Interim Update (July 2022) on 'Phase 2' of *Our Response to the Climate Emergency*

1. INTRODUCTION

Approved by the Governing Body in November 2021, Canterbury Christ Church University's Climate Emergency Strategy, *Our Response to the Climate Emergency*, comprises three parts:

- *Part One: Our Strategy* – provides the long-term, framework for *Our Response to the Climate Emergency* to 2050 and beyond (Annex 1).
- *Part Two: Progress to Date* – highlights that, prior to the development of *Our Response to the Climate Emergency*, 'Phase 1' of our climate response (2010-2021) had already more than halved the University's Direct Scope 1 and 2 Emissions[1], for which CCCU ranks 13th among the UK's 102 large, multi-subject universities for low Direct Emissions.
- *Part Three: The Next Two Years* – sets out a plan for 'Phase 2' (2021-2023) to establish baselines, set targets and begin implementation.

A formal update to the Strategy is due in November 2023, which will comprise a full refresh and update of parts two and three. This paper provides the Governing Body with an interim update on progress on 'Phase 2' (2021-2023). The University's Annual Sustainability Report (circulated to Governors on 20 June 2022 and posted on the Governor Blackboard site), includes some of the progress reported here, as well as the range of activities the University undertakes to support wider sustainability.

Our Response to the Climate Emergency considers the actual and potential impact and influence of the University within and beyond our value chain (Annex 1), with Phase 2 comprising work to establish baselines, set targets and begin implementation in three areas:

(i) ***Taking Responsibility for our Indirect Emissions***, which comprise more than 80% of emissions in our value chain through: (a) procurement; (b) student and staff commuting. (section 2)

(ii) ***Continuing to Reduce our Direct Emissions***, which now comprise less than 20% of emissions in our value chain through: (a) Utilities, vehicle fuel and waste (scope 1 & 2 emissions); (b) Business travel. (section 3)

(iii) ***Being a Change Agent – Enabling Others to Reduce Emissions***, which has the potential to dwarf the impact of (i) and (ii) by acting beyond the University's value chain through: (a) education to produce the climate advocates of the future; (b) research and advocacy to evidence and enable wider interventions, policies and systems changes. (section 4)

2. TAKING RESPONSIBILITY FOR OUR INDIRECT EMISSIONS

2.1. Procurement, including construction and refurbishment *(45% of emissions)*

- *Baseline procurement emissions profile established*
- *New procurement strategy developed and approved*

Through the use of sector specific tools[2], the Procurement Team has completed analysis to establish our baseline total emissions from procurement (based on the last year not affected by COVID-19, 2018/19), as well as the profile of emissions across broad procurement categories, with a further

[1] Scope 1: Direct emissions from university operations; Scope 2: Purchase of Grid electricity; Scope 3: Indirect emissions. Scope 1 & 2 emissions are within the University's value chain and are more directly influenceable by university actions.
[2] the Higher Education Supply Chain Emissions Toolkit

comparison of emissions to procurement spend. Total procurement spend in 2018/19 was £84million, resulting in total emissions of 31,722 tonnes of CO2 equivalent (tCO2e). The distribution of emissions and spend across nine broad categories is shown in figure 1.

