

How we respond to material themes: climate change

Our net zero transition plan

The following pages describe how we intend to contribute to, and prepare for, a rapid global transition towards a low-emission economy. Our transition plan is ambitious and adaptive, aiming to achieve net zero (as defined by the SBTi Net-Zero Standard) across all three emissions scopes by 2050.

Our plan is based on our established climate change mitigation strategy and has four components: vision and visibility; ambition and commitment; demonstrating action; and beyond here and now. These define our principles, priorities and implementation approach. We have also drawn upon the guidance provided by GFANZ (Glasgow Financial Alliance for Net Zero) and the Transition Plan Taskforce framework.

Vision and visibility

Demonstrating integrity and leadership in carbon reporting and disclosure.

Vision and visibility are the foundations of our climate change mitigation strategy and, thus, our net zero transition plan. We are dedicated to understanding how every aspect of our operations contributes to our emissions. Our aspiration is to ensure we consider the climate in all operational and strategic decision-making, influencing strategy and behaviours by including emissions management in remuneration schemes and incorporating carbon price values into our best-value framework used for decision-making.

We have a strong track record of sustainability reporting, having obtained independent, third-party verification of our GHG inventory by Achilles Group since 2008. We publish our GHG emissions and underlying energy use in our annual report as required under the Companies Act 2006 and follow the 2019 UK Government Environmental Reporting Guidelines. In recent years, we have supplemented our disclosures to meet the recommendations of the TCFD and IFRS Sustainability Disclosure Standard S2.

We are committed to reporting in an open and transparent way, aiming to be recognised as among the best in the UK. We use CDP as our benchmark of disclosure leadership and are honoured to have made it onto the A list for climate based on our 2024 response. We also improved our rating on the water security assessment, going from a B to an A- in our second response.

Ambition and commitment

Playing our part to mitigate climate change and lower our greenhouse gas emissions to help make the North West a better place to live now and in the future.

An important element of our approach is to demonstrate our ambition and encourage others to contribute by making public commitments. In 2020, we made six carbon pledges and we are making good progress towards delivering these. Central to our pledges was to set science-based targets for all emission scopes. The Science Based

Targets initiative (SBTi) is a collaboration that defines and promotes global best practice in science-based target setting. We are proud to have been the first UK water company to have near-term targets approved by the SBTi, and, in July 2024, the SBTi approved our long-term and net zero targets as compliant with the Corporate Net-Zero Standard.






Our targets cover all three emission scopes and our emissions reduction targets are aligned with the 1.5°C ambition of the Paris Agreement. We are currently reviewing our near-term science-based targets in the context of our accepted regulatory business plan and, if needed, plan to refresh our targets in 2025.

Demonstrating action

Reducing our environmental impacts through the delivery of transformational strategies and culture change.

Our action plan to achieve the long-term ambition of net zero by 2050 (in line with climate science and the UK Government targets) is set out on page 35.

Our implementation plan has five themes to:

-  Reduce GHG emissions through the efficient use of resources;
-  Replace processes and resources with more sustainable alternatives;
-  Remove GHGs from the atmosphere;
-  Collaborate to tackle emissions in the supply chain; and
-  Innovate to address current technological or market gaps.

Our intention is to reduce our absolute emissions through these actions before we use carbon units or purchase any credits to offset the residual emissions to net zero.

Beyond here and now

Innovating across processes, technology and culture.


