Delivering our strategic priorities

The world in which we operate

Our global world

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

SUSTAINABLE DEVELOPMENT GOALS

- 3 Good Health and Well-Being
- 4 Quality Education
- 5 Gender Equality
- 6 Clean Water and Sanitation
- 7 Affordable and Clean Energy
- 8 Decent Work and Economic Growth
- 9 Industry, Innovation and Infrastructure
- 11 Sustainable Cities and Communities
- 12 Responsible Consumption and Production
- 13 Climate Action
- 14 Life Below Water
- 15 Life on Land

Educating water whizz-kids through our Waterbus initiative
Customer

Delivering an exceptional customer experience

Strategic areas of focus

- Right place, right time, right channel
- Caring for you
- Getting smarter
- Protecting you

Sustainable development goals

Strategic threats/opportunities

ST1 ST2 ST3 ST4 ST7 ST8 SO1 SO4

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Strategic performance indicators

<table>
<thead>
<tr>
<th>Customer</th>
<th>Unit of measurement</th>
<th>Target 2019/20</th>
<th>Actual 2019/20</th>
<th>Pass/ Fail</th>
<th>Target 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in customers reporting service failures</td>
<td>Number</td>
<td>77,000</td>
<td>67,013</td>
<td>Pass</td>
<td>75,000</td>
</tr>
<tr>
<td>First point of contact resolution</td>
<td>%</td>
<td>81</td>
<td>90</td>
<td>Pass</td>
<td>82</td>
</tr>
<tr>
<td>More customers singing our praises</td>
<td>Number</td>
<td>13</td>
<td>42</td>
<td>Pass</td>
<td>15</td>
</tr>
</tbody>
</table>

NI Water staff member using smart metering technology
Getting Smarter

In an environment of increasing customer expectations and reducing budgets, we are continually looking for ways to provide a better customer experience. One way we are succeeding in this, is through using software robots. These robots help us to automate repetitive tasks at digital speeds and at any time of the day or night, providing staff with the ability to focus on tasks which require human intervention, judgement or experience. The robot can be programmed to perform repetitive tasks and free up our staff to spend more time helping customers on more complex tasks.

In 2019/20, we developed software robots for our Treasury Team who manage large volumes of financial transactions and our Water Control Centre who manage the allocation of our repair crews in response to interruptions. By keeping customers informed of interruptions to their water supply in real-time, they can be assured that we are working on getting their supply problems fixed as quickly as possible, avoiding the need for our customers to call us for updates.

In 2020/21, we will continue to develop our digital services for the benefit of our customers, with an exciting launch of an online application portal for new connections. We’re extending our social media service and introducing webchat, providing more ways to keep our customers informed and offering them more choices for interacting with us.

We will also use insights gathered from our daily customer surveys to champion customer service delivery and drive further service improvements.

Caring for you

Over 2019/20 we have continued to promote Quick Check 101. The Quick Check scheme provides reassurance to members of the public about callers to their door claiming to be from utility companies. Anyone who wishes to check the identity of someone who says they are calling on the pretext of inspecting water, gas or electricity can call the police non-emergency 101 number to verify their identity.

We continued to grow and raise awareness of our Customer Care Register to ensure that our services are inclusive, available and accessible to all our customers, regardless of their personal circumstances. Our Customer Care Register offers a range of free additional services for those customers who need extra help, such as an alternative water supply when supplies have been interrupted for a prolonged period. In 2020/21 we are looking to engage with a range of community groups to further promote this service.

We also provide support for our non-domestic customers who experience difficulty in paying their bills by working with them to agree repayment plans.

Right place, right time, right channel

Social media provides us with a fantastic platform to keep our customers informed of the challenges we face delivering great tasting, clean drinking water and recycling wastewater safely back to the natural environment. Our Facebook and Twitter accounts also allow us to reach out to our customers to change how they think about water to help reduce the pressure on our infrastructure and nature.

