Solar installation at Drumaroad water treatment works, Castlewellan, County Down.

Nature Protecting and enhancing the natural environment

Strategic areas of focus

- More resilient network
- Sustainable solutions
- Keep it clear
- Towards net zero

Sustainable development goals

7 AFFORDABLE AND CLEAN ENERGY
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND

Principal threats/opportunities

Page 84 Read more about principal threats and opportunities.

Strategic performance indicators

Nature	Unit of measurement	Target 2023/24	Actual 2023/24	Pass/ Fail	Target 2024/25
Reduction in pollution incidents - sewage (high and medium)*	Number	10	11	Fail	9
Wastewater compliance (% population equivalent served)**	%	94.65	99.23	Pass	95.71
Reduction in number of properties at risk of out of sewer flooding (cumulative over 2021-27 period)	Number	20	22	Pass	26
Reduction in carbon footprint. Relates to reduction in carbon emissions measured in tonnes of carbon dioxide equivalent (tCO_2e)	%	***	***	***	***

* 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 2024/25 aligned with our new Climate Change Strategy.

STRATEGIC REPORT

More resilient network

Reducing pollution and sewer flooding

We had 11 medium severity incidents in 2023, which is one incident above the target. We have reviewed our Pollution Management Strategy and identified additional measures, such as increased event and duration monitors, to improve our performance in this area.

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.

Our PC21 Business Plan includes ambitious 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 removed 230,774m^2 of impermeable surface area by the end of 2024/25. This is lower than the cumulative target of 1,093,620m^2 at the end of 2024/25. However, the removal of incidental storm water is expected to increase in line with our wastewater infrastructure programme throughout PC21.

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

£7m Ravenhill Avenue Flood Alleviation Project Complete

During 2023/24, we completed the £7m Ravenhill Avenue Flood Alleviation Project. The project was delivered as part of the Living With Water in Belfast Plan which aims to help protect against flooding, enhance the water environment and provide the increased capacity needed for economic growth. Some sewers in this part of South Belfast date back to the early 1900's, they were in very poor condition, and undersized to deal with today's flows. This essential project will improve the sewers, whilst significantly reducing the risk of 'out-of-sewer' flooding and environmental pollution in the area. The project has also removed approximately nine hectares of stormwater from the combined sewerage network, the equivalent of 12 football pitches, allowing it to return directly to the River Lagan.

Ravenhill Avenue Flood Alleviation Project nearing completion.

https://www.youtube.com/watch?v=UVovASjUqc0&t=19s

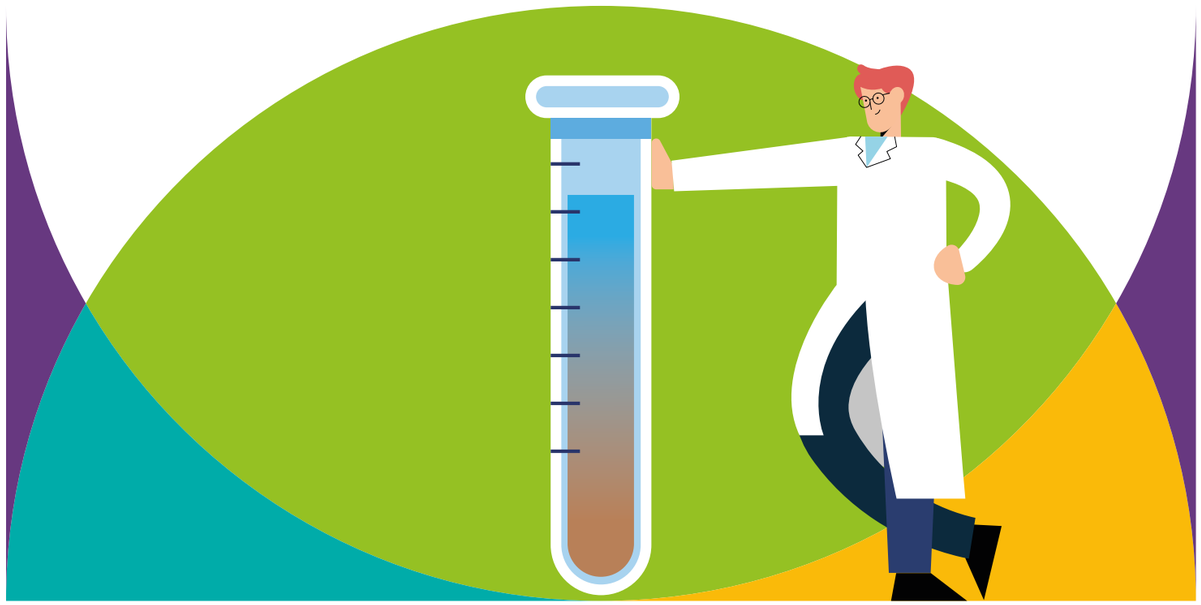
Completing the picture on wastewater compliance

We recognise the need to reform how wastewater compliance is assessed. 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 programme 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.

NI Water has appointed a programme manager to develop and report progress on the plan for the wastewater regulation reform programme. The wastewater Statement of Regulatory Principles and Intent is under review by NIEA. This will take account of the regulatory approach for recognised underinvestment, a no detriment approach to dealing with development constraints and reform of wastewater compliance assessment. Work continues with NIEA on compliance assessment methodologies, including review of the Flow and Event Duration Monitoring Policies. 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 2023/24. This sampling programme is helping to build up performance data, providing insight to treatment works' performance. We have initiated establishment of an independent wastewater compliance team, which will assist with providing assurance on the management of wastewater assets.

