ROYAL HOLLOWAY UNIVERSITY OF LONDON

NET ZERO 2050 CARBON REDUCTION PLAN

June 2025

ABOUT THE PLAN

At Royal Holloway, we're united in our response to the climate and biodiversity crises.

We declared a climate emergency in 2019 and our University strategy, RH2030s, commits us to achieving net zero – a crucial next step in our response to climate change and the focus of this Carbon Reduction Plan.

Although Royal Holloway is not currently required to share its emissions or publish a carbon reduction plan, we believe that doing so is a crucial step in our response to the planetary crisis and also in line with our University values to be open, bold, daring and innovative.

In the absence of any mandatory standards, the plan has been broadly completed in accordance with the relevant UK Government Procurement Policy Note (PPN 06/21) and the associated guidance and reporting standards for Carbon Reduction Plans.

Further to this, targets have been set in line with the Science Based Targets initiative and are therefore consistent with Paris Agreement's goal to limit global temperature increase to 1.5°C above pre-industrial levels.

Emissions have also been reported and recorded broadly in accordance with the GHG Reporting Protocol and The Environmental Association for Universities and College's (EAUC) Standardised Carbon Emissions Reporting Framework (SEF), using the appropriate Government emission conversion factors for greenhouse gas company reporting.

This Carbon Reduction Plan has been reviewed and signed off by Royal Holloway's Executive Board and will be updated annually.

Our long-term commitment to achieving net zero

Royal Holloway, University of London is committed to achieving net zero emissions by 2050, or sooner. Our commitment, which extends to all our scope 1, scope 2 and scope 3 emissions[1], will require us to balance the amount of greenhouse gases we put into the atmosphere with the amount we actively remove.

To do this, we will first prioritise reducing the direct emissions from our own operations and supply chain as much as possible. It may then be necessary to rely on a limited range of permanent carbon dioxide removal (CDR) solutions to mitigate any remaining emissions. We do not want to set a target-for this and in the process risk self-limiting our efforts to reduce our own footprint, but, if required, we will take a science-aligned approach and ensure that they make up no more that 10% of our baseline emissions.

Following the Greenhouse Gas (GHG) Protocol, we are using a location-based[2] accounting method for both target setting and progress tracking and using the operational control[3] approach to determine what emissions are within-scope of our organisational boundary.

[1] A full breakdown of scope 1, scope 2 and scope 3 emissions has been published by the GHG Protocol: Diagram of scopes and emissions across the value chain.pdf

[2] A location-based method uses the average emissions intensity of the UK national electricity grid.

[3] Operational control accounts for 100% of the emissions from the operations over which we have has total authority to introduce and implement meaningful operating policies.

BASELINE EMISSIONS FOOTPRINT

We are using the following baseline emissions as a reference point against which our progress towards achieving net zero will be measured.

Scope 1 and 2 emissions

Baseline year emissions	FY22/23 (01 August 2022 to 31 July 2023)

Emissions	Total (tCO2e)
Scope 1	4,400
Scope 2	3,006
Total	7,406

Scope 3 emissions

We are continuing to develop a full inventory of our applicable scope 3 emissions and will establish a separate baseline for these once this is complete. For those categories already being measured, we will use our 2022/23 emissions to set interim near-term targets:

Baseline year emissions	FY22/23 (01 August 2022 to 31 July 2023)

Category	Total (tCO2e)
Category 1 – Purchased goods and services (only water supply currently measured)	36
Category 2 – Capital goods	Not yet measured
Category 3 – Fuel and energy-related activities	275
Category 4 – Upstream transportation and distribution	Not yet measured
Category 5 – Waste generated in operations	75
Category 6 – Business travel	674
Category 7 – Employee commuting	Not yet measured
Category 8 – Upstream leased assets	Out of scope
Category 9 – Downstream Transportation and distribution	Out of scope
Category 10 – Processing of sold products	Out of scope
Category 11 – Use of sold products	Out of scope
Category 12 – End-of-life treatment of sold products	Out of scope
Category 13 – Downstream leased assets	Not yet measured
Category 14 – Franchises	Out of scope
Category 15 – Investments	Not yet measured
Total	1,060

NEAR-TERM EMISSIONS TARGETS

Scope 1 and 2 near-term targets

In support of our long-term 2050 net Zero target, and to inform a set of additional near-term carbon reduction targets, we have projected the necessary decarbonisation trajectory for scopes 1 and 2 in figure 1 (below).