In our ambition to deliver an exceptional customer experience, we are embracing new ways to meet rising customer expectations. In 2019/20, we enhanced our social media platform, to keep our customers informed with live updates on planned and unplanned interruptions. By keeping customers informed of interruptions to their water supply in real-time, they can be assured that we are working on getting their supply problems fixed as quickly as possible, avoiding the need for our customers to call us for updates.

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Protecting You

Don’t let them in

Cyber crimes are increasing in both frequency and in their disruptive potential. These crimes could lead to an interruption in the delivery of our essential services, damage our computer control systems, or lead to a data breach. We liaise closely with the National Cyber Security Centre and the Centre for the Protection of National Infrastructure to ensure all our environments are ‘Cyber Watertight’.

In 2019/20 we introduced simulated phishing campaigns to test our awareness of phishing email attacks and to help educate users in how attackers attempt to gain access to their systems.

In 2020/21 we will continue to work in collaboration with teams across the business to provide our colleagues with the knowledge and skills to recognise and avoid behaviours that would compromise security.
Water
Delivering great tasting, clean and safe water to meet customer need

Strategic areas of focus
- Improve at source
- Enough water for all
- Tasty, clean and safe
- Drive down leakage
- Always on

Sustainable development goals

Strategic threats/opportunities
ST1 ST2 ST3 ST4 ST7 ST8 SO4
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Strategic performance indicators

<table>
<thead>
<tr>
<th>Water</th>
<th>Unit of measurement</th>
<th>Target 2019/20</th>
<th>Actual 2019/20</th>
<th>Pass/Fail</th>
<th>Target 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water quality compliance*</td>
<td>%</td>
<td>99.79</td>
<td>99.90</td>
<td>Pass</td>
<td>99.79</td>
</tr>
<tr>
<td>Reduction in leakage</td>
<td>Ml/d (Million litres/day)</td>
<td>155</td>
<td>161</td>
<td>Fail</td>
<td>153</td>
</tr>
<tr>
<td>Reduction in supply interruptions in excess of:</td>
<td>%</td>
<td>0.808</td>
<td>0.697</td>
<td>Pass</td>
<td>0.792</td>
</tr>
<tr>
<td>• 6 hours</td>
<td>0.0153</td>
<td>0.085</td>
<td>0.0146</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 12 hours</td>
<td>0.009</td>
<td>0.003</td>
<td>0.009</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Calendar year target
Water’s Dungonnell treatment works, which is supplied by the Garron catchment. Drains were deliberately blocked to recreate bog to filter rain water and reduce the amount of chemicals NI Water needs to use, to clean the water. The success of the work undertaken at Dungonnell means it will serve as a demonstration site for best practice and as a model for future bog restoration projects in Northern Ireland and beyond.

In 2020/21 we are investing €4.9m to improve the Erne and Derg cross border river catchments that are a source of our drinking water, piloting changes in land management techniques such as fencing to exclude livestock and replacing boom spraying of the herbicide MCPA for rush control, with weed wipers, which helps to reduce the amount of herbicide running off into our rivers and streams. It is hoped these initiatives will help restore nature and improve the water quality before it reaches our works.

**Enough water for all**

Our changing climate is bringing more frequent and severe weather events such as heavy rainfall, heatwaves and extreme cold. These events can affect the quality and quantity of our water sources, placing pressure on our water treatment works. For example heavy rainfall can cause discoloration of the water making it more difficult to treat and lead to the growth of algae, which can affect the taste and odour. Higher temperatures can accelerate the growth of harmful bacteria.

One way we mitigate the risks associated with climate change is through temporary storage of drinking water in large storage tanks known as service reservoirs. These reservoirs allow us to keep customers in supply during planned maintenance and unplanned events at our water treatment works.

We started a project in 2019/20 to inform capital investment to further strengthen water storage levels. The project has involved the development of a bespoke model, which allows us to predict areas that need increased water storage for customer resilience.