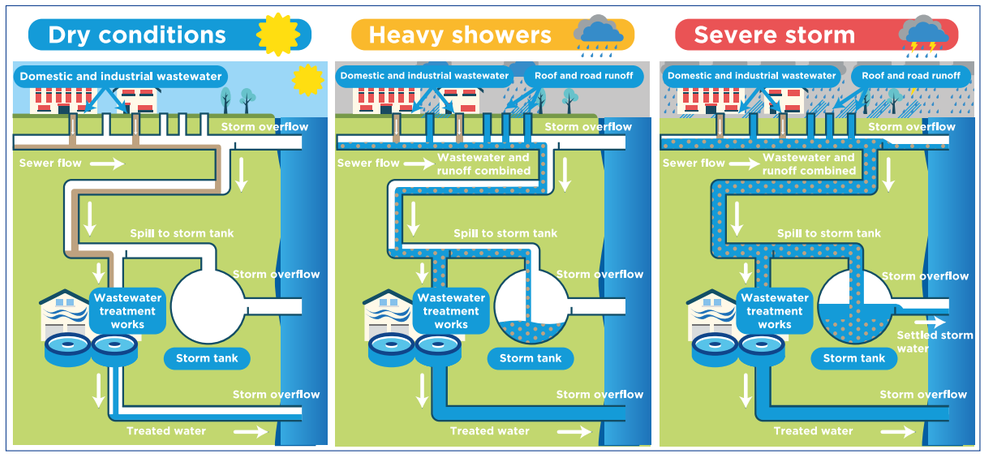


Storm overflows

During periods of heavy rainfall highly diluted wastewater may also be discharged from storm overflows, which are design features on a wastewater system, acting as emergency relief points. This prevents the flooding of homes, businesses, and schools, which would present public health hazards.

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

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



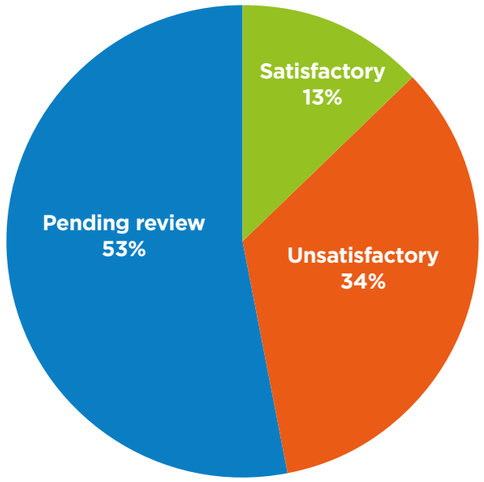
Many overflows are being forced to operate more frequently resulting in higher levels of pollution. This is due to a combination of new housing and business developments occurring without investment in the capacity of the wastewater system. This is leading to an excessive rate of loss of wastewater from many of our networks before it reaches a treatment works.

NIEA sets standards for overflows to allow spills of dilute wastewater at times of prolonged heavy rainfall when receiving waters are themselves fast flowing. Tighter standards apply to bathing and shellfish waters which are special to all and attract tourism. Modelling indicates that many operate much more frequently, contributing to the poor quality of our watercourses, loughs, and the sea.

NI Water has around 2,500 storm overflows. The roll out of event duration monitors over PC21 is helping to quantify the frequency and duration of discharges. We plan to have over 700 monitors installed by 2027, representing around 30% coverage of all storm overflows.

Assessment is ongoing and of those evaluated to date around three quarters are unable to meet the standard set by NIEA. Other contributors are agricultural practices and private drainage systems, with the share of pollution greatly varying depending on the characteristics of each catchment.

Storm overflow status



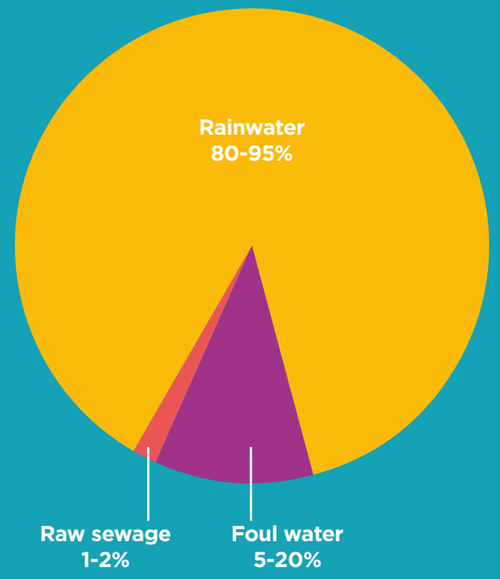
The modelling of drainage systems and catchment environments in collaboration with NIEA is giving us new information on where future investment is best targeted to tackle these spills. Our predictive models indicate 16 to 20 million cubic metres of wastewater is spilling each year – a figure that may rise by around 10% when all modelling is complete. The spills are mostly rainwater and although it varies, spills contain foul water and during times of heavy rain typically contain 1-2% of raw sewage.

Our initial estimate is that it could cost between £3billion - £4billion to address all unsatisfactory overflows. It is estimated that a further £3billion could be required to bring these up to the new standards that are now being adopted in England.

NI Water's website contains an interactive map to indicate the location of the discharges.

Find out more at https://www.niwater.com/storm/overflow/

Make-up of typical wastewater spill during storm conditions



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.

