Achieving Net Zero Carbon by 2035

• We want to be a climate-resilient campus that has minimal negative and maximum positive environmental impact

• 15 year decarbonisation plan to achieve net zero:
  o Projects, policy development and peoples behaviour
  o Longer term infrastructural planning and adaptations
  o Covers all UK university-owned properties
  o Scope 3 emissions targets being developed (Responsible Production & Consumption Group, Built Environment Group, Travel Working Group ++)

Carbon emissions

SCOPE 1
Direct emissions from operations
  • Research and teaching
  • Facilities and UoL-owned buildings
  • Equipment
  • UoL vehicles

SCOPE 2
Indirect emissions from purchased energy
  • Electricity
  • Heating
  • Cooling

SCOPE 3
All other emissions associated with activities
  • Procured goods and services
  • Business travel
  • Waste and water
  • Carbon within the built estate
# Decarbonisation plan: Scope 1 & 2 aims

## Energy Reduction and Efficiency
**Aim:** Energy efficient estate

- Investment in efficient plant and equipment
- Improved sustainability and energy efficiency of built estate via fabric improvements
- Identify opportunities from campus optimisation and hybrid working

## Green Electricity
**Aim:** 100% zero carbon electricity

- Retain all imported electricity on 100% renewable tariff
- Identify opportunities for increased onsite/offsite renewable generation
- Optimise generation and use of electricity through efficient infrastructure and equipment

## Green Heating
**Aim:** Decarbonised heating system

- Optimise District Heating Network (heat meters, controls etc)
- Adaptation of infrastructure to zero carbon technology (e.g. electrified heat/heat pumps)
- Transition to alternative fuel sources (also potential for hydrogen and biofuel mixes)

## Carbon Offset & Residual Fossil Fuels
**Aim:** 100% net zero carbon

- Switch to electric vehicle fleet and charging stations
- Options appraisal of annual emissions up to 2030 to identify mitigation and potential offsetting
- Consider options to cut or mitigate residual carbon emissions e.g. renewable generation projects or sequestration
Decarbonisation plan: Scope 3 aims

**WASTE**

Aim: Halve waste by 2025

Where we are now:
- 0% landfill, 69% burned for energy, 31% recycled
- 3,435 tonnes in weight
- Emissions equivalent to 73 tonnes of CO2 emissions - reducing consumption is key
- Multiple waste contracts and waste is managed by different departments

Where we want to be:
- Reduce waste through reduced consumption
- Circular economy within the university

Challenge:
- Waste industry decarbonisation plans 2050 mean we may need to offset residual emissions

**WATER**

Aim: Decarbonised before 2035

Where we are now:
- Water usage (supply, and wastewater treatment) has circa 100 tonnes CO2 emissions per year
- Leak detection and remediation, and water efficiency improvements in place to reduce our water consumption.

Where we want to be:
- Infrastructure investment to continue to reduce demand on water.
- Adapt design of estate to use grey water/rain water harvesting.

Challenge:
- National infrastructure complexities may make 2035 target difficult
Decarbonisation plan: Scope 3 aims

TRAVEL

Aim: Reduce emissions from business travel plus staff and student commute

Where we are now:
- Emissions related to travel come from business travel, staff commute, student commute, and grey fleet
- Incentives for staff to use public transport and use of cycling

Where we want to be:
- Use video conferencing as alternative to business travel
- Reduce vehicular journeys to/from campus - especially by car
- Optimise active travel and use of public transport
- Reduce air travel (aim: 15% by 2030, 40% by 2040)
- Changes to University policy around hybrid working

SUPPLY CHAIN (CONSTRUCTION)

Aim: Lifecycle carbon modelling within construction practices and minimum reduction of 78% by 2035

Where we are now:
- Highest cost spend for the university
- BREEAM adopted

Where we want to be:
- Embed environmental performance and design standards in all capital and refurbishment projects
- Whole lifecycle carbon modelling in our construction practices
- Develop/adopt alternative tool to BREEAM
- Develop digital tools to calculate emissions on actual resources used via digital and SMART Campus projects
Decarbonisation plan: Scope 3 aims

SUPPLY CHAIN (OTHER)
Aim: Sustainable procurement practices to reduce consumption and unnecessary purchasing

Where we are now:
- Basic emissions and waste data available via procurement of products and services

Where we want to be:
- To use our position as a large consumer to influence a reduction in emissions and waste through all tiers of our supply chain
- Ensure our suppliers adhere to strong sustainable, ethical, and low/zero carbon standards
- Embed responsible consumption in our procurement
  - Adoption of a circular economy
  - Understand what we buy, why and environmental impact
  - Reduce unnecessary purchasing/over-consumption
  - Choose more efficient products and services
  - Appropriately incentivise use of local suppliers
  - Work with civic/national partners to gain scaled-up benefits
  - Assess impact of hybrid working on consumption
  - Embedding sustainable principles in investment and business cases