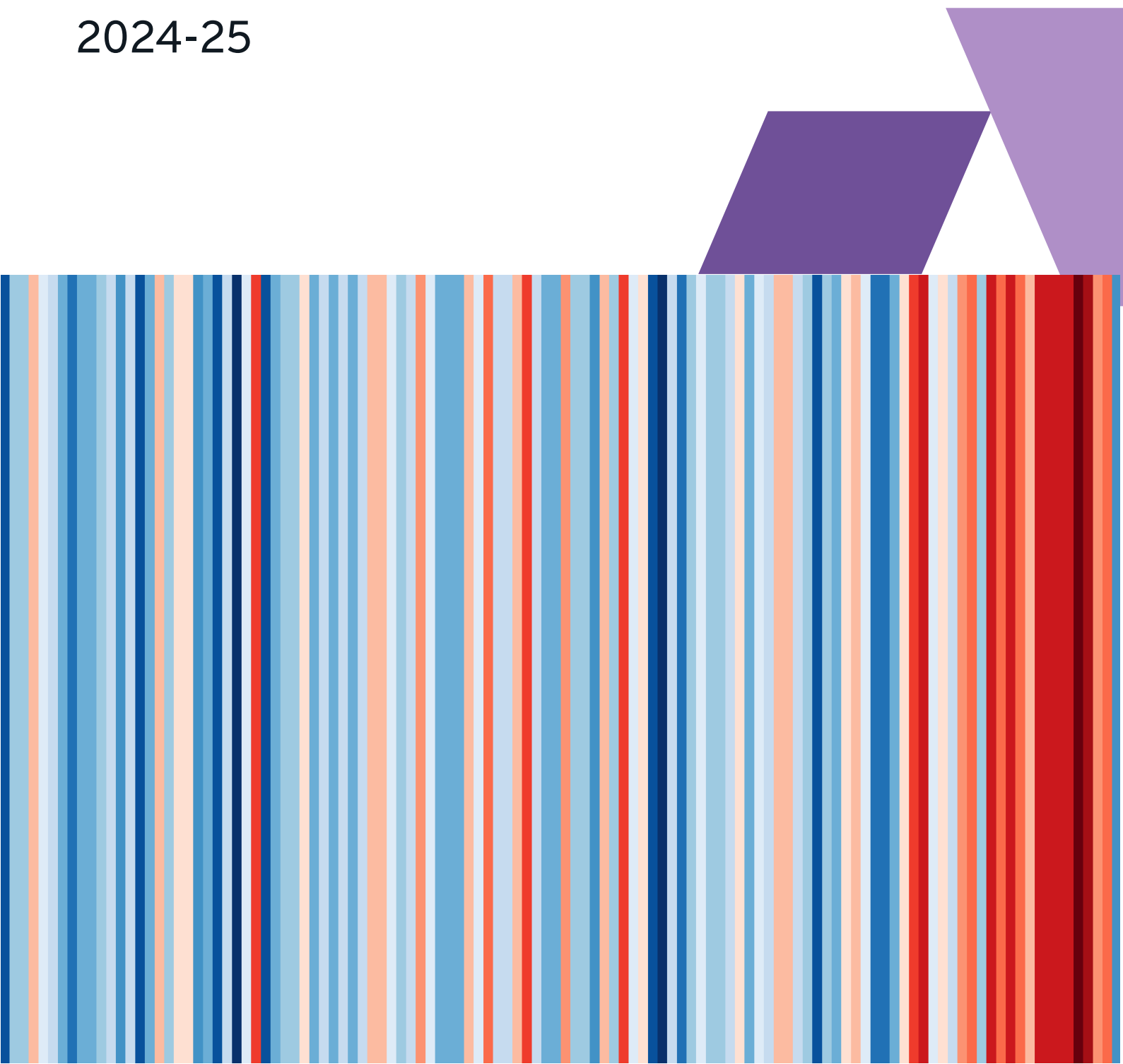UNIVERSITY OF
Kent

University of Kent Carbon Management Plan Statement
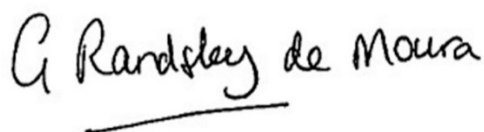
2024-25

Contents

Our approach to Net Zero

In February 2021, the University's Executive group agreed Kent's target to reduce Scope 1 & 2 carbon emissions to net zero by 2040 and scope 3 emissions by 2050. The Net Zero Working Group (reporting to the Sustainability Steering Group) are tasked with coordinating delivery of this targets and for collating and reporting on progress.

This statement sets out the vision and baseline for our net zero carbon targets, progress to date, details the reporting and responsibilities for delivery and summarises our approach to addressing the climate challenge

Our Vision

We will exemplify a progressive culture which puts the climate challenge at the forefront of our strategic decision making. Leading from the top we will develop governance and accountability structures that drive carbon reduction allowing us to reduce energy consumption, develop infrastructure for renewable energy generation and identify opportunities to reduce indirect emissions.