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.

Inflation has had a significant impact on construction projects across the public and private sectors with materials and labour costs climbing sharply over the last two years. The current estimate of programme costs has increased to £2.1bn. Funding of the programme is being reviewed by the DfI.

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

Sustainable solutions

Solar system

As part of our PC21 commitment to double our existing 8MW of solar generation by 2027, we're exploring installations across our own land, through strategic partnerships. During the first phase of the project, we've installed over 2,000 solar panels across three sites to generate clean electricity and lower our carbon footprint. The on-site roof and ground mounted solar installations were completed at energy intensive sites at Drumaroad and Killyhevlin water treatment works, and Limavady wastewater treatment works. The solar panels have a combined capacity of 0.9 MW of power, which will capture the sun's energy and convert it into electricity, which will be consumed on-site reducing demand from the electricity grid.

Solar installation at Drumaroad water treatment works, Castlewellan, County Down.

Getting in the 'ozone'

We have been working to deliver energy efficient savings at Dunore Point water treatment works on the shores of Lough Neagh. Through collaborative working, NI Water has achieved significant energy cost savings of around £100k per year by turning off the ozone process over the lower risk winter months, whilst still maintaining drinking water quality compliance.

NI Water staff at Dunore Point water treatment works, County Antrim.

'Reed' all about it

A part nature-based solution to wastewater treatment has been completed at Loughries wastewater treatment works, Newtownards, County Down. Due to its age, an increasing load from the village, and ever-tightening discharge limits being applied, the existing works was in danger of breaching consents. The project involved the design and construction of a new treatment process consisting of a septic tank and aerated reed bed, which is a long-term solution to operate as a tertiary final polishing system. The vertical flow orientation of the reed bed minimises the footprint of the required bed, whilst aeration provided enhanced microbial treatment to bring discharges to the required standard.

Aerated reed bed growth at Loughries wastewater treatment works, Newtownards, County Down.

Keep it clear

We deal with around 10,579 blockages of our sewers each year. The most common cause 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.

The UK Government has announced plans to ban the supply and sale of wet wipes containing plastic, aiming to combat plastic pollution and safeguard waterways. The legislation, set to be introduced in 2024/25, will be implemented in stages across England, Northern Ireland, Scotland, and Wales.

Bin it

NI Water continues to promote the 'Bin it' message to raise awareness of the damage caused by flushing inappropriate items, encouraging the public to 'bin it' instead. This is done through an extensive 'Bin it' advertising campaign which is spread across five months of the year, utilising TV, radio, outdoor and social media assets. This campaign is enhanced with an extensive awareness campaign, focussing on key times of the year when fats, oils and grease may be more of a problem in the home, for example, Christmas or Easter. The message was also promoted at the Balmoral Show, with artwork showing the impact of a blocked pipe running throughout the floor of the stand, creating a talking point for staff. Over 10,000 customers were given key messages, including the 'Bin it' message over the four-day period of the show.

NI Water also carries out targeted campaigns in areas where there is an identified problem. For example, an area in Portadown was highlighted as having of recurring blockages. Local elected representatives and the Town Mayor were invited to a photocall alongside NI Water staff. This release was issued across the Portadown area. The blockages stopped in this area and a follow up release 'Portadown loves their sewers' was issued in 2023/24.

Artwork showing the impact of a blocked pipe at the Balmoral Show, Belfast, County Antrim.

NI Water staff with local elected representatives and Lord Mayor of Armagh City, Banbridge and Craigavon during the targeted 'Bin it' campaign in Portadown, County Armagh.

https://youtu.be/syp45gNoFDg?si=qTYK79HU_qbK6RY0

https://www.niwater.com/fats-oil-and-grease-fog/

Delivering net zero carbon and climate resilience

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 are mitigating emissions from our activities, reducing emissions where we can from our construction and the wider supply chain, and adapting 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.

However, 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 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. To meet future strategic challenges such as climate change, water companies in England and Wales are proposing to make their largest ever investment, nearly doubling investment levels over the 2025-30 period. In contrast, NI Water faces material underfunding of PC21 which is adversely impacting on delivery of our Climate Change Strategy. Delivery of our Climate Change Strategy is critically dependent on multi-year funding in line with that determined by the independent Utility Regulator, supported by a mechanism to deal with financial shocks.

Taskforce on Climate related Financial Disclosures

Large sections of the UK economy have moved to 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 has transitioned towards TCFD compliance for 2023/24 and will continue to develop our disclosures over 2024/25. 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 and 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

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 provides leadership on climate change and takes overall responsibility for overseeing the management of risks associated with and sets the risk appetite for climate change. Climate change risk and opportunity is integrated into the strategic review process in NI Water and is one of NI Water's Principal Risks. The Board receive quarterly updates on the management of climate change risks. Find out more about our Principal Risks on page 84.

The Audit Committee and Risk Committee supports the Board on climate risk management and climate reporting and receive quarterly updates on these areas. Refer to the reports by the Committee Chairs at page 126 and page 128.

Executive Committee

Responsibility for operational delivery of the Climate Change Strategy and management of climate risks rests with the Executive Committee. The Director of Engineering and Sustainability is the designated Senior Responsible Owner for climate change and is supported by a Head of Climate Change and designated senior managers and their teams across relevant areas of the business. The Executive Committee receive quarterly updates on the climate strategy and the management of climate risks.

