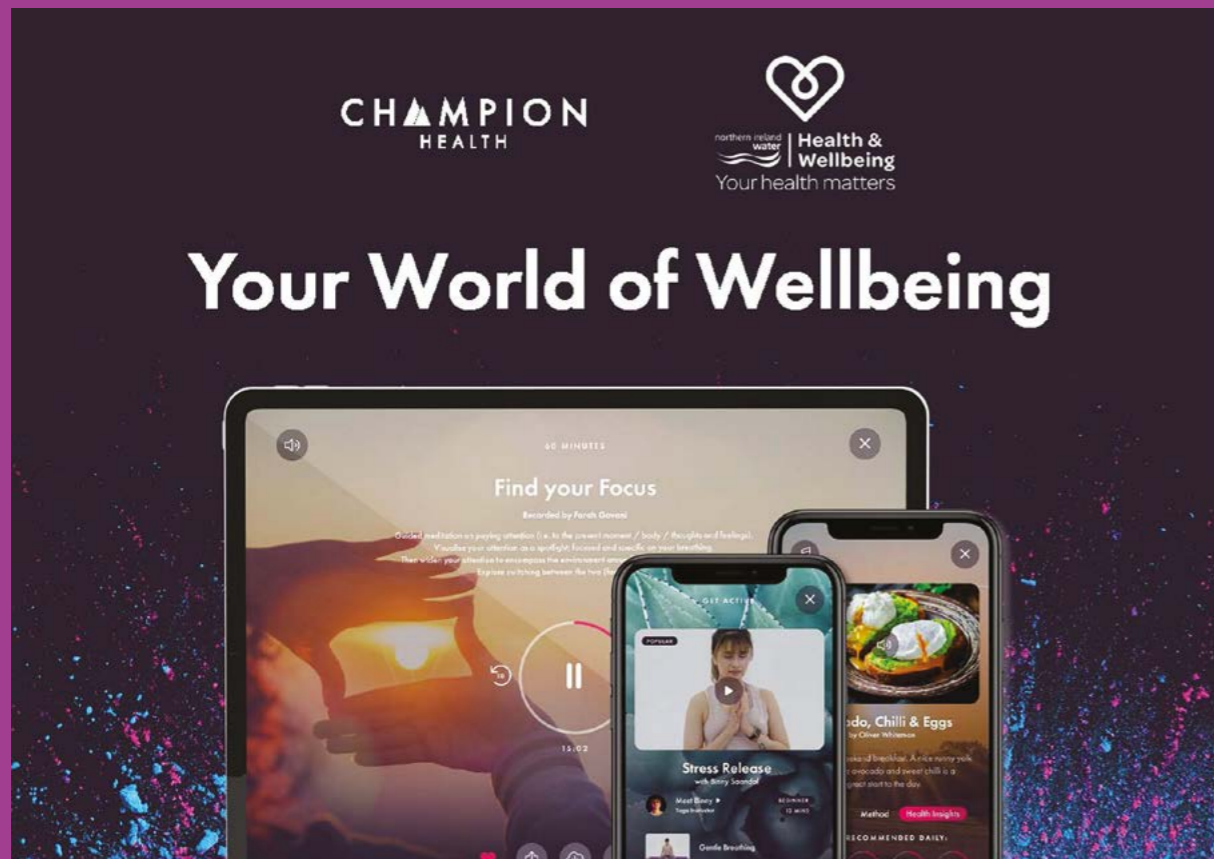
Our hugely popular live well roadshow was brought to each hub office over 2022/23 with a newly designed programme reflecting feedback from our many listening strategies asking for increased support for retirement, financial health, men's health, and women's health.



Netflix of wellbeing

We introduced our new wellbeing app in association with Champion Health to offer employees a 'Netflix of wellbeing' at their fingertips, completely personalised to their

individual needs and interests. Family and friends of NI Water employees can also use the app.



NI Water wellbeing app.

Involving people in the decisions that affect them

We use a range of listening strategies to gather the voice of the employee and ensure that action is targeted in the right place. These include employee surveys, frontline focus groups, cultural ambassador network, monthly polls, and employee workgroups. This approach provides agile ways of staying connected with our people to understand the sentiment of our workforce.


