

Nature

protecting and enhancing the natural environment

More resilient network

Sustainable solutions

Keep it clear

Towards zero carbon

Our business is inherently circular: we abstract water from the natural environment to provide our customers with a vital resource, before taking away their wastewater, treating it and safely recycling the water back into the natural environment. Our ambition is that our services always contribute to a flourishing natural environment.



Rain water garden at Clondeboye Primary School.

An innovative rainwater garden was completed at Clondeboye Primary School, Bangor, Co Down, which is the first of its kind in Northern Ireland. The garden demonstrates how sustainable design can reduce the risk of flooding, whilst also enhancing the environment and providing a valuable educational resource.

More resilient network

Flooding and the risk of flooding can constrain economic development and increase the cost of insurance. Most of the urban areas of Northern Ireland, including road surfaces, are served by combined sewers that carry both sewage and surface water - such a system would never be built today as it is inefficient and results in pollution and flooding.

We will gradually transform the sewerage network by taking every economically viable opportunity to disconnect surface areas from existing combined sewers, for example when laying a new storm sewer to service a new development. In many locations this will help free up capacity in combined sewers for new connections without having to lay new or combined sewers.

We will actively promote the use of green infrastructure such as sustainable drainage systems (SuDS) in new developments by providing clear guidance to developers. SuDS have the potential to reduce flooding by reducing the peak discharge

and slowing the flow. They can also reduce pollution by filtering out sediment carried in storm flows, provide increased amenity and reduce the cost of site drainage. We will retrofit SuDS where this helps to reduce the risk of flooding and facilitates storm separation.

We will contribute to the development and implementation of flood risk management plans where this aligns to our roles and responsibilities.

We will seek to increase the rate of maintenance of the network so that it is more robust and reliable. We will increase and improve our long term investment in extending and improving the networks by working with the government to introduce an approach similar to the Water UK 'Drainage and Wastewater Management Plan Framework'. Under the 'Living With Water Programme' we will work in collaboration with stakeholders to develop and implement a strategic plan to upgrade the wastewater networks that discharge into inner Belfast Lough.



Natural wetland treating wastewater at Stoneyford, County Antrim.

We received a prestigious international 'Green Apple' environmental award in recognition of our work to construct a natural wetland for treatment of wastewater in Stoneyford, near Lisburn, County Antrim. The Stoneyford site is a flagship project for NI Water to produce an industry-leading example of how treatment can be integrated into and complement the local ecosystem. The approach requires less capital investment, uses less energy and chemicals, and requires less maintenance compared with traditional solutions. Following the success of Stoneyford, we opened a second wetland at Castle Archdale, County Fermanagh.

Sustainable solutions

Our business is circular: we abstract water from the environment to provide our customers with a vital resource, before taking away their wastewater, treating it and safely recycling the water back into the environment. We will play our part in improving the biodiversity of water catchments, rivers and lakes to restore our natural resources and ensure that favourable conservation status is achieved.

We will adopt a circular economy approach to what many currently consider to be 'waste' to avoid loss of value and where possible provide environmental benefits. We will invest in our treatments works so that they are efficient and reliable, producing the optimum residual byproducts and in future energy and nutrient recovery. Currently all of our wastewater sludge disposal is by a Public Private Partnership (PPP) contract that runs until the year 2032. The PPP concessionaire has chosen to incinerate sludge with some limited energy recovery. We are making preparations for the end of the PPP contract. This will identify any opportunities for early intervention

to recover increased energy and nutrients from sludge, and opportunities to work with stakeholders on any wider energy from waste solutions through a 'one public purse' approach.

We will continue to work with NIEA to inform the development of a mature wastewater compliance model, which will align the reporting of wastewater compliance at the treatment works and in the sewer network with the rest of the UK. The current model is based on pre-announced rather than un-announced regulatory sampling at the treatment works and the reported wastewater compliance doesn't incorporate flow compliance in the sewer network.

We will adopt new and innovative treatment processes when they provide increased capacity to allow for growth, allow more stringent standards to be achieved in the future, improve resilience to shock loads, reduce odours for neighbouring communities, reduce energy and chemical consumption and provide wider environmental benefits.

