Carbon Management Plan

2020-2023

University of Central Lancashire
UCLan

Summary

The Carbon Management Plan for 2020-2023 updates and extends the 2015-2020 plan. The duration of the current plan is shorter than the usual five-year duration as a decarbonisation study is underway, which will provide us with a route to net zero. We will use the detailed findings of the study to produce a full plan to cover the five-year period 2023-2028.

We will adhere to targets agreed by the University sector but then aim to go further and faster than this target once we have our decarbonisation study results. This will be outlined in the forthcoming Carbon Management Plan for 2023-2028.

- **Our interim Target is to reduce Scope 1 and 2 (direct) emissions by 78% of 1990 levels by 2035 and achieve net zero by 2050 at the latest.**
- **Our interim target for Scope 3 (indirect) emissions will be set by December 2022.**

A note on baselines: The Universities UK target uses 1990 as a baseline. However, this was prior to us gaining University status (in 1992), when our institution was much smaller. We have calculated a baseline rate per m^2 to show comparisons. Comparisons are also provided for 2005 as a baseline year.

See Annex 1 (page 8) for further details.

Introduction

The University of Central Lancashire has a staff and student community of around 38,000 people. Our three campuses in Preston, Burnley and Westlakes have 80 non-residential buildings and 6 residential buildings. Our campuses comprise a range of buildings of varying age, some adapted for University use, others designed and built specifically for our use.

As buildings account for 50% of the UK's total carbon emissions, it follows that our operations and buildings, totalling a gross floor area of circa 212,000 m^2 has a significant environmental impact.

We produced our first Carbon Management Plan in March 2007 in association with the Carbon Trust. The plan was updated in 2010 and in 2015, with the current plan extending to 2023. A refreshed Carbon Management Plan will be released in 2023 following the completion of the decarbonisation study.

Since the 2015 update, our £200m Campus Masterplan project has been completed. The estate is now 20% larger, so it is all the more important that plans are in place to control carbon emissions. All Masterplan buildings are constructed to Building Research Establishment Environmental Assessment Method (BREEAM) 'Excellent' standard.

The Carbon Management Plan complements our ISO14001 certified Environmental Management System, Safety, Health and Environment Policy and Strategic Plan 2021-2028.

The ongoing development of the Carbon Management Plan is reported to the University's Climate Change and Carbon Reduction Strategic Group and the Safety, Health and Environment (SHE) Committee and achievements and progress reported annually via our Sustainable Development webpages.

The Vice-Chancellor's Group lead for sustainability is Ruth Connor, Deputy Chief Executive Officer, supported by Liz Gatheral, Director of Estates and Capital Projects and Environmental Team.

This Carbon Management Plan focuses on the carbon emissions from the consumption of electricity, gas and water. Scope 1 and 2 carbon emissions from vehicles and Scope 3 emissions from travel and community are reported separately as part of the Travel plan (2019-2024).

We are as committed as ever to reducing our impact on the environment through the reduction of carbon emissions. We maintain an annual budget of £200k dedicated to reducing carbon emissions, in addition to Masterplan energy reduction measures.

Achievements and Awards

2015	Updated Carbon Management Plan produced.
2016	Green Week 2016. Received ISO 14001 accreditation. Spin-out company Alusid, which creates products using 96% recycled materials, wins prestigious award – Best Start Up at the Institution of Chemical Engineers (IChemE) Global awards.
2017	Green Week 2017 with Dragons' Den style competition.
2018	Knowledge Transfer Partnership with Recycling Lives enabling potential savings of £1.5m a year named 'Most Innovative Contribution to Business-University Collaboration' at the Times Higher Education Awards. City-zen Roadshow the University and Preston City Council's week-long event to find new ways of reducing the city's carbon footprint.
2019	Travel Plan 2019-2024 produced. Centre for Sustainable Transitions launched. University awarded ISO45001 (Integrated Management System) in addition to existing ISO14001 accreditation.
2020	The University partners on Eco-I £14m project to develop the North West as a regional exemplar for low carbon innovation, skills and 'green' economic growth. Engaging Blackpool Project – community engagement project working with young people to understand concerns about impacts of climate change.

Aims, Objectives and Targets

Our ambition is to increase energy efficiency, moderate energy demand and reduce carbon emissions.