During 2019/20, we invested £5m in a new service reservoir at Lough Fea. This reservoir has the capacity to hold 12 million litres of drinking water for supply to our customers in Pomeroy and Cookstown, County Tyrone.

Over 2020/21, we are investing £10m in additional drinking water storage for Enniskillen in County Fermanagh and £14m at Drumranbad water treatment works in County Down.

**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. The fresh 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.

To make it suitable for drinking, we treat the fresh water to remove anything that could be harmful, including using disinfectant such as chlorine to kill bacteria. When chlorine reacts with the organic matter it can generate harmful by-products known as trihalomethanes, which can also cause the drinking water to have an unpleasant smell or taste. One way to reduce this unpleasant smell or taste is to use less chlorine in our treatment processes by improving the quality of the fresh water reaching our treatment plants.

In 2019/20 we introduced a new treatment plant to enhance the new bore hole on Rathlin Island, the only inhabited offshore island in Northern Ireland. The bore hole has been the only source of drinking water on Rathlin for the last 15 years. The new treatment process removes organic matter leaving no opportunity for trihalomethanes to form, improving the taste and quality of the water and protecting this vital water source for Rathlin.

In 2020/21 we are trialling a number of pilot studies at Derg water treatment works, County Tyrone, to remove heavy metals, suspended solids (turbidity) and pesticides including using a form of volcanic crushed rock and recycled brown and green glass to filter the water.

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**Improve at source**

Peatlands provide a range of eco-system services. They provide a natural form of water purification, protect against floods and help reduce greenhouse gas emissions by storing more carbon than the world’s forests. Unfortunately over the years large areas of peatlands have been destroyed to make way for farming and construction. When peatlands are damaged the eco-system services they provide are lost and cause many tiny particles to run off the land into the river colouring the water which is expensive for us to treat.

We are committed to restoring peatlands and harnessing nature’s natural water filter instead of building more carbon intensive treatment works. In 2019/20 we completed the restoration of the largest expanse of intact blanket bog in Northern Ireland, the Garron Bog. This has improved the quality of the fresh water reaching our works.

**Strategic focus areas**

- Restoration of the Garron Plateau Blanket Bog in Dungonnell Catchment, County Antrim
- Rathlin Island, the only inhabited offshore island in Northern Ireland. The bore hole has the capacity to hold 12 million litres of drinking water for supply to our customers in Pomeroy and Cookstown, County Tyrone.
- New treatment plant at Rathlin Island, off the coast of County Antrim

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**NI Water Annual Integrated Report and Accounts 2019/20**

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**Garron Bog** https://www.youtube.com/watch?v=IO62AFRte

**Derg** https://www.youtube.com/watch?v=SGzwvfBx9s4

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**The new Lough Fea service reservoir, County Tyrone**

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**New treatment plant at Rathlin Island, off the coast of County Antrim**
Always on

Things can go wrong when managing 27,000km of water mains. This can result in interruptions to customers’ supply or customers experiencing low water pressure. Every minute counts when it comes to fixing water supply problems so we are looking at a range of areas to fix problems before customers are affected. This will help us to reduce the minutes lost per property by 50% to 25 lost minutes per property over PC21.

One area we have been looking at over 2019/20 is valves. Research has suggested that a proportion of supply interruptions can be traced back to work on valves, which create surges in water pressure. To ensure work on the underground pipe network does not disrupt the water supply, we have upskilled colleagues, contractors and engaged with external stakeholders who operate our water hydrants including Northern Ireland Fire and Rescue Service (NIFRS), DWI and local councils to keep our network CALM. Other approaches adopted over 2019/20 include the use of temporary over-land pipes and water tankers.

We are also learning the lessons from previous interruptions. A review of a supply interruption at Tullywhisker in County Tyrone has led to the introduction of SMART network modelling to more accurately predict the impact of work undertaken on our network.

In 2020/21 we will develop our SMART network to provide information in real time and help predict interruptions to supply and identify leaks. This SMART technology will provide early event warnings, reduce costs by fixing problems before they escalate and improve the customer experience.

