

Our Strategy

2021 - 2046

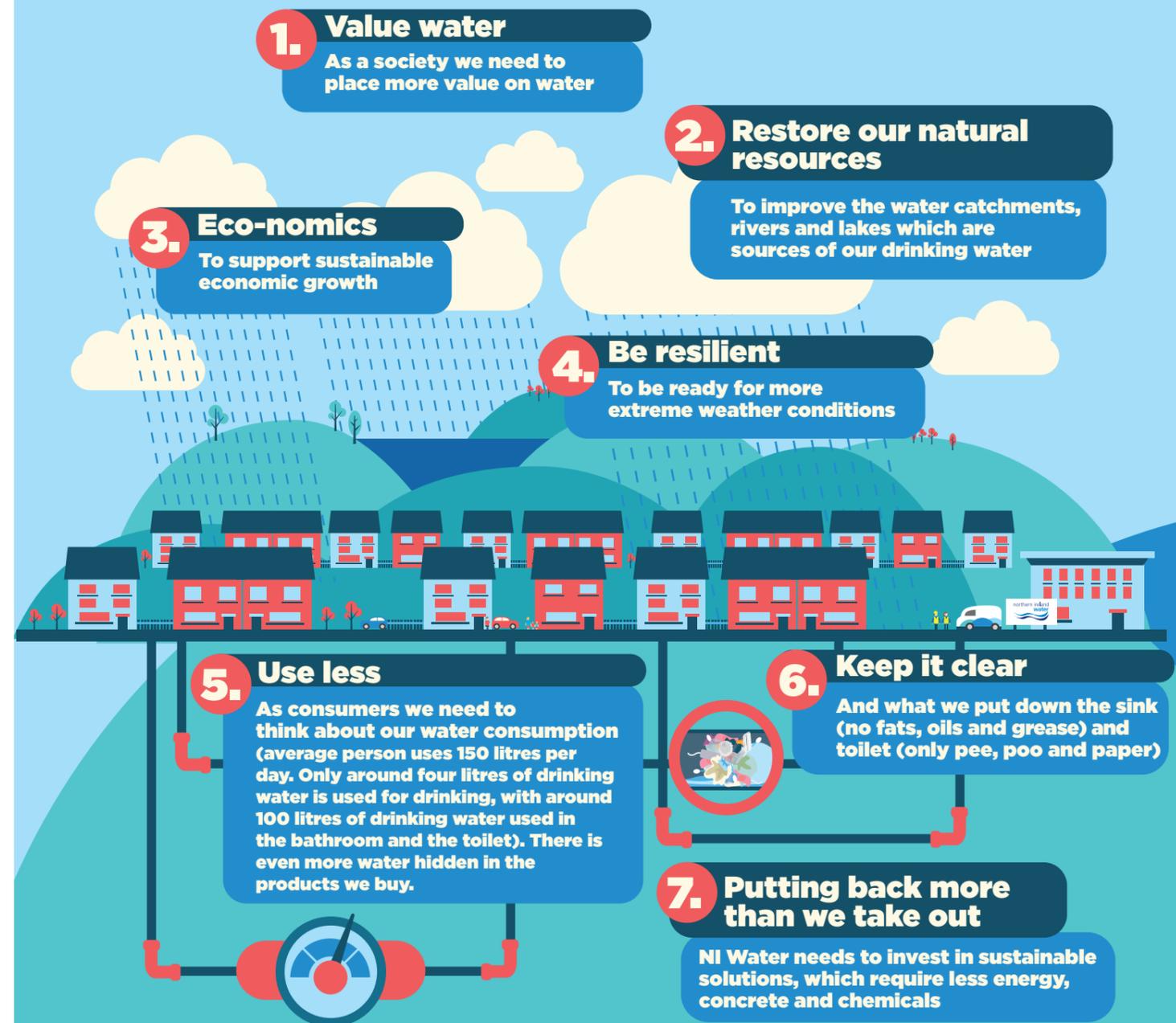


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We would like to acknowledge particular thanks to Michael Cooper Photography who supplied the majority of images used in our report. Thanks also go to Brian Morrison Photography.

Changing how we all think about water



Fast read

Water for life

Northern Ireland Water (NI Water) exists to provide the water for life we all rely on to thrive. The Board and management are pleased to present our strategy designed to make Northern Ireland a more healthy, sustainable and prosperous place in which to live. Every aspect of life in Northern Ireland relies on the services we provide. Our business is essential to support a healthy and thriving population, a growing economy and a flourishing natural environment. Our focus is delivering high quality drinking water and recycling wastewater safely to the environment today and tomorrow.

Changing how we all think about water

Nature provides us with a range of ecosystem services, which filter our fresh water, absorbing and retaining carbon, protect us from flooding, provide recreation, attract tourists and support our overall health and well-being. NI Water relies on fresh water as the key input to provide its services. Sustainably managed, this renewable natural capital infrastructure is a gift, which keeps on giving.

As a society we need to place more value on water; to reduce pollutants entering our waterways and the millions spent on removing them through water treatment; to work with nature rather than against it to support sustainable economic growth; to be ready for more extreme weather conditions; to better design our homes to use less high quality drinking water for flushing the toilet and washing the car; and reduce the millions spent keeping our sewer networks clear of inappropriate items.

NI Water must also play its part, and identify profitable solutions that underpin a healthy and thriving population, a growing economy, and a flourishing natural environment. In doing so, we can all help support a clean growth revolution.

Why do we need a strategy?

Our business invests to meet the needs of current and future generations. This requires long term planning as some of our assets have lives extending over 100 years. This document provides a longer term view across the next quarter of a century (2021-2046) and updates our existing long term strategy (2015-2040). It takes account of the progress to date, strategic risks, feedback from our customers and other stakeholders on what is important to them and the world in which we operate.

Building on our success

Since our formation in 2007, we have been leading the challenge on doing more for customers, with fewer resources. We have transformed the delivery of water services, delivering record levels of service for our customers while reducing our cost base through sustainable efficiencies. NI Water is one of the most successful examples of a public sector organisation achieving private sector levels of performance and efficiency. We want to continue to build on this success and become world class.

Drains before cranes

However, this future success and our progress to date is dependent on a solution being found to the funding of water and sewerage infrastructure. Northern Ireland is unique within the UK as being the only part where the regulated water utility is unable to fully implement the economic regulator's final determination due to public expenditure constraints.

Underfunding of our PC15 business plan 2015-21 (£990m actual versus £1.7bn required) has already resulted in curbs to economic development with new housing and businesses being unable to get connected to our sewerage system in over 100 towns across the province. Indeed, the growth of Belfast City, the primary economic engine of Northern Ireland will stall unless the £1bn investment in strategic drainage, under the Living with Water Programme, is supported. The City Deal risks not realising its full potential, as do the other local council development plans. If you want to put up the cranes, you have to invest in the drains.

Tipping point

We are therefore facing a tipping point as we approach the next business plan period PC21 (2021-27), which will require an investment of around £2.5bn, including the Living with Water Programme. The NI Water Board and Executives continue to work with stakeholders to identify a means to fund this vital investment. However, a solution has not been identified. Our shareholder, DfI, needs to commit to fund this investment but faces competing pressures from transport infrastructure. Unlike in the rest of the UK, the risk of shareholder sanction from the Utility Regulator is much diminished due to our Government ownership. A solution must be identified to avert a funding crisis for this vital infrastructure.

