Key performance indicators

Our key performance indicators for building a greener North West are achievement of our Better Rivers commitments, our carbon pledges relating to renewable energy, green fleet, peatland restoration and woodland creation, and the Environment Agency's Environmental Performance Assessment. We report on a selection of other environmental metrics of interest to stakeholders on page 72.

Better Rivers: Better North West commitments

The percentage of in-year milestones delivered as part of our Better Rivers programme.

Target

At least 95% of programme milestones delivered by 2025

Annual performance

100%

All of this year's Better Rivers programme milestones have been delivered, including ensuring 100 per cent of our storm overflows are monitored, which was completed by December 2023.

2022/23: 100% of milestones for the year

2021/22: n/a – new measure in 2022/23

Status

Met expectation/target

Key stakeholder

Environment

Relevant material themes(2)

- River water quality and storm overflows
- Political and regulatory environment
- Trust, transparency and legitimacy

Relevant principal risks(3)

- Wastewater network failure

Link to remuneration(4)

Bonus

Assurance

Independent third-party verification

Carbon pledges

Six pledges supporting our climate change mitigation activities including green fleet, peatland restoration and woodland creation, and supplier engagement.

Target

Individual targets for each of the six carbon pledges

Annual performance

Good progress

Having already delivered two of our six pledges, during the last 12 months we have surpassed our 2030 target for peatland restoration ahead of schedule, with potential identified to go further. We continue to make progress on the other pledges, as detailed on page 74.

2022/23: Pledges 2 and 6 met

2021/22: Pledges 2 and 6 met

Status

Met expectation/target

Key stakeholder

Environment

Relevant material themes(2)

- Climate change mitigation
- Resilience
- Trust, transparency and legitimacy

Relevant principal risks

See pages 57 to 58

Link to remuneration(4)

LTP

Assurance

Independent third-party verification

EA's Environmental Performance Assessment (EPA) rating(1)

The Environment Agency's annual assessment across six key sector environmental performance measures.

Target

Upper quartile performance within the water industry each year

Annual performance

3* 'good' rating

The most recent assessment is for 2022, when we were awarded three stars, meaning we were classed by the Environment Agency as a good company. The EA will publish its annual assessment for 2023 in July 2024, and we are on track for 4-star 'industry-leading' performance.

2021: Joint first

2020: Joint first

Status

Met expectation/target

Key stakeholder

Environment

Relevant material issues(2)

- Customer service and operational performance
- Trust, transparency and legitimacy
- Political and regulatory environment

Relevant principal risks(3)

- Wastewater network failure
- Recycling of biosolids to agriculture

Link to remuneration(4)

LTP

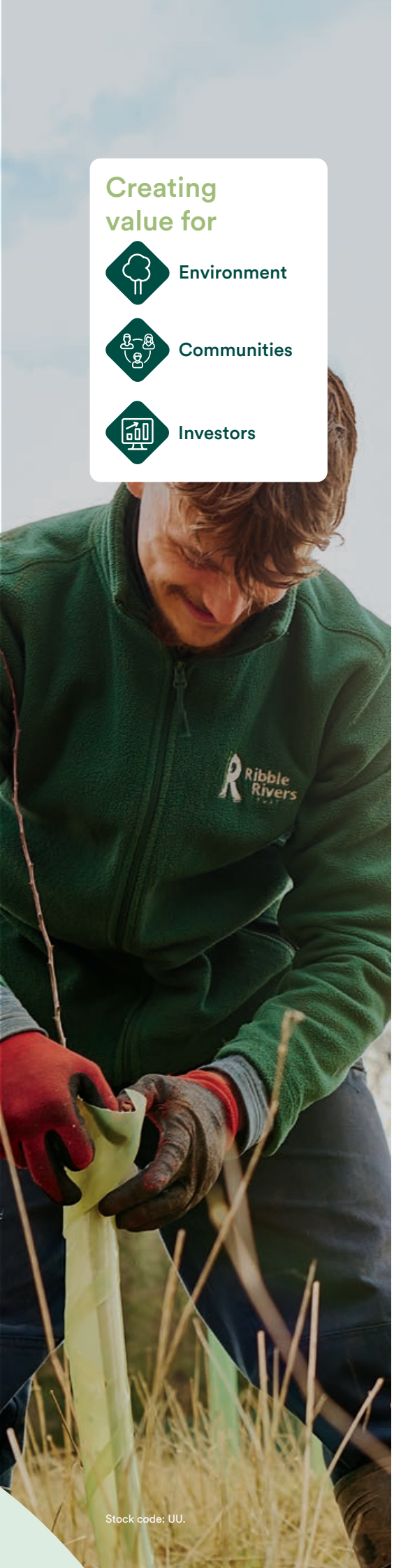
Assurance

Independent third-party verification

(1) Measure relates to the water and wastewater activities of our regulated entity, United Utilities Water Limited.
(2) Read more about our materiality assessment on pages 28 to 30.
(3) Read more about our principal risks on pages 55 to 56.
(4) Read our remuneration report, with details about the bonus and Long Term Plan (LTP), on pages 140 to 163.
(5) Read more about the assurance over our performance metrics on page 63.

Creating value for

- Environment
- Communities
- Investors



Consistently strong environmental performance

The Environmental Performance Assessment (EPA) published by the Environment Agency (EA) consists of seven metrics – including the addition of satisfactory sludge use and disposal for 2022 – against which company performance is assessed on a red, amber or green (RAG) status. Based on performance across all of the metrics, star ratings (one to four, with four being the highest) are then applied to each water company.

The most recent assessment is for 2022, and we were awarded overall three stars, meaning we were classed by the EA as good. The EA will publish its assessment for 2023 in July 2024, and we are on track to achieve the maximum four stars, which would classify us as 'industry leading'.

