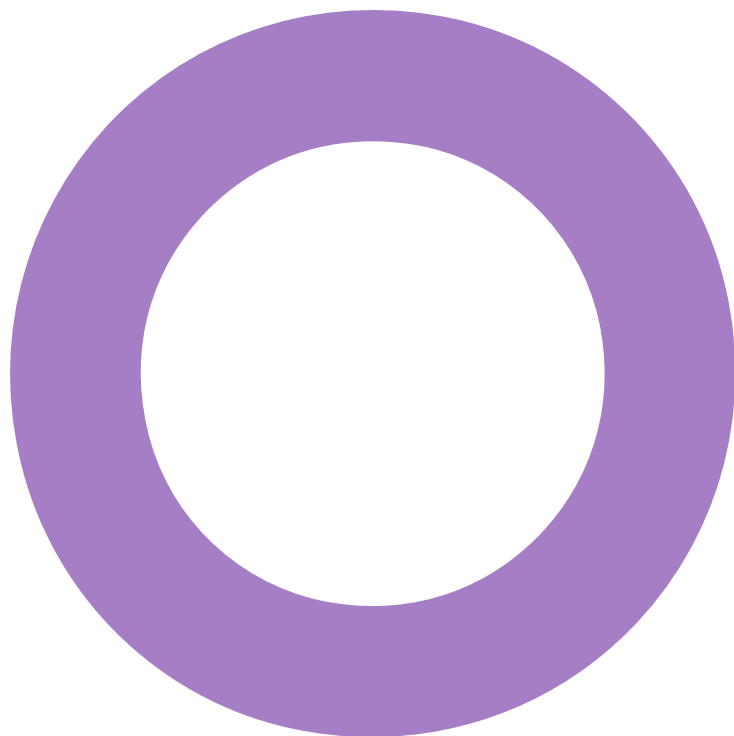


Net Zero Carbon Building Assessment. Annual Summary Report. Summary Report - Financial year 2022-23.

SUSTAINABILITY
NET ZERO CARBON

REVISION 00 – 05 DECEMBER 2024



Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
00	05/12/2024	Final summary report for publication	T Mayfield	WDM Naismith	A Bateson

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Executive summary.

This report describes Hoare Lea’s net zero carbon building strategy and assessment for the financial period 2022-23 (FY22-23). In accordance with industry best practice, our assessment follows the methodology of the UKGBC Zero Carbon Building Framework Definition. Our assessment has been audited by a third party, BRE.

The assessment describes our approach to evaluating, reducing and offsetting carbon emissions arising from building energy use, including fugitive emissions (refrigerant gas leakage). It provides an update on the work we’ve undertaken to reduce our building energy use since we published in our first strategy report for FY21-22.¹

The carbon emissions for the financial reporting period covered by this report (1st Oct 2022- 30th Sept 2023) and our previous report (1st Oct 2021- 30th Sept 2022) are summarised below.

Table 1: Total building carbon emissions for this reporting period (2022-23)

Report	Assessment period	Building carbon emissions for the assessment period (Including F-gas emissions)	Transition fund requirement
Previous report	1 st Oct 2021- 30 th Sept 2022 (Our accounting period for 2021-22)*	276 tCO ₂ e	£26,220 at a carbon price of £95/ tCO ₂ e
This report	1 st Oct 2022- 30 th Sept 2023 (Our accounting period for 2022-23)	300 tCO ₂ e	£28,500 at a carbon price of £95/ tCO ₂ e
*Our previous report declared total emissions of 360 tCO ₂ e including bridging period to cover our transition to a new financial year. (From May-April to October-September)			

Our commitment.

Hoare Lea is a signatory of the World Green Building Council Net Zero Buildings Commitment. This report fulfils our obligation to assess building carbon emissions, describe our approach to reducing energy use and our method for offsetting residual emissions.

Hoare Lea is also a signatory of the Building Services Engineers Declaration of the Climate and Biodiversity Emergency. As such, we are committed to reducing our environmental impact and targeting net zero carbon emissions.

Our baseline emissions

The Hoare Lea offices covered by the assessment are:

- Glasgow (new office, move in date March 1st 2023)
- Birmingham
- Leeds (new office, move in date March 1st 2023)
- Bournemouth
- London
- Bristol
- Manchester
- Cambridge
- Oxford
- Cardiff
- Plymouth

- Reading (new office, included this year due to an employee increase)

The building emissions were assessed using building energy consumption data and assumed fugitive emissions for heating and cooling plant (arising from refrigerant leakage). We have excluded carbon emissions from small serviced offices, with less than 10 employees (Abu Dhabi and Exeter) which have lower impact.

Governance.

Central to our net zero strategy, developing appropriate governance structures are critical to achieving robust, permanent and managed emissions reduction. Our governance strategy has and will continue to involve increasing engagement, creating responsibility and embedding net zero in our current practices. This is overseen by our Net Zero Working Group, led by Ashley Bateson, Sustainability Director.

Reducing energy demand

To help manage our energy reductions, each office has an Environmental Management Champion and Carbon Management Team, assigned to review energy management and consider energy saving measures. During the period FY22-23 we can report the following progress:

- We have moved two offices (Leeds and Glasgow) to new locations with improved sustainability potential.
- Installed heat meters and controls to the Manchester office. Improves offices vision of heating and increases ability to reduce energy consumption.
- Replacement of landlord ventilation and VRF systems with new systems in Leeds.

Dealing with residual emissions

We are taking the leadership approach to offset our residual emissions by establishing a net zero transition fund. In addition, we procure high-quality renewable electricity supplies to replace our current direct supplies of electricity, when lease agreements allow.

Offsetting.

Our approach to offsetting residual carbon emissions entails establishing a transition fund with a price for carbon set at £95/ tCO₂e, i.e. £28,500 based on the need to offset 300 tCO₂e. This pays for international carbon credits through investment in afforestation, at a cost of £8,500 leaving the remainder of the transition fund, £20,000, to be used for a UK community-based carbon reduction project. We are offsetting through the Planting Biodiverse Forests Programme in Panama, an afforestation project in Central America. This is a nature-based solution that absorbs carbon emissions through tree growth and provides social value and work creation for local communities. The offset credits are purchased through the Gold Standard organisation.

<https://www.goldstandard.org/>

Our UK community-based carbon reduction project for the previous reporting period (FY21-22) was an employee nominated proposal. The selected project entails supporting decarbonisation of Redcatch Community Garden in Bristol. For the current reporting period, FY22-23, we will seek another employee nominated community-based project.

Transparency and verification.

We consider transparency and disclosure vital tools for securing robust net zero claims. This report and its appendices have been audited by a third party, BRE, to verify the approach and calculations used to determine our net zero balance. We have also taken the step of publishing a summary of this report on our website. This will ensure our work remains visible to our people and collaborators, and demonstrates alignment with our values.

¹ <https://hoarelea.com/app/uploads/2023/08/REP-Hoare-Lea-NZC-Building-Summary-Report-FY21-22-Final.pdf>

Strengthening our commitment.

