

Race to Zero

The University of Manchester joined the UN Race to Zero Climate for Universities and Colleges campaign on 12th July 2021. This report sets out our progress against the updated criteria.

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| <p>COMMITMENT 1: PLEDGE</p> | <p><i>“Pledge at the head-of-organisation level to reach (net) zero GHGs as soon as possible, and by 2050 at the latest, in line with the scientific consensus on the global effort needed to limit warming to 1.5C with no or limited overshoot, recognising that this requires phasing down and out all unabated fossil fuels as part of a global, just transition. Set an interim target to achieve in the next decade, which reflects maximum effort toward or beyond a fair share of the 50% global reduction in CO₂ by 2030. Targets must cover all greenhouse gas emissions.”</i></p> |
| <p>Starting line</p> | <p>In 2019 the University committed to becoming zero carbon in its direct operations by 2038. This target is in line with the one adopted by both the city of Manchester and was set by colleagues at the University’s Tyndall Centre for Climate Change Research. The 2038 target commits the University to reducing its carbon emissions by an average of 13% each year between the baseline of 2018 up to 2038 in order to stay within its “carbon budget”. Milestones were set by the Manchester Climate Change Partnership (MCCP).</p> <p>In July 2023 the University committed to become net zero by 2050 in its indirect, Scope 3, operations.</p> |
| <p>Leadership practices</p> | <p><i>“Target absolute zero or net negative emissions”</i></p> <p>Our carbon target for our operations (Scopes 1&2) is absolute zero carbon by 2038. Our commitment to achieving “true” zero (as opposed to net zero) emissions, and staying within our “carbon budget”, is sector-leading and we have shared our approach publicly with organisations including the Association of University Directors of Estates (AUDE), the Environmental Association of Universities and Colleges (EAUC) and Manchester City Council.</p> <p><i>“Protect nature: Pledge to halt deforestation and protect biodiversity, making your activities consistent with climate resilient development”</i></p> <p>We are a signatory to Nature Positive Universities.</p> |

COMMITMENT 2: PLAN *“Within 12 months of joining, publicly disclose a Transition Plan, City/Region Plan, or equivalent which outlines how all other Race to Zero criteria will be met, including what actions will be taken within the next 12 months, within 2-3 years, and by 2030.”*

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| <p>Starting line</p> | <p>In 2021 the University produced its first “Zero Carbon Masterplan” (ZCM), an exploratory document highlighting the strategic and technical actions required to achieve the 2038 target. The main recommendations of the ZCM are:</p> <ol style="list-style-type: none"> 1. The University should embark on a programme of energy efficiency measures which will reduce our energy consumption and carbon emissions and save money in the longer term; 2. The University should enter a “Corporate Power Purchase Agreement” (CPPA), meaning the University’s electricity demand will be matched by a developer generating renewable energy on our behalf. Critically, the electricity generated must be “additional” to what would have been created should the CPPA not exist; 3. The University should decarbonise its heating through a gas boiler and heat network replacement programme. Air source heat pumps are currently considered the most viable alternatives to gas. <p>As a result of the ZCM, we are taking the following actions:</p> <ol style="list-style-type: none"> 1. Entering into a CPPA as soon as possible. This will supply additional renewable energy to the grid on behalf of the University at the earliest opportunity. 2. Developing an energy reduction programme. Projected work includes replacement of lighting with LEDs, “baseload optimisation” (reducing the amount of energy used by buildings when they are unoccupied) and upgrading Building Management Systems so they run more efficiently. Lighting surveys have been completed for ten buildings. £136m has been committed to energy efficiency projects by 2032/33. Our target runs to 2038 so between now and 2033 we will continue to seek additional funds to supplement the £136m already approved and extend the funding beyond 2033. We have received Salix funding of £2.2 million to decarbonise our Zochonis building. 3. Phase 1 of our zero carbon masterplan is set to complete zero carbon works in 2023/24 in Booth Street East and Dalton Ellis buildings. A further four buildings are planned in phase 2 including Zochonis, Humanities Bridgeford Street, Simon and Crawford House. Projects include air source heat pumps, photovoltaics, new roofing systems, new glazing and internal insulation systems. |
| <p>Leadership practices</p> | <p><i>“Support a just transition: Explain how you will support communities affected by both climate impacts and the climate transition, and strengthen their participation in achieving the global goal of halving emissions by 2030, seeking to address injustices and build towards a more equitable future.”</i></p> |