Drive down leakage

Every day we lose around a quarter or 161 million litres of water from our infrastructure. This loss is a combination of leakage through our pipes, which is caused by natural wear and tear, damage from severe weather, leakage on the customer supply pipe, illegal usage or unknown usage. Reducing leakage is a top priority for NI Water, but with a network of around 27,000km of underground water pipes (long enough to circle more than half way around planet earth) located predominately in rural and remote areas, it can be a complex and costly job finding the leaks.

Leakage detection technology has a key role to play in detecting leakage quickly and with minimal interruption to our customers. In 2019/20 we tested a number of initiatives to detect leakage including, listening devices known as acoustic loggers, which can reduce the time taken to detect leaks, record potential leakage previously undetectable using current tools and improve the accuracy of the location of the leak. Acoustic loggers pinpoint leaks by measuring the noise of escaping water that follows a leak or burst, and then sending an alert together with details of its location, allowing us to focus effort in that area. The rapid detection and pinpointing of leaks means that the job is carried out faster and more precisely, meaning less digging, less water lost, less cost and less disruption for our customers.

We have improved monitoring of domestic consumption habits with the installation of ‘fast-logging’ at various sites throughout our network providing us with the ability to analyse water usage on a minute-by-minute basis. Over the last number of years we have noted a change in consumption habits during the night, which is the period of time that leakage is assessed. This refinement in understanding consumption patterns will enable us to more accurately calculate the level of leakage.

Despite the implementation of the new technology to improve leakage detection we did not meet our leakage target of 155 million litres per day for 2019/20, against an actual level of leakage of 161 million litres per day. We have struggled with leakage over PC15. Our PC21 Business Plan sets out how we can achieve the sustainable economic level of leakage of 150 million litres per day, which is the point at which the cost of fixing a leak outweighs the benefit. To succeed we need to find more and more innovative ways to track down leaks and save water. In 2020/21 we are trialling the use of satellite technologies, which use various wavelengths of the visible and invisible light spectrum to locate leaks.
Economy

Efficiently delivering infrastructure to underpin sustainable growth.

Strategic areas of focus

- Funding world class economic infrastructure
- Efficient and affordable services
- Sustainable growth

Sustainable development goals

Strategic threats/opportunities

ST1 ST2 ST3 ST4 ST5 ST7 ST8 SO3 SO4

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Strategic performance indicators

<table>
<thead>
<tr>
<th>Economy</th>
<th>Unit of measurement</th>
<th>Target 2019/20</th>
<th>Actual 2019/20</th>
<th>Pass/Fail</th>
<th>Target 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase/(decrease) in customer tariffs excluding inflation</td>
<td>%</td>
<td>3.19</td>
<td>2.70</td>
<td>Pass</td>
<td>2.25</td>
</tr>
<tr>
<td>Reduction in number of areas with development constraints</td>
<td>New indicator – target to be set in 2020/21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bathing water quality*</th>
<th>Excellent</th>
<th>Majority excellent or good. No poor.</th>
<th>Sufficient</th>
<th>Good</th>
<th>Majority excellent or good. No poor.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Excellent</td>
<td>14</td>
<td>Sufficient</td>
<td>3</td>
<td>Poor</td>
</tr>
<tr>
<td></td>
<td>Good</td>
<td>9</td>
<td>No poor.</td>
<td>0</td>
<td>No poor.</td>
</tr>
</tbody>
</table>

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

Over the past 15 years the public expenditure made available from Government 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 in 116 towns and cities across Northern Ireland, including Belfast and Derry/Londonderry.

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

Efficient and affordable service

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.

Using new efficiency models developed in conjunction with the Utility Regulator, we have calculated that the gap between us and the most efficient water companies in England and Wales has reduced from 49% in 2007/08 to just 7% in 2018/19. We are committed to eliminating this efficiency gap by 2027 by reducing our annual operating costs by a further £14m.
Strategic Report

Sustainable growth

Every aspect of life in Northern Ireland relies on the water and wastewater services we provide, so it is important that any investment we make in our infrastructure is built with the future in mind. In order to improve our long term resilience we need to ensure our infrastructure can withstand pressures such as climate change, growth in the economy and the need to protect and restore nature.