Programme Board/Progress Group

The Executive Committee is supported by the Climate Change Strategy Programme Board/ Progress Group which is responsible for implementing the annual climate action plan. NI Water actions and the action owners from across the business are identified to ensure traction and delivery of the Climate Change Strategy Delivery risks are managed by the Programme Board, drawing on updates from the Progress Group, and reported quarterly to the Executive Committee.

Strategy

Focusing on climate has been a priority 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.

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

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.

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.

These 2030 and 2040 targets are further broken down by shorter term annual targets which are to be progressed by the Climate Change Strategy Programme Board/ Progress Group.

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 these factors create challenges across our business. There are also physical risks associated with our operational assets especially in relation to critical facilities located in exposed areas.

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:

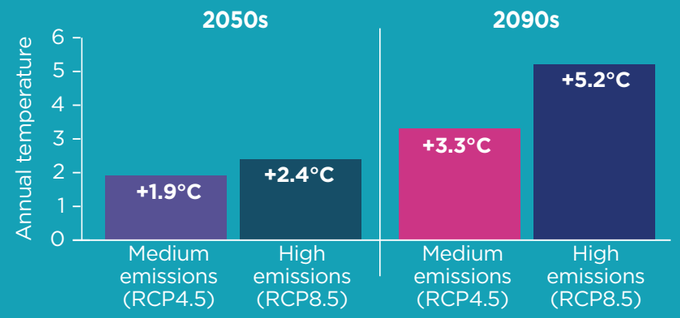
- Warmer and drier summers causing a surge in water demand and risk of drought; and
- Intense rainfall, rising sea levels and severe storms overwhelming our sewers and leading to internal flooding of homes and pollution of water courses, putting our low-lying coastal sites at risk of flooding, and causing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

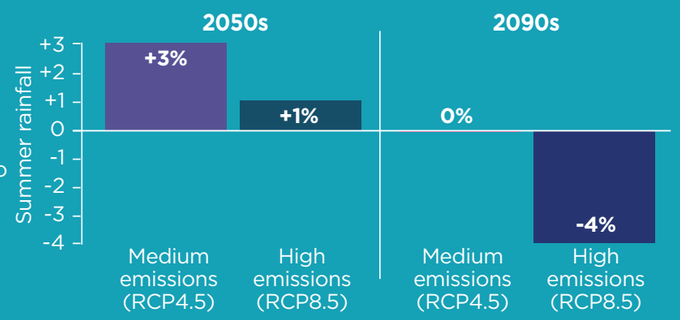
As an operator of critical national infrastructure, we must be ready for climate change. We are moving our business to a higher state of readiness by planning for two degrees of temperature rise by 2050 and preparing for four degrees by 2090. As part of this, we ensure that our business continuity plans,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

Nature Protecting and enhancing the natural environment

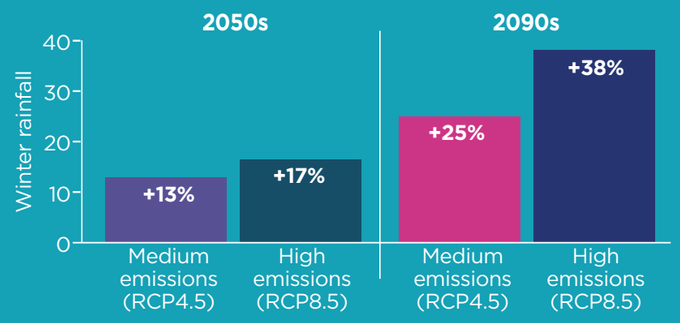
Annual temperatures are set to increase on average by between 1.9°C - 2.4°C by 2050*



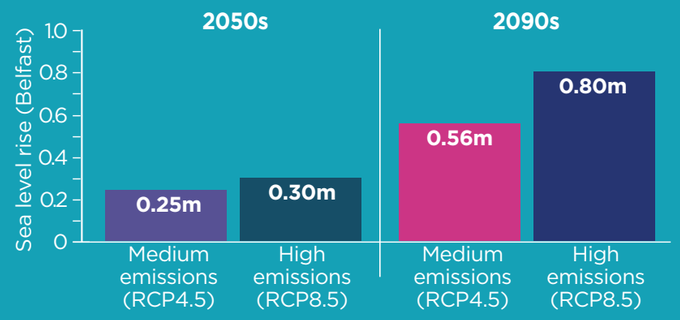
We can expect hotter drier summers, and while overall summer rainfall is projected to decrease, downpours will be more extreme**



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://acct.metoffice.gov.uk/pub/data/weather/uk/ukcp18/science-reports/UKCP18-Probabilistic-Update-Report.pdf*
**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. Other opportunities are continually being explored and will be progressed in the coming years. Taking the opportunities to mitigate these risks will have wider benefits for the Northern Ireland landscape in reducing inequalities, improving air quality, and creating new jobs and opportunities.

Risk scenario modelling

We developed a Climate Risk Model in 2021/22 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.