As we look to the future, we face a number of other strategic risks - some long-standing, some new. These include climate change, rising customer expectations, changes to legislation and customer demographics. The strategic risks pose threats to our resilience in terms of maintaining services for our customers. Advances in science and technology, known as the fourth industrial revolution, present a range of opportunities.

Putting back more than we take out

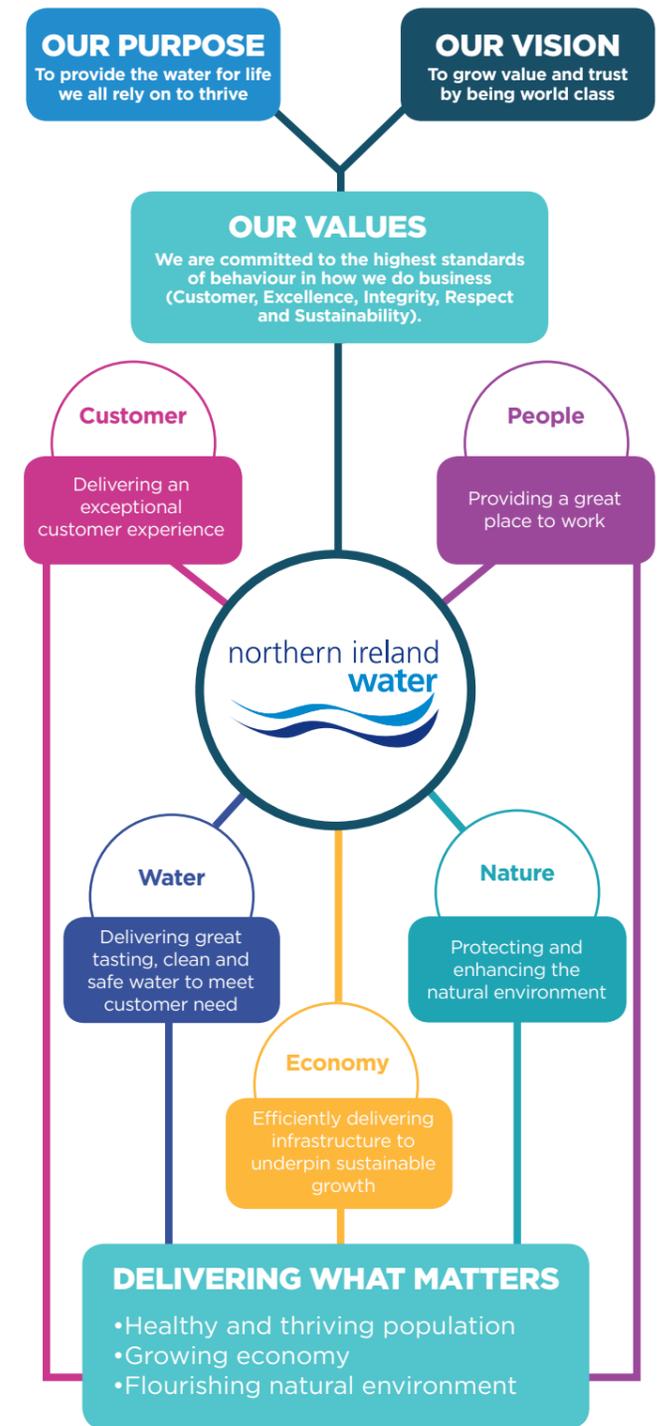
Our role is to have a strategy to address these threats and take advantage of opportunities available to us in a way which puts more back into society, the economy and the natural environment than we take out. We are therefore committed to the NI Executive's draft Outcomes Delivery Plan and the United Nation's Sustainable Development Goals. In doing so, we can play our part in creating long term value in the resource constrained world of the 21st century. Otherwise our planet earth may not be sustainable for those who come after us by the end of this century. We all must change the way we think about water.

Our strategic response

Our strategy helps deliver a healthy and thriving population, a growing economy and a flourishing natural environment - in short - delivering what matters:

Thanks for having your say

We launched our strategy at a stakeholder event at Belfast wastewater treatment works and undertook public engagement on our website and through social media. The strategy has received broad endorsement from our stakeholders.



We have made further refinements to incorporate feedback and ensure that customers are right at the heart of everything we do.

About NI Water

It costs around £460m each year to deliver water services in Northern Ireland. Thousands of assets at a value of around £3bn, are operated and maintained to provide these services. This includes over 40,000km of water mains and sewers - one and a half times longer than Northern Ireland's entire road network and long enough to circle planet earth.

Delivering your drinking water

Water treatment works
We clean the water, making it safe to drink

24 Impounding reservoirs
We collect water from the environment

23

370 Service reservoirs
We store the drinking water in service reservoirs

345 Pumping stations
We use pumping stations to get the drinking water to our customers

875,000 Households and businesses
Our customers rely on the services we provide

27,000km of water mains

575m Litres per day

Recycling your wastewater

710k Households and businesses
We collect wastewater from our customers

1,300 Pumping stations
We use pumping stations to get the wastewater to our treatment works

1,030 Wastewater treatment works
We treat wastewater and return it safely to the environment

64 Sludge management centres
Sludge is de-watered before being incinerated

340m Litres per day

16,000km of sewers

Strategic risks

In developing our strategy, we need to understand the strategic risks we may face over the next 25 years. Some of the risks are long-standing, some are new but for each, we need to understand how they will impact our ability to deliver our services to customers. The risks can present a mix of threats (downside risks) and opportunities (upside risks).

We operate a leading edge, integrated risk and resilience model to reduce the threats and maximise the opportunities. In doing so, we can deliver better outcomes from our strategy.

Our governance and funding model

Our status as both a Government Owned Company and a Non-Departmental Public Body is recognised as less than ideal for a provider of infrastructure investment. We require a sustainable funding model to support delivery of our strategy. There is a growing risk that the levels of service to our customers in Northern Ireland will fall behind the water companies in the rest of the UK, against which we are benchmarked by the Utility Regulator. The current Executive policy is that the funding arrangements will remain in place until 2022.

Fourth Industrial Revolution

The world is changing at a dramatic pace in the fourth industrial revolution – the digital revolution. This is reshaping how we live our lives and how we work. With ever increasing challenges on sustainability, efficiency and cost, we will continue to look to science and technology to seek innovative and practical sustainable solutions to improve our services and minimise costs. However we are mindful of the threat of cyber attacks as well as the potential to be left behind in such a fast moving environment.

Climate emergency

The UK Parliament has declared a climate emergency. Our industry is vulnerable to the impacts of changing weather patterns and more frequent extreme weather events. When planning for the future, we need to think about how we invest to be more resilient to climate change. We need to protect services to customers and mitigate the impact of further changes to the climate by reducing our greenhouse gas emissions. Opportunities exist to contribute, along with other organisations, to the improvement of strategic drainage systems.

New legislation

It is anticipated that over the coming 25 years there will be significant new legislation aimed at improving drinking water and environmental standards and how we achieve them. For example, the Drinking Water Directive is currently being reviewed and we are expecting new and tighter standards to be included. We continually monitor the introduction of new legislation and seek necessary funding to enable compliance with the legislation. New legislation may also target micro-pollutants from pharmaceuticals and plastics.