Our strategy pillar of 'beyond here and now' reflects our objective to influence beyond our current emissions inventory and existing capabilities. To deliver our net zero transition plan, we will challenge standards and engage

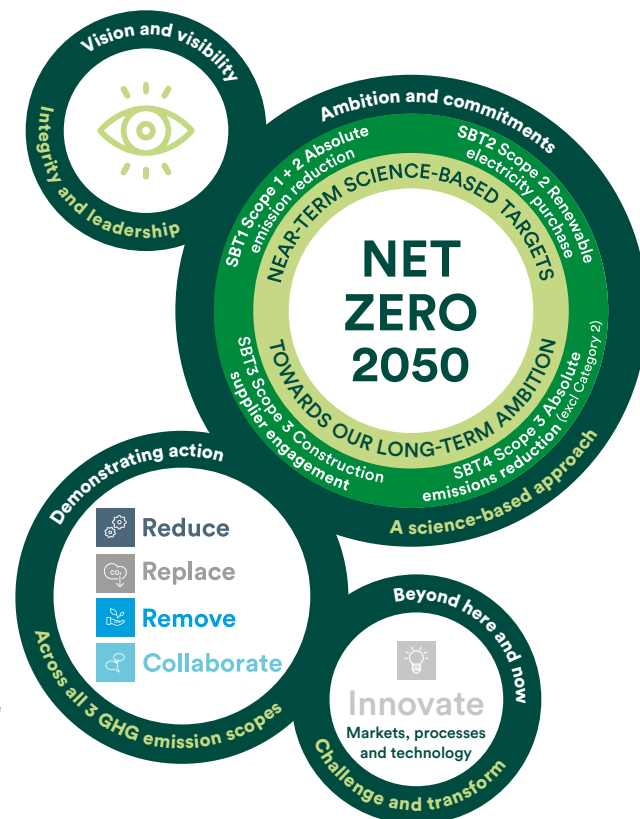
with industry peers, our supply chain, and other partners to develop markets, technologies and practices to reduce or mitigate future emissions.

We have teamed up with others in the water industry on various projects, some funded by the Ofwat Innovation Competition, exploring things such as natural coagulants for phosphorus removal and operational interventions to reduce process emissions. We co-chair the Water UK carbon network, and we have also facilitated water industry groups to understand and quantify the GHG emissions related to chemicals used and to enhance the Carbon Accounting Workbook.

An example of working with our supply chain to innovate is our Innovation Lab, a 14-week programme that provides successful applicants opportunities to test their solutions to our business challenges. Recent labs have included teams developing technology to capture methane and testing sustainable concrete incorporating graphene.

An example of evolving our practice to drive transition is in our procurement for AMP8 programme partners. All the tenders included assessments of suppliers' measurement, management and reduction of GHG emissions and favoured those with a robust and science-based approach.

 Read more about how we are using innovation to tackle the sustainability challenges at unitedutilities.com/corporate/about-us/innovation



Ambition and external factors

Our transition plan is ambitious and adaptive, aiming to achieve net zero (as defined by the SBTi Net-Zero Standard) across all three emissions scopes by 2050. Having taken into consideration the impacts and dependencies on our resources and stakeholders, we are in no doubt of the magnitude of the challenge.

As a regulated service provider and infrastructure operator, there are elements of our transition plan that are outside of our control. Our ability and approach to net zero is ultimately determined by national policy frameworks and legislative duties, such as the new Environment Act and economic regulation. Between them, these drive both the emissions growth pressures we need to counteract and the level of investment we can allocate to emissions reductions. Our transition plan, therefore, also includes engagement activities with regulators and the Government to inform effective policy that fully values GHG emissions to support sustainable development in the round.

Action

We have intended activities over the short-, medium- and long-term horizons. Having already substantially reduced our GHG emissions through using on-site generated or purchased renewable electricity, the next actions are to minimise our use of GHG intensive energy and materials. To enable future reductions, we will engage with our supply chain and other partners to make the most of emerging markets, cultivate sustainable practice and to foster innovation to address technological gaps.

We will go beyond emissions reductions and enable, encourage and reward interventions that protect and enhance the natural environment, while promoting the value of wider ecosystem services across our sphere of influence. This will include promoting the sustainable use of natural resources, and the increased application of the waste hierarchy and circular economy principles in our operational activities and infrastructure programmes.

In spite of our best intentions, it will not be possible to eliminate emissions from the biological treatment of wastewater.