Some of the University's research supports communities affected by climate impacts and the climate transition. One example is [African Cities Research Consortium](#) (ACRC), funded by the UK's Foreign, Commonwealth and Development Office (FCDO) as part of UK Aid, that tackles complex problems in some of Africa's fastest growing urban areas. Our research will generate new evidence to catalyse integrated, sustainable, inclusive approaches to urban development in partnership with frontline humanitarian responders, effective policy influencers, local government networks and deeply rooted civil society groups.

"Integrate nature: Drawing on the Convention on Biological Diversity, integrate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies."

One example of our conservation and biological research is in our Department of Earth and Environmental Sciences which have examined degraded soils of grasslands in Kenya and China to understand the role of soil biodiversity in creating and supporting healthy ecosystems. We've scaled up novel approaches to harness ecological connections between native soil microorganisms (bacteria, fungi, algae) and native plants to accelerate recovery from degraded to healthy soil. Tools have been developed to provide accessible and practical knowledge for local communities to repair soils and public and policy awareness has been raised of the vital importance of soil biodiversity on a global scale.

"Empower stakeholders: Explain what actions you will take to empower other stakeholders in your community and beyond to achieve their own targets, embracing the spirit of radical collaboration. Include how you will support the Sustainable Development Goals."

The quality and scale of our impact against the UN's Sustainable Development Goals is unmatched. We're the only university in the world to rank in the top ten in the [Times Higher Education Impact Rankings](#) for five years running. We are number one in the UK and Europe, and number two in the world for social and environmental impact (*Times Higher Education Impact Rankings 2023*). More information can be found on our [Sustainable Development Goals directory](#). We prioritise global partnerships to advance our work towards the SDGs. These include:

- our Engaged Member status of the global [Talloires Network](#);
- as a founding member of the global [University Social Responsibility Network](#);
- as a member of the [Sustainable Development Solutions Network](#), the [Association of Commonwealth Universities \(ACU\)](#) and the [United Nations Academic Impact \(UNAI\)](#).

COMMITMENT 3: PROCEED *“Take immediate action through all available pathways toward achieving (net) zero, consistent with delivering your interim targets. Where relevant, contribute to sectoral breakthroughs”*

Starting line

Achieving the 2038 zero carbon target is a strategic priority for The University of Manchester and considerable effort is being put into the work. Our Zero Carbon works are overseen by a group specifically established to manage the project. This in turn reports into the Environmental Sustainability Committee (ESC), which meets quarterly. The ESC reports into the Policy and Resources Committee, which is the University’s most senior governing body below the Board of Governors.

The Vice-President for Social Responsibility, Prof Nalin Thakkar, is accountable for the 2038 zero carbon target. The Director of Estates & Facilities, Diana Hampson, is responsible for the delivery of the work. The Head of Environmental Sustainability, Richard Smith, is responsible for day-to-day management of the plan. A number of colleagues from across Professional Services are contributing to delivery of the project, including the Principal Energy Manager.

In 2023/24 we will:

1. Install a fossil-fuel free heating system in our Booth Street East and Dalton Ellis buildings.
2. Finalise our CPPA.
3. Carry out further studies on our buildings to understand in greater detail the actions needed to improve energy efficiency, with a view to creating a pipeline of activity and submitting further bids for external funding.
4. Develop a plan for meeting our Scope 3 target.

Leadership practices

“Prioritise emissions-intensive sectors”

Through our Scope 3 supply chain work we are prioritising support for our most emission intensive suppliers by offering them priority support through our [zero carbon supplier tool](#).

“Scale up climate solutions”

Through our [research](#) we are proactively growing activities that contribute to global net zero emissions. The contributions our research is making to the Sustainable Development Goals (SDGs) can be read in our [SDG report](#).