Our overall strategy to achieve this goal is to:

- **Continuously review and improve our policies, including the Energy Policy and Strategy**
- **Maintain our ISO14001 certification**
- **Enhance monitoring and targeting to identify energy waste**
- **Improve staff and student engagement**
- **Monitor and evaluate our progress**

Targets

Scope 1 and 2 Carbon Emissions

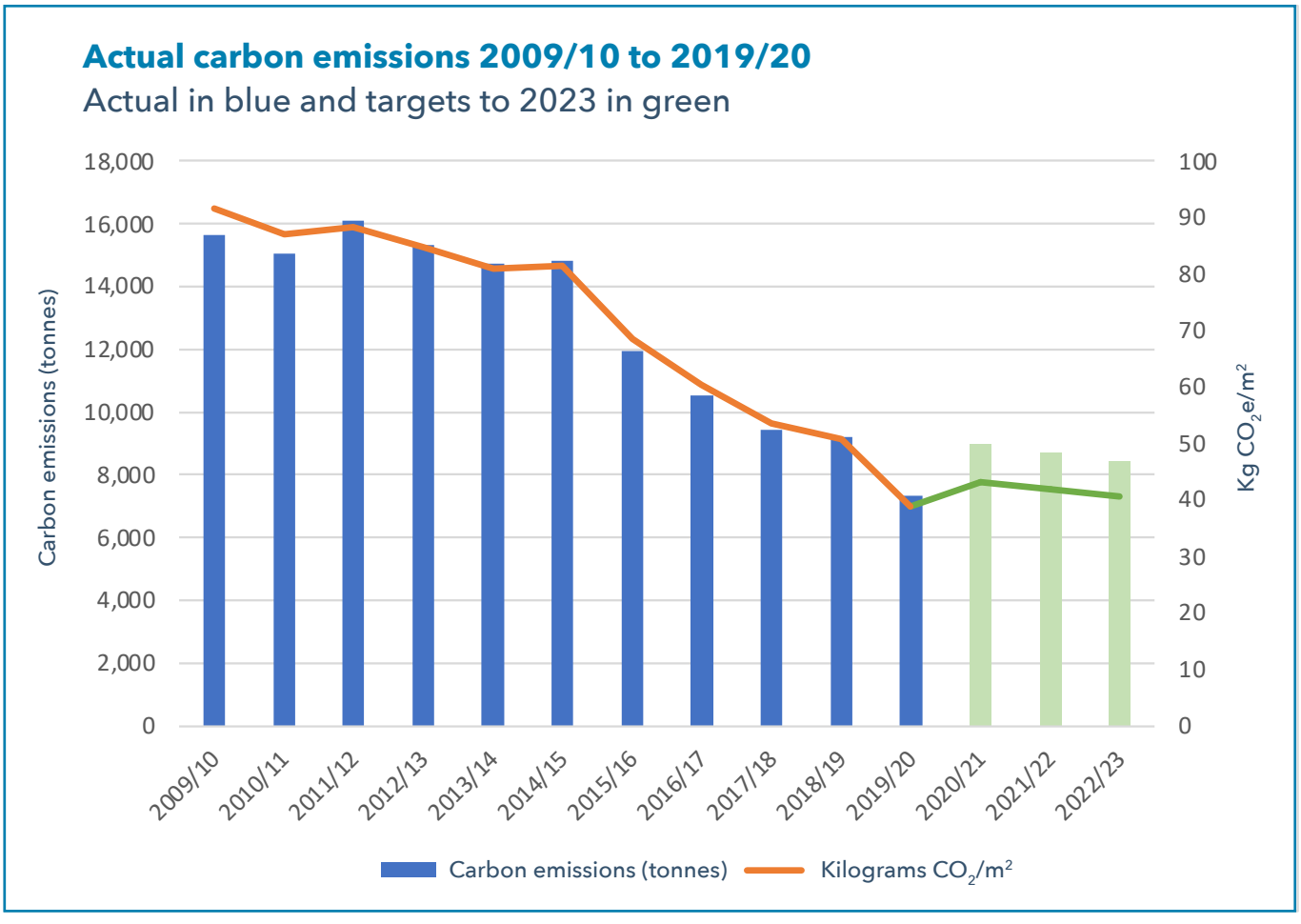
The original target set for the higher education sector by HEFCE was a 48% reduction in Scope 1 and 2 carbon emissions by 2020 based on the 2005/6 baseline consumption. We have seen significant change since this target was originally set and has in the meantime embarked on a 10-year Masterplan project, investing £200m into improving the University. The size of the University has increased, but the new developments are more energy efficient.

The 2015-2020 target was revised, in partnership with ISO14001 for Scope 1 and 2 carbon emissions from energy consumption to reflect these changes and committed to absolute carbon emissions associated with the consumption of electricity and gas by 2020 to be less than 2013/14.