Our net zero building declaration is not a one-off exercise; we must achieve significant reductions in our underlying emissions, continuously improving the energy performance of our offices and broadening the scope of our emissions boundary in the coming years. Our recently updated Sustainable Procurement Policy will phase in our identification and reduction of Scope 3 emissions. We work across different scales, sectors and geographies. To understand the impact of our consultancy on the built environment and organisations, we are also aiming to collect data for measuring the energy performance of our completed projects.

1. Introduction.

Tackling climate change requires action. As consultancy specialising in the built environment, Hoare Lea understands the impact that buildings can have on our planet. As such, signing up for the World Green Building Council's (WorldGBC) Net Zero Buildings Commitment in 2020 was a natural step and one that we are already embarking on with determination and pride.

This report sets out how we meet our WorldGBC Net Zero Buildings Commitment for the period FY 22-23, detailing our approach, methodology and supporting evidence. The financial period covered is 1st Oct 2022-30th Sept 2023 (FY22-23).

The report is structured to give our responses to four key questions:

- **Why net zero?**
We provide context for this report and the basis for our net zero commitment.
- **What we are trying to achieve?**
We set out our approach to realising a net zero future, with the key theme of our response to climate change informed by UKGBC and WorldGBC guidance.
- **What is our baseline and emissions boundary?**
We establish our boundary condition, emissions sources and baseline, followed by an analysis of the current energy performance of our offices and the wider energy landscape.
- **How we achieve net zero carbon?**
We explore the net zero emissions target and the three strands of our response: reducing energy demand, decarbonising energy sources and offsetting residual emissions.

Our answers provide the basis for our net zero claims and are further expanded upon in the appendices, where we also set out our position on offsetting in the built environment and our strategy for improving data collection.

1.1 Our role in a net zero future.

At least four-fifths of the global economy is now covered by net zero pledges despite the idea being relatively unheard of only a decade ago². These voluntary commitments are pushing more and more buildings to be net zero carbon. The International Energy Agency (IEA) estimates that operating buildings accounts for 30% of the global final energy consumption and contributes 26% of global energy-related carbon emissions³.

We are at the forefront of the net zero transition: advocating for ambitious energy reduction targets, developing comprehensive net zero frameworks with industry partners, and committing ourselves to ambitious climate targets.

1.2 Our corporate responsibility strategy

We are a planet-conscious, human-centric consultancy. Our corporate responsibility strategy aligns with our sense of purpose; both in terms of how we operate as a business and how we add value to society⁴. Our approach to corporate responsibility recognises that we have an impact on the environment through our consultancy and operations.

1.3 World Green Building Council's Net Zero Carbon Buildings Commitment

In 2020, acting on our corporate responsibility strategy and our commitment to reduce our climate impact, we became signatory to the World Green Building Council's (WorldGBC) Net Zero Carbon Buildings Commitment⁵.

As our Managing Director, Justin Spencer, explained:

"Tackling the climate and biodiversity emergency requires action. As an engineering consultancy, we deeply understand the impact that the built environment can have on our planet. We are therefore a proud signatory of the WorldGBC's Net Zero Buildings Commitment."

1.4 Building Services Engineers Declaration of the Climate and Biodiversity Emergency

We are also proud to be one of the founding signatories and chair of the Building Services Engineers Declaration of the Climate and Biodiversity Emergency⁶. The initiative, backed by over 100 consultancies and engineering firms, calls for better knowledge sharing and awareness, elevating the role of sustainability in all our work and redrawing the criteria for success.

Our Head of Sustainability, Ashley Bateson, is the Declaration's steering group chair. By extending our influence within the industry and our advocacy role outside it, we can enable the construction sector to take centre stage in mitigating environmental harms and collaborate for a sustainable future.

² <https://eciu.net/analysis/reports/2021/taking-stock-assessment-net-zero-targets>

³ <https://www.iea.org/energy-system/buildings>

⁴ <https://hoarelea.com/about-us/corporateresponsibility/>

⁵ <https://hoarelea.com/2020/09/21/our-net-zero-carbon-commitment/>

⁶ <https://www.buildingservicesengineersdeclare.com/>

2. What are we trying to achieve?

2.1 Defining net zero: WorldGBC commitment.

Launched in 2018, the Net Zero Carbon Buildings Commitment is a mechanism developed by the WorldGBC to encourage organisations, cities and states to demonstrate climate leadership⁷. We became a signatory in September 2020.

The five stages of our commitment include⁸:

1. **Commit:** Commit to only occupying assets that are net zero carbon in operation by 2030. We opted to occupy net zero buildings in 2021.
2. **Disclose:** Measure and disclose energy consumption and emissions data, made publicly available via the annual report.
3. **Act:** Develop a firm-wide carbon reduction strategy and action plan for all occupied assets. Identify and implement feasible energy saving and efficiency opportunities, and on-site renewable energy sources, and invest in off-site renewables or carbon offsets for the balance.
4. **Verify:** Verify emissions data annually via third-party verification.
5. **Advocate:** Continue to contribute to research and publications on net zero carbon. Increase commitment to share knowledge on net carbon with clients and other stakeholders, including as chair of the Building Services Engineers Climate Emergency Declaration initiative.

2.2 UKGBC Net zero framework and guidance.

Country specific Green Building Councils, such as the UKGBC, have in turn produced frameworks setting out how these ambitious net zero targets should be met. We have followed the UKGBC Net Zero Carbon Building Framework to make our own net zero claims.

Net Zero Carbon Buildings: A Framework Definition

The UKGBC sets out the following definition for operating net zero buildings⁹:

“When the amount of carbon emissions associated with the building’s operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset.”

Net zero carbon: energy performance targets for offices

The UKGBC has also published guidance on the levels of energy performance that offices, both new and existing, should target to achieve net zero¹⁰.

Renewable Energy Procurement & Carbon Offsetting

The UKGBC have also developed guidance on the procurement of renewable energy and how to robustly deal with residual emissions¹¹. The key messages in the guidance are that the only zero carbon energy available for procurement is electricity supplied via ‘high quality’ green tariffs (defined in the guidance) and that the netting off of any residual emissions must be through the use of offset credits which meet a specific set of criteria which ensure their quality.

The guidance also establishes other important principles such as the use of a transition fund where organisations set an internal carbon price each year which is above the market cost of good quality offset

credits. Part of the fund is to be used for the procurement of offsets equal to measured annual residual emissions with the remainder being spent on other activities which support the move to net zero.

2.3 Reporting on progress.

This is our third year of reporting our building emissions aligning it with the WorldGBC requirements. This report will be updated year on year to document annual progress on our net zero buildings commitment.

To help manage our energy reductions, each office has an Environmental Management Champion, assigned to review energy management and consider energy saving measures.