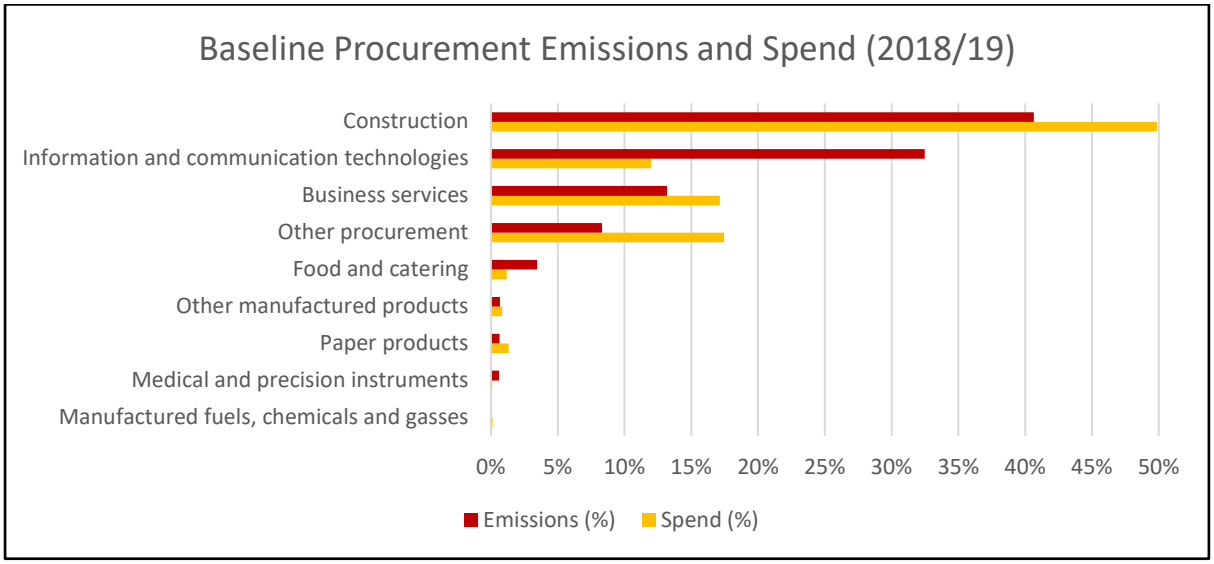

Figure 1: Baseline procurement emissions and spend (2018/19).

The analysis shows that construction accounted for 50% of spend and 40% of emissions, although both of these figures are higher than might normally be expected as this period included construction work on both the Daphne Oram and Verena Holmes Buildings. The largest area of emissions in comparison to spend is IT and Communication Technologies and, in fact, this is the only area where percentage spend exceeds percentage emissions, and it does so by a factor of almost three. In a year without such extensive construction activity, this would be the highest area of emissions. It also skews the percentage figures for the emissions to spend ratios in other areas. If IT and Communication Technologies is removed, percentage emissions match percentage spend for Construction and for Business Services. What this analysis shows is that the highest absolute emissions areas for procurement are also the areas in which procurement is highest in relation to spend. In this respect, Construction, IT and Communication Technologies, and Business Services account for 86% of emissions (27,369 tCO2e) and 79% of spend (£66.4m), and these will be the areas in which, going forward, we will seek to identify and work with high-emissions suppliers to either leverage reduced emissions, or change supplier.

Supporting the above work, a new procurement strategy has been developed, and was approved by the Senior Management Team in May 2022. For the last three years the Procurement Team have ensured that sustainability issues are always considered when running a tender process in which they are involved. The new procurement strategy now formalises and extends this work to cover more specific sustainability-related actions. The strategy lays out five key pillars of good procurement at the University, including sustainability and climate impact. The five sustainability objectives outlined in the strategy, for which an implementation plan will be developed by the end of 2022, are:

- Complete a Sustainability Impact Assessment for all contracts
- Develop a Sustainability Action Plan for all high-impact contracts
- Use sustainability issues as a criterion when selecting suppliers
- Assess each contract to identify supply chains at risk of modern slavery and forced labour
- Identify the suppliers who produce the most carbon and work with them to reduce emissions

2.2. Student and Staff Commuting *(35% of emissions)*

- *Working estimate for the ratio of student to staff commuting emissions established*
- *Study of commuting students experiences undertaken*

An initial review of secondary data and research on staff and student commuting within the higher education context[3] suggests that for a teaching-led university of our size, student commuting would account for around 75% of commuting emissions. However, a review of our own (pre-pandemic) data suggests that up to half of our students undertake a meaningful commute to the University for the purposes of study, which is around twice the sector average[4], with 28% spending six or more hours a week commuting[5]. It therefore seems reasonable to assume that student commuting would comprise a greater proportion of commuting emissions at CCCU, perhaps as high as 80%. Therefore, our working estimate is that the ratio of student to staff commuting, in terms of emissions generated, is likely to be circa 4:1.

Commuting emissions can be reduced in two ways: by reducing the ***volume*** of commuting; by changing the ***mode*** of commuting. While new working practices, including remote delivery, could reduce the volume of commuting, in the short-term these options need to be balanced with the directly communicated expectations of the Department for Education[6], to be monitored by the Office for Students, that Universities will return to a full portfolio of face-to-face teaching delivery. In addition to Ministerial and OfS expectations, there is also the need for the University to maintain a vibrant and active campus environment, and to maximise the value that is derived from new campus developments and facilities, such as the Daphne Oram and Verena Holmes buildings.