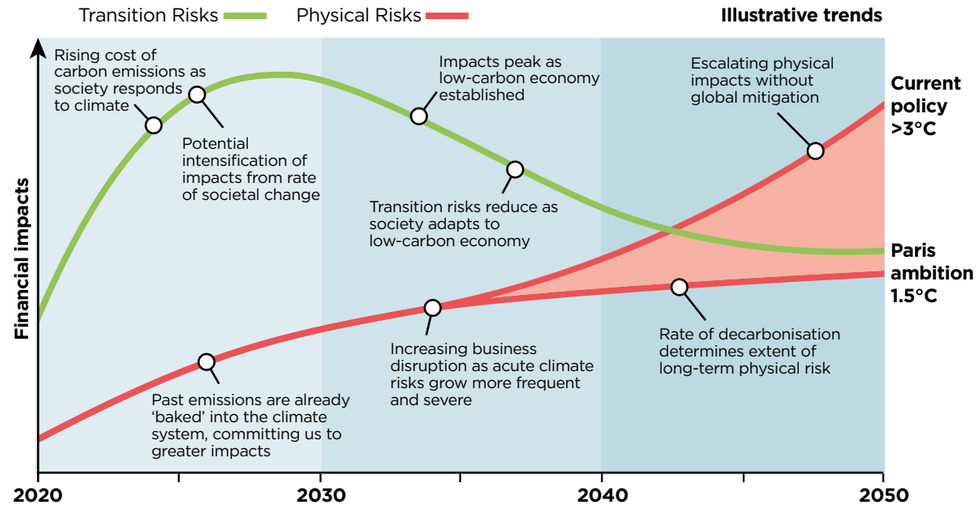
The model helped inform the development of our Climate Change Strategy, particularly in relation to the timing of our targets and actions for net zero and climate resilience. The Model has also helped us identify information required to improve our understanding and climate decision making.

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 and wastewater.



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

Nature Protecting and enhancing the natural environment

We re-ran the model over 2023/24 to further inform our 2023/24 TCFD disclosures. The re-run process involved the following developments:

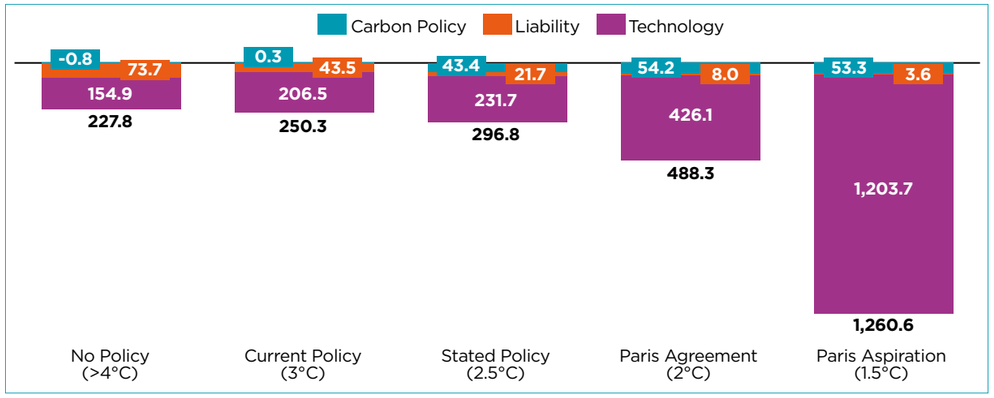
- inclusion of improved data sets such as Scope 3 emissions;
- extending the transition risk assessment, assessing policy, liability and technology risks over a 5-10 year time frame; and
- physical risk assessment to quantify the business disruption, property damages and market disruption risk and opportunities present.

Key findings from the model re-run included the following:

Value at risk over the 10-year time frame - £m

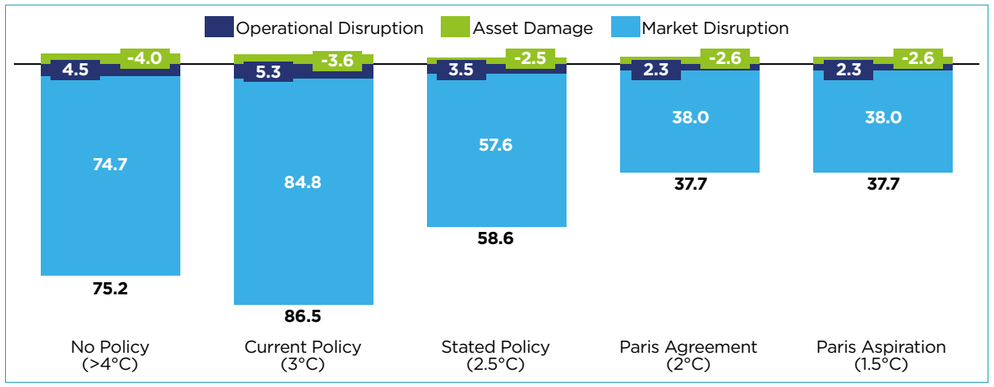
Transition Risk:

- technology risk is the dominant transition risk faced by NI Water, while policy (carbon pricing) and liability (climate litigation) risks are present, the magnitude is smaller;
- the overall impact of transition risk ranges from £227m to £1.2bn as the economy adopts more climate stringent policies;



Physical Risk:

- the largest physical risk costs at £86.5m are expected to be incurred in the current policy scenario over the ten-year time frame;
- the leading peril impacting NI Water's key facilities is temperate windstorm, followed by riverine flood and drought/water stress; and
- heatwave and drought/water stress are expected to increase the demand for NI Water's services.



Key recommendations from the model re-run include creating a decarbonisation plan to reduce emissions, with a particular focus on Scope 3 emission reductions; accelerating the electrification of NI Water's assets, creating a strategy for assets with larger fossil fuel dependency and establishing a climate risk mitigation plan and business interruption plan for all key facilities. These recommendations will be progressed over 2024/25.