⁷ <https://www.worldgbc.org/thecommitment>

⁸ <https://worldgbc.org/signatory/hoare-lea/>

⁹ <https://www.ukgbc.org/ukgbc-work/net-zero-carbon-buildings-a-framework-definition/>

¹⁰ <https://ukgbc.org/resources/net-zero-carbon-energy-performance-targets-for-offices/>

¹¹ <https://www.ukgbc.org/ukgbc-work/renewable-energy-procurement-carbon-offsetting-guidance-for-net-zero-carbon-buildings/>

3. What is our baseline and emissions boundary?

Two important concepts when considering organisational carbon emissions are the boundary condition, (i.e. what operational emissions are to be reported) and the baseline against which progress can be measured. The boundary condition for this study was set out in the WorldGBC and UKGBC guidance documents and has been subsequently refined by our net zero working group and according to the availability of data.

3.1 Emissions scopes.

Greenhouse gas (GHG) emission sources are categorised into three scopes to ensure responsibility for emissions can be accurately allocated and so that emissions are not double counted across organisations, as encapsulated by Figure 1.

We have focused on Scope 1 and Scope 2 building energy emissions, as required by WorldGBC. We have also elected to include the Scope 1 emissions from refrigerants (as required by the UKGBC net zero framework definition).

Direct:

Scope 1: Emissions resulting from activities under the direct control of your organisation, such as gas boiler emissions, fleet vehicle emissions and on-site refrigerant leakage.

Indirect:

Scope 2: Emissions arising from energy purchased by your organisation for its operations, such as power or district heating

Secondary indirect:

Scope 3: Emissions arising from associated activities not directly controlled by your organisation, such as leased assets, procurement of equipment, employee commuting, water use, and waste management.

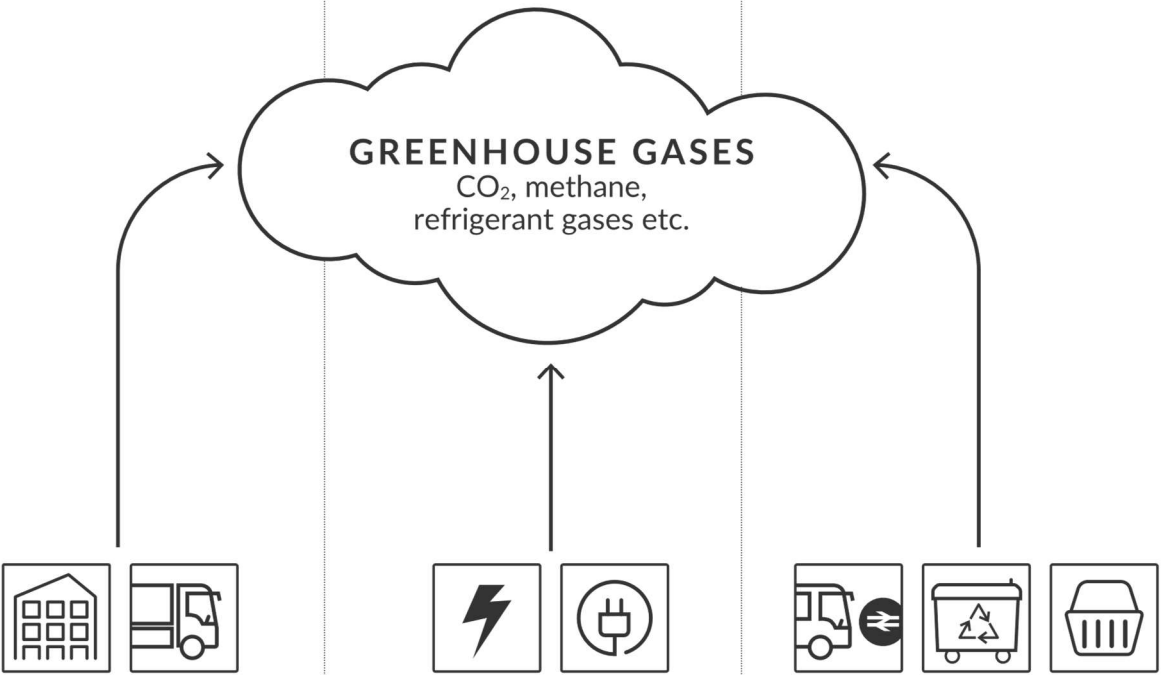


Figure 1: Diagram emissions scopes and responsibilities. Alongside the three scopes, some emissions are required to be reported as out of scope. No out-of-scope emissions are considered relevant to Hoare Lea.

3.2 Operational control.

As well as emissions sources, the organisational boundary should also be defined in terms of the assets and activities to be included. We have applied the operational control approach as defined by the HM Government Environmental Reporting Guidelines (which are in turn based on the World Resource Institute Greenhouse Gas Protocol) which set out the best practice approach to reporting. This control approach effectively says that if you have operational control of the emissions sources, it is reasonable that you should be responsible for those emissions.

3.3 Boundary.

The emissions sources included within the boundary condition are summarised in Table 2:

Table 2: Emissions sources by boundary.

	Included in boundary	Excluded from the boundary as outside of WorldGBC scope
Building Related Scope 1	a) Fossil fuels used in buildings (i.e. all natural gas) b) Fugitive emissions (arising from refrigerant gas leakage)	- Fossil fuel used in equipment (such as external maintenance equipment) - Fossil fuels used in fleet vehicles.
Building Related Scope 2	a) Purchased electricity. b) Purchased district/ communal heating and cooling.	- Offsite electricity charging for fleet vehicles. - Other offsite purchased energy

Data

For our offices, we have calculated building related Scope 1 and 2 emissions using data collected over the period of 1st October 2022 to 30th September 2023. The data has been sourced from a centrally managed spreadsheet where monthly meter readings are taken for utilities from all offices. Each office has a nominated Environmental Management Champion who is responsible for keeping the energy consumption spreadsheet updated.¹²

Fugitive (or F-gas) emissions arise from the leakage of refrigerant gases that have a global warming potential. Actual refrigerant leakage rates are not known for our offices. We have estimated fugitive emissions based on equipment nameplate ratings for refrigerant type and charge, with annual average leakage rates, assumed according to the system types detailed in CIBSE TM65 Table 4.4.¹³

¹² Environmental Management Champions have a role within our Integrated Management System (IMS) to collect energy and environmental data.

¹³ <https://www.cibse.org/knowledge/knowledge-items/detail?id=a0q3Y00000IPZOhQAP>

3.4 Carbon emissions for financial year FY22-23.

Our building related emissions assessed for 1st October 2022 to 30th September 2023 (FY22/23) are shown in Table 3 and Figure 2.