Given that student commuting dominates our commuting emissions profile, we have drawn upon key findings from a study into the behaviour and experiences of our commuting students, using the COVID-19 pandemic as a 'natural experiment' that allowed commuting students to compare the commuting study experience with the virtual study experience[7]. The study also helps us understand what the appetite might be among commuter students for virtual delivery (which would reduce commuting ***volume***). The students taking part in the study came from 12 different courses, spanning foundation year, undergraduate and post-graduate provision, with the majority having a one-way commuting duration of one to two hours. The results showed that commuter students valued the time and cost they saved from not commuting, and the flexibility to attend sessions without having to worry about being late for other commitments such as childcare, and to work at their own pace. However, in general terms this did not appear to outweigh the value they placed on face-to-face learning (which was generally felt to be of higher quality, particularly the learning interaction with fellow students) and wider social engagement. There was also a well-being value placed on the commute, particularly an 'enforced reflection time' that provides for mindfulness and relaxation, and also creates space between home and study.

The study suggests that seeking to reduce commuting volume by offering online learning to commuter students as a replacement for face-to-face teaching is unlikely to be popular, and will likely damage the student experience and potentially have knock-on effects for the National Student Survey measure of student satisfaction. However, it may be possible to reduce volume through a 'mixed economy' pedagogy-led approach, and more efficient timetabling. These will be part of a portfolio of options that will be explored, alongside the potential to change commuting ***mode,*** once we have fully

[3] 'The carbon footprint of a UK University during the COVID-19 lockdown' (*Science of the Total Environment*, Vol 756, February 2021)
[4] 'Homeward Bound: Defining, understanding and aiding commuter students' (Higher Education Policy Institute, December 2018)
[5] UK Engagement Survey, Canterbury Christ Church University results (2020)
[6] Letter from Minister Donelan to Vice-Chancellors (4/5/2022)
[7] 'Online learning and teaching during the pandemic: the experience of commuter students' (Dr Susan Kenyon, April 2022)

established a meaningful baseline for student and staff commuting, from which we will set targets for implementation.

Our initial implementation has already supported several initiatives that encourage changes to the commuting mode, including:

- The *Cycle to Work Scheme* limit has been increased from £1k to £3k in order to support the purchase of E-Bikes, which are a key part of a sustainable transport transition.
- On-going negotiations with *Stagecoach* with respect to enhancing student and staff bus travel discounts.
- Through the '*Great British Railways Reform'* Flexi season tickets have been introduced that allow for 8 days of travel in any 28 days.
- The *Canterbury BIRD Scooter Trial* has been extended, which offers any registered user an easy way to move quickly and safely around the city, and between universities.

The extended impact of the COVID-19 pandemic has meant that it has not been possible to establish a meaningful baseline for student and staff commuting during 2021/22 because both the volume and the mode of commuting continued to be significantly impacted by measures to combat the pandemic. However, it is expected that 2022/23 will allow a meaningful baseline of the post-pandemic commuting profile of students and staff to be established. This will involve (in Autumn 2022):

- A review of the extent, validity and reliability of University data such as student and staff term-time and non-term-time addresses.
- Development and implementation of a student survey of mode, postcode and distance travelled to University (drawing on the pilot studies already conducted)
- Calculation of commuting profiles and identification of areas that can be targeted for reduction

In addition, to facilitate long-term monitoring once the baseline is established, we will explore the possibility of including questions on travel mode to campus at student registration and on staff surveys.

3. CONTINUING TO REDUCE OUR DIRECT EMISSIONS

3.1. Utilities (Electricity, Gas & Water), vehicle fuel and waste *(15% of emissions)*

- *Continued impact on emissions of renewable energy tariff and estate consolidation established*
- *Tenders received to produce a Heat Decarbonisation Plan for the North Holmes Road Campus*

To satisfy requirements of Streamlined Energy and Carbon Reporting (SECR), British Independent Utilities (BiU) undertake utilities reporting for the University, which is illustrated in *Figure 2*. Significant emissions reductions from 2018/19 into 2019/20 reflect the combination of reduced estate use (consolidation), the impact of COVID lockdowns and the purchase of 100% renewable electricity (on-shore wind). The increase into 2020/21 reflects the opening and full use of Verena Holmes; the scale of which is also masked by the continued impact of lockdowns and mixed mode working and study. While we will see some further reductions through continued estate consolidation, including the sales of properties in New Dover Road, Lady Wootton's Green, Hall Place and the Broadstairs Campus, as well as the negotiated withdrawal from the Rochester House lease, these will not be fully realised until 2023/24.