Feedback received has helped inform a variety of corporate strategies including the new hybrid working strategy. In 2022/23, we engaged a new expert culture and engagement partner to help design and deliver a new holistic listening strategy across NI Water. We will use this to gather the voice of the employee and develop our ability to measure the health of our corporate culture.

Celebrating and promoting diversity

As a major employer delivering an essential service, we recognise both the business and personal benefits of creating a diverse and inclusive environment and the importance of diversity in attracting and retaining the best talent. We are committed to creating an environment where everyone feels valued and able to contribute fully to their full potential. Significant work has been undertaken in the last three years to lay the foundations for a new culture of diversity and inclusion.



NI Water receiving the Silver Diversity Charter Mark.

 Find out more about diversity and inclusion at page 130.

Our progress was recognised at the Belfast Chamber Business Awards in October 2022, when NI Water was recognised as the best of Belfast business in becoming the inaugural winners of the Diversity and Inclusion award. The Diversity and Inclusion award recognises organisations who exhibit exceptional practice and exemplary contributions towards improving diversity and inclusion in their business.

Building on our success in achieving the Bronze Charter Mark for Diversity in 2020/21, NI Water became the second public sector organisation in Northern Ireland to achieve the challenging standard of the Silver Diversity Charter Mark by Diversity Mark in 2022/23. We now join 17 other leading NI employers who have also achieved this important standard.

We also began our programme of diversity and inclusion training in 2022/23, delivering Inclusive Leadership training to key groups across the organisation including our entire Level 3 senior leadership team (over 70 leaders) to enable them to fulfil their commitments in this area and act as role models.



NI Water receiving the Diversity and Inclusion award.



Creating a legacy for our communities

Wrapping up a milestone year of celebrations

In 2022/23 we wrapped up a milestone year of celebration through one of the largest corporate volunteering schemes in Northern Ireland.

In 10 outstanding years, we have donated over 11,500 employee hours to help good causes. Supported by Business in the Community, NI Water has helped employees to volunteer their time through a wide range of volunteering activities.

As part of our 'Cares Challenge' programme, activities are planned and set up in partnership with Business in the Community's NI Cares Programme. The programme identifies organisations and charities within the local community who need a helping hand with physical tasks. This has allowed our staff to help a wide range of charities including, Southern Area Hospice, The National Trust, Welcome Organisation, Crosskennan Lane Animal Sanctuary and Foyle Hospice.



NI Water staff volunteering with Cares Challenge assisting with the winter campaign at Simon Community.

Making a difference in Malawi

NI Water supports WaterAid's vision of a world where everyone, everywhere has access to clean water, decent sanitation, and good hygiene. We are proud to lead the local WaterAid NI Committee, which raises around £60,000 each year. Recent fundraising has been dedicated to WaterAid's Deliver Life project in Malawi, which aims to improve the health of women, girls, and children

by providing access to clean water, decent sanitation, and good hygiene in their communities. These funds will support health centres in Machinga and Zomba districts of Malawi, by helping to introduce a variety of facilities such as solar-powered piped water supply systems, inclusive bathrooms, and other sanitary facilities.



Deliver Life project in Malawi. Photo credit Dennis Lupenga.

Creating a water saving culture

NI Water is committed to creating a water saving culture for communities. Our Education Programme delivers NI Water's key environmental messages on water efficiency to schools, community, and youth groups with a strong emphasis on the link between saving water and saving energy. Schools are encouraged to promote the use of water butts throughout the school community via a colouring competition.

These messages are further promoted through the free water audit and water efficiency project supported by an online platform 'Get Water Fit', which involves distributing save-a-flush, four minute shower timers, leaky loo strips and toothy timers directly to the customer. We have completed 210 school visits and 63 community visits in line with targeted engagement.



Water whizz-kids from Bellaghy Primary School, County Derry/Londonderry with their new water bottles provided as part of NI Water's refillution campaign.



NI Water's Environmental Outreach and Learning Officer with water whizz-kids from Ballymacash Primary School, Lisburn, County Antrim.