This remains a strong achievement, particularly as the thresholds to assess companies' performance continue to tighten. We were green across six of the seven metrics, with an amber status for discharge permit compliance being the only factor falling short of us achieving the top 4-star rating. We have been rated three or four stars in every year's assessment since they began, with the top 4-star rating secured in five of the last eight years, demonstrating consistently strong environmental performance.

We continue to deliver a sustained reduction in pollution incidents, achieving industry-leading performance on minimising pollution in the 2022 assessment. We were one of only two companies with zero serious pollution incidents (category 1 and 2). This was the 12th year running that we were rated green status for our performance on serious incidents, which is the strongest performance in the industry. We also had the lowest number of total pollution incidents per 10,000km² of any company. While the extraordinarily heavy rainfall we experienced this year did have an impact on our pollution performance commitment with an ODI penalty in this area, we continue to perform strongly and remain committed to minimising our environmental impact.

We once again achieved green status for our delivery of the Water Industry National Environment Programme (WINEP). We have delivered 100 per cent of our WINEP schemes by their planned delivery date since the beginning of the current 2020–25 period (AMP7). These schemes are delivering significant improvements to the environment, including rivers, across the North West.

Improving water quality in rivers across the North West

We are dedicated to improving rivers across the North West, which is one of our six strategic priorities. Under the Water Framework Directive, river water quality is measured by whether it is achieving good ecological status, and the target is for all rivers to attain this by 2027. Where rivers fail to meet this, the 'reasons for not achieving good status' (RNAGs) are assigned by the EA to a range of organisations, including water companies, with a responsibility to act to improve water quality. In 2019, 18.4 per cent of the total RNAGs in the North West where responsible sectors have been identified were attributed to us. As a result of our investment in wastewater treatment and storm overflows, we are taking action to tackle 75 per cent of these by 2025, with further reductions targeted in AMP8 and beyond. We will also continue to work in partnership with other organisations on actions to address RNAGs attributed to them, which can deliver further benefits such as improving how surface water is managed to reduce the risk of flooding.

Many of our stakeholders are concerned about the impact of storm overflows. We agree that the time has come to change this century-old feature of wastewater networks, and we are committed to going further and faster to reduce the number of spills. This is a huge change, and achieving the improvement that is needed will not happen overnight. The North West has more rainfall and more combined sewers than elsewhere in the country. However, we are committed to delivering as quickly and as effectively as possible.

Two years ago we set out our commitments to improve river health across the North West. As part of our Better Rivers programme, we set out four pledges supported by 30 commitments to kick-start a river revival in the region. We have made good progress so far. By December 2023, we had fitted monitors to all of our storm overflows, and we have published a map that shows the location and operational status of each overflow in near-real time.

As a result of our considerable efforts to improve monitoring and operation of storm overflows, we have achieved a significant reduction in the number of reported spills compared to the 2020 baseline. The exceptionally high rainfall this year did lead to an increase in spills compared with last year, but reported spills in the current year were still 24 per cent lower per overflow than our 2020 baseline. 2020 was also a wet year, comparable to 2023.

View our map of overflows across the North West at unitedutilities.com/better-rivers/storm-overflow-map

Building a greener North West

We remain on track to meet our target of a sustainable one-third reduction by 2025 under normal weather conditions.

We have made particularly strong progress at certain targeted sites. For instance at Cargo, one of our highest spilling sites, our interventions have significantly reduced spills. Having completed our work in August 2023, a site that saw 343 spills in 2022 has experienced just nine from September 2023 up to the end of the financial year. More information on our interventions at Cargo can be found in the case study on page 73. We plan to roll this out to a further 29 locations.

While we are pleased with progress so far, we want to go further and faster to deliver improvements. Our AMP8 submission included the UK's biggest storm overflow spill reduction plan, targeting a 60 per cent reduction in the decade to 2030 and, as part of Defra's Accelerated Infrastructure Delivery project, we have approval to progress with more than 150 priority projects during 2023–25.

We are focused on agile solutions that enable us to make meaningful progress quickly, while our longer-term plans look at 'blue-green' nature-based solutions as well as the traditional 'grey' options like storm tanks. We have appointed a dedicated Better Rivers director and established a new storm overflow integrated delivery team to accelerate our improvement plan and reduce spills from storm overflows as quickly as possible.

Climate mitigation

We continue to work towards our 2050 net zero ambition, with our transition plan set out on pages 37 to 39. Supporting this, we have made six bold carbon pledges, underpinned by science-based targets.

Our pledges include making absolute emission reductions, switching to low-carbon electricity, moving our fleet to green vehicles, restoring peatland and creating woodland.

Having already achieved two of these pledges, this year we also surpassed our 2030 target for peatland restoration and continue to make good progress with the remaining three pledges, as detailed on page 74.

We are delivering landscape-scale change in our peatland restoration and woodland creation programmes. These programmes are not only beneficial from a carbon perspective, capturing and sequestering greenhouse gases, but also deliver wider benefits to protect water and other habitats, and enable recreational access for communities and tourism.

For example, since 2005 we have undertaken extensive work to restore the quality of the peatland. This delivers multiple benefits, ranging from slowing the flow of water to reduce flooding risk, delivering higher-quality raw water at the receiving watercourse, and reducing carbon emissions by trapping carbon in the peat. Over the past year, we worked with partners such as the Cumbria Wildlife Trust and the Peak District National Park Authority to implement schemes to improve peatland and, with the RSPB, we planted the one millionth sphagnum plug at Dove Stone in the Peak District National Park.

As the largest corporate landowner in England, our land assets provide an abundant scope for the development of renewable and other clean technologies. We have showcased our ability in this space, having previously grown a portfolio of renewable assets across the North West. Following the sale of these assets last year, we will be recycling the funds generated by that sale to invest in the next stage of our journey. As an initial step, we are working on plans to develop up to 200 megawatts of new installed capacity by 2030. This programme could comprise a combination of solar, wind and batteries, helping to deliver emissions reductions and further improve both operating and financial resilience.

24%

reduction in spills per monitored storm overflow compared with 2020 baseline

3* or 4*

performance in the EA's annual assessments since they began, and on track for 4-star for 2023

42%

targeted reduction in scope 1 and 2 emissions by 2030, towards our net zero 2050 target

We will also work with our supply chain to achieve two scope 3 targets. Firstly, for 66 per cent of our capital goods suppliers (by emissions) to have science-based targets by 2025. Secondly, for all other scope 3 categories, to achieve a 25 per cent reduction in emissions by 2030 (from a 2019/20 baseline year).

We are proud to be contributing to the UK water industry's efforts to mitigate climate change.

Climate resilience

We continue to invest across our business to protect and enhance the climate resilience of our assets, processes and customer services.

In December 2021, we published a comprehensive overview of our climate risks and plans in our third climate change adaptation progress report, and we are in the process of updating this again during 2024. We have further integrated our approach to understanding the impacts of climate change in our latest Drainage and Wastewater Management Plan and our Water Resource Management Plan. This is part of our long-term adaptive planning to ensure our services are resilient to a range of plausible climate change scenarios.

We continue to expand our approach to climate resilience, including engagement with stakeholders and interdependent service providers, such as the energy sector. Taking account of interdependent risks in our business planning process allows us to maximise the value we deliver for customers and other stakeholders through working together on common challenges. We are working with electricity distribution network operators to align investment, such as securing resilient energy infrastructure to our sites, as part of our business plan submission for 2025–30 and beyond.

Working with the Ribble Rivers Trust, we have delivered a natural flood management scheme within the Chipping catchment in the Ribble Valley, with similar schemes also benefitting the catchments around the rivers Wyre and Lune.

Our annual disclosures, in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), can be found throughout this report, as set out on page 03. These describe how our strategy and financial planning is influenced by the challenges of climate change.

Enhancing and protecting biodiversity and natural capital

We have developed a value assessment tool, used in the development of our future plans to incorporate broader natural capital into our decision-making process. We continue to deliver strong performance against our ODI on enhancing natural capital value for customers, which encourages assessment of the added natural capital value we deliver by pursuing nature-based and catchment solutions. We have earned a reward this year, against a nil target as we identified new opportunities to improve natural capital on projects during the year.

In 2024 we published our Corporate Natural Capital Account, which captured the key benefits from natural assets on land we own, and the costs associated with maintaining these. This will influence how we prioritise our investments, and feeds into our Task Force on Nature-related Financial Disclosures (TNFD) throughout this report. Each natural capital account will be utilised to support future decision-making and to monitor and track the value we deliver through our activities.

Biodiversity is a key pillar of natural capital, and ensuring the preservation and enhancement of biodiversity is a key element to our Catchment Systems Thinking approach.

We are working in partnership with the RSPB across our Haweswater estate in the Lake District National Park, with nature restoration working alongside hill farming to bring benefits for the rich and varied wildlife native to the area, the quality of water flowing into the Haweswater reservoir, and the people that live in and visit this beautiful area, which attracts more than 400,000 visitors every year. Conservation grazing and regenerative farming is part of the operation, working across 3,000 hectares of land through:

- Restoration of grassland SSSI features;
- Low intensity grazing by hardy upland species;
- Native woodland planting;
- Deer management;
- Natural woodland regeneration;
- River restoration; and
- Blanket bog restoration.

We undertake significant development to deliver our capital investment programme, and our AMP8 plan proposes the largest investment in our region for more than a decade. Importantly, for many years we have committed to no net loss of biodiversity through our development, and are striving to go further with opportunities for biodiversity net gain.

We have a major impact on biodiversity through the large areas of land we own that are designated as Sites of Special Scientific Interest (SSSIs). We have committed to achieving 100 per cent of our SSSI land in either favourable or recovering condition by 2030, and we have made significant improvements, helping us move towards this target. In 2023, 91 per cent was favourable or recovering, up from 48 per cent in 2004.

We have been an active member of the Ofwat working group supporting the development of a new common performance commitment around biodiversity, and we welcome this important step. We are now developing our delivery programme to maximise the environmental value that can be delivered through this performance commitment.

Woodland creation helps to boost biodiversity, protect water quality, and improve air quality. Since the start of AMP7 we have planted more than 600,000 trees across the region, surpassing our 2025 target. We continue to identify suitable locations for further tree planting, working towards our commitment to plant a million trees by 2030.

Strong performance on leakage despite challenging weather

Reducing leakage is of huge importance for our stakeholders and for us. Over AMP7, we are targeting a 15 per cent reduction in total leakage, and we have met our leakage target for the 18th consecutive year, now fixing six leaks every 30 minutes. As a result of this strong achievement we expect to receive an ODI reward this year in relation to outperformance against our leakage performance commitment.

Our AMP8 business plan targets a further 13 per cent reduction. Our delivery plan continues to make best use of available technologies and is flexible to ensure that we can embrace innovation in this area. We actively look to trial new techniques to understand how these can be scaled and embedded in the most effective way, and this gives us opportunities to accelerate and target those interventions that are demonstrated to be the most effective. We continue to use the learning from these pilots and trials to refine our approach to reducing leakage and deliver our Dynamic Network Management (DNM) ambition across our water network.

Building a greener North West

Status key

Annual performance
- Met expectation/target
- Close to meeting expectation/target
- Behind expectation/target

Against 2025 target
- Confident of meeting target
- Some work to do
- Target unobtainable

Stakeholder key

Customers | Environment | Communities | Colleagues | Suppliers | Investors

Measure	2025 target	Performance 2023/24	2022/23	2021/22	Assurance[6]	Link to remuneration[2]	Key stakeholder	Status: Annual performance	Status: Against 2025 target
Pollution incidents per 10,000km sewer network[1]	19.5	**27.93**	16.29	17.71	RRA	LTP	Environment	Behind	Confident
Reduction in spills per storm overflow monitored	33% sustainable reduction[4]	**24%**	41%	29%	IAT	Bonus	Environment	Some work to do	Confident
Treatment works compliance[1]	99%	**99.0%**	98.5%	99.0%	RRA	LTP	Environment	Met	Confident
Leakage reduction[1]	15%[3]	**9%**	6%	8%	RRA	LTP	Environment	Met	Confident
Reduction in per capita consumption[1]	6.3%[4]	**2.5% decrease**	0.5% increase	1.5% increase	RRA	PC	Environment	Behind	Behind
Internal flooding incidents per 10,000 sewer connections[1]	1.34	**4.35**	2.32	2.98	RRA	PC	Customers	Behind	Behind
External flooding incidents[1]	5,859	**7,063**	5,916	6,223	RRA	PC	Customers	Behind	Some work to do
Waste to beneficial use	98%	**98.3**	98.3%	97.8%	IAT		Environment	Met	Confident
Enhancing natural capital for customers[1]	£4 million	**£15.777 million**	£0	£3.234 million	RRA	PC	Environment	Met	Confident
Number of trees planted	500,000	**600,466**	565,733	461,240	IAT		Communities	Met	Confident
Carbon pledge 1: reduction of scope 1 and 2 GHG emissions	14% reduction[5] (42% by 2030)	**3.4% reduction**	3.7% reduction	2.2% reduction	ITV		Communities	Some work to do	Some work to do
Carbon pledge 2: renewable electricity purchased	100% by 2023	**100%**	100%	96%	ITV		Environment	Met	Confident
Carbon pledge 3: green fleet	100% by 2028	**91 vehicles**	33 vehicles	27 vehicles	IAT	LTP	Environment	Met	Confident
Carbon pledge 4: peatland restoration	1,000 hectares (ha) by 2030	**1,211 ha**	585 ha	Activity underway	ITV	LTP	Environment	Met	Confident
Carbon pledge 5: woodland created	550 hectares (ha) by 2030	**37 ha**	37 ha	9 ha	ITV	LTP	Environment	Met	Confident
Construction services suppliers with science-based targets	66%	**23%**	23%	n/a	IAT	LTP	Suppliers	Met	Confident
Better air quality: nitrogen oxides (NOx) emissions per unit of renewable electricity generated[1]	1.42	**0.96**	1.07	1.19	RRA	PC	Environment	Met	Confident
Energy generated directly, and with partners, as a percentage of used	25% at 2026	**22.4%**	23.0%	n/a	ITV	LTP	Environment	Met	Confident

(1) Measure relates to the water and wastewater activities of our regulated entity, United Utilities Water Limited.

(2) Read our remuneration report, with details about the bonus and Long Term Plan (LTP), on pages 140 to 163.
PC = Performance commitment subject to reward and/or penalty as part of customer outcome delivery incentives (ODIs). These feed into both bonus and LTP through inclusion of customer ODIs and return on regulated equity (RoRE) respectively.

(3) As measured against a 2017/18 baseline.

(4) As measured against a 2019/20 baseline.

(5) As measured against science-based target baseline year 2019/20.

(6) Read more about the assurance over our performance metrics on page 63.
ITV = Independent third-party verification. RRA = Regulatory reporting assurance. IAT = Internal audit team.

Case study:

Acting now to improve the North West's rivers

We're committed to making the step change people want to see in improving the North West's waterways, and our storm overflow reduction plan will see the biggest overhaul of the region's sewer network in a century.

The plan up to 2050 will require us to invest around £19 billion in the North West. It's the largest investment of its kind and will bring a massive reduction in sewer pollution entering rivers, beaches and lakes across the North West, as Jo Harrison, asset management director, explains.

"We are re-plumbing our drainage systems, building storage tanks to increase the capacity, separating rainwater out of sewers, and harnessing the power of nature to treat stormwater before it is returned to the environment. Work has already started and people are going to see much more of this over the next 25 years."

By 2050 the goal is to ensure that storm overflows, the relief mechanism that prevents sewers from backing up and flooding homes and businesses in heavy rain, each operate less than ten times a year. We monitor each one of our overflows, capturing real-time data that gives us a clear picture on how frequently they're operating, and which should be tackled first – those that are causing harm to river systems. We've accelerated delivery at some of the highest priority sites and by 2030 more than 430 storm overflows will be improved, through a mix of nature-based schemes, agile solutions and larger construction projects.

A scheme where a quick solution has had a big impact is in Cargo, a village near the River Eden in Cumbria. A small wastewater treatment works in the relatively remote location services 254 homes and, having no mains power, is reliant on a gravity-based system. The size, scale and location of the site brings multiple challenges, and the local storm overflow was spilling with even modest use, discharging into a local water course.

Following approval of our proposed Accelerated Infrastructure Delivery programme, we moved quickly to create an interim solution. In just 14 weeks, we installed a new tank to provide temporary storage for spills and an additional storm tank to add a further 75m³ capacity, completing that work in August 2023. Where previously the site could treat three litres of wastewater a second, it now treats 17 litres a second. Crucially, spills have reduced significantly, from 343 in 2022 to just nine from September 2023 up to the end of March 2024.

Of course, while Cargo provides a great example of a site where we moved quickly to deliver a rapid solution, the majority of sites need a more substantial and longer-term approach. One of our much larger projects has seen a vast new underground stormwater storage tank, capable of holding almost two million litres of water, being constructed in Nelson, near Burnley, Lancashire. A combination of an increasing population in the area and the impact of climate change created a need to introduce extra capacity in the sewer system. The stormwater tank will act as a 'holding area' for the extra rainwater that enters the sewer network during times of heavy rainfall, meaning the system is less likely to be overwhelmed and reducing spills into the River Calder.

Projects like these form part of our commitment to create better rivers, making the North West stronger, greener and healthier.

Delivering value for

This is creating value for the environment, local communities, and customers.

Read more about our Better Rivers commitments and plans on our website at unitedutilities.com/better-rivers

Greener: climate

Progress against our carbon pledges

In 2020 United Utilities made six pledges that set out our initial priorities in the global goal to curb climate change to no more than 1.5°C above pre-industrial levels.

Our progress against these pledges, and where they link to remuneration, is summarised below. Before the start of the next investment period we will review our pledges and targets to reflect our business plan to 2030 and the opportunities which it will bring for emissions reduction.

Pledge 1

42 per cent reduction of scope 1 and 2 emissions from our 2020 baseline by 2030

Our progress

3.4% Some work to do

It continues to be challenging for us to reduce scope 1 and 2 emissions whilst serving an increasing North West population. 60 per cent of scope 1 and 2 emissions are from the release of methane which has a higher global warming potential in AR5. This change, from AR4, was the primary driver for the small increase in emissions in 2023/24.

2019/20: 138,961 tCO_2e baseline
2023/24: 134,239 tCO_2e 3.4% reduction

Pledge 2

100 per cent renewable electricity by 2021

Our progress

100% Pledge met

Since October 2021, all electricity we buy through annual contracts is renewable. Around 22 per cent of our needs are renewably generated directly by us or with partners and the remainder is purchased and backed with REGO certificates. We are working on plans to further increase the energy we can self-supply through investment in renewable capacity and storage.

Pledge 3

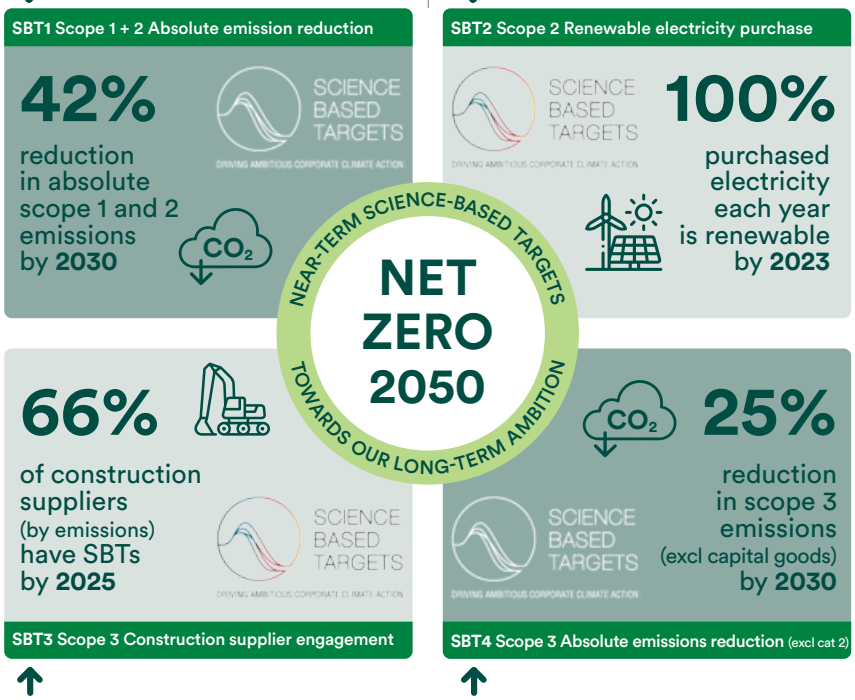
100 per cent green fleet by 2028

Our progress

91 vehicles Confident of meeting pledge

Having assessed our travel patterns with advanced telemetrics we are now using this insight to develop the infrastructure a green fleet needs. We are installing home chargers for fleet drivers, have begun to install fast and rapid chargers across our operational sites and forecast to have 200 all-electric vehicles (EVs) by the end of 2025. We also encourage personal green travel through salary sacrifice schemes for bikes and EVs and discounted travel on Warrington buses.

Link to remuneration: LTP



Pledge 4

1,000 hectares of peatland restoration by 2030

Our progress

1,211ha Confident of meeting pledge

We have carried out peatland restoration activities across the North West building on the 2,000 hectares improved through our 2005–15 SCaMP projects. We already have 1,211 hectares under restoration towards meeting this pledge and the LTP. We have also identified a potential further 2,800 hectares that may be improved or protected, subject to detailed suitability assessments.

Link to remuneration: LTP

Pledge 5

Plant one million trees to create 550 hectares of woodland by 2030

Our progress

37ha Confident of meeting pledge

Woodland creation requires substantial preparatory work including identifying suitable sites, considering the appropriate species mix and planting density, securing funding and producing a long-term management plan. We are making great progress and our current schedule will create around 500 hectares of new woodland over the next three planting seasons.

Link to remuneration: LTP

Pledge 6

Set a scope 3 science-based target by 2021

Our progress

SBTs verified July 2021 Pledge met

Our two scope 3 science-based targets (SBT3 and SBT4 above) cover all our relevant scope 3 emissions. Our total scope 3 emissions in 2023/24 are now 2 per cent lower than our 2019/20 baseline. 18 per cent of our scope 3 emissions are from our construction services partners. We work with our construction partners to reduce emissions from their infrastructure projects and encourage them to set their own targets verified by the Science Based Targets initiative (SBTi). Of our construction suppliers, 23 per cent (by 2023/24 emissions) have already set SBTi verified science-based targets for their organisation. In total, 94 per cent have either already set targets or have an active commitment to set targets as can be seen on the SBTi Target dashboard.

Link to remuneration: LTP

Greener: climate

Energy and carbon report: Energy

The Companies Act 2006 (Strategic Report and Directors' Reports) Regulations require us to publish this energy and carbon report applying the 2019 UK Government Environmental Reporting Guidelines, including the Streamlined Energy and Carbon Reporting Guidance (SECR). We use the financial control approach so our energy and carbon accounting is aligned with the consolidated financial statements for United Utilities Group PLC for 1 April 2023 to 31 March 2024. This includes subsidiaries listed in section A8 on page 228.

Our greenhouse gas inventory, including the underlying energy data summarised below, has undergone independent third-party verification by the Achilles Group to the requirements of Toitū CarbonReduce programme.

	2023/24 GWh	2022/23 GWh[4]	2021/22 GWh	2020/21 GWh
Energy use				
Electricity	**819.6**	818.8	803.3	807.3
Natural gas	**34.1**	33.6	33.8	40.0
Stationary fossil fuels (Gas oil, kerosene, diesel)	**54.7**	59.2	50.5	36.5
Stationary low-carbon fuels (HVO, LPG)	**0.14**	0.01	<0.01	0
Energy for transport (from fuel used or distance travelled)	**80.2**	79.1	72.6	67.5
Total energy used	**988.7**	990.7	960.2	951.3
Electricity purchased				
Grid renewable[1]	**657.6**	655.6	611.0	591.4
Grid standard tariff[2]	**0.09**	0.13	22.3	47.8
Total purchased	**657.7**	655.7	633.3	639.2
Renewable energy generated				
CHP	**120.4**	123.0	133.8	127.6
Solar	**47.3**	46.4	47.8	50.7
Wind	**5.2**	5.1	4.8	5.3
Hydro	**7.6**	6.9	7.2	6.9
Biomethane[3]	**40.2**	44.7	48.9	47.0
Total generated	**220.7**	226.1	242.5	237.5
Renewable energy exported				
Electricity	**18.6**	18.3	23.5	22.4
Biomethane[3]	**40.2**	44.7	48.9	47.0
Total exported	**58.8**	63.0	72.4	69.4

(1) All contractually purchased electricity has been bundled with, or backed by, REGO certificates since October 2021.

(2) Grid standard tariff electricity is the consumption on interim tariffs for newly adopted sites.

(3) Biomethane generated and exported to grid was expressed as an electricity equivalent in previous annual reports.

(4) The figures for 2022/23 are restated for some fuel purchased but not consumed in 2022/23 and to correct an error using petrol fuel properties for diesel and vice versa when calculating energy.

Energy efficiency actions taken

We have an integrated approach to energy efficiency based on continuous improvement of people – optimising ways of working; systems – improving visibility of use and analysis of data systems; and technology – targeted investment to remove technological inefficiencies.

Our energy management programme is delivered by a specialist team of energy engineers working with operational staff. It sets a common approach for benchmarking performance and develops action plans to optimise site-based energy use. The programme held 59 workshops this year and is supported by operational carbon e-learning and a comprehensive energy performance reporting and analysis capability.

We have completed hundreds of systems and technology measures to improve energy efficiency from installing low energy lighting to automating operations of our water and wastewater assets such as with new controls for secondary treatment and pumps. We have also installed over 3,000 sub-meters to identify opportunities to restrain energy use and quantify the benefits of interventions.

Improving energy efficiency is a primary focus of our capital programme and also integrated into our Dynamic Network Management (DNM) capability to ensure our asset base is as efficient as possible. We have developed training courses to engage and develop colleagues across the business and implemented our 'Use Less, Save More' campaign.

Energy strategy

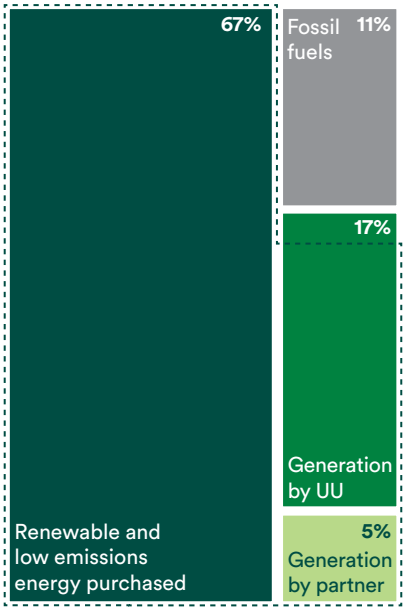
Our energy management strategy has four objectives:

- Efficient use of energy;
- Maximising self-generation and direct supply opportunities;
- Minimising costs; and
- Building supply resilience to ensure we can deliver our services.

Each year we serve a growing population, which means increased energy use as we strive to achieve stringent environmental performance targets. We seek to mitigate this through our energy management and in recent years have maintained consistent energy use in the face of considerable upward pressures.

This year, to support our aims to switch to clean, green energy, we have introduced a new energy metric: 'Energy generated directly, and with partners, as a percentage of used'. The measure has also been included in the 2023 Long Term Plan for executive directors and will encourage energy efficiency, fuel switching away from fossil fuel and clean energy generation, each of which support our net zero transition. Energy generated directly, and with partners, from low carbon sources together with renewable and low emissions energy purchased in 2023/24 is equivalent to 89 per cent of the total energy used.

Switch to clean, green energy



Electricity use (*100% renewable*)

Greener: climate

Energy and carbon report: GHG emissions inventory

Emissions are calculated by estimating the individual greenhouse gases that result from all United Utilities' activities, converted into a tonnes carbon dioxide equivalent (tCO_2e).

Tools and values used in 2024 include UK water industry Carbon Accounting Workbook v18, the 2023 UK Government GHG conversion factors for company reporting, global warming potentials from IPCC 5th Assessment report and Global CEDA (Comprehensive Environmental Data Archive) v6.

Our greenhouse gas inventory, and the underlying data, has undergone independent third-party verification by Achilles group and is certified to the requirements of the Toitū CarbonReduce programme, as aligned to the GHG Protocol Corporate Accounting and Reporting Standard (2015) and the international carbon reporting standard ISO 14064, Part 1:2018. The assurance certificate and report can be found at **unitedutilities.com/corporate/responsibility/environment/climate-change**

Scope 1 and 2 greenhouse gas emissions		2023/24[4] tCO_2e	2022/23 tCO_2e	2021/22 tCO_2e	2020/21 tCO_2e	SBT baseline 2019/20 tCO_2e
Scope 1: Emissions from activities we own or control, e.g. burning fossil fuels, wastewater and sludge processing.						
Direct emissions from burning of fossil fuels		**20,188**[5]	21,166	19,207	17,371	15,247
Process and fugitive emissions – including refrigerants		**96,173**	94,915	96,020	98,569	96,186
Transport: Company-owned or leased vehicles		**17,838**	17,665	16,507	16,634	15,739
Scope 2: Emissions from purchased electricity including for use in vehicles.						
Purchased electricity – generation	Market-based[1]	**32.9**[6]	9.3[6]	4,201	8,507	11,789
	Location-based[2]	***136,183***	*126,813*	*134,492*	*149,030*	*164,521*
Purchased electricity – vehicles	Market-based	6.8	1.7	0.04	0	0
	Location-based	*6.8*	*1.7*	*0.04*	*0*	*0*
Gross scope 1 and 2 emissions total	**Market-based**	**134,239**	**133,757**	**135,936**	**141,081**	**138,961**
	Location-based	***270,389***	***260,561***	***266,226***	***281,604***	***291,693***
Emissions reduction from:						
Renewable electricity exported[3]		**-3,101**	**-2,888**	-4,317	-4,184	-3,979
Biomethane exported	*Location-based*	*-8,439*	*-9,360*	*-10,283*	*-9,725*	*-9,302*
Green tariff electricity purchased[3]	*Location-based*	*-136,162*	*-125,746*	*-133,197*	*-138,015*	*-164,210*
Net scope 1 and 2 emissions total	**Market-based**	**131,138**	**130,869**	131,619	136,897	134,982
	Location-based	***122,687***	***122,567***	***118,429***	***129,680***	***114,202***

(1) Market-based figures use emission factors specific to the actual electricity purchased. For electricity supplied on a standard grid tariff we use CO_2e per kWh from suppliers' public fuel mix disclosures.

(2) Location-based figures use average UK grid emissions to calculate electricity emissions and are shown in *grey italics*.

(3) Exported electricity emissions use the average UK grid emissions factor for both market and location-based totals.

(4) 2023/24 emission factors use IPCC AR5 global warming potentials where $CH_4 = 28$, $N_2O = 265$. All previous years use AR4 where $CH_4 = 25$, $N_2O = 298$.

(5) Emissions from electricity for recently adopted sites supplied on standard tariffs until they can be moved onto our corporate renewable contracts.

(6) Restated to correct for some fuel previously included in 2022/23 accounts but consumed in 2023/24.

Scope 3 greenhouse gas emissions	2023/24 tCO_2e	2022/23 tCO_2e	2021/22 tCO_2e	2020/21 tCO_2e	SBT baseline 2019/20 tCO_2e
Category 1: Purchased goods and services[7]	**233,480**	250,189	292,946	271,871	213,442
Category 2: Capital goods[7]	**99,962**	138,182	112,498	95,968	128,286
Category 3: Fuel and energy-related emissions[8]	**53,189**	53,446[6]	58,948	42,599	45,262
Category 4: Upstream T&D – sludge transport[8]	**6**	35	103	1,119	3,374
Category 5: Waste generated in ops: including sludge disposal[8]	**26,135**	27,454	25,458	26,333	27,936
Category 6: Business travel: public transport, private vehicles and hotel stays[8]	**1,464**	1,486	1,138	1,226	3,508
Category 7: Employee commuting and homeworking[9]	**5,136**	5,336	4,066	4,108	4,231
Scope scope 3 total	**419,372**	476,128	495,158	443,224	426,039
Scope 3 SBT measure (excluding category 2)	**319,410**	337,946	382,660	347,256	297,753

(7) Categories 1 (excluding chemicals) and 2 use Global CEDA v6 to estimate emissions based on the amount spent by spend category. CEDA is a multi-region, environmentally extended input-output database and has global coverage, annual updates and is a CDP recommended tool.

(8) Categories 3, 4, 5 and 6 use activity records and 2023 UK Government GHG conversion factors for company reporting.

(9) Category 7 uses EcoAct models to estimate emissions from employee commuting and homeworking based on company FTE figures and home, site, hybrid working policies.

Greenhouse gas emissions intensity		2023/24 tCO_2e	2022/23 tCO_2e	2021/22 tCO_2e	2020/21 tCO_2e
Scope 1 and 2 gross emissions per £m revenue	Market-based	**68.9**	73.3	73.0	78.0
Scope 1 and 2 net emissions per £m revenue	Market-based	**67.3**	71.7	70.7	75.7
Water net operational emissions per megalitre water treated [10]	*Location-based*	***177.6***	***101.4***	***106.9***	***118.5***
Wastewater net operational emissions per megalitre sewage treated [10]	*Location-based*	***209.0***	***158.8***	***144.2***	***152.3***

(10) UK water industry intensity metrics. The method for calculating these has been redefined by Ofwat in 2024.