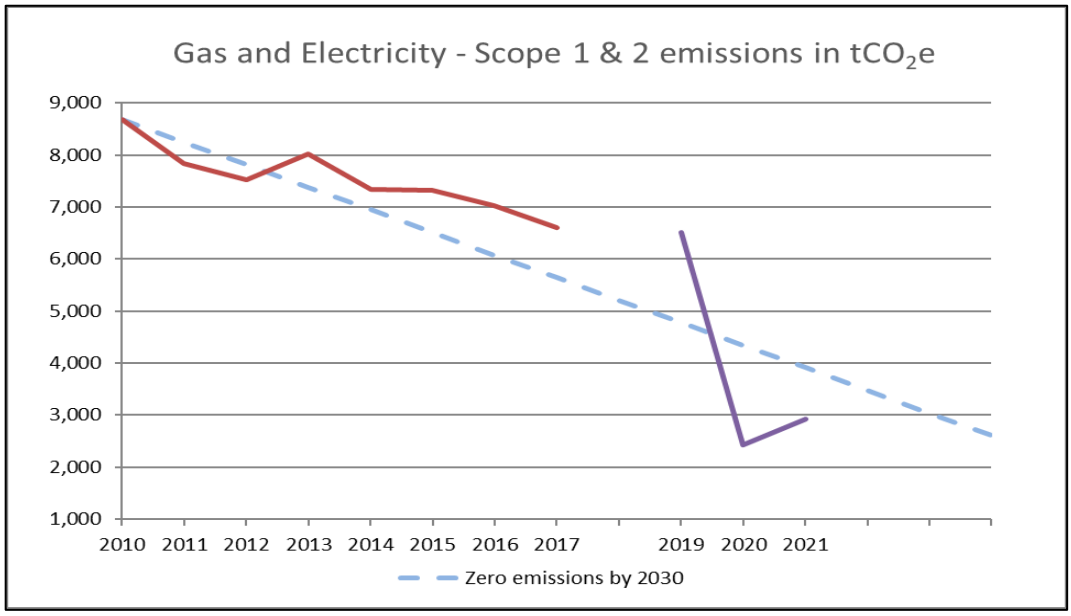

Figure. 2: Scope 1 & 2 emissions traced since the first baseline year 2009/10.
From 2019/20 data reflects specific supplier-based emissions rather than grid averaged emissions for electricity.

The commitment to purchase renewable electricity continues to result in significantly reduced Scope 2 carbon emissions (537 tCO_2e for 2020/21) for a relatively small premium. Whilst the University is currently protected against the worst of the energy price rises, it is likely that costs for renewable energy will increase in coming years, as demand is likely to outstrip supply.

The primary mechanism through which baselines will be established, and targets for implementation set, for utilities, is the development of a *Heat Decarbonisation Plan (HDP)* for the North Holmes Campus, for which tender returns have now been received from three consultants. An appointment is expected in July 2022, with the assessment and reporting of the HDP to be undertaken during Summer 2022. The Business Plan for 2022/23 includes proposals for boiler replacement projects in the Johnson Building and the Priory where Air Source Heat Pumps (ASHP) may be a possible alternative but these will be considered within the context of the HDP.

3.2. Business Travel *(5% of emissions)*

- *Pre-pandemic Business Travel Baseline calculated*
- *Need for more meaningful post-pandemic baseline established*

As with student and staff commuting, the extended impact of the COVID-19 pandemic has meant that it has not been possible to establish a meaningful baseline for business travel during 2021/22 because both the volume and the mode of commuting continued to be significantly impacted by measures to combat the pandemic. However, work has been undertaken, drawing no data from our travel supplier (Key Travel), finance data on travel spending (e.g., shuttle bus, student placement travel, bus travel), and data on business mileage claimed, to calculate a pre-pandemic baseline for business travel (2018/19), comprising both its size and modal profile (see figure 2). Calculations were also undertaken for 2015/16 to explore any pre-pandemic trends or changes – these showed that although the volume of business travel emissions (c. 1.2m tCO2e) remained the same, there had been a modal shift between 2015/16 and 2018/19, with reductions in car, bus and train travel for business purposes being offset by increases in air travel

