Net Zero Carbon Emissions Plan

Purpose and Context

The University of Huddersfield has committed to tackle and manage its contribution towards the climate emergency

The University of Huddersfield will reduce its carbon footprint in operation, both on campus and through the influence of our supply chain. We recognise our contribution towards the climate emergency, both negatively and positively, and will achieve a Net-Zero carbon footprint whilst minimising the need for off-setting.

This document represents a high-level outline plan for addressing the University's carbon footprint, additional more detailed plans, specifications, and procedures will be developed in due course to deliver the targets, policies, and goals of the University in its ambition to address its contribution towards to climate emergency.

This document replaces the Carbon Management Plan 2017-2023

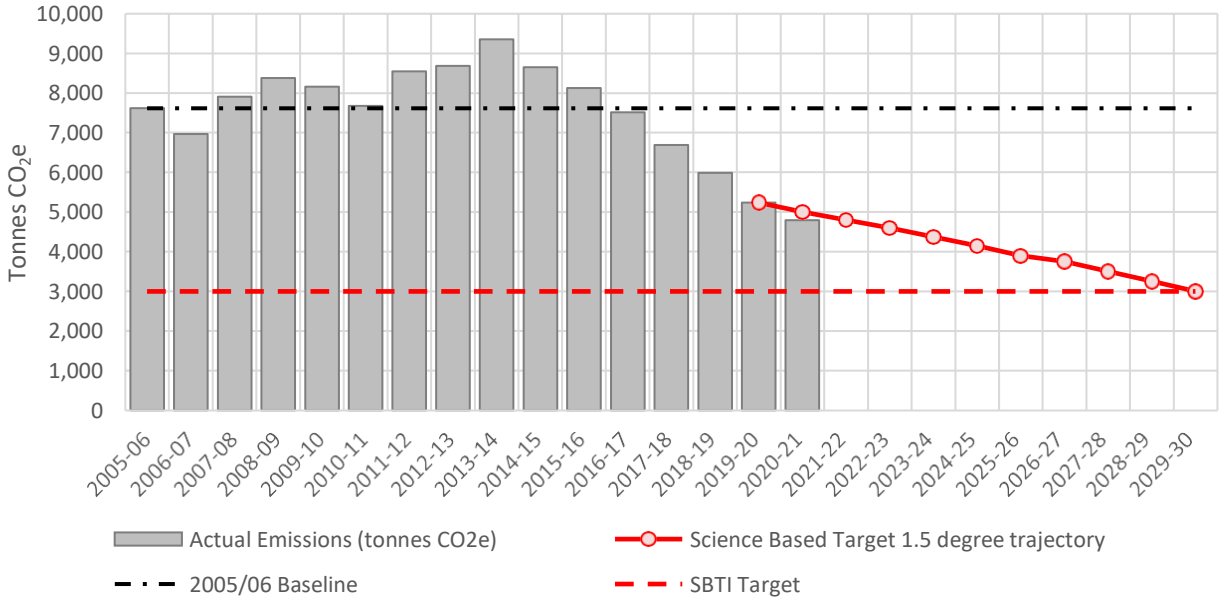
Scope

This plan is relevant to all University operations

1.0 Carbon Emission Targets

The University has established key targets

a. Net-Zero Emissions for Scope 1 & 2 by 2030
b. Net-Zero Emissions for Scope 3 by 2045
c. The 2005/06 baseline for Scope 1 & 2 carbon emissions **7,614** tCO_2e
d. An absolute emissions reduction target for Scope 1 & 2 to **3,000** tCO_2e by 2029/30 in line with the Science Based Targets Initiative (SBTI) 1.5°c trajectory



e. An aim of an 80% reduction in absolute emissions from a 2005/06 baseline by 2049/50 (1,523 tCO2e). Trajectory subject to performance in achieving the 2029/30 SBTI target.

f. These targets are subject to review and amendment by the Carbon Emergency Steering Group (CESG)

2.0 Definitions

a. Scope 1: emissions from sources directly owned or controlled by the University e.g., use of Natural Gas in generating heat or hot water, use of fuel in vehicles
b. Scope 2: emissions generated by use of energy bought from a utility provider e.g., Electricity consumed via the national grid, or heat supplied through a district heat network not under the Universities control.
c. Scope 3: emissions occurring from sources that the University does not own or control, for example covering emissions associated with business travel, procurement, waste, and water.