Scope 1&2 net emissions projection and tragets

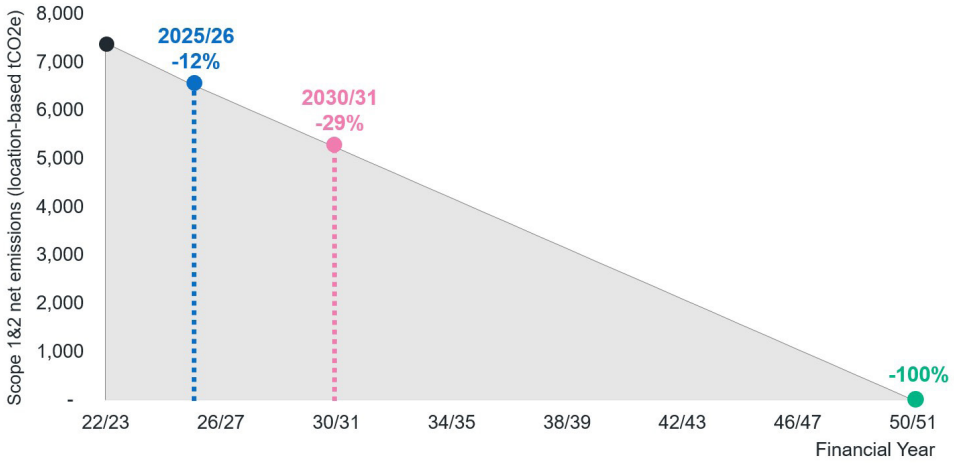


FIGURE 1: Scope 1&2 net emissions projection and tragets

Our current Environmental Sustainability Plan for Operations already commits us to reducing our scope 1 and 2 location-based emissions by 12% from **7,406** to **6,530 tCO2e** by **2025/26**.

In addition to this, by the end of FY30/31, we project to cut our scope 1 and 2 carbon emissions by 29%, going from **7,406** to **5,224 tCO2e**.

Actual decarbonisation rates will likely fluctuate, however, as larger infrastructure projects produce greater carbon emission savings and vice versa.

Scope 3 near-term targets

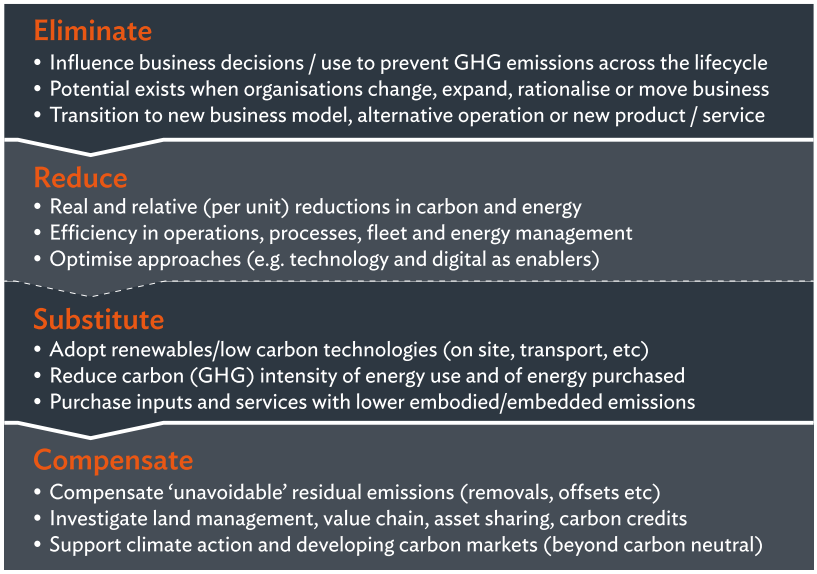
With regards to our current scope 3 emissions inventory, using a similar approach to our scope 1 and 2 projections, we have set the following additional FY30/31 targets:

- Category 1 – Purchased goods and services (water supply only): 29% reduction from **36** to **25 tCO2e**
- Category 3 – Fuel and energy-related activities: 29% reduction from **275** to **196 tCO2e**
- Category 5 – Waste generated in operations: 29% reduction from **75** to **54 tCO2e**
- Category 6 – Business travel: 29% reduction from **674** to **482 tCO2e**

EMISSION REDUCTION MEASURES

To help us reduce our carbon footprint, our Environmental Policy commits us to adopting a greenhouse gas management hierarchy throughout all our operations and activities (see figure 2).