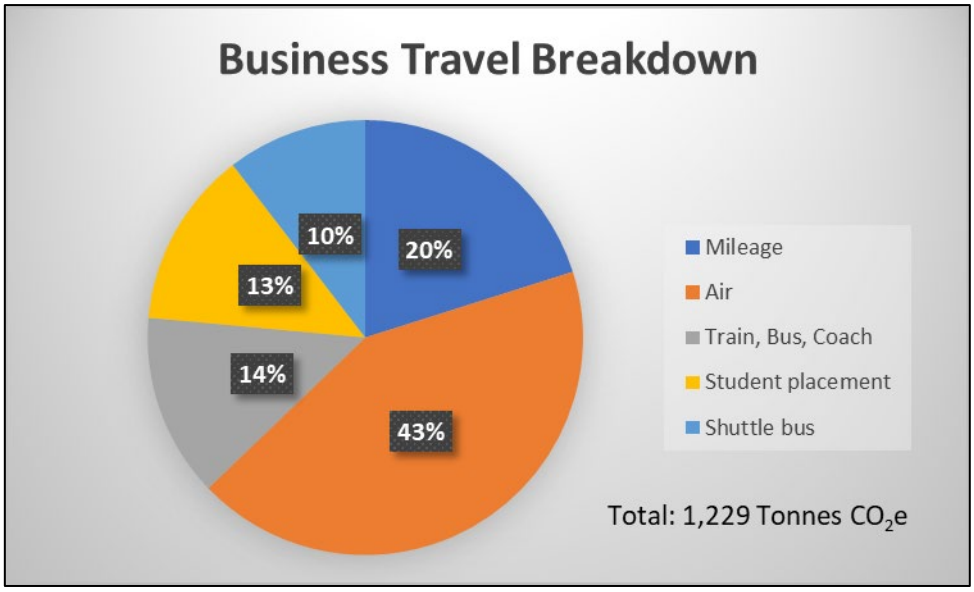

Figure 2: Breakdown of business travel for the pre-pandemic baseline year 2018/19.

The pre-pandemic baseline and trend analysis demonstrates the interplay between different modes of business travel, but also establishes the need to establish a post-pandemic baseline. This is because the need for some aspects of business travel (e.g. for routine meetings) have been shown to be unnecessary by new ways of virtual working during the COVID-19 pandemic, but also that it has not been possible to satisfactorily replicate the benefits of other aspects of business activity (e.g. face-to-face networking and conferences) through such virtual ways of working. It is also not clear how far some modes of travel will return to pre-pandemic levels – for example, at the start of 2022 global air transport demand was circa 50% of pre-pandemic levels[8].

Consequently, during 2022/23 a post-pandemic baseline for business travel will be established. To account for seasonal variations in travel patterns, this will need to take place across the full academic year, and will involve:

- Development of contemporaneous reporting of business travel volume and modes (to improve accuracy).
- Collection, collation and analysis of full-year data on volume, mode and purpose of business travel

Alongside the establishment of the baseline, a business travel hierarchy will be developed, to include an integrated analysis of business travel necessity and impact to inform the development of a business travel policy and to support management decisions.

4. BEING A CHANGE AGENT – ENABLING OTHERS TO REDUCE EMISSIONS

4.1. Education, Research and Advocacy

- 'Vision 2030' initiated discussions of our future climate education, research and advocacy
- Academy for Sustainable Futures launched
- Climate Emergency PhD and Climate Emergency Pilot Research funded

Our education, research and advocacy seek to have an impact beyond the University's value chain by developing the climate advocates of the future and evidencing and enabling wider interventions, policies and systems changes. They are qualitatively different from actions within the University's

[8] 'Air Travel Forecast: When Will Airlines Recover from Covid-19?' (Bain Forecasting, May 2022)

value chain, but have the potential to have a far greater reach by enabling others to reduce their emissions. For example, if, through the influence of our graduates in the workplace, the impact of our research and evidence, and the reach of our advocacy, we were able to persuade just eight in every thousand micro-businesses in Kent and Medway to switch to a renewable electricity tariff, we would achieve the same carbon reduction as reducing our remaining direct carbon emissions to zero. Furthermore, if we were able to persuade just 5% of microbusinesses in Kent and Medway to switch tariffs, this would have the same impact as achieving net-zero throughout our entire value-chain. Proportionately, therefore, education, research and advocacy provide the greatest opportunity for the University to contribute at scale to combatting the climate emergency.

The first step towards delivering change-making education, research and advocacy is to set internal targets for the climate education we commit to provide to our students, and the climate research we will undertake. To this end, the first phase of 'Vision 2030', the work towards developing our new University Strategic Framework, has initiated these discussions, which will continue as the Framework is further refined throughout 2022. This will be followed by establishing external targets, firstly, for the destinations of our graduates and the users of our research and, secondly, for the actual impacts and change that our graduates, research and evidence will effect. This 'logic chain' approach was successful in evidencing the impact of our research in REF 2021.

The infrastructure to support and deliver education, research and advocacy was enhanced with the launch of our new Academy for Sustainable Futures in March 2022. Seeking to provide evidence, embed education, exemplify practice and engage stakeholders to build relationships for change, the Academy will recruit a professorial-level Director in early 2023 to support delivery of climate education, research and advocacy within the context set by Vision 2030.