Prof Georgina Randsley de Moura
Acting Vice-Chancellor and President

Prof Richard Reece
Deputy Vice-Chancellor
Chair of Sustainability Steering Group

Key words / Terminology

Carbon Emissions – Greenhouse gas emissions (including methane, CFCs, nitrous oxide) as measured in CO_2 equivalent.

Scope 1 Emissions – Direct emissions from sources the University owns or controls directly (e.g., burning gas in our boilers or fuel in University-owned vehicles)

Scope 2 Emissions – Indirect emissions caused by the University from using purchased energy (e.g., our use of purchased electricity from the grid)

Scope 3 Emissions – All other indirect emissions that occur up and down our value chain (e.g. business travel, purchased goods or services, student commuting)

Net Zero – Where emissions of greenhouse gases from our activities is balanced by withdrawal of greenhouse gases from the atmosphere (e.g., via offsetting)

Carbon Offsetting – Process that involves a reduction of, or removal of, greenhouse gas emissions from the atmosphere in order to compensate for emissions made elsewhere.

Our Baseline

Our previous Carbon Management Plan (2010-20) saw emissions fall by 29.4% compared to the baseline year of 2005. This exceeded our target of 23% despite significant growth both in terms of the estate and staff and student numbers over that period.

The end of the current plan provided us the opportunity to reset our baseline year in order to focus on future emissions rather than rely on previous successes. The baseline year was chosen as 2018/19 as the most recent year for which robust data is available (this year was not affected by the impacts of Covid-19). Total annual scope 1 and 2 carbon emissions for 2018/19 were 12,628 t CO2

Baseline data for the full range of scope 3 emissions was collected during the 2023 for the 2022/23 academic year. A summary of this baseline data, scope 3 boundaries and targets can be found later in this report.

Our Target

In 2021 the University of Kent agreed on an ambitious yet achievable target of reducing scope 1 and 2 emissions to net zero by 2040 and scope 3 emissions to net zero by 2050. Our aim is that emissions will be reduced by at least 50% by 2030 compared to the baseline year of 2018/19.

By 2025 – We will reduce our scope 1 and 2 emissions by 25% compared to the 2018/19 baseline year. We will establish the baseline for all scope 3 emissions and set interim targets toward achieving net zero scope 3 by 2050.

By 2030 – We will reduce our Scope 1 and 2 emissions of carbon by 50% compared to the 2018 baseline year.

By 2040 – We will achieve net zero carbon for Scope 1 and 2 emissions

By 2050 – We will achieve net zero carbon across Scope 1, 2 and 3 emissions

A Whole University Approach

Achieving net zero will require collaboration and participation from across the institution to embed carbon reduction and place it at the heart of decision making. Responsibility cannot be held by any one individual or department but rather action be led by and supported from the university's leadership. We aim to deliver against our commitment in line with the four key areas of responsibility outlined in our sustainability strategy:

Leadership and Governance

Driven by the Sustainability Steering group, the University Executive Group will act as leaders driving forward the changes required across the organisation to achieve net zero. We will ensure that our governance and accountability structures drive carbon reduction and that strategic decision making incorporates climate change risk and adaptation.

Learning, Teaching and Research & Innovation

We will take action to enable all students graduate equipped with the skills and knowledge to work in addressing the climate and ecological emergency and to drive sustainability and climate related research through existing and new focuses for research.

Society, Partnerships and Engagement

We will support, empower and encourage our staff and students to be responsible global citizens. We will use our influence locally, nationally and globally to act as leaders to drive climate action and to develop partnerships to contribute towards city- and region-wide bodies aligned to this challenge

Campus Operations

We will ensure that our estate is fit for the future through adopting zero carbon building standards thus reducing our energy demand. We will ensure that energy is used efficiently and that positive environmental behaviors are encouraged, and we will invest in renewable energy and low carbon technologies. Our Estate strategy will support and underpin this work to deliver a carbon resilient estate.

Calculating our Carbon Footprint

Our current Net Zero targets were agreed in 2021 by the University's Executive group. At the time our baseline emissions for Scope 1 & 2 were known but full baseline data for Scope 3 was not available due to difficulties in collecting and processing the data.

In early 2023The EAUC (Environmental Association of Universities and Colleges) was commissioned by the Department for Education as part of the Queens' Platinum Jubilee challenge to develop a standardised Carbon Emissions Framework (SCEF) to allow all FE and HE institutions to develop methodologies for collecting and processing scope 3 data across all categories for emissions.

Data Collection and Reporting Methodology

The Net Zero Working Group have established a carbon accounting methodology based on the guidance provided within the new Standardised Carbon Emissions Framework (SCEF) developed for the HE sector.