Model assumptions:

Input data and Assumptions

- This exercise assesses the potential impact of climate on NI Water's earnings value in the next 5-10 years under set global temperature scenarios (>4°C, 3°C, 2.5°C, 2°C and 1.5°C);
- Cash Flow projections for the next 5-10 years are used; and
- Baseline Cost of Capital is calculated based on NI Water's current capital structure and cost of debt and equity.

Limitations and Constraints

- Impact on earnings value is calculated assuming that NI Water does not modify its current/planned strategy based on the market ecosystem. Thus, the exercise does not provide an expected value of this impact.

Transition risk assumptions:

	Modelling data assumptions
Carbon Policy	• Carbon costs have been estimated based on the NI Water's GHG emissions • Scope 1 and Scope 2 emission values were obtained from NI Water's annual report • The collective global Scope 3 emissions data was geographically split using NI Water's geographical ratio from the previous year • For comprehensive analysis, it is assumed that NI Water retains all the increased carbon pricing costs
Liability	• For comprehensive analysis, this exercise assumes that NI Water will not pass litigation costs to customers
Technology	• The following depreciation rates were utilised for assets: property: 1.97%, machinery: 8.23%, transport: 17.68% • The reduction in fuel usage for transport assets is assumed to be proportionate to the size of NI Water's electric fleet • NI Water's property assets are assumed to have a 2.3% fossil fuel utilisation rate due to the use of kerosene, gas oil, natural gas and propane in buildings • Machinery assets are assumed to have a 100% fossil fuel utilisation rate • It is assumed that NI Water retains all the increased investment costs and does not pass them onto customers

Physical risk assumptions

	Modelling data assumptions
Operational Disruption	• Replacement costs were identified for all key facilities to determine the cost associated with extreme weather events impacting NI Water's key facilities • Where replacement costs were not available for facilities, initial costs of the facilities were pro-rated to 2023
Asset Damage	• Replacement costs were identified for all key facilities to determine the cost associated with extreme weather events impacting NI Water's key facilities • Where replacement costs were not available for facilities, initial costs of the facilities were pro-rated to 2023
Market Disruption	• 2023 revenue values were aligned to NI Water's market breakdown from the previous assessment conducted

Nature Protecting and enhancing the natural environment

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 136.

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 142.

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 168.

Metrics

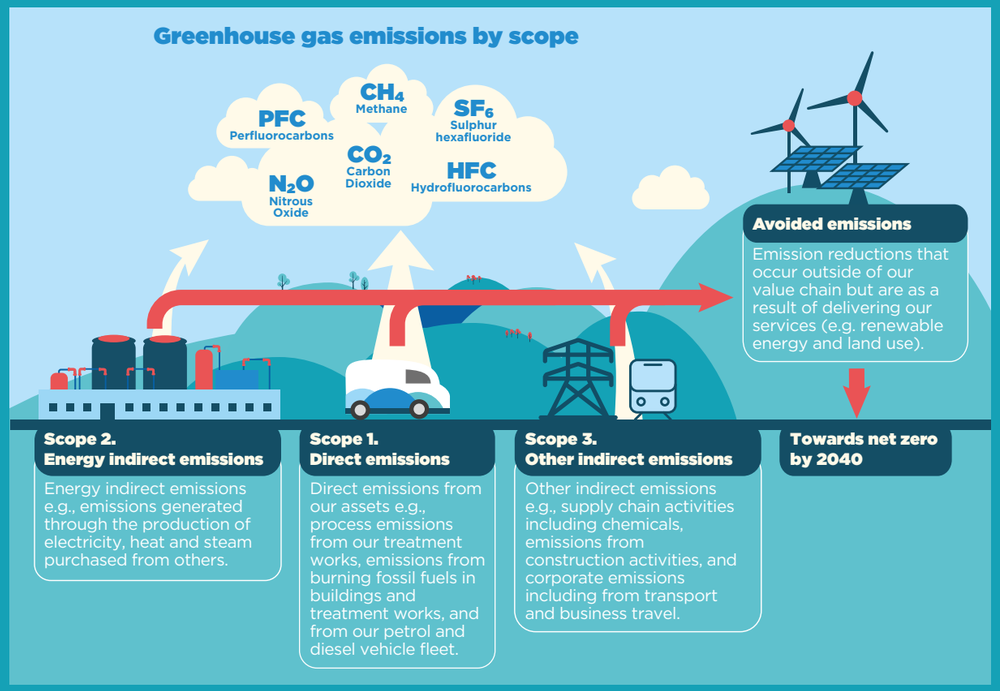
We account for our greenhouse gas emissions annually using the UKWIR Carbon Accounting Workbook, designed specifically for water companies to measure and report their emissions. The emissions are split into different categories known as scopes.

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

In 2022/23 for the first time, 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 will further develop our methodology in 2024/25 to establish land use and wastewater process emissions and how these factors impact in our overall carbon footprint.