Keep it clear

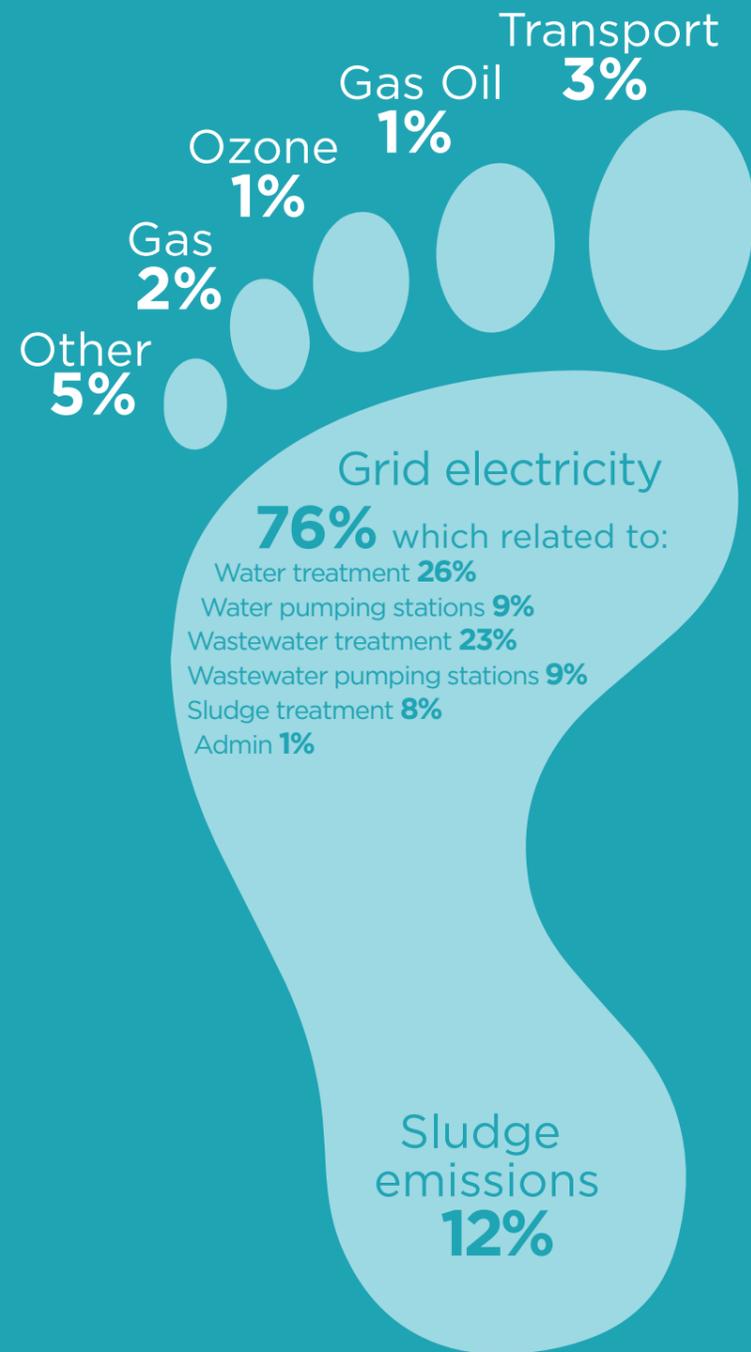
Our sewer network is designed to safely dispose of the three Ps: Pee, Poo and Paper. If other things are flushed down the toilet or poured down the sewer, sewer pipes can and do block. We deal with around 15,000 blockages each year. Three quarters of all blockages are caused by inappropriate items being put in the sewers. Blockages are also caused by deterioration in the condition of pipes, collapses and equipment failure.

We will work with our customers to communicate what can be safely disposed of down the sink or in the toilet, and take enforcement action for abuse of sewers. We will invest in technology to monitor our sewer network helping us to identify and rectify problems through intelligent remote control before our customers and the environment are affected.

If it's not
**PEE, POO
or PAPER**
it will block
your pipes

**STOP & THINK
NOT
IN THE
SINK**





Towards zero carbon

Operational emissions from the water industry account for nearly 1% of the UK's total carbon emissions. This is because water treatment is energy and chemical intensive and transporting water requires a great deal of pumping. Grid electricity accounts for the vast majority of our carbon emissions. As Northern Ireland's single largest electricity consumer, our goal is to fully exploit innovative approaches to energy and new technology to reduce our carbon footprint and ultimately become carbon neutral. We will achieve this by a wide range of actions that will affect almost every aspect of our business, including:

- improved instrumentation, automation and control of plant and equipment;
- investing in new treatment processes and pumping systems to reduce their energy demand and the emission of other greenhouse gasses;
- increasing our self-generation of renewable energy; and
- procurement of more renewable energy.



Solar farm at Dunore water treatment works, County Antrim.

We completed our first solar farm to supply electricity to the Dunore water treatment works in South Antrim. Dunore water treatment works is our third largest site in terms of energy consumption accounting for 7% of our annual usage (enough electricity to power around 1,500 homes). As well as meeting the energy needs of the Dunore water treatment works, the farm also enables us to contribute spare capacity to the grid.

Summary actions

- Gradually transform the sewerage network by disconnecting surface areas from existing combined sewers and promoting the use of SuDS so that this reduces the risk of flooding and helps enhance the natural environment.
- Invest where lack of capacity in our sewers has caused flooding, minimising the risk of a property flooding again.
- Use customer campaigns to highlight the unpleasant impact caused by disposing inappropriate items such as wet wipes and fats in the sewers.
- Continue to invest in technology to monitor our infrastructure allowing us to identify and rectify problems before the natural environment is impacted.
- Play our part in restoring our natural resources to ensure that favourable conservation status is achieved.
- Promote a circular business model to value everything and waste nothing. We will change our language to talk about value rather than waste and raise awareness amongst customers.
- Work with government in Northern Ireland to implement Water UK's 21st Century Drainage framework in Northern Ireland. This will include actively participating in the Living With Water Programme.
- Work with NIEA to inform the development of a mature wastewater compliance model for the treatment works and the sewer network.
- Steadily reduce our dependency on fossil fuels by continuing to improve our efficiency, reduce our emissions of greenhouse gases from our treatment processes and sludge, and increase our self-generation and procurement of renewable energy.
- Seek opportunities to utilise our land and assets to maximise benefits for the local communities and the economy of Northern Ireland.
- Live by our values in protecting and enhancing the natural environment.

How will we measure progress?

We will measure progress by tracking delivery of the summary actions and the strategic performance indicators:

