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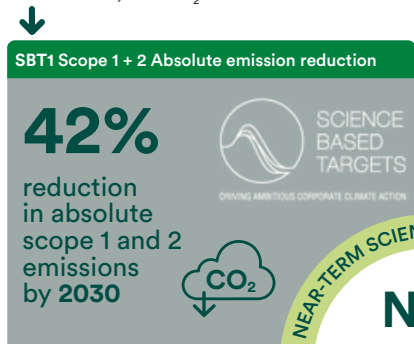
Pledge 1
42 per cent reduction of scope 1 and 2 emissions from our 2020 baseline by 2030

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.
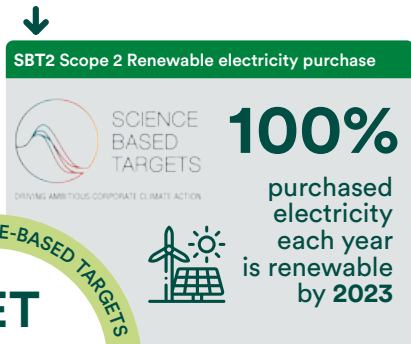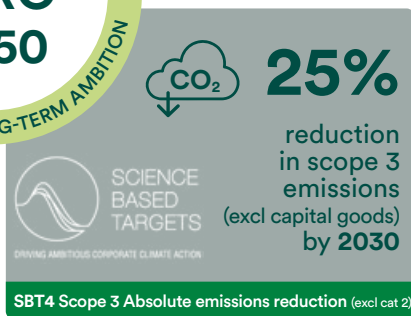
Pledge 3
100 per cent green fleet by 2028

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

SBT1 Scope 1 + 2 Absolute emission reduction

42% reduction in absolute scope 1 and 2 emissions by **2030**

CO_2

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBT2 Scope 2 Renewable electricity purchase

100% purchased electricity each year is renewable by **2023**

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

NEAR-TERM SCIENCE-BASED TARGETS
NET ZERO 2050
TOWARDS OUR LONG-TERM AMBITION

66% of construction suppliers (by emissions) have SBTs by **2025**

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBT3 Scope 3 Construction supplier engagement

CO_2

25% reduction in scope 3 emissions (excl capital goods) by **2030**

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

SBT4 Scope 3 Absolute emissions reduction (excl cat 2)

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 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

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

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
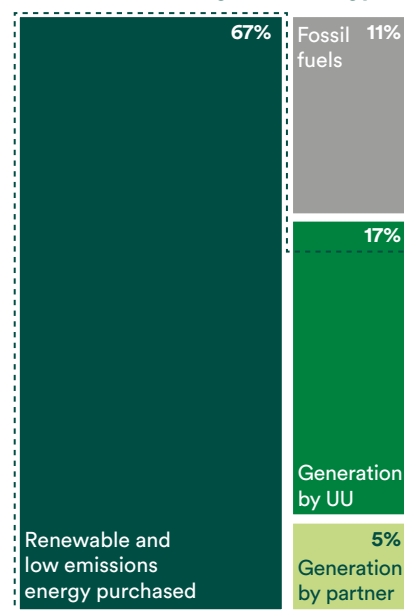
Electricity use (*100% renewable*)

Greener: climate
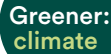
Energy and carbon report: GHG emissions inventory

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.

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.

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.

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.