Table 3: FY 22-23 carbon emissions breakdown

Emission source	Data	Emissions tCO ₂ e	% of baseline	Notes
Building related Scope 1				
Mains gas	Energy, kWh	60	20%	Combination of metered and unmetered data
Fugitive emissions	Mass of refrigerant, kg	34	11%	Estimated, based on CIBSE benchmarks.
Scope 1 totals		94	31%	
Building related Scope 2				
Grid electricity (Location based)	Energy, kWh	197	66%	Combination of metered and unmetered data
Heat	Energy, kWh	9	3%	London, Plymouth, and Leeds Office
Scope 2 totals		206	69%	
Building related Scope 1 and 2 total				
		300		

The total building emissions are 300 tCO₂e. Of this, 66% comes from electricity use, 20% from natural gas use, 3% from district heating and 11% from F-gas (refrigerant) emissions. Our emissions have increased this year for two reasons: the introduction of the Reading office, which has been included this year as it now has an increased number of employees and a larger area; the Bristol office also had a submeter which was not accounted for in last year's results but has been included for this year.

The majority of offices have experienced reductions in electricity and gas consumption. Notably, two of our offices underwent relocation and observed significant improvements in their emissions profile.

Our Glasgow office relocated to a state-of-the-art building which as well as being entirely electric, is naturally ventilated throughout, reducing the need for air conditioning. This and other energy saving initiatives have resulted in a remarkably low energy usage per square meter (73kWh/m²).

Our Leeds office has also moved into a shared tenancy with Tetra Tech. This office is connected to a heat network which has improved the heating efficiency.

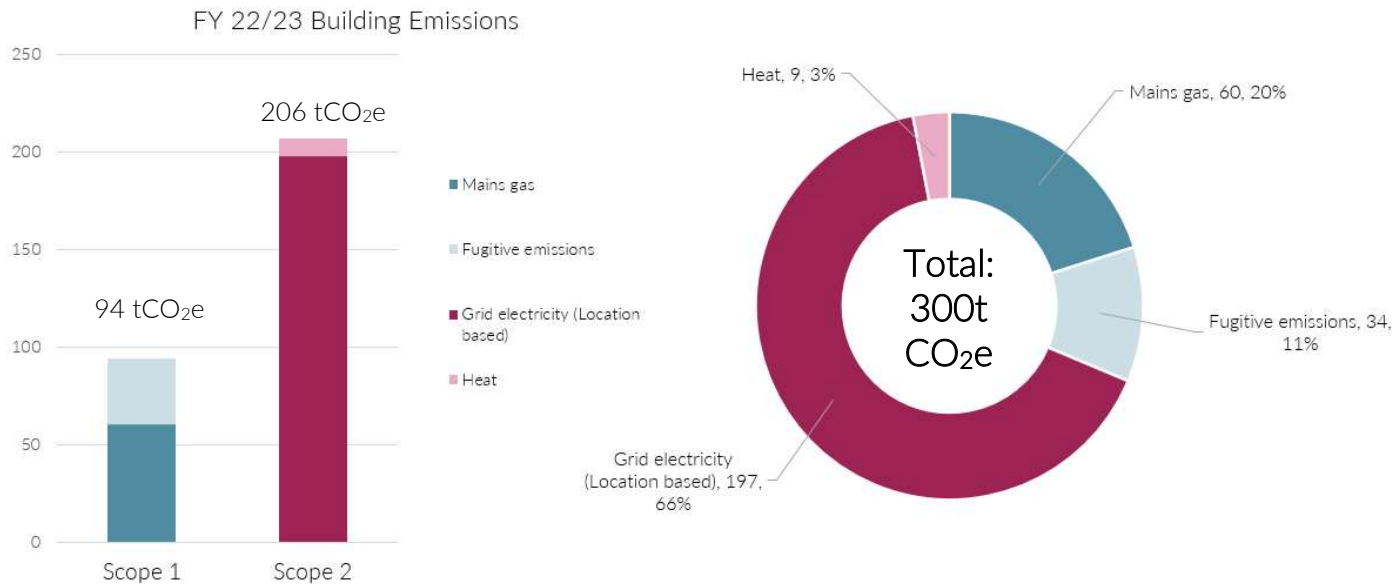


Figure 2: Financial period 2022-23 building related scope 1 and scope 2 carbon emissions breakdown (tonnes CO₂e)

3.5 Metering and reporting.

Underpinning all of our work on net zero is the need to ensure that how we report our impacts and progress toward reducing them aligns as closely as possible with best practice guidance (as defined by the HM Government Environmental Reporting Guidelines and the GHG Protocol).

To enable improved data capture and quality, we have surveyed our existing electricity, gas and heat meters. We have engaged a specialist firm to undertake automatic meter reading (AMR) upgrades where we control meters and will push for the same for our landlord submeters. These instalments started this year and will continue to be implemented throughout this year.

[For more information on our metering improvements, see Appendix A: Reporting, metering and assumptions.](#)

4. How we achieve net zero carbon.

4.1 Emissions reduction trajectory.

For our offices, we have defined an upper energy use intensity limit according to UKGBC guidance and a number of our buildings are failing to meet the 2020-25 UKGBC energy use intensity targets. To ensure continuous improvement, the UKGBC also tighten energy use intensity requirements over time, as shown by Table 4, whilst concurrently requiring fossil fuels to be phased out.

Table 4 shows the UKGBC target energy use intensity against our current office energy use intensity (EUI). Also included is the energy intensity percentage change comparison to the previous reporting period.

Table 4: Current office energy intensity against the UKGBC trajectory to 2050 and the energy intensity from offices last year.

Office	Area (m ²)	UKGBC scope	UKGBC Target EUI (kWh/m ² /year)	Office EUI FY21-22 (kWh/m ² /year)	Office EUI FY 22-23 (kWh/m ² /year)	Change between reporting periods (%)
Birmingham	590	Tenant	70	397	304	-23%
Bournemouth	1,085	Whole Building Target	130	124	112	-9%
Bristol	1,983	Whole Building Target	130	144	215	49%
Cambridge	291	Tenant	70	305	275	-10%
Cardiff	568	Whole Building Target	130	95	92	-4%
Glasgow*	466	Tenant	70	102	66	-35%
Leeds*	339	Tenant	70	153	135	-11%
London	2,087	Tenant	70	105	97	-7%
Manchester	766	Tenant	70	144	146	1%
Oxford	283	Whole Building Target	130	151	122	-19%
Plymouth	538	Tenant	70	127	127	0%
Reading	341	Tenant	70	-	104	-
Total Office EUI	9,337			150	147	-2%

*Offices that moved have a weighted EUI calculation to account for the for the full year. The calculation is the total energy over an area which was weighted by the number of months that the office was operational throughout the year. The area provided here for the office is from the new office.

4.2 Comparison of energy intensity between annual reporting periods

The improvements from last year can be seen in the table, with the majority of offices reporting a reduction in energy intensity compared to the previous year. There are also two new offices in Leeds and Glasgow which are both performing significantly better than the previous offices. However, it is difficult to compare accurately the EUI of the office without the full year’s data.

The following 8 offices reduced their energy intensity between FY21-22 and FY22-23: Birmingham, Bournemouth, Cambridge, Cardiff, Glasgow, Leeds, London, Oxford.