A total of 46 categories of emissions were identified across all 3 scopes. A number of categories were excluded from the data collection as they were either not relevant to the University of Kent or not considered material (very minor emissions). Details of emissions categories can be found below.

| Scope	Categories and Description	Excluded categories
Scope 1: Direct Emissions	**9 Categories:** Gas for heating and hot water, owned fleet vehicles, generators and fugitive emissions from refrigeration and air conditioning	Emissions of volatile organic compounds (VOC) from sciences. Land-based emissions from 'non-functional' estate
Scope 2: Indirect Emissions	**5 Categories:** Purchased electricity, heat and steam	Renewable energy credits
Scope 3: Supply Chain	**9 Categories** Supply chain emissions, water supply	Leased buildings Downstream supply chain
Scope 3: International Travel	**3 Categories** International rail and air business travel International student travel	
Scope 3: UK Travel	**10 Categories** Domestic rail travel, P card data, grey fleet*, campus shuttle, hotels, Student and staff day-to-day commuting, end-of-term commuting	
Scope 3: Accommodation	**2 Categories** 3rd party accommodation, Staff homeworking.	
Scope 3: Other	**8 Categories** Waste and wastewater, cloud data, WTT** and transmission emissions for scope 1 & 2	Investments, franchises

* Staff personal vehicles used for business purposes
** Well-to-tank emissions –emissions released as a result of the production, processing, transmission or delivery of a fuel or energy.

Data

Our full emissions footprint for 2022/23 was **53,678.87 tonnes CO$_2$eq**. A breakdown of this total footprint by emissions source is given in the chart below. Full data for each emissions category can be found In the appendix.

This general profile is roughly in line with the reported sector data included in the 'Accelerating to Net Zero' report.

2022/23
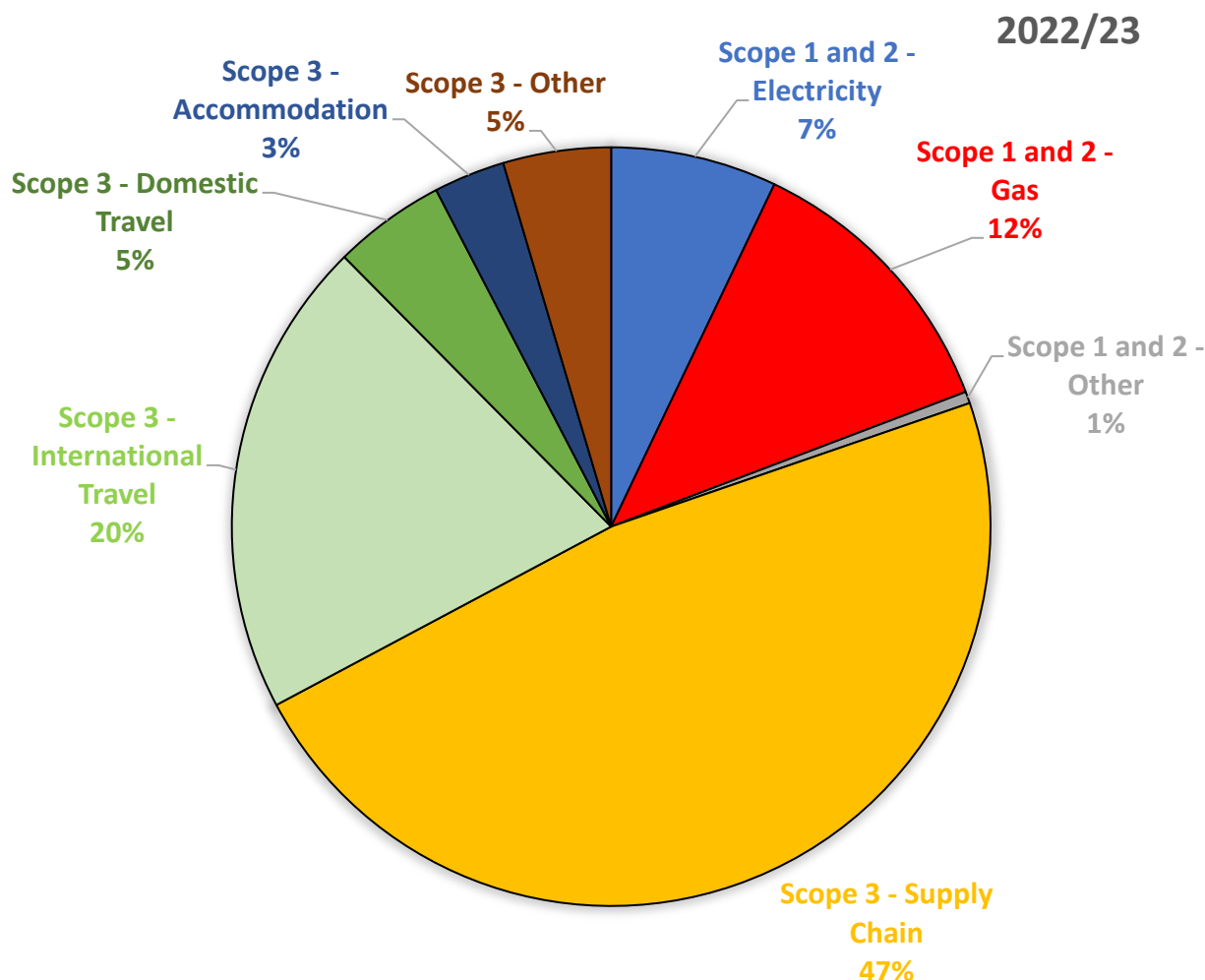
Scope 1 and 2

Our direct and indirect emissions related to the operation of our physical estate make up approximately 20% of our total emissions, with the on-site combustion of gas in boilers accounting for 12%, purchased electricity 7% and the remainder from fleet vehicles and fugitive emissions from refrigeration and air conditioning.