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 2022/23 and 2023/24 are shown below:

NI Water greenhouse gas emissions	2023/24 tCO_2e Market based*	2023/24 tCO_2e Location based**	2022/23 tCO_2e Market based*	2022/23 tCO_2e Location based**
Scope 1 direct emissions				
Direct emissions from burning of fossil fuels	2,319	2,319	1,912	1,912
Process emissions from our treatment plants	7,929	7,929	7,185	7,185
Transport: Company owned or leased vehicles	2,121	2,121	2,418	2,418
Total scope 1 direct emissions	**12,369**	**12,369**	**11,515**	**11,515**
Scope 2 energy indirect emissions				
Grid electricity purchased	19,009	53,624	21,263	49,652
Total scope 2 energy indirect emissions	**19,009**	**53,624**	**21,263**	**49,652**
Total scope 1 and scope 2 (gross of avoided emissions)	**31,378**	**65,993**	**32,778**	**61,167**
Avoided emissions				
Avoided emissions from renewable electricity exported	(283)	(283)	(281)	(281)
Avoided emissions from renewable electricity purchased	N/A	(32,432)	N/A	(30,983)
Total avoided emissions	**(283)**	**(32,715)**	**(281)**	**(31,264)**
Total scope 1 and scope 2 (net of avoided emissions)	**31,095**	**33,278**	**32,497**	**29,903**
Scope 3 other indirect emissions				
Purchased goods and services	56,166	56,166	80,310	80,310
Capital goods and services	93,107	93,107	64,560	64,560
Waste generated in operations	18,581	18,581	9,410	9,410
Employee commuting, homeworking and business travel	2,156	2,156	1,850	1,850
Fuel and energy	19,216	19,216	6,200	6,200
Transport and distribution	3,302	3,302	3,330	3,330
Leased assets	152	152	100	100
Total scope 3 other indirect emissions	**192,680**	**192,680**	**165,760**	**165,760**
Total reported emissions (net of avoided emissions)	**223,775**	**225,958**	**198,257**	**195,663**

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

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

NI Water greenhouse gas emissions intensity	2023/24	2022/23	2021/22	2020/21
Total location-based reported emissions per megalitre of treated water (tCO_2e/Ml)	1.026	0.887	0.608	0.684
Total location-based reported emissions per megalitre of sewage water (tCO_2e/Ml)	1.717	1.487	1.019	1.148

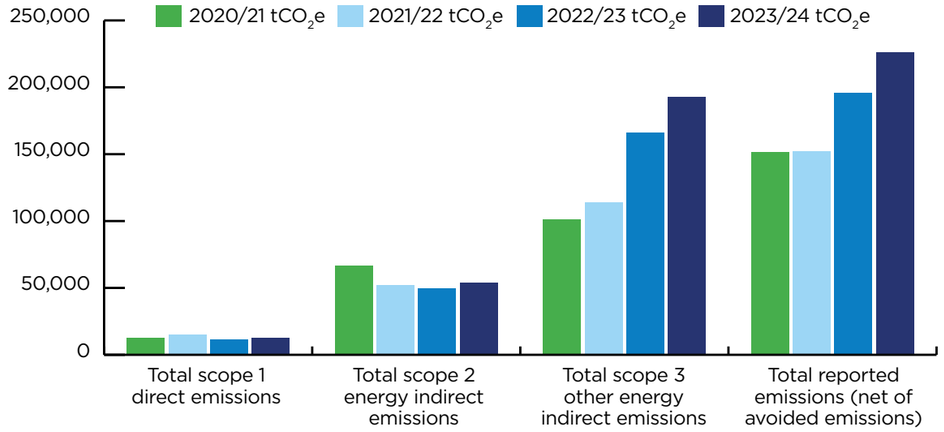
The total reported emissions increased from 195,663 tCO_2e in 2022/23 to 225,958 tCO_2e in 2023/24, an increase of 15%. The increase in total reported emissions was primarily due to increased capital investment. There was a resulting increase in greenhouse gas emissions intensity.

2022/23 was the first year NI Water reported scope 3 emissions. We have developed our methodology and classifications in 2023/24 in line with industry standards and knowledge. The data is based on assumptions and latest understanding.

We plan to continue developing our methodology and processes in future years.

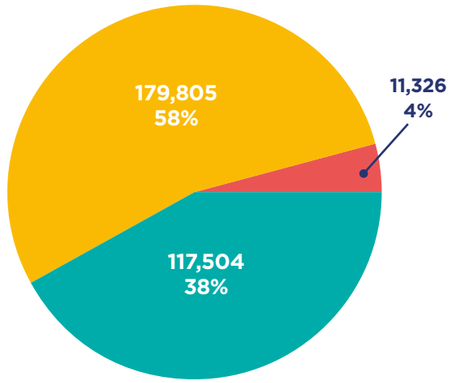
Based on the uncertainties and current industry practice, our net zero 2040 baseline currently excludes some of the wastewater process emissions and all of land use. We will include all of these in our net zero 2040 baseline and target once we are able to quantify them.

Location based greenhouse gas emissions



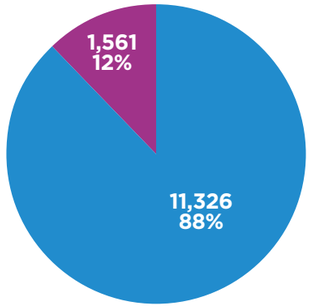
NI Water's electricity consumption and renewable energy generation is shown below:

Total electricity consumption 2023/24 (MWh)



- Grid electricity purchased (excluding renewable energy)
- Grid electricity purchased - renewable energy
- Renewable electricity generated and used
- **Total electricity consumption 308,635MWh**

Total renewable electricity generated 2023/24 (MWh)



- Renewable electricity generated and used
- Renewable electricity generated and exported to the grid
- **Total renewable electricity generated 12,887MWh**

ISO 14064 (Part 1)

NI Water uses Achilles, 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. Accreditation has been achieved for the 2020/21 baseline in Climate Change Strategy and the subsequent two years. The accreditation for 2023/24 data will be finalised in 2024/25.