Rising customer expectations

Customer expectations have been transformed in recent years and are constantly evolving. Customers compare our services with that of leading providers of products and services in other sectors and they expect us to be as good, if not better. Through cooperation with other utilities, the supply chain and water industry research bodies, we continue to implement new technologies to deliver an exceptional customer experience.

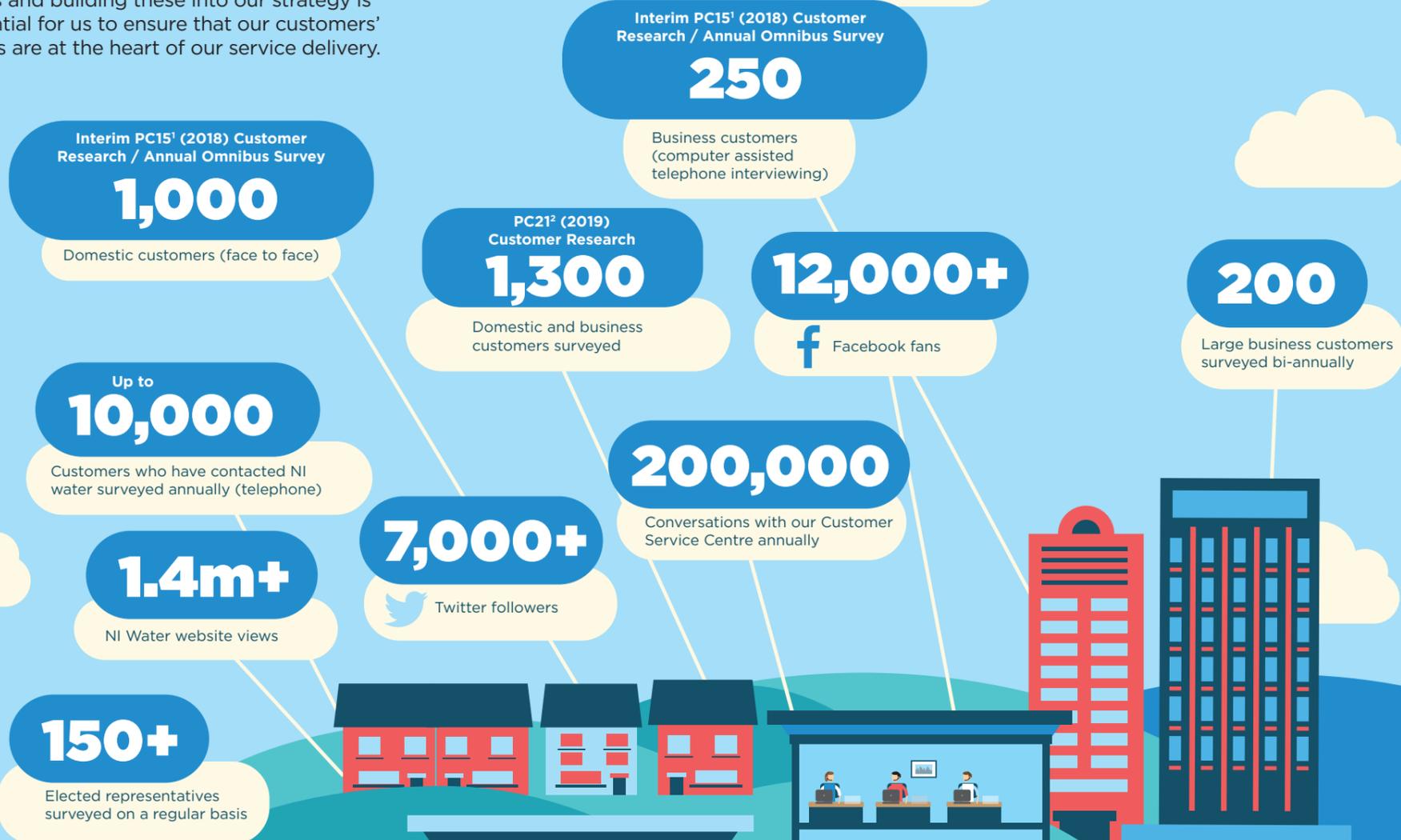
Customer demographics

Shifts in the urban/rural split, periodic variances in economic activity and constantly changing business needs between water intensive industrial processes and the service sector, all impact on where, when and how much investment is needed to secure future water services. The population of Northern Ireland is projected to increase by 8% between mid-2016 and mid-2041 with the over 65 age bracket increasing to 25% of the population.

Listening to you

Listening to our customers' and stakeholders' views and building these into our strategy is essential for us to ensure that our customers' needs are at the heart of our service delivery.

We are all ears



Stakeholder groups

Taking part in a range of stakeholder groups helps us to report what is most important to them.

Water Stakeholder Steering Group

Provides a forum for discussion on strategic issues relating to the price control and Ministerial guidance; discussion of major water and sewerage cross-cutting issues; discussion of policy development; keeping under review the governance and regulation of the water industry; and discussion of strategic communications issues.

Output Review Group

Provides a forum for stakeholders to discuss progress on key outputs and issues of common concern in the water industry.

Stakeholder subgroups

Working groups for coordinating the delivery of the price control process and related matters.



Customer priorities³

High	Medium	Low
Internal sewer flooding	Odour and noise	Water abstraction
Supply interruptions	Sewer blockages	Quality of river waters
External sewer flooding	Taste, smell and appearance	Quality of coastal waters
Low water pressure	Pollution incidents	

Summary

From our ongoing engagement, we understand that our customers:

- value water services which are reliable and resilient;
- expect problems to be fixed quickly and to be kept informed of progress;
- wish to see investment to reduce flooding from sewer 'hot-spots';
- wish to see investment to target interruptions to water supplies;
- expect strategic improvements rather than short term fixes; and
- wish to see improvement of the customer service experience including accuracy of billing and invoicing processes.

¹Price Control 2015 (PC15) is the six year business plan period (2015 – 2021)

²Price Control 2021 (PC21) is the six year business plan period (2021 – 2027)

³https://www.consumercouncil.org.uk/sites/default/files/original/Connecting_with_Consumers_Report.pdf

Strategic priorities

Background

Our existing 25 year strategy (2015-2040) was published in 2014 and contained eight strategic priorities. Almost five years on, while the fundamentals remain the same, we see opportunity to consolidate our strategic priorities to focus on the strategic risks over the next 25 year period (2021-2046).

We have had very positive feedback from customers and stakeholders on our 'Delivering what matters' rebranding and linking delivery of our services to health, economy and the natural environment.

Purpose, vision and values

Our purpose encapsulates why we exist – namely to provide the water for life we all rely on to thrive. Our purpose is supported by a vision, which sets out what we will do to deliver our purpose – namely to grow value and trust by being world class. Our values provide the cultural framework to support achievement of our purpose and vision.

Strategic priorities

The strategy centres around five strategic priorities, which set out how we will deliver our purpose and vision:

- **Customer** - delivering an exceptional customer experience;
- **Water** - delivering great tasting, clean and safe water to meet customer need;
- **Economy** - efficiently delivering infrastructure to underpin sustainable growth;
- **Nature** - protecting and enhancing the natural environment; and
- **People** - providing a great place to work.