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.

Ballintoy Harbour in County Antrim is one of the most photogenic locations on the famous coastal route, whatever the weather - from the splitting sunshine on a good day or big waves on a wet stormy day, it still looks incredible. Ballintoy Harbour is also a tourist hotspot not only for the stunning views on offer but its claim to fame with being used in the iconic show - Game of Thrones.

In 2019/20 we invested around £3m to construct a new wastewater treatment works in Ballintoy, County Antrim to improve the water quality in the surrounding coastal areas and support growth in local tourism and development.

Over 2020/21 we will invest over £2m to upgrade the wastewater treatment works in the village of Greyabbey, County Down. This investment will helping to alleviate development constraints, support local tourism in the area and protect Strangford Lough, Northern Ireland’s first marine conservation zone.

Efficient and affordable service (continued)

We have identified ten opportunities to become more efficient and still deliver a high level of service to our customers. We have created a plan called ‘Planning for the Future’, which we believe will allow NI Water to continue to deliver sustainable efficiencies.

The amount by which NI Water can increase customer tariffs is determined by the Utility Regulator. We work with the Utility Regulator to ensure the fairest pricing outcome for our customers. NI Water is acutely aware of its responsibility to strike a balance between our need to generate sufficient income to allow us to continue delivering our services and minimising the impact on non-domestic customers.

Over the last few years we have kept any increase in non-domestic water and sewerage charge below inflation. This has meant that non-domestic customers pay less, in real terms, for their water and sewerage services in 2019/20, than they did when the current PC15 price control period began in 2015. This has been achieved, in part, because of the significant sustainable cost efficiencies which are being delivered by NI Water over the PC15 period.

Looking forward, our ambition is to continue to keep bills stable in real terms despite a significant increase in the level of capital investment planned. Our PC21 Business Plan proposes that average bills will not increase in real terms over the PC21 period. We are acutely aware of the pressures that Covid-19 is having on our healthcare system and our local economy. A planned 1.7% increase in non-domestic water and sewerage charges, which had been due to be introduced in April 2020, has therefore been deferred and will be reviewed in September 2020.

Planning for the Future

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**Nature**
Protecting and enhancing the natural environment

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### Strategic areas of focus

- **More resilient network**
- **Sustainable solutions**
- **Keep it clear**
- **Towards zero carbon**

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### Sustainable development goals

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

---

### Strategic threats/opportunities

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### Strategic performance indicators

<table>
<thead>
<tr>
<th>Nature</th>
<th>Unit of measurement</th>
<th>Target 2019/20</th>
<th>Actual 2019/20</th>
<th>Pass/ Fail</th>
<th>Target 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in pollution incidents (high and medium)*</td>
<td>Number</td>
<td>24</td>
<td>13</td>
<td>Pass</td>
<td>23</td>
</tr>
<tr>
<td>Wastewater compliance % population equivalent served*</td>
<td>%</td>
<td>99.16</td>
<td>99.51</td>
<td>Pass**</td>
<td>99.16</td>
</tr>
<tr>
<td>Reduction in number of properties at risk of out of sewer flooding (cumulative over 2015-21 period)</td>
<td>Number</td>
<td>54</td>
<td>41</td>
<td>Fail</td>
<td>62</td>
</tr>
<tr>
<td>Reduction in carbon footprint. Relates to reduction in net operational carbon emissions measured in tonnes of carbon dioxide equivalent (tCO₂e)</td>
<td>%</td>
<td>***</td>
<td>12.21</td>
<td>***</td>
<td>***</td>
</tr>
</tbody>
</table>

*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.
***New indicator – target to be set in 2020/21.

