

NI Water scientist undertaking water quality tests.



# Water

delivering great tasting, clean and safe water to meet customer need

The great tasting, clean and safe drinking water we deliver to our customers underpins public health and the economy of Northern Ireland. Our ambition is that our customers will always have great tasting, clean and safe water when they need it.

Improve at source

Enough water for all

Tasty, clean and safe

Drive down leakage

Always on

## Improve at source

The raw water we use to produce our high quality drinking water is predominantly taken from Lough Neagh, local rivers and a range of upland sources, all of which are rich in natural organic matter.

We continually monitor the raw water entering our water treatment works and adjust the treatment process accordingly. Increasing levels of organic matter in raw water, as well as fertilisers and herbicides, place a strain on our water treatment works. While investment in our treatment works to install complex energy and chemical intensive processes can remove the problem, the sustainable long term solution is to work in partnership with farmers, land owners and other stakeholders to manage the source waters using catchment management. Working together, we can improve the water quality before it even reaches the water treatment works which benefits the natural environment and biodiversity and can reduce our operating costs, especially when resources are pooled with stakeholders to access funding.



## Enough water for all

Every six years we prepare a Water Resource and Supply Resilience Plan, which sets out how we will maintain the balance between supply and demand for water for all our customers over the long-term, as well as the operational options to respond to short-term critical events such as drought, demand surges and freeze-thaw. The current plan has a particular focus on improving the resilience of our water supply to our customers.

Our latest research shows there has been a decrease in average water demand in recent years as a result of reduced household and non-household demand and a reduction in leakage. The reduction in leakage has been achieved through active leakage detection and sustained investment in water mains. As a result, security of supply for most of Northern Ireland's customers has significantly improved.

Despite this, we already use around 70% more water today than we did 40 years ago. As a society, more needs to be done to reduce our water footprint by making our homes and buildings more water efficient and better understanding the hidden water in the products we buy. This can help in further driving down leakage, our carbon footprint and increase water resilience.

In relation to short-term critical events, we have identified a number of water resource zones that will potentially fall into deficit in a drought period so actions will be taken to address these. We also identified a number of areas vulnerable to an extended supply interruption in the event of a major asset failure. We plan to improve the service provided to customers using the best mix of investment in improving water mains, water storage and interconnectivity between supply systems.

### Tankering of water during a demand surge.

NI Water responded to a surge in demand in June 2018 during hot weather. This required tankering of water to maintain supplies alongside communication with customers to reduce consumption.

## 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. Being able to rely on and have confidence in the quality of water that we supply is a fundamental expectation of our customers. Since 2007, significant investment has resulted in record drinking water quality. Around 470,000 tests are undertaken every year to check that our drinking water meets the required standards.

Our Drinking Water Safety Plans enable us to provide a thorough risk-based approach to managing our operations from 'source to tap'. We will use these plans to identify and prioritise activities to deliver water of the highest quality

to all our customers. One of the most significant challenges facing our customers is the presence of lead. 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 consumers' tap. So even with the removal of all lead pipes within our network there will be a risk to lead compliance from lead pipes remaining within customers' properties. The regulatory limit for lead may reduce further with revision of the Drinking Water Directive.



### NI Water Chairman and CEO with staff involved in the 'Source to Tap' project.

NI Water is leading a partnership, which includes Irish Water, The Rivers Trust, Ulster University, Agri Food and Bioscience Institute (AFBI) and East Border Region. The partners will work together to test pilots for how to protect raw water quality at source across both jurisdictions.



### Lead communication pipes being replaced.

We are committed to removing lead pipes from our networks and working with stakeholders to minimise the remaining lead pipes in customers' properties. Find out more about reducing the risk of lead at: <https://www.niwater.com/lead-pipes/>.



Leakage detection technology being used by a NI Water staff member.

## Drive down leakage

Leakage has been an ongoing issue for the water industry and it remains topical today. Historically we have used engineering techniques to work out the sustainable economic level of leakage i.e. the point at which the cost of fixing a leak outweighs the benefit. However we recognise there is more we can do, particularly when we are asking our customers

to use water wisely in their homes. There are many new innovations to tackle leakage, including satellite imagery, drones and sniffer dogs, which can be used alongside the ear of an experienced leakage detection engineer. We will use best practice to drive down the level of leakage.



NI Water staff repairing a supply interruption.

## Always on

Every day, we operate 23 water treatment works to produce 575 million litres of high quality drinking water. The drinking water is delivered to homes and businesses via an extensive and complex network of 370 service reservoirs and 27,000 km of water mains. We recognise the inconvenience caused when customers' water supply is interrupted or suffers low pressure.

We will increase the reliability of our water supply system from source to tap by identifying and addressing areas where there is a risk of repeat interruptions to supply and low pressure. We will use technology to improve our insight and intelligence so actions can be taken before our customers are impacted.

## Summary actions

- Avoid additional investment in water treatment works by managing our land and influencing others to ensure that water captured is the best quality.
- Extend our sustainable catchment management across all our catchments and work with Irish Water to address cross-border catchments.
- Invest in our water infrastructure to ensure there is a balance between the supply and the demand for water.
- Promote a water saving culture to reduce society's water footprint.
- Provide great tasting, clean and safe drinking water which complies with statutory standards and obligations and meets the expectations of our customers in relation to water quality.
- Remove lead pipes from our networks and work with stakeholders to minimise the remaining lead pipes in customers' properties.
- Use best practice to drive down the level of leakage.
- Increase the reliability of our water supply system from source to tap.
- Live by our values in delivering great tasting, clean and safe water to meet customer need.

## How will we measure progress?

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

Strategic performance measure →

Increase in the number of customers receiving great tasting, clean and safe water when they need it

Strategic performance indicators →

Water quality compliance

Reduction in leakage

Reduction in supply interruptions

Strategic outcome →

Healthy and thriving population