

# Achieving Net Zero Carbon by 2035

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- 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:
  - Projects, policy development and peoples behaviour
  - Longer term infrastructural planning and adaptations
  - Covers all UK university-owned properties
  - Scope 3 emissions targets being developed (Responsible Production & Consumption Group, Built Environment Group, Travel Working Group ++)

**RACE TO ZERO**

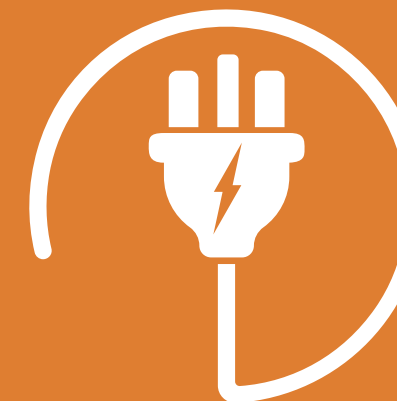
## Carbon emissions



### 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

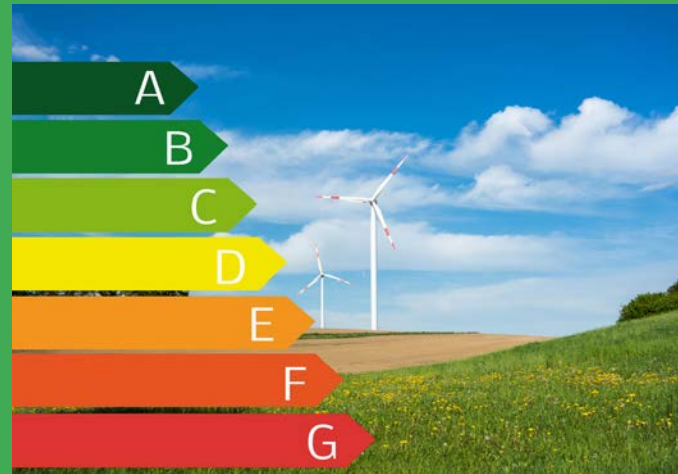


### SCOPE 3

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

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## WASTE

**Aim: Halve waste by 2025**

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**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**

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**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

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## 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