3.0 Policy Context

This document supports the delivery of the following policies and strategies at the University of Huddersfield

a. Environmental and Sustainability Policy
b. Carbon neutral strategy: A Ten-Point Plan for the Planet
c. Sustainable Travel Policy

4.0 Governance and reporting

a. The Carbon Emergency Steering Group (CESG) chaired by the Deputy-Vice Chancellor holds responsibility for delivery of the Net Zero Carbon Emissions Plan. The CESG in turn reports to the University Executive and University Council.
b. The University will submit data annually to the Higher Education Statistics Agency (HESA) Estates Management Records
c. Progress against targets will be publicly reported annually

5.0 Budget Allocation

a. The University of Huddersfield allocates both Capital and Revenue budgets for delivering its carbon management activities
b. Revenue budgets are determined by Estates and Facilities to fund day to day operations of delivering the carbon reduction projects and activities including the staffing of the Sustainability team.
c. The 'ECP034 Carbon Budget' capital allocation is approved by Estates and Finance Committee and University Council for investment in the Universities operations to reduce the carbon footprint.
d. The University will allocate additional funding to the capital allocation to fund specific projects above and beyond the initial allocation. This can be seen in FY2022/23 where £500k has been allocated to fund additional Solar Photovoltaics on campus.

	2020/21 & 2021/22	**2022/23**	**2023/24**	**2024/25**	**2025/26**	**2026/27**	**Total**
Capital Allocation	£300,000	£500,000	£100,000	£100,000	£100,000	£100,000	£1,200,000

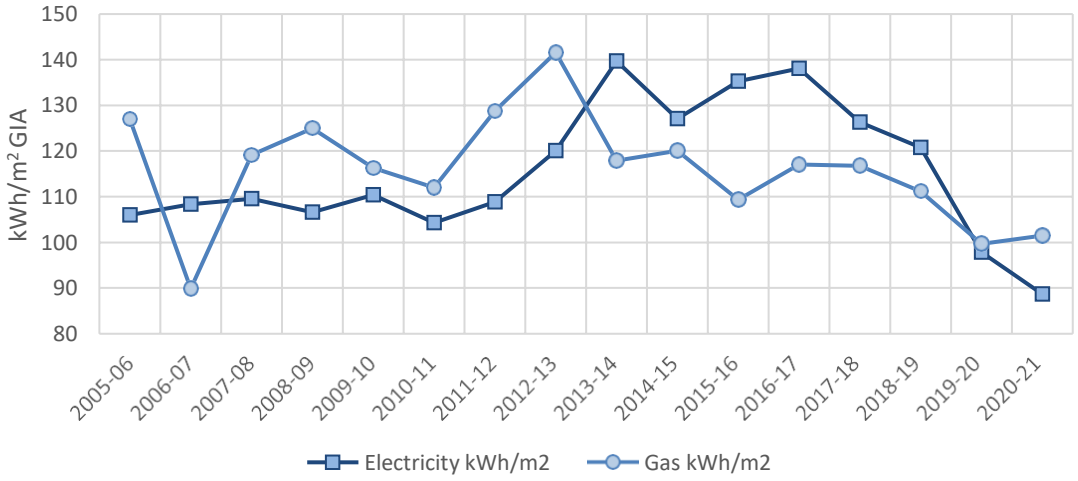
e. In addition, carbon reduction activities may also be undertaken through other capital and revenue funded improvement works e.g., refurbishment of buildings, replacement of HVAC systems at end of life, replacement of lighting with LED, etc.

6.0 Principles of decarbonising Scope 1 & 2 Emissions in operation

a. The University will adopt a 'fabric first' approach, improving the thermal performance of our buildings before addressing other factors in a hierarchy of needs

b. The University will improve its efficiency in operation with the principle of designing systems and operations to account for actual need rather than presumption of need. This will entail utilising sensors, data acquisition, and analysis to modify and design systems for greater efficiency.

   i. Efficiency of the estates will be measured in the consumption of energy per Gross Internal Area (GIA) m^2



c. Reduction in the use of combustion to provide heat and domestic hot water to take advantage of the decarbonisation of the national electricity grid, whilst reducing air quality emissions

d. Procurement mechanisms including use of Power Purchase Agreements (PPA) to reduce carbon of grid supplied electricity in addition to grid decarbonisation projections.

e. Increase the amount of power generation on campus from renewable energy sources

f. There is the potential to access a district heat network established by Kirklees Council if the carbon intensity of the heat provided is significantly lower than the current source of heat in operation on campus

g. Exploration of electrification of heat and hot water production. This includes the use of heat-pumps and to incorporate electric boilers as technology progresses in carbon and financial whole life costing.

h. Removal of R22 refrigerants on campus, continued maintenance of R32 based systems to minimise loses to atmosphere, and implementation of CO_2 heat pumps as the technology matures.
i. The Universities small fleet of vehicles will continue to transition to electrification as vehicles reach end of life/lease and a suitable EV replacement is available.