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Sustainable wastewater treatment using a wetland at Castle Archdale, County Fermanagh
More resilient network

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 are ‘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. Whilst we adhere to NIEA’s approved level of discharge, we are keen to go further to protect and enhance our natural environment by avoiding these overflows being released to water courses. As we update our networks, we are taking the opportunity to disconnect the rainwater from the sewerage system.

In 2019/20 we completed a £5m investment to upgrade the sewers at Ormeau Avenue in Belfast, some of which dated back to the late 1800’s and were in very poor condition. This investment has reduced the risk of out of sewer flooding by separating the rainwater from the sewer system, and minimising the amount of ‘fats, oils and greases’ by using a non-stick solution on the new wastewater pumping station walls. This improves the quality of the water in the River Lagan and facilitates further development within the area. Unforeseen complexities for another of our sewer rehabilitation schemes in Belfast has resulted in the removal of a lower number of properties at risk of out of sewer flooding than targeted.

In 2020/21 we will continue our work with developers to ensure new developments are sustainable and do not increase the flood risk to the site or surrounding area by looking at more sustainable ways of taking storm water out of the combined sewer system. Where this is not achievable we will work with developers to design the storm sewers to reduce the storm flow within the development and release back into our network at a reduced rate over a longer period. This will reduce shock loading to the existing sewer network during extreme rainfall events and reduce the pressures on our combined sewer overflows.

Sustainable solutions

Everyday we recycle wastewater from 720,000 homes and businesses before safely returning it to the rivers and sea. Traditional treatment works require a lot of energy, carbon, concrete and chemicals to ensure wastewater can be safely released back to the environment. However, due to continued growth in population and industry, many of our wastewater treatment works are no longer capable of meeting this demand.

In keeping with our ambition to put back more than we take out, we identified a green solution, which uses constructed natural wetlands to treat wastewater instead of traditional wastewater treatment processes. Wetlands do more than you think – they filter our fresh water, absorb and retain carbon, support biodiversity and protect us from flooding.

In 2019/20 we constructed a wetland in Clabby, County Fermanagh to replace the traditional wastewater treatment works, which had struggled to meet new discharge standards and was restricting growth in the village. The wetland based Phragmafiltre wastewater treatment works is more efficient to construct and maintain than traditional systems and requires less energy, carbon, concrete and chemicals.

We plan to upgrade the existing wastewater treatment works in Ballykelly, County Derry/Londonderry in 2020/21 by constructing a sustainable integrated constructed wetland to enhance the traditional treatment works.

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NI Water’s Wipezilla the wet wipe monster

Bag it and bin it: https://www.youtube.com/watch?v=syp45gNofDg

Keep it clear
We deal with around 15,000 blockages of our sewers each year, over 11,000 of which could have been prevented. The most common causes of these blockages is the flushing of items which do not dissolve down the toilet such as wet wipes and the disposal of fats, oils and grease (FOG) 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.

In 2019/20, we introduced Wipezilla the wet wipe monster to towns across Northern Ireland in a bid to raise awareness of the damage caused by wet wipes in sewers and our natural environment and to reinforce the message of flushing only the Three P’s; pee, poo and paper. A further awareness campaign, in partnership with local councils, focussed on towns with the top 20 blockage ‘hotspots’, which have seen over 20,000 blockages in the last two years, at a cost of around £5m.

NI Water’s campaign to inspire people to ‘Join the Refillution’ has celebrated its first year with some outstanding success stories. The Refillution campaign is aimed at encouraging everyone to stop buying single use plastic bottles and instead refill a reusable one with tap water. Since its launch in May 2019, our Councils have signed up hundreds of local businesses across their local area who welcome any member of the public on to their premises to refill their reusable bottle with tap water. The Councils have also undertaken several clean-ups across the district, including beach and river cleans, as well as continuing to support community groups to carry out litter clean-ups in their areas. Others have installed drinking water fountains in public places for their staff and the public to refill from. NI Water has a strong focus on the environment and we are committed to tackling the problems caused by plastic bottles and bottle tops, which block up our drains and rivers, and pollute our seas and shorelines.