“Empower your ecosystem”

We regularly share how we are implementing our Race to Zero plans including delivering presentations to members of the Environmental Association of Universities and Colleges and the Association of Directors of University Estates.

COMMITMENT 4: “Report publicly progress against both interim and longer-term targets, as well as the actions being taken, at least annually”
PUBLISH

Starting line

The table below shows the University’s carbon emissions dating back to 2007/8.

| | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Gas | 26,442 | 26,698 | 28,654 | 29,712 | 27,177 | 29,272 | 25,851 | 26,467 | 25,058 | 25,395 | 26,081 | 25,883 | 25,940 | 32,304 | 31,258 |
| Electricity | 53,496 | 51,563 | 52,171 | 47,826 | 47,586 | 46,754 | 45,796 | 46,898 | 44,334 | 38,048 | 31,367 | 27,750 | 22,857 | 21,306 | 20,127 |
| Oil | 272 | 178 | 497 | 185 | 246 | 621 | 142 | 170 | 189 | 197 | 228 | 242 | 166 | 190 | 194 |
| Fleet Vehicles | 340 | 398 | 344 | 336 | 355 | 333 | 205 | 197 | 172 | 146 | 139 | 141 | 104 | 101 | 107 |
| Total | 80,550 | 78,837 | 81,666 | 78,059 | 75,364 | 76,980 | 71,994 | 73,732 | 69,753 | 63,751 | 57,815 | 54,016 | 49,067 | 53,901 | 51,686 |
| % change on baseline | | -2.1 | 1.4 | -3.1 | -6.4 | -4.4 | -10.6 | -8.5 | -13.4 | -20.9 | -28.2 | -32.9 | -39.1 | -33.1 | -35.8 |
| % change on previous year | | -2.1 | 3.6 | -4.4 | -3.5 | 2.1 | -6.5 | 2.4 | -5.4 | -8.6 | -9.3 | -6.6 | -9.2 | 9.9 | -4.1 |

In 2021/22, total scope 1 and 2 carbon emissions of the University were 51,686 tonnes CO₂e (carbon dioxide equivalent), a decrease of 2.1% compared to 2020/21 and 35.8% reduction against the 2007/08. The slight decrease of gas and electricity consumption resulted from the gradual closure of North Campus and dual running of the new Engineering buildings. It is expected to see a more significant fall of consumption after North Campus usage ceases at the end of 2022.

Leadership practices

“Report on progress in and beyond your value chain or territory”

We have calculated our [Scope 3 emissions baseline](#) and published an [Endowment Investment Portfolio Climate Change Report](#). A member of the Environmental Sustainability Team now leads on Scope 3, and we have allocated £136 million towards meeting our Scope 1&2 zero carbon target.

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| COMMITMENT 5: PERSUADE <i>“Within 12 months of joining, align external policy and engagement, including membership in associations, to the goal of halving emissions by 2030 and reaching global (net) zero by 2050”</i> | |
| Starting line | In June 2023 we published our latest Environmental Sustainability Strategy which aims to achieve zero carbon by 2038. Our policy engagement institute, Policy@Manchester , aims to impact lives globally, nationally and locally through influencing and challenging policymakers with robust research-informed evidence and ideas. Their work regularly focus on net zero and has published reports on power, nuclear, energy futures, urban developments, air quality, net zero and COPs. |
| Leadership practices | <p><i>“Activate the ambition loop: Proactively advocate for your peers, stakeholders, and governments to align their goals and actions to 1.5C. Demonstrate how the implementation of your own ambitious targets creates opportunities for others to follow. “</i></p> <p>Our Head of Sustainability regularly speaks at conferences and webinars explaining our zero carbon plans and advising other institutions.</p> <p><i>“Mainstream (net) zero alignment Advocate for appropriate regulation and facilitating measures to ensure that alignment to 1.5C becomes the default for all actors.”</i></p> <p>Our policy engagement institute, Policy@Manchester connects our researchers with policymakers and influencers, nurtures long-term policy engagement relationships and seeks to enhance stakeholder understanding of pressing policy challenges. This work has a strong focus on zero carbon, for example, a partnership with CBI Economics on carbon capture and storage.</p> |