Putting back more than we take out

The strategic priorities focus on sustainably growing all forms of capital⁴ (natural capital, social capital, intellectual capital, human capital, manufactured capital and financial capital) to ensure that we put back more than we take out. The priorities provide a framework to support best practice corporate decision making (integrated thinking across the capitals and natural capital accounting⁵), corporate reporting (integrated reporting across the capitals) and corporate governance (UK Corporate Governance Code⁶).

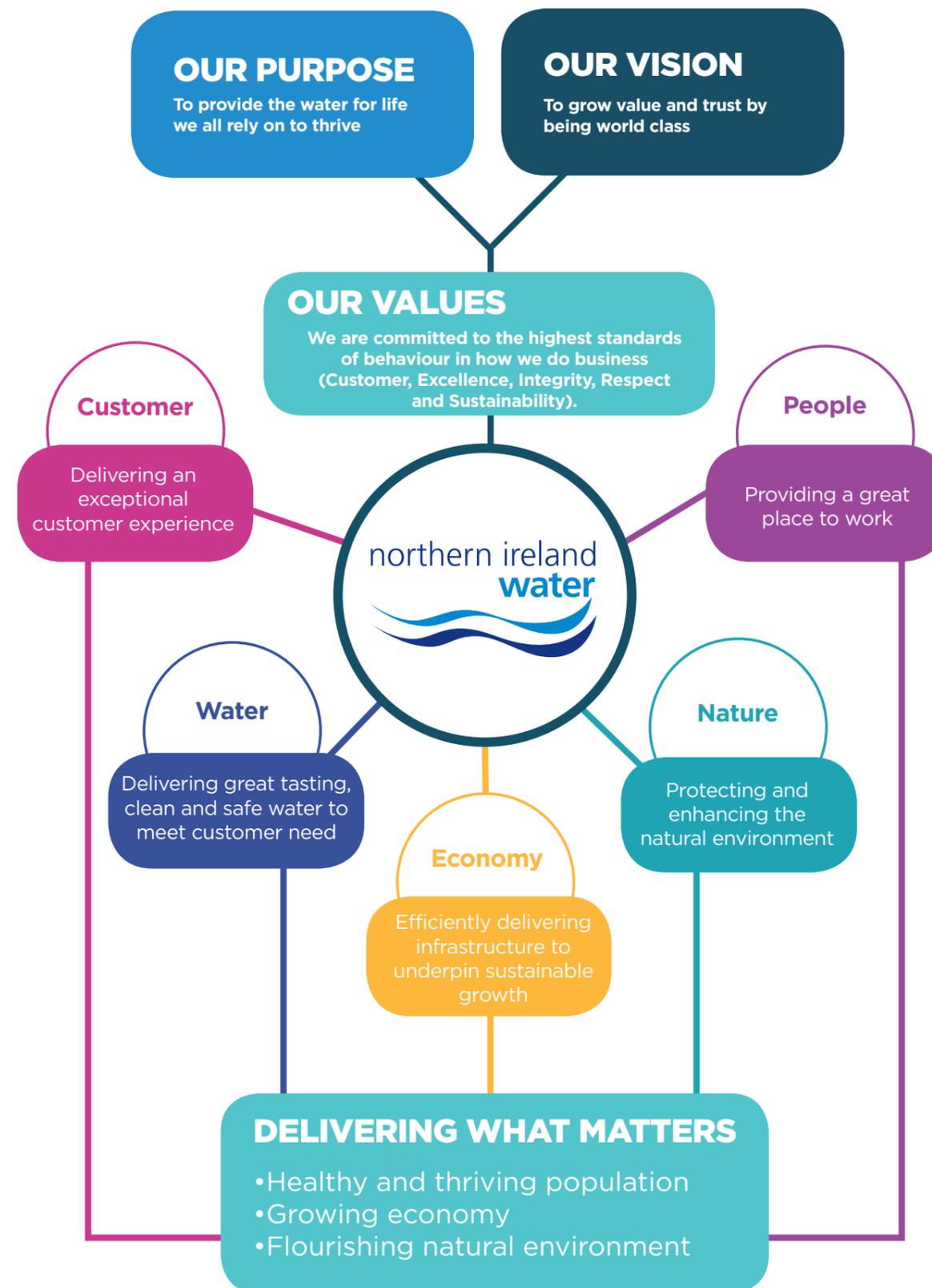
We have joined Business for Nature, a community of leading businesses which have made commitments that will begin to reverse the loss of nature and restore the planet's vital natural systems on which our economies, wellbeing and prosperity depend.

Our strategy helps deliver a healthy and thriving population, a growing economy and a flourishing natural environment – in short – delivering what matters.

⁴The capitals are stocks of value that are increased, decreased or transformed through the activities of the organisation. Read more at <http://integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf>

⁵Read more at <https://naturalcapitalcoalition.org/>

⁶Read more at <https://www.frc.org.uk/directors/corporate-governance-and-stewardship/uk-corporate-governance-code>





NI Water staff member using smart metering technology.

Customer

delivering an exceptional customer experience

Changing customer expectations, the digital revolution and demographic and lifestyle changes are all leading NI Water to embrace new ways to meet our customer needs, now and in the future. Our ambition is to exceed our customers' expectations.

Right place,
right time,
right
channel

Caring
for you

Getting
smarter

Protecting
you

Right place, right time, right channel

Our customer satisfaction surveys tell us we are improving but we can't stop there in our vision to be world class. Customer service expectations have been transformed in recent years and are constantly evolving. Customers want to be more in control of how they interact with us, driving the need to be at the right place, at the right time, on the right channel and serving customers to a standard provided by leading service providers.

Future developments in artificial intelligence and machines will enable us to spend less time on low value-added tasks and instead focus on customer care and improving customer journeys. More customers are using self-service options such as web and mobile self-service, interactive voice response or chatbots as their preferred point of contact. Social customer communities, multichannel knowledge management, mobile virtual agents, artificial intelligence and natural language processing will fundamentally change the customer service experience in the coming years.

We will measure how we are performing by seeking representative customer feedback against customer led and digitally focussed key performance indicators, seeking to exceed expectations, and outperform customer service provider benchmarks.

Caring for you

We offer a range of free additional services if you have a disability, are an older consumer, have a serious medical condition or need extra help for any other reason. The demand for these services will likely increase given the rise in the over 65 age group by the 2040's - making up 25% of the population. We will identify our customers who need additional support and grow our Customer Care Register to meet these changing needs.



NI Water Customer Service Centre.

Getting smarter

We collect a wealth of data on the operation of our assets. Automated, semi-automated or human-assisted channels will enable us to detect issues that may affect our service before customers are even aware, so our skilled operatives can intervene early and prevent the service failure. If a service failure cannot be prevented, we will use our data to issue updates to affected customers removing the need for our customers to contact us. We will also explore the sharing of data with stakeholders, including councils, to enhance the customer experience and contribute to service improvement.



NI Water staff member on Rathlin Island configuring a smart meter.

Our smart metering pilot scheme has been introduced at Rathlin Island, County Antrim. The scheme allows 13 smart meters on Rathlin Island to automatically report back to a base in mainland Northern Ireland, with the information being used to read customer meters and alert NI Water to any potential water leaks or tampering on the island. The new wireless scheme enables NI Water to access the data remotely for the first time.

Protecting you

Cyber crimes are increasing in both frequency and disruptive potential; leading to disruption to services, interruption to computer control systems and impact on data integrity. We are continually working to improve cyber resilience through updating of system controls, compliance with IT system supplier updates and through training

and awareness programmes. Opportunities exist to learn from world class research in the area of cyber security being led by seven UK Innovation and Knowledge Centres, one of which is based at the Centre for Secure Information Technologies in Queen's University Belfast.