By refilling a reusable bottle, not only do you reduce plastic waste, you are also helping to drive down your carbon footprint. Over the last year 206 primary and secondary schools have signed up to become Refill schools, pledging to reduce the number of single use plastic water bottles in school and encouraging all pupils to refill a reusable bottle with tap water.

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 by 2050.

Our initial focus in PC15 on reaching net zero has centred on energy under the following themes:
• using less: reducing our energy consumption and improving energy efficiency;
• buying less: reducing the amount of energy we buy and increasing renewable energy generation;
• buying better: reducing the costs of the energy we use; and
• earning more: maximising the revenues from the energy sector.

Our focus will widen further as we approach PC21. In 2019/20 we successfully achieved the ISO 50001 certification, the international standard for energy management systems, which will allow us to achieve continual improvement in energy performance.

In 2020/21, we are aiming to increase our electricity consumption from renewable sources such as solar and hydro power to 40%, rising to 100% by 2027, and plan to improve our storage of carbon by planting around 200,000 trees in partnership with the Woodland Trust. Over 2020/21, we will also liaise with peer water companies to determine how we can capture additional areas in our carbon footprint reporting and embed carbon in our business case decision making. Our carbon footprint doesn’t currently capture some emissions from treatment processes, embedded carbon in materials such as concrete used to construct our infrastructure or in the carbon stored in our land - peat bogs, trees and soils.

Initiatives under consideration to reduce carbon emissions over PC21 include transitioning to electric vehicles and energy storage such as batteries, and identifying other locations suitable for renewable energy installation. These initiatives could support Northern Ireland’s renewable energy targets and open up opportunities in areas such as green fuel stations, hydrogen heating for homes and businesses and district heating schemes.
Towards zero carbon (continued)

Our greenhouse gas emissions are accounted for and calculated using the UK Water Utilities industry Carbon Accounting Workbook. The workbook is updated each year with the most recent carbon emission factors released by government. We follow the 2019 UK Government Environmental Reporting Guidelines including the streamlined energy and carbon reporting guidance. We also support the work of the Financial Stability Board’s Taskforce for Climate-related Financial Disclosures (TCFD) and in line with their recommendations are reporting scope 1, 2 and 3 emissions, our methodology and targets.

**NI Water greenhouse gas emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>Scope 1 direct emissions</th>
<th>Scope 2 energy indirect emissions</th>
<th>Scope 3 other indirect emissions</th>
<th>Gross operational carbon emissions</th>
<th>Avoided emissions from renewable electricity exported</th>
<th>Avoided emissions from biomethane exported</th>
<th>Avoided emissions from renewable electricity purchased</th>
<th>Net operational carbon emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018/19</td>
<td>6,815 24,076,200</td>
<td>10,016 35,382,308</td>
<td>2,971 10,497,212</td>
<td>19,802 69,955,629</td>
<td>(426) 1,505,352</td>
<td>-</td>
<td>(30,078) 106,255,520</td>
<td>90,364 319,229,519</td>
</tr>
<tr>
<td>2019/20</td>
<td>7,151 27,978,365</td>
<td>8,701 34,040,023</td>
<td>2,733 10,692,997</td>
<td>18,585 72,711,385</td>
<td>(927) 3,627,778</td>
<td>-</td>
<td>(32,802) 128,335,860</td>
<td>79,328 310,358,177</td>
</tr>
</tbody>
</table>

During 2019/20 we have made total energy savings of 9,567,896 kWh through energy reduction projects and the use of energy from renewable sources. We are targeting a reduction of around 20% in operational emissions over each of the next five price controls to reach net zero operational emissions by 2050. Developments in future technologies and the growth of renewables may enable us to reach this goal sooner. Progress in reducing our greenhouse gas emissions is shown below:
People
Providing a great place to work

Strategic areas of focus

- Powered by talent
- Happy, safe and healthy people
- Creating a legacy for our communities

Sustainable development goals

- 3. Good health and well-being
- 4. Quality education
- 5. Gender equality
- 8. Decent work and economic growth
- 11. Sustainable cities and communities

Strategic threats/opportunities
ST1 ST2 ST4 ST5 ST6 ST7 ST8 SO2 SO4
Page 59 Read more about strategic threats and opportunities.