The following offices increased their energy intensity between FY21-22 and FY22-23: Bristol and Manchester. The Bristol office had a significant increase which is because it had two submeters and only one of the readings was being taken in the previous years’ reporting. The previously unreported sub-meter in now included.

We are reviewing opportunities to reduce energy intensity across our offices on an ongoing basis.

The Reading office was added this year due to the increase in number of employees (above 10) which partly explains the increase in emissions for this reporting period.

This year we have set specific, measurable targets for energy demand reduction so that all offices can meet the UKGBC trajectory in the future.

Table 5 below shows the annual energy reduction targets for offices dependant on their current EUI. Offices that have a higher EUI should target a higher annual reduction to meet the UKGBC targets. For example, offices with an EUI above 130 kWh/m²/year have been set a target to reduce the EUI by 10%. Offices that have an EUI between 100-130 kWh/m²/year have a target to reduce the EUI by 5% and offices with a lower EUI are targeting 3% reduction.

Table 5: Office Energy Use Intensity (EUI) reduction targets.

FY22/23 Office EUI (kWh/m ² /year)	Target annual EUI reduction
<130 kWh/m2	10%
100-130 kWh/m2	5%
>100 kWh/m2	3%

4.3 Governance.

Mobilising governance gives us the best chance of realising the meaningful, long-lasting, and comprehensive positive impact on sustainability outcomes. With focus, we can create intent which leads to specific, considered, purposeful outcomes. Last year, we proposed a series of actions, including boosting engagement, clarifying responsibilities and establishing a delivery framework for net zero buildings, led by our net zero working group. Environmental Management (EM) Champions in each office to bolster data collection as they have a key role in promoting awareness and compliance with the firm’s EM systems, and in engendering an environmentally conscious culture within their office and the firm as a whole.

4.4 Reducing energy demand.

For any strategy, it is essential to focus on reducing demand whether that be energy or any other resource; only using what we need is a key cornerstone of good carbon management.

During the period FY22-23 we can report the following progress:

- We have moved two offices (Leeds and Glasgow) to new locations with improved EUI.
- Overall, 8 offices observed a reduction in EUI
- We introduced a financial bonus system for directors relating to the EUI of their offices, which is intended to reward energy efficiency improvements and sense of ownership in carbon reporting.

As previously reported, we have limited capability to directly influence F-gas emissions as these are controlled by landlords in most cases, but we will continue to seek reduction through engagement with our landlords. Where we have direct control over cooling plant, we will aim to replace equipment with refrigerants having lower global warming potential (GWP) impacts.

4.5 Increasing renewable supply.

This year we have recorded our renewable supply from the Oxford office. In consultation with building owners, we will continue to explore opportunities to boost our renewable energy supply. Installations are mutually beneficial, reducing our electricity-related emissions and costs whilst cutting the owner’s emissions and raising the property’s market value.

4.6 Phasing out fossil fuels in buildings.

Using natural gas in heating plant accounts for 20% of our building emissions. Significant emissions reductions could be achieved by switching to low carbon heat sources (such as heat pumps). However, it is also a challenge as the majority of our offices have central plant managed by the landlord. We will continue to speak to our landlords to seek the replacement of boilers with heat pumps.

The combustion of fossil fuels is inherently unsustainable both in terms of its supply and its impact on climate change as well as being undesirable in terms of impact on local air quality. Currently, the best solution is to use electrically derived heat, whether by connecting a heat main powered electrically, or using local solutions such as heat pumps.

We are still aiming to transition to electrically derived heating where we operate gas-fired boilers (subject to lease conditions and landlord agreement). Where we work in a tenant's demise, our ability to firmly commit and plan for the phasing out of fossil fuels is limited. However, we will push for public policy change and engage with building owners. We have also set up meetings with landlords but it is not straightforward to implement these changes.

4.7 Dealing with residual emissions.

Our long-term aspiration is to occupy net zero buildings by reducing energy demand as far as possible and sourcing the energy that is required from fully verified renewable electricity tariffs.

We have established the process for purchasing electricity via high-quality renewable electricity contracts with Ecotricity and have successfully transferred over all offices where we control the supply of electricity as of April 2022. The default, otherwise, is that offices are supplied with low-quality electricity and have a typical grid mix of energy sources.

We will collaborate with landlords where we do not control the electricity supply to facilitate the transition to renewable supplies where feasible.

We are, however, still taking the leadership approach to carbon offsetting by establishing a transition fund to further support the transition to net zero.

Table 6: Electricity procurement type during the reporting period.

Office	Responsibility for office electricity supply	Type of electricity supply
Birmingham	Landlord	Low-quality (grid)
Bournemouth	Hoare Lea	High-quality renewable electricity
Bristol	Hoare Lea	High-quality renewable electricity
Cambridge	Landlord	Low-quality (grid)
Cardiff	Hoare Lea	High-quality renewable electricity
Glasgow	Landlord	Low-quality (grid)
Leeds	Landlord	Unknown (assumed to be grid)
London	Landlord	Low-quality (grid)
Manchester	Landlord	Low-quality (grid)
Oxford	Hoare Lea	High-quality renewable electricity
Plymouth	Landlord	Unknown (assumed to be grid)
Reading	Landlord	Unknown (assumed to be grid)

Transition fund

For the period FY22-23 we are keeping our carbon price at the same rate as the previous year, £95/tCO₂e. This is equivalent to the carbon price set by the Mayor of London and similar to the carbon price being used by some other leading organisations operating in the built environment sector.

Our transition fund comprises two parts: (i) payments for approved international offsets, and (ii) investment in a UK community-based carbon reduction project.

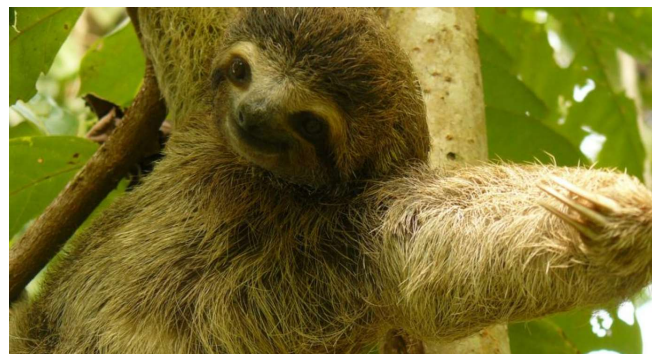
Total transition fund for this reporting period: £28,500, based on 300 tCO₂e to be offset at a carbon price of £95/ tCO₂e

(i) Payment for offsetting baseline emissions through an approved international carbon standard. £8,500	(ii) Investment in community-based carbon reduction project in the UK (for the remainder of the transition fund). £20,000
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Carbon offsetting

Accepting that we are going to be making an ongoing investment in offsetting, we want to ensure that the investment has maximum impact. As far as possible, we want our investments to align with the Oxford Principles for Net Zero Aligned Carbon Offsetting but to also maximise non-carbon benefits, such as providing community value, in line with our corporate responsibility strategy¹⁴.