Alongside the successful REF 2021 result, in which the University doubled its 'world-leading' research, and quadrupled its 'world-leading' impact, over £100,000 has been invested in pilot research and a PhD bursary to explore areas of potential for our climate emergency research agenda. This portfolio of research projects explores:

- Motivations for climate action across business, community and campaign groups
- Empowerment and engagement of educators to deliver 'deep education' for community action.
- Police preparedness for responding to the consequences of the climate emergency
- The role of urban green space in supporting climate change mitigation and human health (PhD)

5. RESOURCING THE STRATEGY TO 2023 ('PHASE 2') AND BEYOND

- *University Procurement Team expanded*
- *Data analysis capability to be supported by post-REF 2021 funding*
- *External funding sought for heat decarbonisation planning*
- *Core team for the Academy for Sustainable Futures to be established*
- *£100k invested in climate emergency pilot research and doctoral study*

The immediate investment in resources required to deliver *Our Response to the Climate Emergency* include both short-term investments to support the remainder of 'Phase 2' (2021-23), and longer-term investments to support what we know we will need to deliver in the next phase and beyond. These investments support the individual requirements of each of the five elements described across the three areas of work for Phase 2 reported in sections 2, 3 and 4 above. Further resourcing will be considered when *Our Response to the Climate Emergency* is formally updated in November 2023.

5.1. Short-term investments

Immediate investments supporting the delivery of 'Phase 2' comprise:

- *Data analysis capability* – a key requirement to develop baselines, target setting and implementation planning for *Student and Staff Commuting (2.2)* and for *Business Travel (3.2)* is a resource to collate, collect and analyse data. Our post-REF 2021 funding will allow a peripatetic researcher with data analysis skills to be recruited to undertake this work, as well as to support wider analysis needs across all elements, and located within a supportive community of colleagues in the Academy of Sustainable Futures
- *Heat decarbonisation planning* – the immediate need to support further reduction of our direct emissions through our consumption of *Utilities (2.1)* is to develop a Heat Decarbonisation Plan (HDP). *Salix*, an agency that provides Government funding to the public sector to improve energy efficiency, recently announced Phase 3 of the *Public Sector Low Carbon Skills Fund*, to which the University made an application to support the development of its HDP when the fund opened on 15th June. The University fulfils the criteria for this funding and is optimistic for a positive outcome.
- *Pilot research* - £100,000 has been committed to climate emergency pilot and doctoral *research (4.1)* and doctoral study in 2021/22, and our success in REF 2021 will allow further work to be supported as priorities develop through Vision 2030.

5.2. Long-term investments

Investments that will support the longer-term development of *Our Response to the Climate Emergency* comprise:

- *Expansion of University Procurement Team* – sustainable *procurement (2.1)* is embedded within our new procurement strategy, which assumes that good procurement practice and sustainable procurement are one and the same. To support delivery of the new strategy, the procurement team has doubled in size from 3.0FTE to 6.0FTE staff, which includes enhanced seniority and responsibility for both existing and newly established posts.
- *Establishment of the Academy Sustainable Futures* – a recruitment process for a Professorial-level Director of the Academy will commence in Autumn 2022, with the aim that the Director will be in post in early 2023. The Director will then consider the further future resourcing needs for the Academy to support the delivery our *education, research and advocacy (4.1)* within the context of Vision 2030.

The delivery of *Our Response to the Climate Emergency* is also supported on an ongoing basis by the University's *Sustainability* Team, led by the Director of Sustainability, Dr Peter Rands, and currently comprising 5.5 FTE, which includes students employed via the *Student Green Office*.

ANNEX 1

OUR RESPONSE TO THE CLIMATE EMERGENCY

OUR STRATEGY

OUR STRATEGY

The Approach

The purpose of *Our Response to the Climate Emergency* is to drive the University to make a meaningful contribution to the UK's carbon reduction targets and strategy. It is underpinned by our declaration of a Climate Emergency and our signature of the SDG Accord Climate Letter in 2019. Our approach has been developed within the context of the University's responsibilities as:

- ***a values-led organisation*** to develop an ethical, socially just and inter-generationally just approach to the Climate Emergency
- ***an educator*** to develop the next generation of evidence-informed climate advocates
- ***a knowledge producer and broker*** to provide evidence to inform interventions, policies and systems change in response to the Climate Emergency
- ***a carbon consumer*** to reduce our own carbon emissions
- ***a regional anchor institution*** to model behaviours and develop advocacy for an evidence-informed response to the Climate Emergency

These responsibilities, and the related opportunities they bring, suggest that our potential to make a meaningful contribution goes significantly beyond simply reducing our own carbon consumption, as reflected in our commitment in signing the SDG Accord Global Climate Letter, in which we committed to:

- Mobilize more resources for action-oriented climate change research and skills creation;
- Pledge to reach net-zero by 2050 at the very latest; and
- Increase the delivery of environmental and sustainability education across curriculum, campus and community outreach programmes.