Summary actions

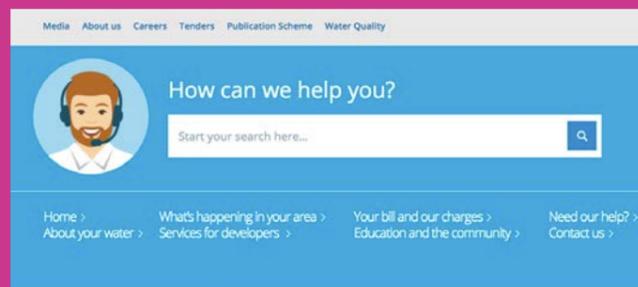
- Embrace more personalised customer engagement through a variety of channels to better understand our customers' needs and be customer-led in redesigning our services.
- Respond quickly and resolve issues first time, keeping customers informed along the way.
- Enable our customers to contact us 24 hours a day in a way that suits them.
- Excel in customer satisfaction, competing with the best customer service providers in the UK water industry and across wider sectors.
- Identify our customers who need additional support and grow our Customer Care Register.
- Use our data to drive improvement across all our services.
- Improve cyber resilience and learn from world class research.
- Live by our values to deliver an exceptional customer experience.

How will we measure progress?

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



Our 'Knowledge Base' tool uses chatbot technology and artificial intelligence to help guide customers through a structured dialogue, providing answers to a wide range of their questions across all our service areas. Similarly, an interactive voice response for a number of transactions such as bill payment provides another choice of contact channel, and improves customer service by offering convenience and the potential to save time.



NI Water chatbot technology.

⁷Customer advocacy score.

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

Belfast wastewater treatment works and sludge incinerator, County Antrim.



Economy

efficiently delivering infrastructure to underpin sustainable growth

Funding world class economic infrastructure

Efficient and affordable services

Sustainable growth

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 be recognised as having world class economic infrastructure supporting the sustainable growth of a modern, dynamic, connected and competitive economy. This ambition can only be realised if it is underpinned by a sustainable funding model to deliver world class economic infrastructure.

For every **£1** invested by NI Water, the knock-on effect in the local economy is almost double



Funding world class economic infrastructure

NI Water is in the unique position of being the only publicly funded, regulated utility in the UK. While this has some benefits in relation to access to low cost debt financing for example, it is posing challenges in relation to being able to support a sustainable funding model to deliver world class economic infrastructure.

As a Government Owned Company and a Non-Departmental Public Body, NI Water is subject to public expenditure cuts and uncertainty over funding. While this may be manageable for a short period, the continued underfunding of the Utility Regulator's regulatory settlements places progress on efficiencies at risk and could result in tangible impacts on service delivery, the local economy and the environment.

Over the past 15 years the capital budget made available for investment in sewerage services has not been able to keep pace with the investment required to provide increased capacity to facilitate growth or achieve more stringent standards to achieve water quality targets. As a result, many of our sewerage networks and treatment plants are now having to operate at or beyond their design capacity, limiting opportunities for new connections and constraining economic development. We will work with principal stakeholders to agree a capacity framework against which future applications for new connections will be assessed. We will communicate these constraints spatially so that this can inform development plans by others.

A sustainable long term business model for NI Water

is essential to the economy of Northern Ireland. It is vital if we are to continue to invest efficiently in infrastructure and improve the essential services we deliver to our customers to ensure they are on a par with our counterparts in England and Wales.

We will continue to work with principal stakeholders to identify a more efficient funding model and to continue to highlight the disadvantages of the current model.

We will promote how our investment in new treatment works and associated infrastructure also pumps millions of pounds into the local economy. The ripples from our investment don't just reach our own employees and suppliers. They are felt by a wide range of other businesses from agri-food production, to new house construction, to tourism development. Ulster University Business School has estimated that for every £1 invested by NI Water, the knock-on effect in the local economy is almost double. In purely economic terms then, our £2.5 billion 'ripple effect' over the six year PC15 period (2015-2021) can be viewed as a major contributor to Northern Ireland's Gross Value Added⁸ (GVA).

⁸ <https://www.niwater.com/sitefiles/resources/pdf/reports/rippleeffectdocument.pdf>



NI Water Innovation Day.

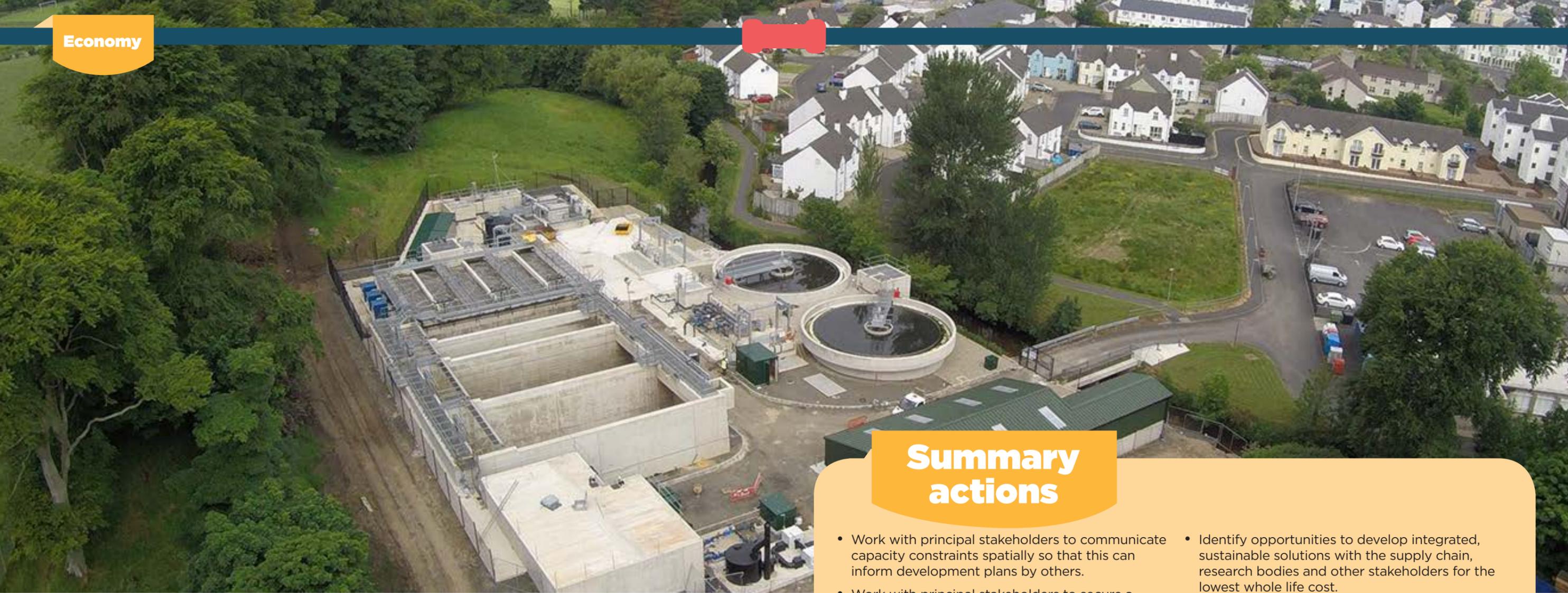
Innovation was the topic of the day at the first innovation event run in Northern Ireland for the water sector. NI Water created an opportunity for companies and entrepreneurs to have a chance to pitch their ideas to key influencers in the water industry.