In the context of our corporate responsibility strategy, investing in carbon removal projects such as afforestation, i.e., a nature-based solution, would both remove carbon from the atmosphere and support other ecosystem benefits; planting trees sustains biodiversity, provides active water filtration and generates employment.



For these reasons, we purchased offsets generated by The Planting Biodiverse Forests Program in Panama, using the Gold Standard. [Planting Biodiverse Forests in Panama – Gold Standard Marketplace](#)

Planting Biodiverse Forests Program in Panama

The Planting Biodiverse Forests Program in Panama, initially developed by Forest Finance and recently extended by the partner Sustainable Timber and Isla Cebaco, is based on a model that combines sustainable, high quality timber production with biodiversity protection and ecosystem restoration. By also planting a mix of cacao and native tree species in some areas, the project also enables sustainable cacao production. By sourcing timber from primary rainforest or harvesting large-scale monoculture plantation, the timber trade has significantly depleted tropical rainforests. CO2OL Tropical Mix is looking to change that by introducing sustainable timber production while reforesting degraded pastureland with a mix of native tree species and teak. The resulting forests offer a natural habitat for native animals and plants, protect and enrich the soil, save and filter water and contribute to the mitigation of climate change. Project impacts and benefits include:

- More than 7.5 million trees from 20 different native species have been planted – capturing carbon and mitigating climate change.
- 25% has been declared nature reserve, protecting the forest and the animals and plants living there.
- 15 threatened animal species from the Red List have found a habitat in the project.
- The reforested areas serve as bridges for wandering animals seeking new habitats.
- The project provides long-term employment for the local population. So far, the Forest Finance Group has created 150 jobs, through their reforestation projects in Panama. The training and further education of the native population leads to an improved living standard.
- Knowledge transfer around the use of sustainable and innovative forest management technologies, GIS and monitoring-systems in Panama lays the ground for future projects.
- All employees receive a wage above the legal minimum, health insurance and a pension fund. Furthermore, they receive additional optional benefits such as a life insurance as a security for their families, an internal credit programme, training and further education and special seasonal bonuses.

The offset certificate is provided in the appendix.

The UK-based community transition fund project

The remainder of the transition fund (£20,000) will be awarded to selected community transition fund project in the next carbon accounting year (2024-25).

As an engineering consultancy, we recognise the role the built environment has to play in mitigating its ~40% contribution to the national carbon footprint and have decided to pledge the remainder of our transition fund in support. Specifically, we will use the remainder of the transition fund to invest in a UK community-based carbon reduction project. This could, for example, entail implementing energy efficiency improvements or enable the retrofit of LZC technologies in one or more community projects. As an example, education buildings are at the forefront of the government's push to decarbonise the UK; all new Department for Education schools must be designed as net zero.¹⁵

Our employee selected community transition fund project for 2021-22 was the decarbonisation of the Redcatch Community Garden in Bristol.

¹⁴ <https://www.smithschool.ox.ac.uk/sites/default/files/2022-01/Oxford-Offsetting-Principles-2020.pdf>

¹⁵ <https://www.gov.uk/government/publications/output-specification-generic-design-brief-and-technical-annexes>



Redcatch Community Garden, Bristol

Redcatch Community Garden is a locally run, not-for-profit organisation with charitable status in South Bristol. For the last six years they've been operating a community event space, running welcome spaces, hosting art therapy for vulnerable children and adults, holiday clubs and school educational sessions, and growing vegetables on site. Towards the end of 2023, Hoare Lea awarded RCG funding of £20,000 to help with carbon transition initiatives.

Since then, a Hoare Lea team visited the site and spent time with the staff to understand their priorities and needs. We've created a list of possible initiatives building on those originally proposed and prioritised them with input from the garden staff. One of the identified opportunities to improve rainwater harvesting has now been implemented with two 1000L collection tanks installed from another source of funding, leaving more resources for our remaining initiatives.

It has been agreed that Hoare Lea can add most value to the site and make a significant sustainability improvement by improving the 50kW diesel fired space heater for their event space. We plan to convert this to run on Hydrotreated Vegetable Oil (HVO) fuel which is a sustainable synthetic diesel alternative with typically 90% less net CO2 emissions than fossil-based diesel. To save them making daily trips to the petrol station with jerry cans to fill it, we plan to install an on-site HVO fuel store. To further improve the fuel burn and improve the quality of use, we're aiming to add a recirculating intake air loop and some local sound attenuation.

Remaining funds will be directed at electrical elements- potentially replacing their office electric radiators with a mini-split air to air heat pump and lastly a solar PV installation if feasible, or the base electrical upgrades to allow these to be added later with additional funding from other sources.

4.8 Verifying our net zero balance.

A critical facet of any net zero strategies is disclosure - inviting scrutiny should help establish the robustness of the net zero building claim and increasing transparency will ensure consistency across reporting organisations, making it easier to assess progress.

This report and its appendices have been audited by a third party to verify the approach and calculations used to determine our net zero balance in line with UKGBC and WorldGBC requirements. We will submit the audit verification letter alongside our report to WorldGBC.

Disclosure should be made through any publicly accessible information and we are opting to 'show our working' by publishing a condensed version of this report on our website. By committing to openness, we risk our collaborators and clients identifying shortcomings in our net zero claims. We welcome all comments – continuous improvement and refinement of reporting is a central tenet of carbon management.

Appendix A: Reporting, metering and assumptions.

Assessment for FY 22-23.

Table 7 sets out the breakdown of the emissions baseline for FY22-23 (1st Oct 2022 to 30th Sept 2023). The emissions factors applied are detailed in the next section.

Table 7: FY22-23 carbon emissions breakdown.

Emission source	Data	Emissions tCO ₂ e	% of baseline	Notes
Building related Scope 1				
Mains gas	Energy, kWh	60	20%	Combination of metered and unmetered data
Fugitive emissions	Mass of refrigerant, kg	34	11%	Estimated, based on CIBSE refrigerant leakage benchmarks.
Scope 1 totals		94	31%	
Building related scope 2				
Grid electricity (Location based)	Energy, kWh	197	66%	Combination of metered and unmetered data
Heat	Energy, kWh	9	3%	Districted heating for London, Plymouth, and Leeds Office
Scope 2 totals		206	69%	
Building related scope 1 and 2 total		300		
Intensity metrics	Gross area	9,337 m ²	0.03 tCO ₂ e/m ²	
	Staff FTE	1168	0.258 tCO ₂ e/FTE	

Emissions factors.

Energy

In line with UKGBC carbon accounting guidelines, emissions factors have been sourced from the UK Government Greenhouse reporting conversion factors. Emission factors used for FY22/23 were the Government 2023 factors. The emissions factor for the King’s Cross district heat network, which is combined heat and power (CHP) led, has been set as 0.0719 kgCO₂e/kWh in the King’s Cross Utilities Guide prepared by The King’s Cross Central Limited Partnership. This factor has also been applied to the Leeds heat network. The Plymouth heat network has been set up with a factor of 0.171 kgCO₂e/kWh.