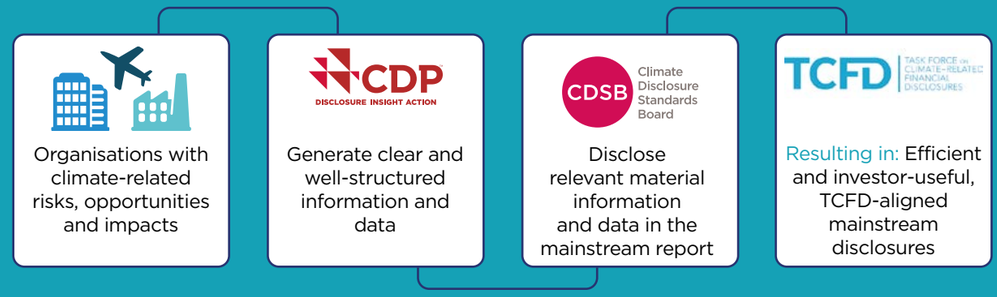
Achilles
Carbon Reduce Certified
Powered by Toitū Envirocare

Nature Protecting and enhancing the natural environment

STRATEGIC REPORT

CDP

NI Water registered with CDP and submitted the 2022/23 CDP questionnaires for both Corporate 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.



NI Water was awarded a C rating for both Corporate and Supplier Engagement Rating (SER), including an A rating for Scope 3 verification. CDP's Supplier Engagement Rating assesses how effectively companies are working with suppliers to address climate change issues. Specifically, it focuses on the key areas of governance, targets, ambition, management (Scope 3), supplier engagement, and overall CDP climate change performance. The Public Authorities Questionnaire is currently not scored.

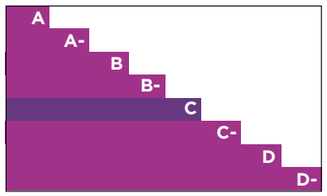
Your CDP score

C

Average performance

B-	B	C
Non-energy utilities	Europe	Global Average

UNDERSTANDING YOUR SCORE REPORT



Northern Ireland Water Limited received a C which is in the Awareness band. This is lower than the Europe regional average of B, and lower than the Non-energy utilities sector average of B-.

Leadership (A/A-): Implementing current best practices

Management (B/B-): Taking coordinated action on climate issues

Awareness (C/C-): Knowledge of impacts on, and of, climate issues

Disclosure (D/D-): Transparent about climate issues

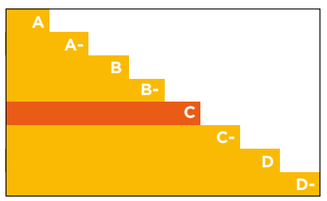
Your SER

C

Average performance

C	B-	C
Non-energy utilities	Europe	Global Average

UNDERSTANDING YOUR SCORE REPORT



Northern Ireland Water Limited received a C which is in the Awareness band. This is lower than the Europe regional average of B-, and the same as the Non-energy utilities sector average of C.

Leadership (A/A-): Implementing current best practices

Management (B/B-): Taking coordinated action on supplier engagement issues

Awareness (C/C-): Knowledge of impacts on, and of, supplier engagement issues

Disclosure (D/D-): Transparent about supplier engagement issues

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 continued to develop an illustration of four decarbonisation trajectory pathways which would emerge depending on the strategic decisions taken by NI Water to meeting its climate change commitments for mitigation. Over 2024/25 we will select the preferred pathway and develop a Climate Transition plan including annual net zero targets.

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. Our submission will be supported by the Climate Transition Plan.

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. 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 commissioned a gap analysis with the standards in 2023/24 and will commence implementation of the recommendations over 2024/25.

Climate Change Act (Northern Ireland) 2022 and Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024

The Climate Change Act (NI) 2022 was enacted in June 2022. The Department for Agriculture, Environment and Rural Affairs (DAERA) ae progressing 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). We understand that the Climate Action Plan will contain proposals and policies aimed at supporting 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 will also cover climate adaptation and public body reporting.

We engaged with DAERA and the Department for Infrastructure to support the development of the Climate Action Plan and Carbon Budget, which will be finalised in 2024/25. 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 commissioned a reconciliation between greenhouse gas reporting in the water sector and reporting under the Act. The reconciliation was shared with DAERA and DfI in 2023/24 and was reflected in our submission to the consultation on the Climate Action Plan and Carbon Budget.

Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024

NI Water is specified as a 'Reporting Body' within the Schedule of the Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024, as having climate change reporting duties placed upon it. The draft Regulations, agreed by the Northern Ireland Executive, come into operation in 2024/25.

The duties placed on NI Water cover climate change reporting requirements on both adaptation and mitigation. The first mitigation report by the public bodies will be required to be submitted to DAERA by October 2025. The first adaptation report is not due until March 2026. Mitigation reports will then be required on a three-yearly cycle, and the adaptation reports will be required on a five-yearly cycle.

Transition Plan Taskforce

The Transition Plan Taskforce was launched by HM Treasury in April 2022 to develop the gold standard for private sector climate transition plans. The Taskforce published a final Disclosure Framework in October 2023. The Disclosure Framework sets out the key elements of credible and robust climate transition plans as part of annual reporting on forward business strategy. The Framework will support the creation of consistent, comparable company reports, and reduce the level of complexity faced by firms disclosing climate-related information. The UK Government has committed to consulting on the introduction of requirements for the UK's largest companies to disclose their transition plans.