Greenhouse gas management heirarchy



Adapted version of the 2020 IEMA GHG Management Hierarchy

FIGURE 2: Royal Holloway's Greenhouse gas management heirarchy

To help embed the hierarchy into the everyday working and behaviours of our colleagues, students and stakeholders, we have cemented our commitment to achieving net zero in the new University RH2030s strategy and agreed on a suite of supporting actions in our 2-year Environmental Sustainability Plan for Operations.

Decarbonising our estates

Principal to our approach will be the gradual decarbonisation (degassing) of our built estates in London and Surrey – specifically the removal of our gas-powered boilers that are used to heat the buildings and our water. This enormous task, which will tackle over 99% of our scope 1 and scope 2 emissions, will be guided by our new Decarbonisation Planning Tool, involve close to 100 buildings, and cost a projected £150m (at 2025 rates).

Other actions

Further efforts completed, and ongoing, to support our road to net zero include:

- Gaining ISO 14001 accreditation for our Environmental Management System (EMS)
- Transitioning to a 100% electric fleet
- Developing a new Green Travel Plan to address the carbon footprint of our commuting, business travel, fieldwork and international activities

EMISSION REDUCTION MEASURES

- Providing Environmental Sustainability E-Learning and Carbon Literacy training for colleagues and students
- Increasing on-site renewable energy generation
- Operating our buildings more efficiently and review our Building Management System (BMS)
- Embedding the University's Environmental Policy across all procurement and contract management activities
- Reducing carbon in our commercial services supply chain and catering services, including carbon labelling our food to help customer's make informed decisions
- Updating our IT infrastructure and reviewing the running parameters of our temperature controlled environments
- Developing bespoke guidance for high energy use areas, including our kitchens and labs.
- Learning from, and supporting, others by maintaining and growing our memberships and accreditations, including LEAF and Nature Positive Universities

Carbon dioxide removal (CDR)

Whilst we will prioritise the direct reduction of emissions from our operations and value chain, we acknowledge that the use of carbon dioxide removal (CDR) solutions to mitigate the hardest residual emissions will likely be unavoidable towards the end of our net zero journey. This may, for instance, be to counterbalance any remaining emissions from the travel sector or our grade I listed 'heritage' estate.

This option will be a last resort, however, and, if required, we will invest in robust, long-term and well-regarded storage techniques only, rather than alternative carbon offsetting and avoidance methods. We plan to counterbalance a maximum of 10% of our residual emissions using this method.

External progress

For us to succeed, we acknowledge a reliance on a large number of external sectors to also dramatically reduce their carbon footprint inline, or ahead of, our own commitment. To help manage and drive this, we will growingly monitor our value chain, strengthen our own policy and the requirements for our suppliers to align with it, and work closely with our stakeholders to encourage and enable their own net zero work.

Climate adaptation

As well as working towards net zero to help mitigate the severity of the climate emergency, it's vital that society also adapts to the already worsening impacts of the global emergency.

To address our own resilience, we have recently completed an in-depth study of our vulnerability to more severe weather, drought and flooding across our operations and also any impacts on our compliance activities and reputation, and are working to build-up our resilience to these threats.

CURRENT EMISSIONS FOOTPRINT AND PROGRESS TO DATE

In line with this plan being updated annually, our most recent complete financial year's emissions are captured below.

Scope 1 and 2 emissions

Latest full reporting year	FY23/24 (01 August 2023 to 31 July 2024)

Emissions	Total (tCO_2e)	Change from baseline
Scope 1	3,776	-14%
Scope 2	3,098	+3%
Total	6,874	-7%

How these emissions contribute to our near-and long-term targets can be seen in figure 3.