Scope 3

International Travel

International business Travel currently accounts for 2% of total emissions with aviation emissions from International student travel accounting for 18% of our total emissions. This data is based on one return

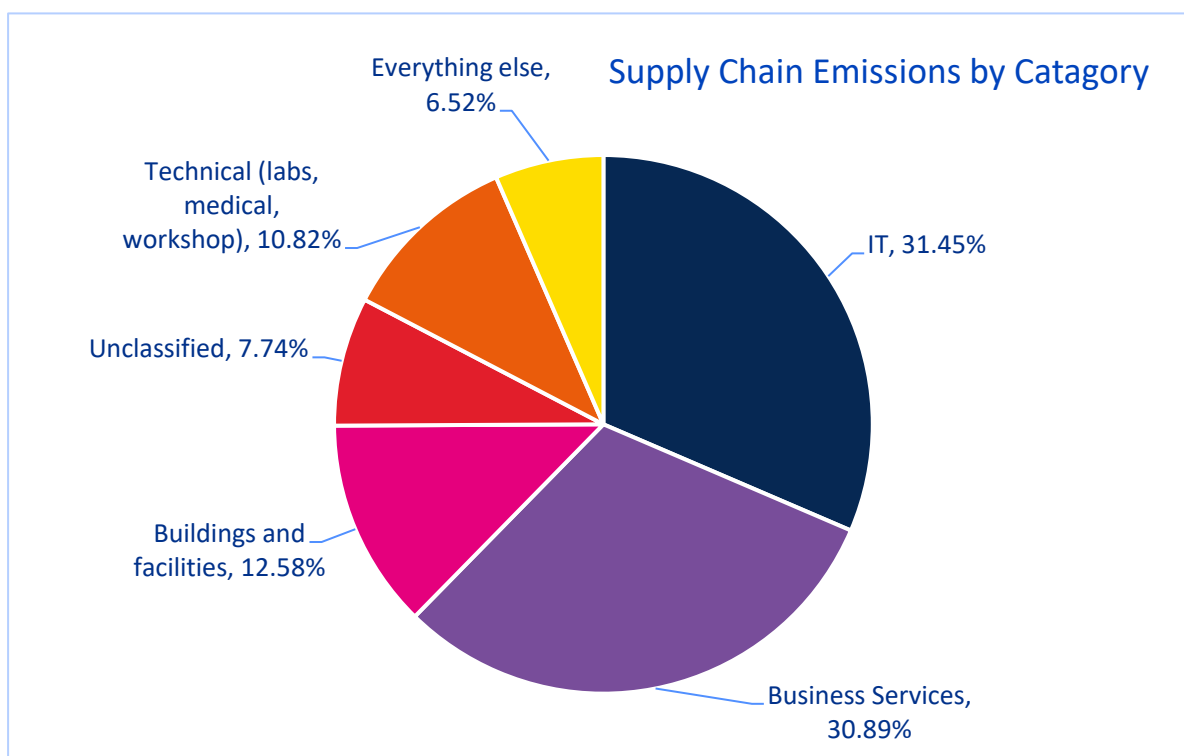flight per year per International Student to and from their country of origin.

Domestic Travel

Currently this is reported as 5% of our total emissions split between UK business travel and day-to-day commuting of staff and students to our campuses. Commuting data is estimated from responses in staff and student travel surveys. Due to very low response rates of these surveys there is fairly low confidence in this data. There is also no data included on student end/start of term commuting, so this figure is likely to increase as our data collection improves.

Supply Chain

Our supply chain is the source of almost half of our total emissions. To calculate Scope 3 for monitoring and reporting purposes, our spend against each Proc HE code was mapped to a defined list of DEFRA categories for which conversion factors - calculating value to carbon - were allocated using the Higher Education Supply Chain Emissions tool (HESCET).

Further breakdown by category is given below. The largest category is IT which is predominantly made up of computer software suppliers with hardware supply accounting for a smaller portion. The second largest category of Business Services includes all professional and bought-in services including consultancy.

Supply Chain Emissions by Catagory

- Everything else, 6.52%
- Technical (labs, medical, workshop), 10.82%
- Unclassified, 7.74%
- Buildings and facilities, 12.58%
- IT, 31.45%
- Business Services, 30.89%

Accommodation and Other

The rest of our scope 3 emissions arise mainly from 3rd Party accommodation (approx. 3%) and transmission emissions associated with our Scope 1 & 2 emissions.