To partially compensate for this, we have projects that will remove and store carbon dioxide from the atmosphere through peatland restoration and woodland creation. We intend to use the carbon units issued as an inset against our residual GHG emissions. Units will be retired from the UK Land Registry and reported in the energy and carbon report within our annual report for the relevant financial year. In the long term, we may opt to purchase carbon credits to further offset residual emissions and achieve net zero.

Accountability

While the board has oversight of the transition plan, through the ESG committee, management have the task to design, develop, deliver and govern our net zero transition plan. This is primarily done through the director-led climate change steering group who have the technical skills and competencies to manage the setting of science-based targets, in line with standards and our strategic ambition, and effectively balance the competing environmental and social responsibilities within the financial constraints of a regulated business.

Action plan	Short term including recent progress	Medium term up to 2035	Long term to 2050 and beyond
 Reduce consumption by careful use of resources.	<ul style="list-style-type: none"> Reduce natural gas consumption by using biogas from wastewater Maintain high percentage of waste to beneficial reuse Existing energy management programme to include carbon Use telematics to improve driver behaviour, increase fuel economy, and inform the shape of the fleet 	<ul style="list-style-type: none"> Optimise wastewater processes for GHG Reduce volume of chemicals used Sensitive delivery of substantial environment improvement programmes 	<ul style="list-style-type: none"> Identify and implement further efficiency opportunities Reduce use of carbon-intensive materials and techniques
 Replace processes and resources with more sustainable alternatives.	<ul style="list-style-type: none"> Targeted investment in renewable energy generation capability 60%+ sludge processing by lower emissions advanced digestion Green fleet up to 400 electric vehicles 	<ul style="list-style-type: none"> Expand renewables capacity Use natural coagulants in phosphorus removal, replacing ferric sulphate with pH correction Bioresources investment to increase advanced digestion capacity Fuel switching to HVO, subject to costs and supply, EVs where suitable for business continuity 	<ul style="list-style-type: none"> Eradicate use of fossil fuels, e.g. use hydrogen and biomethane to fuel HGVs Nutrient-recovery initiatives Replace processes to be more sustainable and exploit new technology and markets
 Remove GHGs from the atmosphere.	<ul style="list-style-type: none"> Woodland creation – successful 2025 planting season Peatland restoration continued beyond carbon pledge 	<ul style="list-style-type: none"> Complete planting of 550 hectares of woodland 1,500 hectares of additional peatland restoration activities for AMP8 	<ul style="list-style-type: none"> Ongoing benefits of restored peatland and growth of woodlands Carbon capture, use and storage
 Collaborate to tackle emissions in the supply chain.	<ul style="list-style-type: none"> Achieved supplier engagement SBT through work with targeted capital delivery partners Climate-related criteria used in AMP8 delivery partner selection Agree carbon-related targets with AMP8 delivery partners 	<ul style="list-style-type: none"> Influence national approach to water environment improvements Monitor sustainability of suppliers through performance indicators Quantify more scope 3 emissions using product and activity data 	<ul style="list-style-type: none"> Collaborate to decarbonise our infrastructure programmes and wider supply chain Drive standards reform to enable the use of low-emission materials and techniques Offset residual emissions
 Innovate to address current technological or market gaps.	<ul style="list-style-type: none"> DESNZ LOOP project to use biogas to produce hydrogen and graphene Establish sector funding and partnerships through Ofwat Innovation competition Support regional transition via membership of Net Zero North West 	<ul style="list-style-type: none"> Explore low-carbon capital delivery options, e.g. nature-based solutions and low-carbon concrete Process emissions monitoring Nutrient recovery research Research to support net zero treatment works and communities 	<ul style="list-style-type: none"> Transformation in water and wastewater processing towards net zero treatment works Extraction of biopolymers from wastewater for use in the circular economy principles Utilise emerging Environment Attribute Certificates schemes

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Net zero enhancements

Our accepted business plan for 2025–30 included specified support for three net zero enhancement schemes.