The current higher education sector targets are as follows;

- Interim Target to reduce Scope 1 and 2 (direct) emissions by 78% by 2035 and achieve net zero by 2050 at the latest. (1990 baseline).
- Interim target for Scope 3 (indirect) emissions to be set by December 2022.

The Scope 1 and 2 carbon emissions since the last Carbon Management Plan and the targets to 2023 are shown below.



It should be noted that the figures for 2019/20 are not comparable with previous years due to the Covid pandemic, which led to all teaching taking place online from 18 March 2020 and the closure of our campuses from 23 March 2020. The savings are therefore greater than would have been achieved in a standard year of operation due to reduced activity on campus.

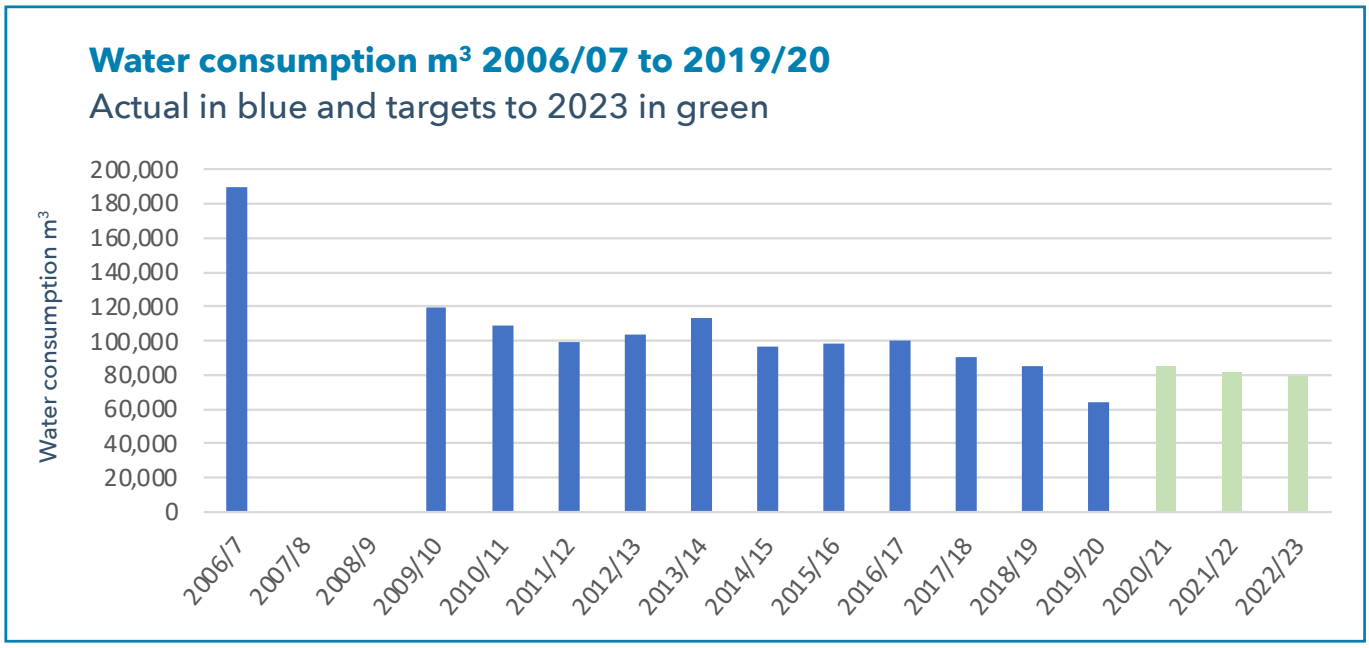
The Scope 1 and 2 emissions and targets include non-residential plus University in-house student accommodation. Externally provided accommodation is not included in the calculations.

Scope 3 Emissions

The University reports Scope 3 Emissions via HESA
(HE Provider Data: Estates Management - HESA)

Water

The Scope 3 water emissions target for 2020 had been set in line with the Environmental Management Plan, to reduce water consumption by 50% by 2020 based on a 2006/07 baseline. The chart below shows this has been achieved for 2019/20. However, as with Scope 1 and 2 emissions above, the figures for 2019/20 are not comparable with previous years as due to Covid. The targets for 2022/23 is 79,000 m^3.



Wastewater

A target will be set for the 2023-2028 Carbon Management Plan. The 2019/20 amount was 39.977 tonnes CO_2 equivalent, which was a year impacted by Covid. We do not have data for 2006/07 but is a reduction from 72 tonnes CO_2e in 2012/13.