Although, like all other higher education signatories to the Global Climate Letter, we committed to reaching net-zero by 2050 at the latest, we expect that Phase 2 of *Our Response* will set a much more ambitious, stretching and far-reaching target.

As a civic university with clear and acknowledged responsibilities and opportunities we are in a position to mobilise our privileged access to knowledge to support, enable and influence the activities of others and thereby become an agent of change. Figure 1 provides a clear representation of the diminishing returns of efforts related to reducing 'own' carbon emissions, set against the exponential impact of efforts to enable the reductions of 'others', either through behaviour change, or systems change.

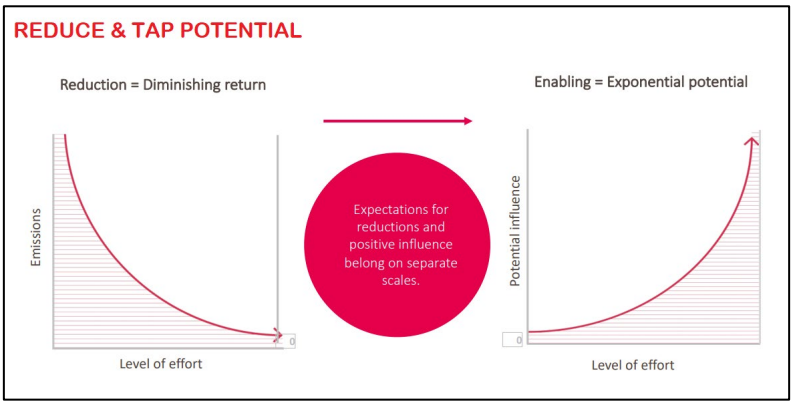

Fig. 1: Level of effort set against reducing and enabling emissions reductions. Adapted from Quantis[9]

[9] https://quantis-intl.com/wp-content/uploads/2020/05/absolute-zero_slidedeck_final-copie-nxpowerlite.pdf

Our Response to the Climate Emergency can be considered on two dimensions (i) actions within, and actions beyond the University's value chain; (ii) actions by the University and supporting and/or financing the actions of others. Figure 2 illustrates these dimensions and identifies four categories that can be considered as part of our approach.

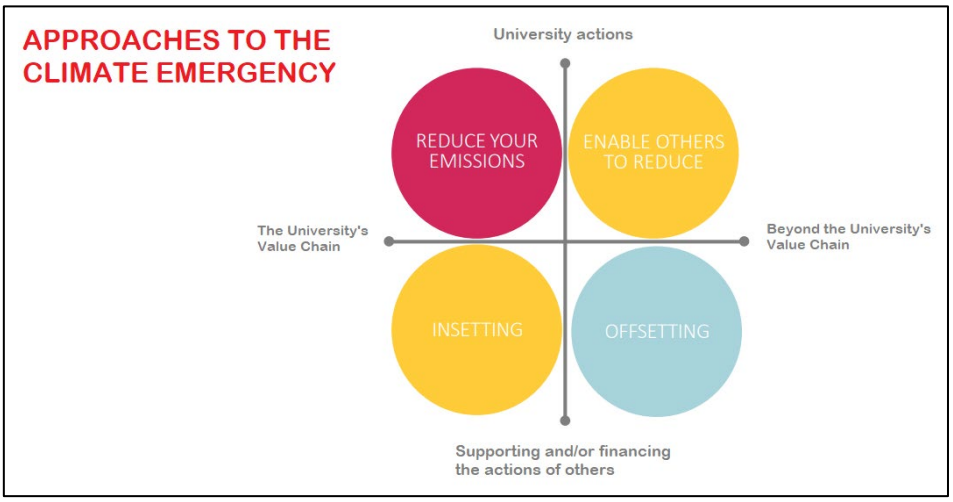

Fig. 2: Setting priorities for reducing and enabling emissions reductions. Adapted from Quantis[10]

Actions within the University's value chain include:

- *University actions* to **Reduce Our Emissions**[11]; such as energy efficiencies, estate consolidation, installing water efficient systems, switching to lower carbon suppliers or technologies.
- *Actions that support and/or finance the actions of others* through changes to university operations, policy and practice. These can include inward investment (**Insetting**), such as subsidising sustainable travel options for staff and student commuting, changes to travel policies for business travel, or implementing more restrictive procurement policies.