Net zero catchment strategy

Development of a net zero catchment strategy for St Cuthbert's Garden Village in Carlisle to trial ways to reduce the impact of providing services to new developments across the North West. We will work with partners to develop sustainable water and wastewater master plans. These will enable the management of surface water while minimising the need for investment in the sewer network and wastewater treatment works over the long term. This could include reusing products, local composting solutions, greywater recycling, and reducing household energy requirements.

Process emissions

Monitor release of nitrous oxide from wastewater processes at 17 sites. This enables the introduction of innovative technologies to reduce emissions through real-time control mechanisms, such as controlling aeration blowers.

Peatland restoration

Restoration of around 1,500 hectares of peatland to store carbon and deliver wider benefits. Scheme will include mechanisms to allow the benefits of the intervention to be quantified.

Decarbonising a water company's activities

Moving and treating water and wastewater are energy-intensive activities. We use electricity to power equipment such as aeration blowers in treatment works and to pump water around our network. We use natural gas and other fuels for heating, transport and to power equipment on remote sites as well as our buildings. This energy use causes significant scope 1 and 3 carbon dioxide (CO₂) emissions. We are trying to reduce the emissions from burning fossil fuel; however, switching to low-carbon alternatives like hydrotreated vegetable oil (HVO) often comes at a price premium, and has other environmental and social risks such as nature degradation and modern slavery to consider.

The biological processing of wastewater before it can be safely discharged back to the environment naturally produces nitrous oxide (N₂O) and methane (CH₄), which have global warming potentials 265 and 28 times greater than carbon dioxide (CO₂). The amounts of wastewater and sludge treated determines the estimated process emissions, so if the population increases then the emissions will increase. This means that, even if we eradicate all fossil fuel use, along with the global water industry, our scope 1 emissions would only reduce by approximately 30 per cent.

We are working with the UK water industry and the global market on monitoring projects to understand the process emissions impacts of different operational controls. The objective is to identify opportunities to reduce production or capture the gases rather than release them to the atmosphere.

Treatment of water and wastewater to increasing standards also requires use of chemicals. While this does not directly cause GHG emissions, extraction of resources, transport and production of chemicals can be energy, and therefore emissions, intensive.

Our scope 2 emissions when calculated using the market-based method are almost zero because our electricity contracts include Renewable Energy Guarantees of Origin (REGO) certificates or we pay for certificates separately to match the electricity purchased. REGOs act as proof that the electricity is from a renewable source, but as the UK growth in green generation capacity has been slower than expected in recent years the prices have increased significantly. In the medium term we intend to increase our self-generation capacity for multi-year benefits, using our land for renewables and to maximise biogas production and heat recovery. We are reviewing our policy to obtain REGOs for 100 per cent of our purchased electricity within our energy management strategy.

Our largest source of scope 3 emissions is category 2 emissions from construction and network maintenance activities. Consequently, if our infrastructure development activity increases due to a prescribed environmental programme, as is expected for AMPs 8 and 9, then our emissions will increase accordingly. We are working to tackle this through nature-based solutions, low-carbon material replacements and standardised ways of working. In this way, we aim to contribute to the technological and market readiness needed to embed and accelerate a transition to a low GHG emissions and climate-resilient economy.

Our route to net zero

Our long-term emissions forecast illustrated below shows the scale of our emissions challenge ahead. We anticipate significant growth from the provision of services to an increasing population, investments required to adapt our assets and infrastructure for climate change and additional legal and regulatory requirements to protect the water environment. The graph below shows how we intend for this emissions growth to be addressed using the five themes of our transition plan. The depth of each layer relates to the GHG emissions that might be avoided by interventions in our action plan. Having already taken the most commercially attractive options, we know that costs, complexity and uncertainty will increase in the medium to long term. Our plan is reliant on achieving the benefits of advances made through collaboration and innovation.

Approximately 70 per cent of our footprint is driven by our investment programmes, and, with AMP8 set to be about five times the size of AMP7, our scope 3 emissions will increase accordingly without net zero investment and substantial innovation.