Scope 1&2 observed emmisions

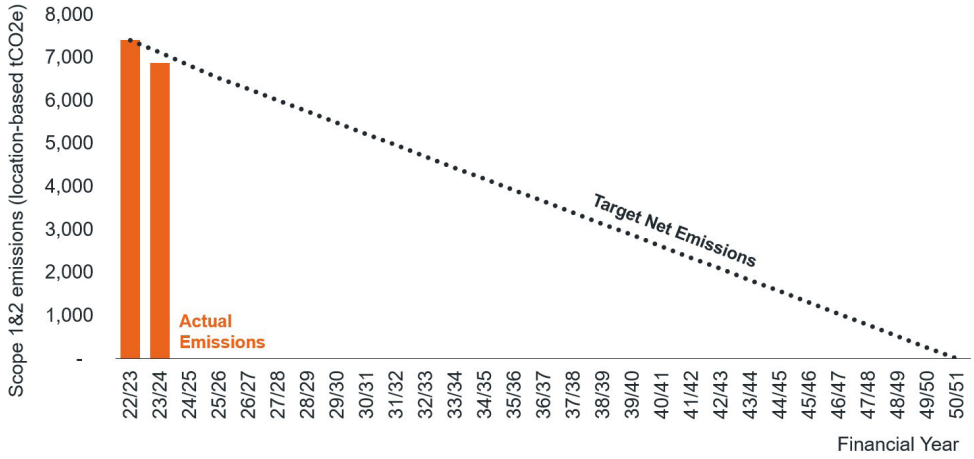


FIGURE 3: Actual scope 1&2 observed emmisions

As seen on in figure 3, our scope 1 and 2 emissions from our most recent complete reporting year are well within the required reduction since the previous (baseline) year.

CURRENT EMISSIONS FOOTPRINT AND PROGRESS TO DATE

Scope 3 emissions

Whilst we develop a full inventory of our applicable scope 3 emissions, we will continue to measure our progress against our near-term targets for categories 1, 3, 5 and 6. For the latest reporting year we have also begun measure the emissions from our investment portfolio (category 15).

Category	Total (tCO2e)	Change from baseline
Category 1 – Purchased goods and services (only water supply currently measured)	39	+9%
Category 2 – Capital goods	Not yet measured	-
Category 3 – Fuel and energy-related activities	268	-3%
Category 4 – Upstream transportation and distribution	Not yet measured	-
Category 5 – Waste generated in operations	56	-25%
Category 6 – Business travel	824	+22%
Category 7 – Employee commuting	Not yet measured	-
Category 8 – Upstream leased assets	Outside of scope	-
Category 9 – Downstream Transportation and distribution	Outside of scope	-
Category 10 – Processing of sold products	Outside of scope	-
Category 11 – Use of sold products	Outside of scope	-
Category 12 – End-of-life treatment of sold products	Outside of scope	-
Category 13 – Downstream leased assets	Not yet measured	-
Category 14 – Franchises	Outside of scope	-
Category 15 – Investments	2,026	-
Total Emissions	3,213	

Over the last year, whilst category 3 and 5 emissions have reduced, category 1 and 6 emissions have in fact risen slightly. Whilst not in line with our targets, this in part reflects changing emissions factors (as water use, for example, has reduced across campus), and also a growing understanding of, and ability to measure, our environmental footprint.

MONITORING OUR PERFORMANCE

As well as annually updating and externally republishing this Carbon Reduction Plan, we will continue to monitor and report on our greenhouse gases by:

- Discussing our progress at our quarterly Environmental Sustainability Working Group (ESWG) meetings
- Preparing 6-monthly 'seasonal updates' to the Executive Board and also the Vice Chancellor and Council Lead for Sustainability
- Publishing full emissions accounts in the Environmental Sustainability section of the University's Annual Reports

This reporting cycle exists alongside a wider suite of assurance measures, including internal and external audits, as captured by our Environmental Management System (EMS).

Declaration and sign-off

This Carbon Reduction Plan has been reviewed and approved by Royal Holloway, University of London's Executive Board and will be updated and published on our external website annually.

Signed on behalf of Royal Holloway, University of London (legally Royal Holloway and Bedford New College) by:

Stephen McAuliffe
Executive Director of Business and People Services

30 June 2025

Further information can be found on Royal Holloway's Environmental Sustainability webpages.

Version history

Version	Date of approval	Summary of changes
1	June 2025	First version of plan and identification of 2022/23 baseline year.

9750 06/25