This value was calculated in 2016 and was the most recent available at the time of preparing this report. The possibility of using an updated factor will be investigated in future years.

Electricity – market-based factors

The UKGBC also requires that dual reporting is undertaken for electricity, covering both location-based and market-based factors. The UK Government Greenhouse reporting conversion factors discussed above are location-based. For market-based factors, the UKGBC state that electricity sourced from renewable electricity procurement mix¹⁶ has an emissions factor of 0.000 kgCO₂e/kWh, with all other electricity assigned the residual grid emissions factor. The Department for Energy Security and Net Zero does not publish this value, and the UKGBC recommend that it is sourced from the Association of Issuing Bodies, which publishes an annual residual grid emissions factor for Great Britain (Northern Ireland and Ireland are combined).¹⁷

Fugitive emissions

100-year time horizon industry standard global warming potential values (GWP) have been used for the R410a (2088), R22 (1810), R407C (1774) and R134a (1430) refrigerants in our HVAC systems.

Metering.

Table 8: An outline of the current office metering systems.

Office	Utility	Meters
Birmingham	Electricity	Main meter, lighting submeter, small power submeter
	Gas	Gas meter (office apportionment)
Bournemouth	Electricity	Main meter
	Gas	Gas meter
Bristol	Electricity	Main meter
	Gas	Gas meter
Cambridge	Electricity	Lighting submeter, small power submeter
	Gas	Gas meter (office apportionment)
Cardiff	Electricity	Ground floor meter, First floor meter
Glasgow	Electricity	Office submeter
Leeds	Electricity	Electricity meter Office apportioned
London	Electricity	Data hub submeter, first floor lighting submeter, first floor power submeter, second floor lighting submeter, second floor power submeter, AH3 Fan/Pump submeter, AH4 Fan/Pump submeter
Manchester	Electricity	Main meter, Meeting room cooling submeter, WC submeter 1, WC submeter 2
Oxford	Electricity	Main meter
Plymouth	Electricity	East submeter, West submeter
Reading	Electricity	Electricity meter (office floor apportioned)
	Gas	Gas meter (office floor apportioned)

Assumptions.

If monthly meter data was missed across a period: the monthly inputs is taken as an average across all missing months. The average is calculated as the difference between the two meter readings divided by the number of months missing the data. The total annual energy captured using this method remains the same.

¹⁶ The renewable energy mix includes electricity sourced from onsite owned generation, an onsite PPA with new unsubsidised (private wire), an offsite PPA with new unsubsidised generation, high quality green tariffs, an offsite PPA w/ new subsidised, low quality green tariffs and electricity combined with unbundled REGOs

¹⁷ https://www.aib-net.org/sites/default/files/assets/facts/residual-mix/2019/AIB_2019_Residual_Mix_Results.pdf

Appendix B: Net zero carbon buildings – operational minimum reporting template.

Table 9: Operational minimum reporting template for UK offices. Adapted from the UKGBC Renewable Energy Procurement & Carbon Offsetting guidance, pages 35 & 36.

OVERVIEW	
Dates of achievement	1 st October 2022 – 30th September 2023
Verified by	BRE
Building locations	Birmingham, Bournemouth, Bristol, Cambridge, Cardiff, Glasgow, Leeds, London, Manchester, Oxford, Plymouth, Reading
Building type	B1 (a) Offices
Building description	Detailed in full report
Energy scope	Detailed in full report
Assessed area	9,337 m ² total (Full report shows building level breakdown with a combination of GIA and NLA used)
Percentage of total building area	N/A due to the mix of the building contained within the portfolio
Data sources	ESOS report and references therein: REP-HL ESOS Office energy saving opportunities Feb2020-rev01

ENERGY – OVERALL

Indicator	kWh	kWh/m ²
Total annual energy consumption	1,372,261	147
Total annual electricity consumption	953,534	102
Total annual fuel consumption (all other sources e.g. natural gas, 'green gas', heat network) per fuel/delivery type	418,726	51
Total annual electricity exported by renewable energy sources minus storage losses (e.g. photovoltaic)	1,494	1

RENEWABLE ELECTRICITY PROCUREMENT

Indicator	kWh	%
Onsite owned	8,134	1%
Onsite PPA w/ new unsubsidised (private wire)	0	0%
Offsite PPA w/ new unsubsidised	0	0%
High quality green tariffs	529,335	56%
Offsite PPA w/ new subsidised	0	0%
Low quality green tariff	354,280	37%
Unbundled REGOs	0	0%
Landlord tariff or quality unknown	62,877	7%
Total		100%

SUPPLEMENTARY NARRATIVES REQUIRED:

- Where interim EUI targets have not been met: an action plan will be prepared setting out how the target will be met in subsequent years.
- For existing buildings utilising fossil fuel based heating, hot water, and cooking: a trajectory plan setting out how fossil fuels will be phased out by its next system replacement cycle. The plan should also indicate how all other energy systems will be compatible with being powered by renewable energy sources by their next system replacement cycle.

- Supporting procurement information, e.g., supplier and green tariff name, REGO registry entry (Refer to Table 9-10 of the Renewable Energy Procurement & Carbon Offsetting guidance).

CARBON

	Dual reporting			NZCB Framework Definition approach	
	Scope 1	Scope 2 (location-based)	Scope 2 (market-based)	Scope 1	Scope 2
Total annual direct CO ₂ e emissions from self-generation and consumption	0 tonnes			0 tonnes	
Total annual indirect CO ₂ e emissions from imported electricity		197 tonnes	16.5 tonnes (excluding green electricity)		197 tonnes
Total annual direct CO ₂ e emissions from combustion of fuel (e.g. onsite gas) per fuel type	94 tonnes			94 tonnes	
Total annual indirect CO ₂ e emissions from combustion of fuel (all other sources, e.g. heat network) per fuel type		9 tonnes	9 tonnes		9 tonnes
Total annual CO ₂ e for Scope 1 + 2 emissions		206 tonnes	25.5 tonnes	94 tonnes	206 tonnes

For net calculations:

Total annual displaced CO ₂ e emissions from electricity exported by on-site renewable energy sources minus storage losses	0
Total annual displaced CO ₂ e emissions from international carbon offsets	300 tonnes
Total annual displaced CO ₂ e emissions from domestic carbon units	0
Total annual net CO ₂ e emissions	0

OFFSETS

Carbon offset approach used	Transition fund
International carbon offset standard used, amount and type of offset credit procured	Standard: Gold Standard Amount: 300 credits (also covering sources outside of UKGBC scope as detailed in the main report)
Registry link	Type of offset credit: Reforestation Registry Link: https://registry.goldstandard.org/credit-blocks?q=Gold+Standard+Marketplace+Order+GSM25995+&page=1
Domestic carbon unit standard used, amount and type of offset unit procured	N/A
Registry link	
Weighted average cost per tonne of CO ₂ e for carbon credits/units bought	£45/tCO ₂ e (approx..)
Transition Fund – carbon price, cost per tonne of CO ₂ e (if applicable)	£95/tCO ₂ e

SUPPLEMENTARY NARRATIVE REQUIRED:

- For Transition Fund approach – Refer to Section 4.8.