Progress to date

Scope 1 & 2 Emissions

Although representing a 17% decrease in emissions overall, carbon emission have risen slightly above the target line since 2020, initially due to the need to provide additional ventilation in response to Covid 19. Subsequent cold winters have driven up gas consumption, and the associated carbon emissions. The effect of this is shown in the Carbon Emissions graph shown below .
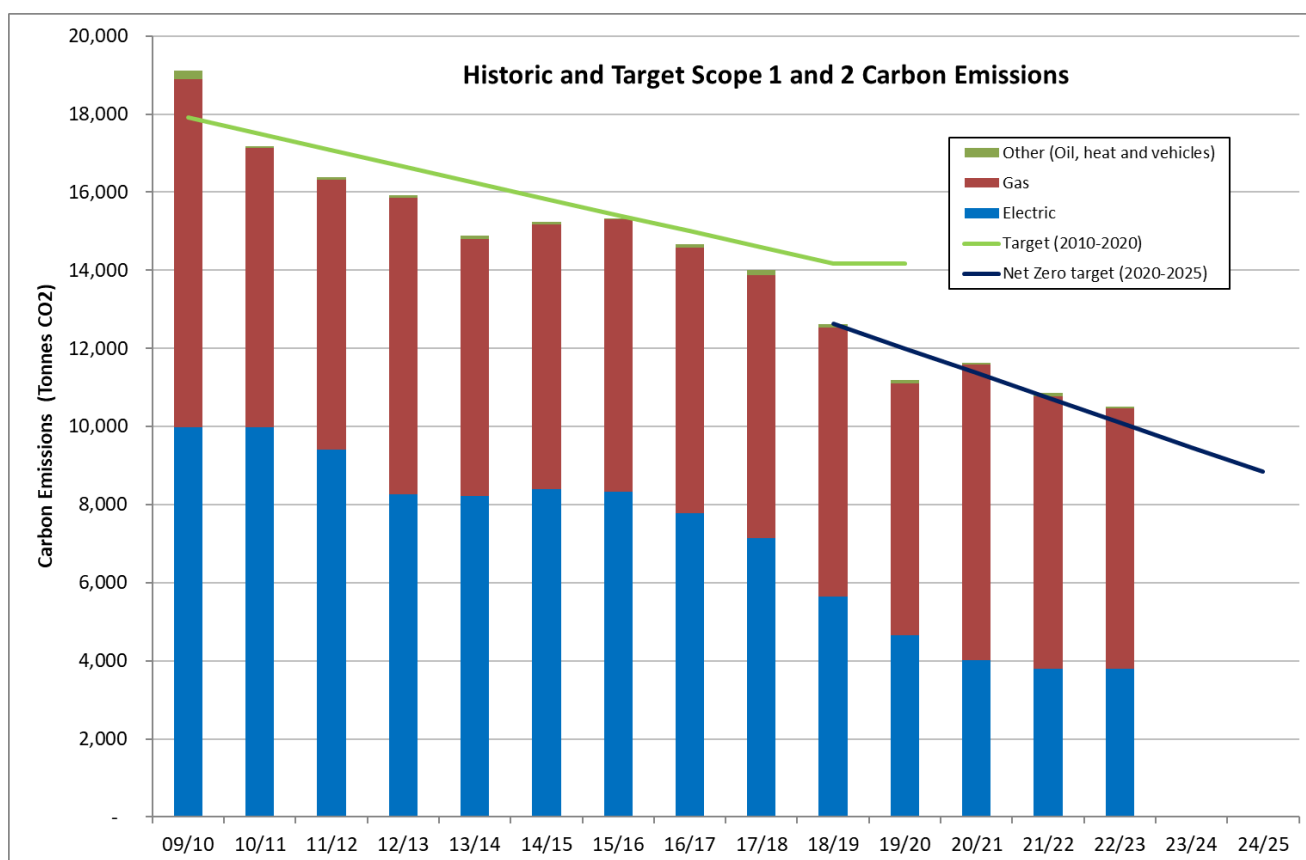
The University has implemented a series of carbon saving reduction measures over the last few years, and these will have helped limit the increase in annual carbon emissions seen in the year. Following on from this the University continually reviews how it operates to maintain energy efficiency dependent on operational requirements. Further the University works in Partnership with other organisations to reduce carbon emissions, and is working to increase this type of engagement with a view to keeping the University on track with the targets set out in the Carbon Management Plan.

Over the next 2 years we be undertaking a number of projects and initiatives, some of which are already underway, which will support our net zero objectives. This includes:

- Improving our metering, data collection and analysis to allow us to develop energy saving projects and campaigns at the building level.

- Embedding more life-cycle costings into financial decision making so that the operating costs and lifetime carbon emissions can be factored into our procurement and practices

- Expanding the roll out of carbon literacy training for staff and students

- Continual improvement of day to day operational energy efficiency through 2-way communications with users; keeping time control settings in line with user requirements, and providing information on local controls.