Strategic performance indicators

<table>
<thead>
<tr>
<th>People</th>
<th>Unit of measurement</th>
<th>Target 2019/20</th>
<th>Actual 2019/20</th>
<th>Pass/ Fail</th>
<th>Target 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee engagement score</td>
<td>%</td>
<td>60</td>
<td>56</td>
<td>Fail*</td>
<td>65</td>
</tr>
<tr>
<td>Reduction in health and safety incidents</td>
<td>Number</td>
<td>7</td>
<td>5</td>
<td>Pass</td>
<td>7</td>
</tr>
</tbody>
</table>

*Refer to page 89 for actions to improve employee engagement.
Powered by talent

Our water is world class and so are our people. Attracting, developing, retaining and partnering with the best talent is fundamental to the success of our business and therefore we are committed to making NI Water a great place to work.

A diverse workforce is good for business, providing different perspectives, encouraging innovation, and fostering a more collaborative working culture. As a traditionally male dominated industry, we recognise the importance of attracting more female applicants into the industry. Of the new employees recruited in 2019/20, over half were female, helping us to successfully retain our diverse gender charter mark, which recognises our commitment to promoting gender diversity in the workplace.

In an increasingly competitive talent market, it is important that we address the challenges presented by an ageing workforce and loss of knowledge to ensure there is a future supply of skills coming into our organisation. In 2019/20 we launched a new emerging leaders programme, developing 49 aspiring leaders to fulfil their leadership potential and a new apprenticeship academy through which we will hire 30 new water apprentices and develop them through a four year combined water and wastewater apprenticeship.

In 2020/21, we are introducing a new recognition process to celebrate our colleagues who demonstrate our corporate values in their day-to-day work.

Happy, safe and healthy people

We recognise the importance of our people in delivering the water that we all rely on to thrive and that’s why we are committed to looking after them by eliminating all harm.

In 2019/20 we put in place a number of initiatives to ensure our drivers are aware of and involving other road users by 2022. In 2019/20 we in place a number of initiatives to ensure our drivers are aware of driving specific health and safety practices. These included free driving eyesight tests, talks by the police traffic branch and a specialist occupational driving trainer, and simulated driving experiences.

Our health and wellbeing programme helps staff live well through a range of initiatives to support mental, physical, financial and social health and we were delighted to be awarded the Chartered Institute of Personnel and Development Award for best health and wellbeing in 2019/20.

In 2020/21 we plan to introduce a new health and safety software system, which will make it much easier to report and analyse incidents to identify any improvements to our systems or processes to prevent such incidents occurring in the future.

Creating a legacy for our communities

Our Cares Challenge volunteering programme is one of the largest corporate volunteering schemes in Northern Ireland. Over 1,500 volunteers have participated on the programme. Not only does this activity help local charities and not for profit organisations, but it also develops the skills of our people. Every month a group of employee volunteers spend a day providing community support by dedicating their time and talent to highly deserving charitable projects including Southern Area Hospice, Crosskeys Animal Sanctuary, National Trust and Foyle Womens Aid to name a few.

In 2019/20 we extended the volunteering programme to include a community led initiative called ‘From Little Ripples’, which gives staff the opportunity to pitch for their local charity or community group to receive volunteering support and funding. The programme was named ‘From Little Ripples’ because every act of kindness creates a ripple with no end. One of the first local charities to receive our support was the Castlecaulfield Horticultural Society and their ‘Bamboo Project’, which benefited from the clearance of a new path and removal of a large quantity of damaging waste.

We were delighted to have our contribution to society recognised in 2019/20 by winning the International Corporate Social Responsibility Excellence Award.