Efficient and affordable services

Since 2007, NI Water has delivered significant improvements to water services. We have reduced operating costs and improved comparative efficiency with water companies in England and Wales, and more than doubled the level of service we provide to our customers. While great progress has been made, there remain opportunities to build on our achievements and further reduce costs while improving our services.

We recognise the need for innovation diffusion to close the UK's productivity gap with its main competitors. We will play our part in closing the gap by harnessing innovation and embracing new technology in pursuit of ever more efficient and sustainable solutions. We recognise efficient solutions often require collaboration with the supply chain, Universities and others.

We will work with regulators to ensure that when discharge standards need to be made more stringent to help achieve shared water quality objectives, the standards are appropriate and affordable.



New treatment works at Ballycastle, County Antrim.

The treatment works treats wastewater and recycles it safely to the environment. Ballycastle is growing in terms of its population, tourism industry and infrastructure. The new plant underpins growth in the tourism industry and development of Ballycastle town. It will be essential to manage increased capacity in the local sewerage system during key events such as the Lammas Fair and delivers an improvement in the local water quality within the River Tow and local coastal waters.

Sustainable growth

Efforts to rebalance the economy, increase tourism, attract and embed foreign direct investment and grow and diversify the export base all require reliable water and sewerage services. They are a pre-requisite for the aspirations set out in Department of the Economy's draft Industrial Strategy 2030, the draft Programme for Government and Councils' Local Development Plans. NI Water is committed to supporting these growth aspirations, contingent on funding. This includes participating with Belfast City Council and other organisations in the Living with Water Programme to address strategic drainage issues.

We will actively engage with DfI, the Northern Ireland Local Government Association (NILGA), local councils and the local Government network (Solace) to understand growth projections, and following guidance from DfI, will seek to provide investment ahead of the demand.

Northern Ireland is aiming to capitalise on a

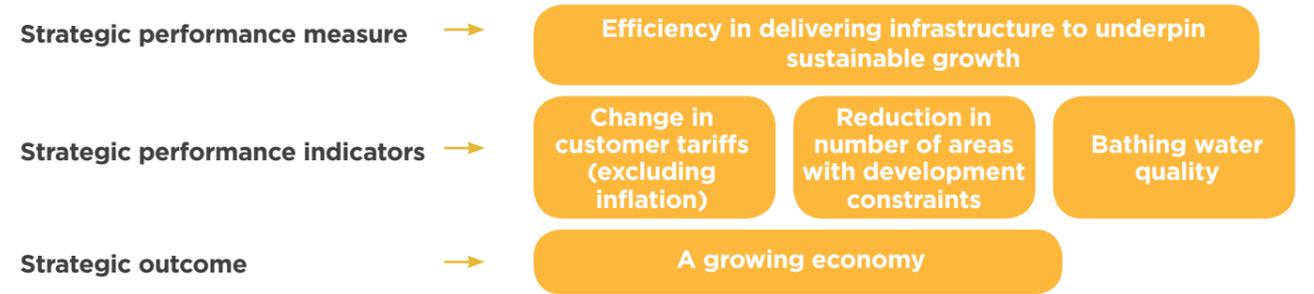
predicted 20 years of sustained growth across global tourism. A major draw is our natural environment, with Northern Ireland having some of the most spectacular beaches in Europe. In addition, our lakes and rivers offer some of the finest destinations for fishing and water sports. As the operator of thousands of facilities and one of Northern Ireland's largest land owners, NI Water has a key role to play. We will manage upland catchments so that they help produce the optimum runoff for use by NI Water for drinking water and also to reduce pollution and maintain a base flow necessary for a healthy and attractive ecosystem. We will carefully manage all continuous discharges from treatment works and invest to reduce the impact of intermittent discharges that occur during storms from combined sewer overflows. We will also seek opportunities to utilise our catchment land, raw water reservoirs and assets to maximise the community benefits for the people and economy of Northern Ireland.

Summary actions

- Work with principal stakeholders to communicate capacity constraints spatially so that this can inform development plans by others.
- Work with principal stakeholders to secure a medium term funding settlement.
- Promote the ripple effect from our investment.
- Support economic growth aspirations by seeking to provide investment ahead of demand.
- Continue to transform our business so our efficiency remains on par with that of the better performing water companies in Great Britain.
- Keep customers' bills affordable by balancing capital investment solutions and demands on operating expenditure with opportunities to innovate to reduce the cost of both.
- Identify opportunities to develop integrated, sustainable solutions with the supply chain, research bodies and other stakeholders for the lowest whole life cost.
- Work with regulators to ensure that discharge standards are appropriate and affordable.
- Manage all continuous discharges from treatment works and invest to reduce the impact of intermittent discharges that occur during storms from combined sewer overflows.
- Seek opportunities to utilise our catchment land, raw water reservoirs and assets to maximise the community benefits, working closely with local councils.
- Live by our values in efficiently delivering infrastructure to underpin sustainable growth.

How will we measure progress?

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



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

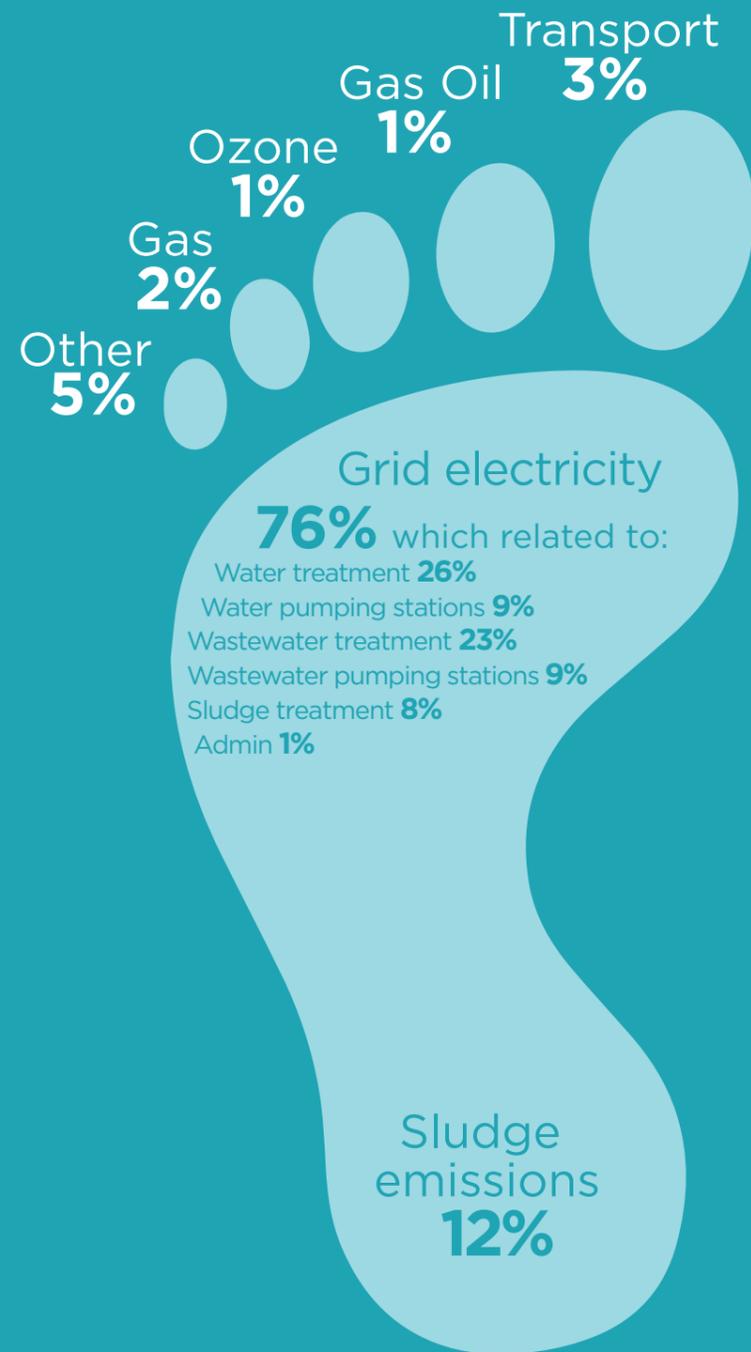
Our sewer network is designed to safely dispose of the three Ps: Pee, Poo and Paper. If other things are flushed down the toilet or poured down the sewer, sewer pipes can and do block. We deal with around 15,000 blockages each year. Three quarters of all blockages are caused by inappropriate items being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