- Continual Improvement of operational energy efficiency by Maintenance Engineers.

- Continual development of energy efficiency improvements, working to include energy efficiency measures in new Projects, and retrofitting measures such as energy efficient controls and replacement of lighting.

Energy Partnership

The University of Kent is working towards a strategic partnership with Siemens to collaborate to achieve our net zero targets. This partnership is underpinned by the opportunity to develop apprenticeships, further research and develop the culture of a whole-university approach to net zero.

The partnership will help the University to achieve its net zero goals through 3 workstreams; energy efficiency, renewable energy generation and heat decarbonisation.

Energy Efficiency - The initial stage of this work has been to undertake initial audits to identify opportunities for energy saving projects. Over the first 2 years these measures will focus on large scale replacement of lighting, and installation of energy efficient plant and controls.

Renewable Energy - Siemens will be investigating options to increase on site generation of electricity primarily through increasing the installed capacity of solar PV at the University, either on roof tops, or mounted at ground level.

Decarbonisation - Plans to decarbonise heat will be developed to move the University away from using natural gas for heating and hot water to using a low carbon energy source. The plan is for the implementation of this work to begin after the energy and generation measures have been done in years 1 and 2.

Supporting Activity

In keeping with our whole university approach to Net Zero we have Implemented a number of Initiatives over the last few years to support the operational work to reduce our emissions and work to support net zero transition across the region:

Sustainability Assessment Framework - We have launched a new In-house sustainability assessment designed to be applied to refurbishment and Infrastructure projects at the university. This criteria based framework sets minimum standards and identifies best practice for projects to support our transition to net zero.

Carbon Literacy Training - In early 2023 we launched our accredited Carbon Literacy training programme for both staff and students. This course aims to deepen participants knowledge of climate change and steps we need to take as a society to addressing the worldwide climate crisis and achieve net zero emission. During the programme, we use our own sustainability strategy and net zero targets as a framework for understanding Impact and pledging to make a positive change and to Influence others.

Sustainability Research - Our Sustainability, Environment and Natural Resource research theme is contributing to tackling the climate emergency through sustainable solutions to food and energy needs, and understanding and anticipating environmental changes in wildlife populations.

Climate In the curriculum - We are continuing to develop our work to embed climate and sustainability Into the taught curriculum. A toolkit to support academics In Identifying opportunities to embed sustainability Into their teaching has been developed and Included In one of the core modules of the Post Graduate Certificate In Higher Education.

Scope 3 Emissions

Targets

Now that baseline data has been collected for all categories of emissions, the net Zero Working Group have set Interim targets for reducing scope 3 emissions.

All scope 3 emissions will eventually be subject to the Net Zero by 2050 target. Interim targets will be set according to the following criteria:

- Baseline will be set as 2022/23

- International student travel to and from country of origin Is not currently actively targeted for reduction. Interim targets will be set once the conflict with university Internationalisation and recruitment strategies Is better understood.

- Category/Sub-category specific interim targets will be reviewed and finalised In 2025

	All figures are tonnes CO_2e						
Scope 3 Emission - Category	2022/23	2025	2030	2035	2040	2045	2050
Scope 3 - Supply Chain	25,492.00	25000	20000	15000	10000	5000	0
Scope 3 - Business Travel	1,908.90	1500	1200	900	600	300	0
Scope 3 - Staff and Student commuting	2,173.14	2000	1600	1200	800	400	0
Scope 3 - International Student Travel	9,533.98	10000	10000	10000	10000	10000	10000
Scope 3 - Other	3,985.81	3500	2500	1500	500	0	0
Offsetting *	0	2000	3300	4600	5900	7700	10000
Target Total Scope 3	43,093.84	40000	32000	24000	16000	8000	0

* These figures are indicative of the level of offsetting required. A full analysis of offsetting including costs and budgeting will form part of the ongoing development of the Net Zero Stratgey

Next Steps

Development of Net Zero Strategy and Action Plans

The Sustainability Steering group are aiming to publish a new combined Net Zero and Sustainability Strategy for the 2024/25 academic year. This will include specific actions to reduce emissions across individual emissions categories.

Scope 1 and 2

Reductions in Scope 1 and Scope 2 emissions can be achieved by reducing energy use, and by replacing energy sources that result in high CO2 emissions with sources that result in low, or zero carbon emissions. Our target to reduce these emissions to Net Zero by 2040 is included within the proposals for the Siemens Energy Partnership and will require significant investment into infrastructure to achieve.

Schemes included within the Siemens proposals include: energy efficiency improvements such as lighting upgrades, renewable energy generation through rooftop and ground based solar arrays, and through heat decarbonisation.

