

# Sustainability Ambition Statement (Pathways to Net Zero)

16 May 2023

## Vision

- 1.1 Our vision is to ensure that Durham University delivers its mission of excellence in education, research and wider student experience in the most sustainable way possible.



## Aims

- 1.2 We will embed sustainability at every level in the University, creating a culture where all staff and students can play their part in the University achieving our vision. Sustainability will be a central element of our research, our education, our wider student experience, and our engagement with stakeholders across the city, the region and beyond.
- 1.3 We will reduce our greenhouse gas emissions (GHG) to achieve Net Zero by 2035, or before. To do this we will reduce the Scope 1 and 2 GHG emissions (those that we directly control) to as close to zero as possible and offset any remaining by active removal from the atmosphere by natural or technological processes.
- 1.4 Achieving Net Zero by 2035 is aligned to the Science Based Targets for GHG reductions that the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above preindustrial levels and pursue efforts to limit warming to 1.5°C.
- 1.5 Alongside realising our Net Zero 2035 target will be actions that tackle, as quickly as possible, our Scope 3 emissions – with a long-term objective of striving to achieve Absolute Zero emissions by 2050.

## Our key ambitions

- Achieve Net Zero by 2035, aiming to reduce our Scope 1 and 2 emissions by c. 65%;
- To ensure our Scope 2 electricity is sourced from renewable sources, and to use carbon removal offsets for residual Scope 1 emissions;
- To electrify our power generation and usage, retrofitting existing gas provision with carbon neutral energy sources;
- To commit to a significant increase in photovoltaic energy provision from facilities on the University estate;
- To achieve biodiversity net-gain by 2032 through our Biodiversity Strategy;
- To review potential to achieve Absolute Zero emissions (all Scope 1+2+3) in 2030, with a target end date of 2050;
- To ensure our Estate Masterplan is delivered in accordance with our commitment to Net Zero and Biodiversity Net Gain, in particular by achieving energy efficiency wherever possible in a cost-effective manner;
- To work closely with Durham County Council and other city and regional stakeholders, including other HEIs, to meet the challenge of Net Zero;
- To minimise waste production, increase recycling and reuse, and promote sustainable transport;



- To continue to reduce Scope 3 emissions as far and as quickly as possible, including by implementing our Sustainable Procurement and Food policies and our Integrated Sustainable Travel Plan;
- To support world-class and world-changing research that directly addresses issues of environmental sustainability, and to ensure that Sustainability is a golden thread that runs through the University Strategy;
- To help achieve the above through our Greenspace Movement, involving all members of the University.

### *Key background information*

1.6 Durham University is presently responsible for c. 94,086 tCO<sub>2</sub>e<sub>l</sub> (tonnes of carbon dioxide equivalent per year). This includes all emissions directly and indirectly associated with the university, including an estimate of overseas student travel to and from Durham from their home country. These figures are independently verified from the Carbon Trust.



1.7 The university presently has direct control over about 30% of these total emissions. These are the Scope 1 and 2 emissions that arise from heating and powering our estate (residential and non-residential), use of fuel in university owned vehicles and equipment, escape of refrigerant gases into the atmosphere (F-Gases), business travel and staff and student commuting (the latter from their university home to their place of study, not from their home to Durham and so excluding travel from our overseas students). Other emissions, largely Scope 3, are not directly in the control of the University. We can reduce these – and will do so – but they fall outwith the core carbon emissions that are covered by our Net Zero target for 2035. This approach is in-line with that adopted by many of our peer Universities.

1.8 There are two approaches to setting emission reductions in UK HEIs. The most common is to adopt a commitment to ‘Net Zero’ carbon emissions by a defined date, and to develop a plan to help deliver that over the specified time period. Most peer Universities that have defined a Net Zero target have done so with a target date between 2030 and 2040, with differences reflecting the scale and nature of the particular HEI estate and operations, as well as their baseline starting position.

1.9 A second approach, adopted presently by only a small number of HEIs, is to use Science Based Targets (SBTs) for a reduction in emissions. SBTs are based on what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C. The Carbon Trust has estimated that Durham University would need to reduce its Scope 1 & 2 emissions by c. 67% by 2035 to comply with a SBT approach as above.

1.10 The university’s vision statement is that Durham delivers its mission in the most sustainable way possible. To do this, we must have suitably ambitious – and realistic – targets that are commensurate with such a status. A stated aim of achieving Net Zero – by far the most common emission measure in the sector – by 2050 would compare very poorly with our peers, to the extent that our vision would be untenable. A more realistic and ambitious target for Durham to achieve Net Zero is 2035, with a commitment to strive to reduce emissions further towards a goal of reaching as close to Absolute Zero as is possible by 2050.

1.11 Our 2018/19 baseline (pre-Covid) for emissions covered by our Net Zero target is c. 30,000 tCO<sub>2</sub>e<sub>l</sub>, and our pathway will need to reduce this by c. 20,000 tCO<sub>2</sub>e by 2035. This will leave c. 8,300 tCO<sub>2</sub>e that will need to be offset in a credible way (see table 6.1).



**Table 6.1 : Net Zero key Metrics**

Activity over which the University has direct control	2018/19 tCO2e1	Scope*	2035 Net Zero target tCO2e1	2034/35 Science Based Target reduction (%)**
Estate (Gas, Fleet, Fuel & F-Gas)	13,831	1	4,564	67%
Electricity Use	10,179	2	0	100%***
Business travel	5,732	3	3,439	40%
Commuting	37	3	22	40%
Waste	59	3	35	40%
Water	412	3	247	40%
<b>Total</b>	<b>30,250</b>	<b>1, 2 &amp; 3</b>	<b>8,308</b>	<b>-73%</b>

\*Emissions by Scope over which Durham University has direct control

\*\*Based on recommendations by the Carbon Trust SBT report (2021)

\*\*\* Achieved by using off-site renewable generation (Section 6.30 below)

- 1.12 The above target equates to a realistic Net Zero target of a 73% reduction in emissions by 2035. If adopted, Durham University will therefore have a common Net Zero and SBT target for emission reduction by 2035.
- 1.13 A review of what our peer Universities are planning to do, as well as commissioned research specific to Durham University, identifies that there is a clear hierarchy of interventions that will help meet (or exceed) the 2035 Net Zero ambition.
- 1.14 The most significant opportunity to reduce our Scope 1 emissions is to shift from a heat biased estate that relies on fossil fuels (predominately gas), to greater reliance on electric biased renewable energy and electric heat. This can best be achieved via installation of electric heat pumps, either in a heat network, or at building level, operating at lower flow/ return temperatures suited to new or refurbished existing buildings.
- 1.15 Our existing Scope 2 electricity emissions can become carbon neutral via procuring power that is generated with net zero carbon emissions, as long as this is cost effective when viewed against other interventions as we seek to achieve Net Zero by 2035.



1.16 The above steps will have the biggest impact in reducing our carbon footprint. However, generating power locally can reduce losses on the grid, increase resilience and energy security, and support the local economy through construction and operation. One option, with potential to remove a further c. 2,000 tCO<sub>2</sub>e<sup>1</sup>, is to establish a large photovoltaic solar farm, either university- or third-party owned and operated. Further opportunities may be provided by the use of river-based or mine-water heat sources (notably for Leazes Road, Old Elvet, Elvet Waterside and The Sands).

1.17 There is a wide range of other initiatives that are open to the University to reduce our emissions further, including through building refurbishment, energy reduction through efficient building design, energy efficient lighting, reducing / offsetting travel etc. These are important as part of an integrated approach to carbon reduction, but are secondary in their base-line impact on achieving the university's 2035 Net Zero target.