NI Water CEO showing our drone technology to one of the students at the Skills NI Exhibition.



People

providing a great place to work

Our customers rely on our people for help and our equipment does not run itself. Attracting, developing, retaining and partnering with the best talent underpins our business. Modern practices and our approach to leadership, wellbeing and community engagement create a safe, balanced and rewarding workplace. We need to provide our people with the skills, equipment and the autonomy to create a truly exceptional customer experience.

Powered by talent

Happy, safe and healthy people

Creating a legacy for our communities



We have recruited a number of graduate engineers in different areas of our business. The graduate engineers have the opportunity to work at different site locations and we support them in gaining a professional engineering qualification.

Powered by talent

The digital revolution, like the industrial revolution over a century and a half ago, is reshaping the way we live our lives and the way we work. The revolution is driving a competitive talent market, a shifting talent model where employees and contract workers sit side by side, and a workforce that expects the same level of individuality that they receive as consumers.

Our programme complements the Northern Ireland School Curriculum and has educated over 100,000 water whizz-kids. We also promote a water saving culture and how water can contribute to health and well-being.

We will conduct staff surveys and build on feedback to become 'best in class' confirming NI Water is a great place to work. We will create a new learning and development Centre of Excellence and identify and deliver appropriate and relevant training for all employees. We will develop new diversity and inclusion programmes across a broad diversity spectrum. We will build a new Apprenticeship Academy that will offer lifetime career opportunities in the water sector and recognised as best in class. We will develop partnerships with schools, universities and colleges to identify and attract top graduate talent from different academic disciplines.



NI Water staff at our bespoke health and safety training facility at Antrim, County Antrim.

Happy, safe and healthy people

We strive towards 'zero harm' for employees, contractors and customers. We will maintain our sector leading performance in health and safety and deliver on our zero accidents ambition. In addition to our legal obligations to successfully manage our work related health and safety risks, our wellbeing programmes promote employee health, improve staff attendance, and ensure we attract and retain great people. We will help and support staff in maintaining good health and wellbeing.



Staff volunteering at Crosskennan Lane Animal Sanctuary, County Antrim.

Creating a legacy for our communities

Over 1,000 colleagues have participated in our Cares Challenge volunteering programme – making it one of the largest corporate volunteering schemes in Northern Ireland. Not only does this activity help local charities and not for profit organisations, but it also develops the skills of our people. We will promote employee volunteering schemes and other local initiatives to develop our people and benefit our local communities.



For more than a decade, our multi-tiered educational programme, with a focus on school children, has delivered a comprehensive series of campaigns, tailored specifically in terms of message, delivery mechanism and language to different audiences – young people, families, businesses and the wider community. Our programme complements the Northern Ireland School Curriculum and has reached over 100,000 school children. We also promote the responsible use of water and how it can contribute to a healthy lifestyle. We will continue to invest in educating the community by taking the value of water message to them.

Summary actions

- Conduct staff surveys and build on feedback to become 'best in class' confirming NI Water is a great place to work.
- Create a new learning and development Centre of Excellence and identify and deliver appropriate and relevant training for all employees.
- Develop new diversity and inclusion programmes across a broad diversity spectrum.
- Build a new Apprenticeship Academy that will offer lifetime career opportunities in the water sector and which is recognised as best in class.
- Develop partnerships with schools, universities and colleges to identify and attract top graduate talent from different academic disciplines.
- Maintain our sector leading performance in health and safety and deliver on our zero accidents ambition.
- Help and support staff in maintaining good health and wellbeing.
- Promote employee volunteering schemes and other local initiatives to develop our people and benefit our local communities.
- Continue to invest in educating the community by taking the value of water message to them.
- Live by our values in providing a great place to work.

How will we measure progress?

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



How we do business

We are committed to the highest standards of behaviour in how we do business. Our values provide the cultural framework to support achievement of our purpose and vision, and we encourage our employees to live these values. Our values are at the heart of our decision making and underpin everything we do. They centre around a more sustainable way of doing business by putting back more to society, the economy and the natural environment than we take out.