It is unlikely however that the Siemens Partnership alone will be sufficient to keep our progress on track to achieve short, medium and long-term reduction targets. As part of the University's Net Zero strategy, action will need to include other areas of the University, for example:
Information Services - Optimisation of IT use, consolidation of PC spaces, monitoring of PC use in communal spaces.
Space utilisation – management of University buildings to consolidate usage, particularly out-of-hours, and to explore mothballing of older, inefficient buildings in future.
Procurement – Introducing minimum energy efficiency standards into equipment specifications.
Sustainability – Coordinating awareness and behaviour change campaigns in student accommodation, teaching spaces and offices.

Scope 3

Business Travel

Business travel is the category of scope 3 emissions where the University has the greatest control. We will need to develop robust travel policies that reduce the amount of travel on University business and significantly increase the proportion of our business travel that is undertaken using the most sustainable practical option. By default, collaborative working should be online if outside the UK. Where practical, several strategies and policies will need to be updated to support low output methods, including: updating the Travel Policy and Driving at Work Standard

introducing a clear delivery vehicle strategy in accordance with the Movement and Transport Strategy and, introducing clear policies to manage the reduction of the increase visitor parking demand

Staff and Student Commuting

Short-term actions to reduce emissions from commuting are laid out in the University's Travel plans and car parking strategy that include extension of exclusion zones and increase parking charges to disincentives driving, alongside continued improvements of accessibility and introduction of EV charging. Longer term actions may involve further timetabling changes (block timetabling)

International Student Travel

In the short-med term we will not be targeting any specific action to reduce International Travel emissions. We will continue to monitor sector wide guidance and activity in this area.

Supply Chain

More work will be required to fully understand our supply chain emissions and to identify which suppliers we need to work with. Actions to reduce our supply chain emissions will then likely encompass the following:
Identifying which of our Top 300 suppliers have Net Zero targets that align with our own and prioritising suppliers who can support our targets.
Including provision of emissions data as a requirement in tenders.
Actively engaging with our 'highest emission' suppliers to encourage emissions reduction.
Contributing to sector-wide supplier engagement and education.

Sustainable procurement is an area of interest for the sector and many Universities are now including dedicated sustainable procurement roles within teams to undertake this work. There are also a number of companies specialising in analysis of sector procurement data who can provide emissions breakdowns on a supplier basis. Both options are likely to be required in the future to achieve Net Zero across our supply chain. The supplier selection process can be updated, and additional criteria added to ensure that The University is procuring considerately and using lower output suppliers where practical.

Offsetting

Offsetting of our residual carbon emissions was discussed by the Sustainability Steering group in January 2023. Due to the University's financial position a decision was taken to postpone any decisions around offsetting until 2025.

It is likely that some offsetting will be required to meet our Net Zero target, particularly for Scope 3 emissions resulting from aviation.

A number of different offsetting schemes currently exist and this market will expand considerably over the decade. The offsetting market is very complex and as a result the HE sector have developed their own scheme to allow HE institutions to purchase offsetting credits through a verified scheme. At current rates, the cost to offset our aviation emissions would be £44,000 in 2025 rising to £220,000 by 2050.

Governance and Reporting

Commercial Services and Estates

All Scope 1 and 2 emission data will be collected and processed in accordance with carbon accounting methodology directly by the Commercial Services & Estates (CSE) department and discussed by the Energy Risk Management Group (ERMG)

Responsibility:
John Kingsland (Energy Engineer, CSE) – Collation and processing of Scope 1 and 2 data
Ron Moore (Assistant Director CSE) – ERMG Chair

Net Zero Working Group

Scope 3 emission data will be collected and processed in accordance with carbon accounting methodology by the Net Zero Working group. The working group will collate, analyse, present and report data against interim and activity specific targets and are responsible for the development of the Net zero strategy.

Responsibility:
Mark Reed (Assistant Director of Finance - Procurement and Insurance) and John Kingsland (Energy Engineer, CSE) – Net Zero Working group co-chairs

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Sustainability Steering Group

Progress against the net zero emissions target will be reported to the Sustainability Steering Group (SSG) at least annually. The SSG will also monitor wider progress against the carbon management plan including the areas of leadership, curriculum, research and partnerships. Progress will also be reviewed as part of the ISO14001 Environmental Management System management review process

Responsibility:
Richard Reece (Deputy Vice Chancellor E&SE) –Sustainability Steering Group Chair.
Catherine Morris (Sustainability Manager, HSES) – Sustainability Manager and EMS Lead

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University Council

Overall progress against the net zero emissions target will be reported as part of the annual report to Council from the Sustainability Steering Group (SSG)

Responsibility:
Richard Reece (Deputy Vice Chancellor E&SE) –Sustainability Steering Group Chair.

Resourcing

The University is committed to achieving its Net Zero target and acknowledges that this will require significant financial investment over the target period.

Each year the Commercial Services & Estates Department will update its rolling 2-year energy management and water action plan (EMWAP) setting out the short term objectives, critical steps and time frame for projects to deliver our carbon reduction targets.

Budgets for future projects will be assessed, including the development of a Business Case for each Project. Depending on the type and value of each project, funding will be sought from one of the following options:

- Small projects funded from existing revenue budgets.