Scope 1 emissions

Wastewater and sludge processes cause approximately 70 per cent of our scope 1 emissions as the gases released, nitrous oxide (N_2O) and methane (CH_4), have much greater global warming potentials than carbon dioxide (CO_2). Our process emissions are currently estimated as a direct function of the amount of wastewater we treat and from recent monitoring we believe this to be an underestimate. We are collaborating with other UK water companies to improve the method to quantify these emissions and to identify ways to reduce or capture those emissions for beneficial use.

Scope 2 emissions

Our market-based scope 2 electricity emissions are negligible as all our contract purchased electricity is REGO backed. In the light of increasing costs, we are reviewing our commitment to REGO back 100 per cent of our electricity purchase in the future.

Scope 3 emissions

Most of our scope 3 emissions are in GHG Protocol categories 1 (products and services) and 2 (capital goods); the latter being the construction services we buy. The current methodology to estimate these emissions uses records of the amount we have spent. This provides an estimate that is determined by the scale and timing of our investment programme rather than our design choices. We are working with supply chain partners to implement processes and systems to quantify category 2 emissions based on materials and techniques used, thereby giving us the opportunity to influence and track the emissions impacts of our management decisions.

The next highest category is indirect emissions from fuel and energy use so our clean energy and renewable generation ambitions will tackle these as well as scope 1 emissions.

Fuel and energy
20,188 tCO_2e + 53,189 tCO_2e
Fossil fuel use at our sites and the well-to-tank and transmission and distribution scope 3 emissions for all energy makes up 13 per cent of our net total footprint. Reducing our consumption and replacing such fuels with low emissions alternatives is central to our net zero transition plan. We intend to grow our renewable capabilities and play an active role in the development of new technologies such as hydrogen.

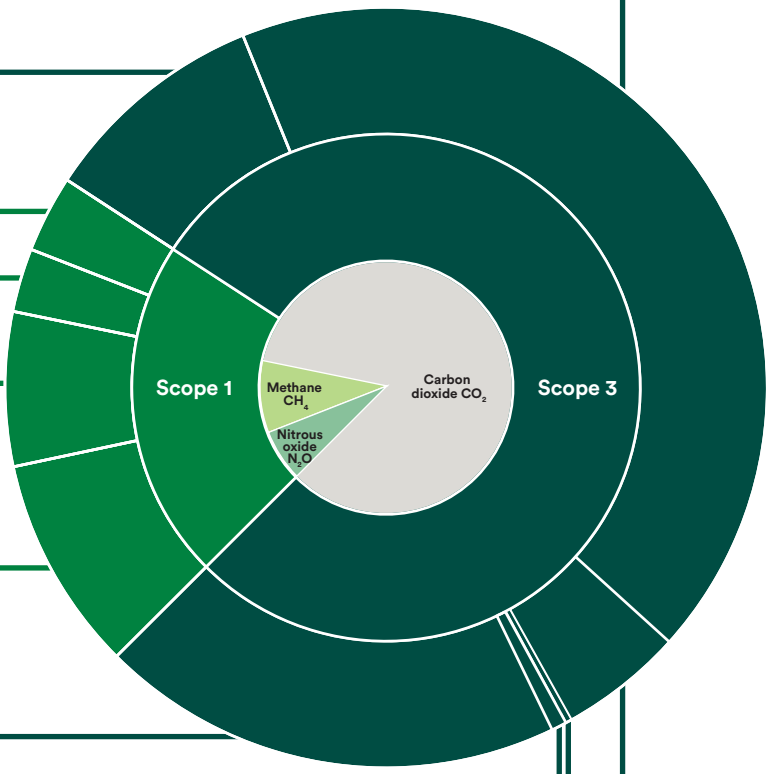
Purchased goods and services 233,480 tCO_2e
This year, for the first time, we have estimated the emissions from our chemicals using purchase records and emission factors from published life-cycle carbon assessments. We can now target the chemicals with highest emissions and influence operational and purchasing decisions and research and development investment accordingly. For the remainder of our purchased goods and services we use records of the amount we have spent and a multi-region, environmentally extended input-output database, Global CEDA v6 to give us a comprehensive but indicative estimate of emissions.

Transport 17,838 tCO_2e
We have begun our investment to convert our fleet to low-carbon fuels. We have a growing infrastructure for electric vehicles and are exploring options to fuel HGVs, including hydrogen and HVO.

Sludge processing 42,899 tCO_2e
Treatment of sludge produces methane. Half of our facilities use advanced anaerobic digestion, which captures more of this methane to power and heat our processes or generate electricity. This reduces methane emitted during treatment and after disposal.

Wastewater processing 53,139 tCO_2e
The biological processes used in wastewater treatment produce N_2O and CH_4, both potent GHGs. Emissions are approximately proportional to the size of the communities producing the wastewater.

Gas losses 134 tCO_2e
GHG from refrigerants and SF6 gas losses.



Capital goods
99,962 tCO_2e
We have a significant capital programme to develop our water and wastewater services infrastructure and this construction will produce substantial emissions.

Employees commuting and homeworking
5,136 tCO_2e
Estimates using the numbers of colleagues and where they typically work (office, site or home) using EcoAct's UK models.

Business travel
1,464 tCO_2e
Public transport including air, train, vehicles and hotel stays.

Sludge transport 6 tCO_2e
Contracted sludge transport.

Operational waste
26,135 tCO_2e
Of these emissions, 96 per cent are from disposal of sludge biosolids to agricultural land. Recent UKWIR data shows that the industry estimation method is likely to be significantly overestimating these emissions.