The world in which we operate

Our global world

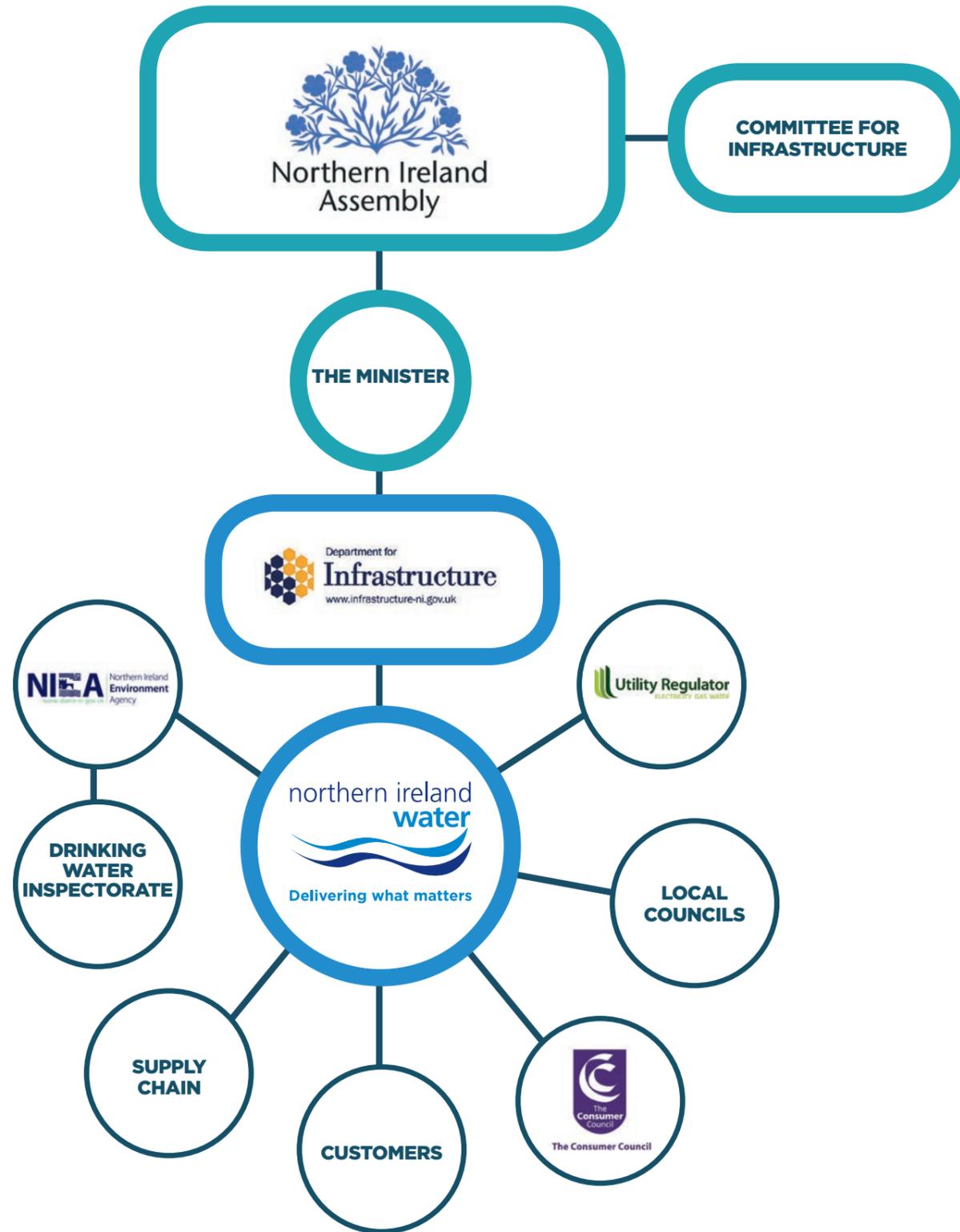
We live in a resource constrained world and have a responsibility to ensure that our planet earth is sustainable for those who come after us. The United Nations has developed 17 goals to deliver a more sustainable world by 2030 and we are proud to play our part in supporting delivery of at least 12 of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

SUSTAINABLE DEVELOPMENT GOALS



Our local world

The water industry structure in Northern Ireland is shown below:



Draft Outcomes Delivery Plan

The Northern Ireland Executive developed a Draft Outcomes Delivery Plan to “Improve wellbeing for all – by tackling disadvantage, and driving economic growth”. It moves from focusing on inputs and outputs to focus on the 12 strategic outcomes that the Executive wishes to achieve.

We have a clear role to play in at least 9 of the outcomes:



The draft plan states:

There are growing demands to expand and improve our water and sewerage infrastructure to keep pace with economic growth, meet stringent environmental standards and reduce instances of sewer spills and flooding. Capacity issues are a concern in Belfast as well as in some rural areas where the lack of capacity is impeding the natural growth of some communities.

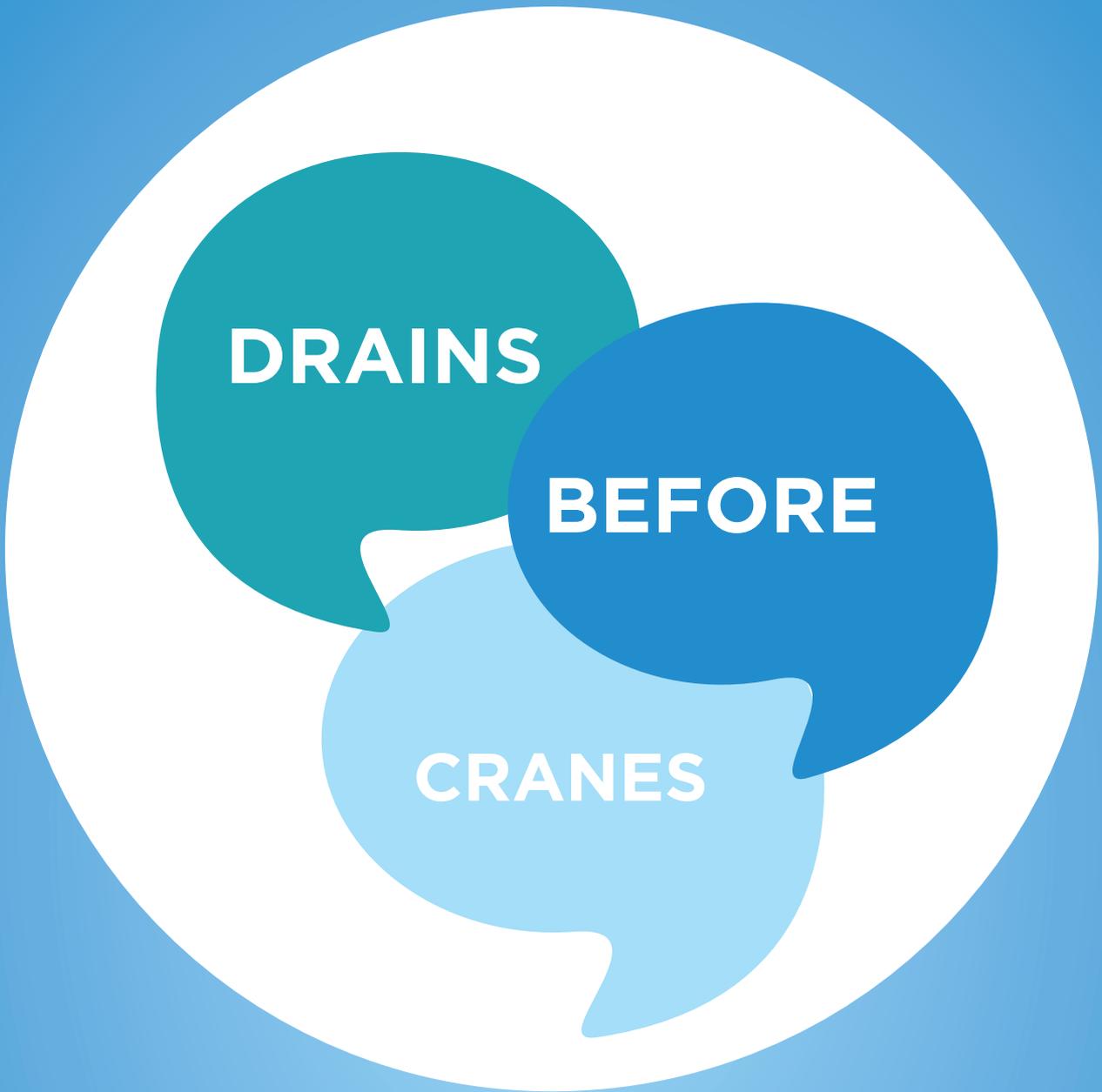
We are committed to playing our part in achieving the strategic outcomes for Northern Ireland.

Water strategy and policy framework

Dfi is responsible for setting the strategy and policy framework relating to water and sewerage services in Northern Ireland.

Read more about Sustainable Water - A Long-Term Water Strategy for Northern Ireland (2015-2040):

<https://www.infrastructure-ni.gov.uk/sites/default/files/publications/drd/sustainable-water-a-long-term-water-strategy-for-northern-ireland-2015-2040.PDF>



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Delivering what matters