- Requests for grant funding will be submitted for specific projects where these meet the criteria of available grant schemes.

- Where capital projects are being undertaken elements of these works will include these measures within the funding for the Project

- Large capital projects funding would be allocated by the University's Finance and Resources Committee dependent on the Project's business case being approved.

Other funding opportunities including partnerships with external companies are being explored.

Based on the above options the University of Kent will resource the work required to achieving net zero carbon emissions in line with the target.

Appendix

	Scope 1: Direct GHG Emissions	Description	Total Emissions (tCO$_2$e)
1.01	Natural Gas - Canterbury	Combustion of natural gas in on-site boilers (Canterbury)	6,121.1
1.02	Natural Gas - Medway	Combustion of natural gas in on-site boilers (Medway)	267.0
1.03	Natural Gas - Shared Buildings	Combustion of natural gas in on-site boilers in buildings shared with other users	128.0
1.04	Fleet (owned/operated)	Fuel (e.g. diesel, petrol) combusted in vehicles owned or leased by the organisation. This captures where the organisation purchases the fuel itself. To include any institution owned equipment e.g. tractors and farm equipment.	46.5
1.05	Refrigerants F Gas - Estates	Emissions from leakage of refrigerants where these have a Global Warming Potential (GWP) - Through main CSE F-Gas contractors	213.6
1.06	Refrigerants F Gas - Catering	Emissions from leakage of refrigerants where these have a Global Warming Potential (GWP) - Through catering kitchen F-Gas contractors	5.8
1.08	Other fuels	Combustion of other fuels (e.g. diesel) in owned or controlled premises e.g. used in generators	1.0
		TOTAL SCOPE 1	**6,783.0**

	Scope 2: Indirect GHG emissions		Total Emissions (tCO$_2$e)
2.01	Purchased Electricity - Canterbury	Purchased electricity (Canterbury) i.e. fuel is combusted by another organisation but the energy created is purchased by the reporting organisation.	3,518.0
2.02	Purchased Electricity - Medway	Purchased electricity (Medway) i.e. fuel is combusted by another organisation but the energy created is purchased by the reporting organisation.	172.0
2.03	Purchased Electricity - Shared Buildings	Purchased electricity i.e. fuel is combusted by another organisation but the energy created is purchased by the reporting organisation In buildings shared with other users	112.0
2.05	Purchased heat or steam	District heating or steam that is purchased or otherwise brought into the organisational boundary of the reporting institution.	0
		TOTAL SCOPE 2	**3,802.0**

	Scope 3: Other indirect GHG emissions		Total Emissions (tCO$_2$e)
3.01	Purchased goods and services	**Procurement** (supply chain) emissions of goods and services purchased for the operation (operational expenditure -OPEX) of the organisation	25492
3.02		**Water** procurement (supply chain) emissions of puchased water	54.0
3.04	Fuel- and energy-related activities	**WTT emissions from Natural Gas** (Scope 1). Upstream (supply chain) emissions reflecting emissions associated with getting fuel/energy to point of use (i.e. well-to-tank, transmission & distribution).	1,076.2
3.05	Fuel- and energy-related activities	**WTT emissions for electricity** (Scope 2) These are covered by the Transmission and Distribution (T&D) Scope 3 emissions linked to supply of Electicity	1,243.9
3.06	Fuel- and energy-related activities	**WTT emissions from Fuel** (Scope 1). Upstream (supply chain) emissions reflecting emissions associated with getting fuel/energy to point of use (i.e. well-to-tank, transmission & distribution).	11.3
3.08	Waste generated in operations	Disposal and treatment of **waste and recycling**	21.304
3.09		Disposal and treatment of **Waste Water**	58.5
3.10	**Business Travel** Emissions associated with transportation (and related, e.g. hotels) of employees for business-related activities.	Flights (Booked through Key Travel) inc WTT	1,402.4
3.11		Rail (Key Travel) inc WTT	37.2
3.12		Non-Key air and rail travel inc WTT	64.4
3.13		Grey Fleet - Private Vehicles inc WTT	43.1
3.15		Taxi inc WTT	11.2
3.16		Coach	14.52
3.17		Campus Shuttle Service	241.7
3.18		Hotels - Business	94.4
3.19	Employee Commuting	**Staff Commuting** - Emissions from transportation of employees between their homes and their	89.2
3.20		**Staff homeworking** - This also includes emissions associated with remote working	110.3
3.22	Downstream transportation & distribution	**Student day-to-day commuting** - Transportation of students to the institution from their term-time address	1973.643
3.23		**International Student Travel** - Transportation of International students from country of origin to University at beginning and end of academic year	9,533.98
3.24		**Student end of term commuting** - Transportation of UK based students to the institution from their home address	No data available
3.25		**Student Accommodation** - Student accommodation and halls of residence that are on-site but owned/managed by an external organisation (UPP)	1520.70
		TOTAL SCOPE 3	**43,093.84**
		TOTAL SCOPE 1,2 and 3	**53,678.87**

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