Actions beyond the University's value chain include:

- *University actions* that **Enable others to reduce** their emissions through education, research and evidence-informed advocacy for interventions, policies and systems changes. These may support more sustainable travel options, increase the availability of low or zero-carbon options in the market for goods and services, and evidence the most effective, cost-effective and carbon-effective approaches to behaviour change among institutions, organisations and individuals.
- *Actions that finance the actions of others* through purchasing carbon **Offsets** through an external marketplace, to offset internal emissions. Offsetting is considered to be a last resort since the financial constitution and business model of the University does not allow for significant revenue to be directed towards offsetting all or even some of its value chain emissions. It also raises tensions relating to ethics and social justice that may conflict with the University's mission and values.

[10] https://quantis-intl.com/wp-content/uploads/2020/05/absolute-zero_slidedeck_final-copie-nxpowerlite.pdf
[11] Scope 1: Direct emissions from University operations; Scope 2: Purchase of Grid electricity; Scope 3: Indirect emissions. Scope 1 & 2 emissions are within the University's value chain and are more directly influenceable by University actions.

Phasing the Strategy

This strategy should be seen as a dynamic document, and one that begins with the first Carbon Management Plan 2010-16 (**Phase 1**) that was extended to 2021. **Phase 2** is the current developmental stage during which the process and timescales for setting targets will vary depending on: whether there is a robust historical data; the work that needs to be undertaken in order to set baselines; and the consideration of strategies to ensure that meaningful reductions can be made. Thus, this strategy maintains a long-term view with strategic review points falling in 2023, 2025, and every two years thereafter.

- Phase 1: 2010-21 – First Carbon Management Plan (CMP) and subsequent activity, delivering a 54% reduction in Scope 1 & 2 emissions, along with the development and implementation of the *Futures Initiative*.
- Phase 2: 2021-23 – Development of *Our Response to the Climate Emergency* (this document) triggered by the stimulus of University Climate Emergency declaration and being a Signatory to SDG Accord Climate Letter in 2019 (interrupted by Covid-19 pandemic).
- Phase 3: 2023-25 – Full implementation of actions within all categories, with annual monitoring and reporting strategies in place.
- Phase 4: 2025 onwards – Monitoring and review of progress against targets, with strategic refresh in light of progress (Continuous improvement).

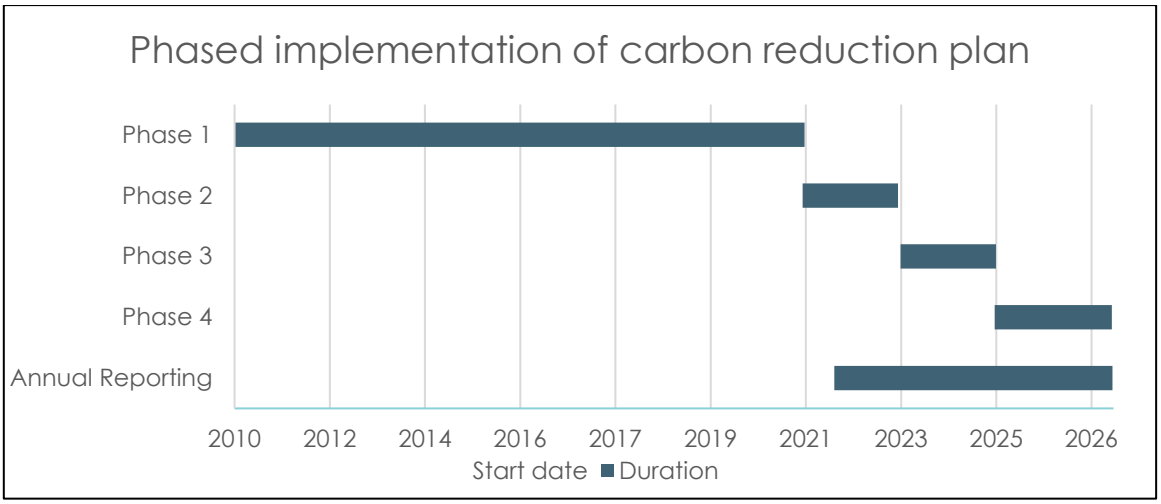

Fig. 3: Phased implementation, with continuous review and improvement through to 2050