Waste Management

Scope 3 carbon emissions from waste had been previously reported erroneously as tonnes rather than kilograms. Therefore in 2019/20 this should have been 11.512 tonnes CO_2e. Targets for waste are to maintain 98% diversion from landfill and to increase the percentage recycled to 8% in 2022/23.

Procurement

Scope 3 carbon emissions from the supply chain is reported according to categories of spend and in 2019/20, although impacted by Covid, this was 17,448.457 tonnes CO_2e which compares to the first reported figures for supply chain in 2015/16 of 38,413.188 tonnes CO_2e.

Travel

Scope 3 emissions from travel are included within the Travel Plan, which includes business travel and staff and student commuting. Benchmark and annual updates on the targets are also included within this document.

Green Electricity

The University procures green electricity which is generated from zero carbon hydro, wind and solar. Green gas will be considered for future contract tenders.

Sustainable Buildings

New buildings have energy efficiency and running costs as a key component of the brief, and will aim for BREEAM 'Excellent' (Education) classification. For substantial refurbishments (eg whole building) we will aim for BREEAM 'Very Good' (Education) classification, which includes the feasibility of renewable technologies to be incorporated. All small-medium refurbishment projects will contain an appraisal of energy efficiency measures and the incorporation of appropriate items. All projects will be subject to life cycle analysis at the feasibility stage of the design, in order to avoid the installation of low cost, inefficient equipment that will cost more in the long-term.

Carbon Management Project Update

We have produced annual updates to show our progress against the 2015-2020 Carbon Management Plan, including detail of installations and new technologies implemented. These are available on our Sustainable Development webpages.

The table below provides an overview of our progress on projects outlined in 2015 and where activity will be concentrated in the next period to 2023.

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
Continuous improvement in LED lighting and controls, including all external lighting								
Review and adjust BMS strategy as required								
Improving building fabric, including cavity wall insulation and replacing windows								
Rolling programme of thermostatic radiator valve installation								
Improve pipe lagging and insulation								
Fume cupboard controls								
Replacing old inefficient hand dryers across the estate								
Rolling programme to install variable speed drives (VSDs) across campus								
Rolling programme to install more granular sub-metering across campus on all utilities								
Investigate more efficient heating and cooling methods with zoned controls across campus								
Trialling water efficient air toilets in Foster Building with the potential to roll out if successful								
Rolling programme to replace all taps with auto sensor taps								
Investigation into reducing water consumed by urinals								
Staff and student engagement programme								
Decarbonisation Plan								
Building Condition Survey								

Key - Green = initiatives implemented, Yellow = initiatives planned.

We encourage key stakeholders within the University to suggest energy and water saving projects and we evaluate these based on the expected carbon saving of the project. For all potential projects we request documentation and evidence from the supplier backing up their energy and water saving claims and in some cases we trial the technology before committing fully to a project. All completed projects are monitored, evaluated and reported on to establish whether they have been successful with a view to a complete campus-wide roll out.

Staff and Student Engagement

A carbon literacy pilot took place in 2021/22 with 33 colleagues undertaking training across professional services to enable them to be more confident in having conversations within their teams about climate change and carbon reduction. Each delegate undertook a pledge for their own individual actions, and a group action with their team. The training will be rolled out to the senior management team in 2022/23.

New starters will be provided with details of our sustainability policies in induction events from July 2022 in order to provide them with the information they need to be sustainable in their roles. New students will be able to benefit from sustainability information within their course induction event and a dedicated area on the Student Hub provides advice and information on ways to be sustainable.

Sustainability is one of the core aspects within the Curriculum Framework and academic staff have access to information and resources to embed education for sustainable development. The initial teacher training conference in June 2022 had sustainability as the key theme so that teacher educators are empowered to integrate sustainability.

The number of colleagues who have successfully undertaken carbon literacy training will be reported through the Annual Carbon Management Update.

Annex 1 - Benchmark

Year	GIA m^2	tCO_2	tCO_2/m^2
1990	77,473	8,498	0.1097
2005	211,766	15,372	0.0726
2018/19	181,611	9,217	0.0507
2019/20 (COVID)	188.499	7,314	0.0338
2022	207,429	TBC	TBC

Our target is a 78% reduction of 1990 levels by 2035 and net zero by 2050 (note: if using 2005 baseline this equates to a 67% reduction by 2035 and net zero by 2050).

Our target for 2035 is to be below 0.0241 tCO_2/m^2 which at current campus size is an absolute figure of 5,006 tonnes CO_2 equivalent. At a steady reduction trajectory from 2018/19 pre-Covid figures, this would be an interim milestone target of the absolute amount of 6,877 tonnes CO_2 equivalent by 2029/30.

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