7.0 Scope 3 emissions

Note: At the time of drafting this plan there is not a standardised scope 3 emissions calculation methodology in the Higher or Further Education sectors. The Environmental Association of Universities and Colleges (EAUC) is currently leading the development of standardised approach.

The University has complied a baseline of a significant Scope 3 emissions utilising the HESCET tool developed by the EAUC and the UK Universities Purchasing Consortia (UKUPC) and utilising the 311 DEFRA carbon emissions factors and populated utilising procurement spend by the University of Huddersfield.

a. Included within the baseline
    i. Waste (construction included in procurement chain)
    ii. Water
    iii. Supply Chain including capital expenditure
    iv. Staff and Student business travel
    v. Construction
b. Emissions sources where a calculation methodology requires implementation
    i. Staff and Student daily commuting
    ii. Travel between students' homes and the university at the start and end of studies
c. Baseline of Scope 3 emissions for 2045 Net-Zero target

Scope	**Category**	**GHG CO_2e Tonnes 19/20 (Baseline)**	**GHG CO_2e Tonnes 20/21**
Scope 3	Medical and precision instruments	4,423	5,045
	Business services	4,303	5,369
	Information and communication technologies	4,282	5,790
	Construction	3,175	2,137
	Other manufactured products	622	166
	Business Travel	376	12
	Food and catering	251	6
	Paper products	178	98
	Other procurement	118	109
	Waste and water	73	48
	Manufactured fuels, chemicals, and gases	19	21
	Staff and Student daily commuting	*Baseline to be established*	
	Student start and end of study travel	*Baseline to be established*	
	Scope 3 Sub-Total	**17,821**	**18,802**

8.0 Principles of decarbonising Scope 3 emissions

Work will be undertaken with the procurement specialists in Financial Services, plus other significant stakeholders to deliver the University's Scope 3 reduction targets.

a. The University will reduce emissions associated with travel through implementing the Sustainable Travel Policy.
b. The most effective method of reducing Scope 3 emissions is to reduce the amount of goods and services procured
c. Reuse, refurbishment, and repair of goods is critical in managing Scope 3 emissions. An example would be the repair and reuse of furniture elsewhere within the University, as opposed to disposal of items and replacement with new manufactured from virgin materials.
d. The carbon impact of new goods and services should be factored into the decision-making process to determine what shall be procured.
e. The University will encourage suppliers to decarbonise their goods and services

9.0 Next Actions

a. Develop a detailed phased implementation plan to be integrated into the campus masterplan for delivering Net-Zero emissions in Scope 1&2 in the existing estates and future developments.
b. Design and implement systems to capture emissions related to Staff & Student Commuting, plus the Student start and end of study travel (Scope 3)
c. Undertake further analysis of the University's supply chain to identify opportunities for reduce the Scope 3 emissions footprint

POLICY SIGN-OFF AND OWNERSHIP DETAILS	
Document name:	Net Zero Carbon Emissions Plan
Version Number:	2.0
Equality Impact Assessment:	
Approved by:	Estates and Facilities Senior Management Team
Date Approved:	20/07/2022
Next Review due by:	July 2023
Author:	Carbon and Energy Reduction Officer
Owner (if different from above):	Carbon Emergency Steering Group
Document Location:	Net-Zero-Carbon-Emissions-Plan.pdf (hud.ac.uk)
Compliance Checks:	Progress reporting to Estates and Finance Committee
Related Policies/Procedures:	Environmental and Sustainability Policy Carbon neutral strategy: A Ten-Point Plan for the Planet Sustainable Travel Policy

REVISION HISTORY			
Version	**Date**	**Revision description/Summary of changes**	**Author**
V1.0	May 2018	First major redraft under the new Policy Framework	Carbon and Energy Reduction Officer
V2.0	May 2022	Major redraft to incorporate revised organisational targets and policies	Carbon and Energy Reduction Officer