Table 10: Carbon Accounting for ‘Net Zero Carbon – in Operation’. Adapted from the UKGBC Renewable Energy Procurement & Carbon Offsetting guidance, pages 56 & 57.

CARBON ACCOUNTING FOR ‘NET ZERO CARBON – IN OPERATION’

Building	Area (m²)	Gas (kWh)	Heat (kWh)	Electricity (kWh)	Renewable electricity procurement mix – consumption (kWh)							Electricity (kWh)	Exported generation (kWh)
					Onsite owned	Onsite PPA w/ new unsubsidised (private wire)	Offsite PPA w/ new unsubsidised	High quality green tariffs	Offsite PPA w/ new subsidised	Low quality green tariff	Unbundled REGOs		
Birmingham	590	108,119	-	71,209	-	-	-	-	-	71,209	-	-	-
Bournemouth	1,085	48,148	-	73,743	-	-	-	73,743	-	-	-	-	-
Bristol	1,983	57,806	-	369,034	-	-	-	369,034	-	-	-	-	-
Cambridge	291	42,813	-	37,216	-	-	-	-	-	37,216	-	-	-
Cardiff	568	-	-	52,120	-	-	-	52,120	-	-	-	-	-
Glasgow	466*	-	-	21,360	-	-	-	-	-	21,360	-	-	-
Leeds	339*	-	9,860	22,550	-	-	-	-	-	-	-	22,550	-
London	2,087	-	44,653	158,454	-	-	-	-	-	158,454	-	-	-
Manchester	766	55,114	-	56,565	-	-	-	-	-	56,565	-	-	-
Oxford	283	-	-	34,438	8,143	-	-	26,295	-	-	-	-	1,494
Plymouth	538	-	28,199	40,146	-	-	-	-	-	-	-	40,146	-
Reading	341*	24,015	-	16,699	-	-	-	-	-	9,476	-	7,223	-
Refrigerants**													
Total	9,337	336,015	82,712	953,534	8143	0	0	521,192	0	354,280	0	69,919	1,494
					%	1%	0%	0%	55%	0%	37%	0%	7%

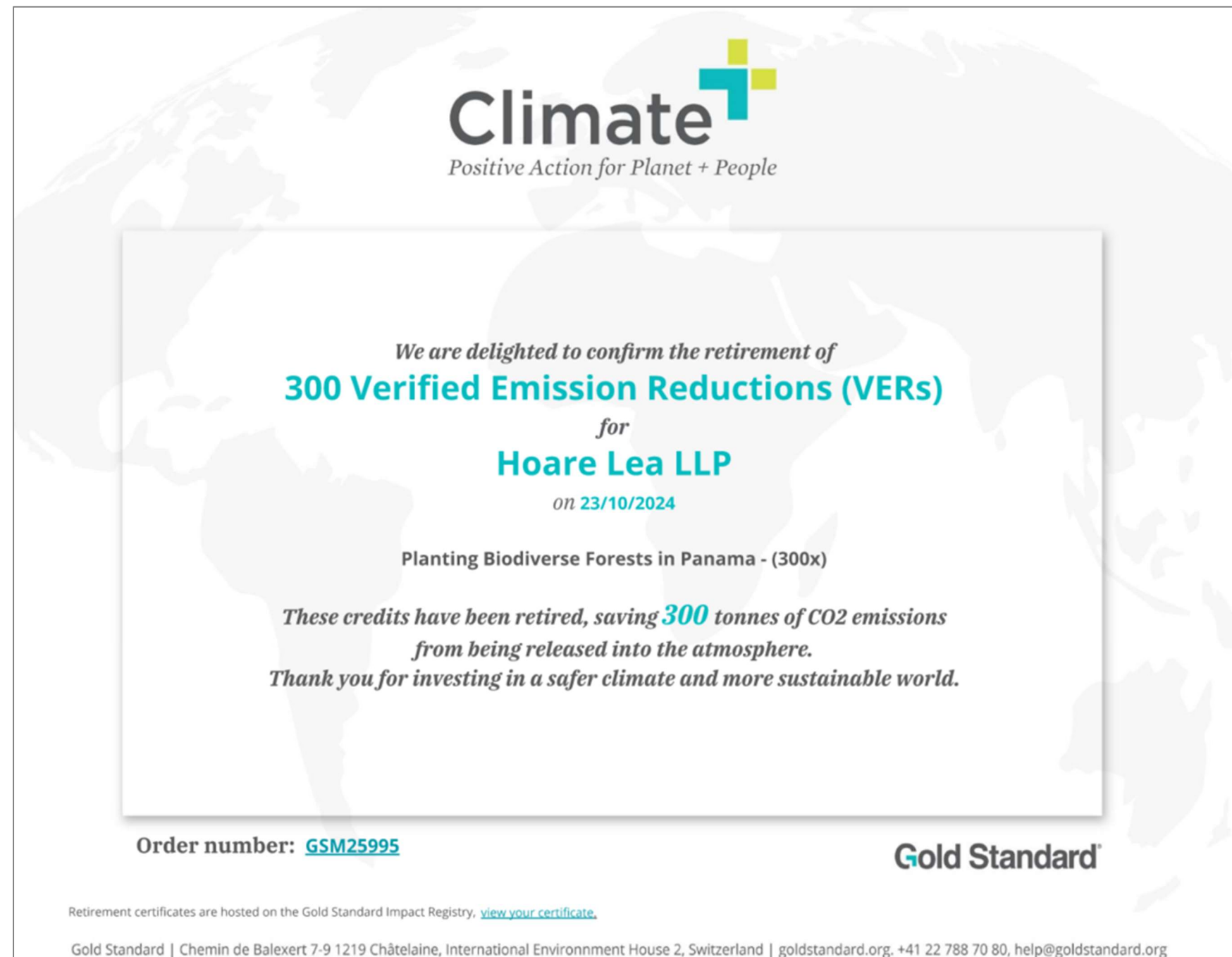
*Areas included are from the new offices.
**Refrigerants included as a total not individually by building

Scope 1	Scope 2: location-based	Scope 2: market-based	Scope 1	Scope 2: location-based
Dual reporting (gross tCO2e)			NZCB Framework (gross tCO2e)	
19.5	14.7	-	19.5	14.7
8.7	15.3	-	8.7	15.3
10.4	76.4	-	10.4	76.4
7.7	7.7	-	7.7	7.7
-	10.8	-	-	10.8
-	4.4	-	-	4.4
-	4.7	4.7	-	4.7
-	32.8	-	-	32.8
10	11.7	-	10	11.7
-	7.1	-	-	7.1
-	8.3	8.3	-	8.3
4.3	3.5	1.5	4.3	3.5
34	-	-	34	-
94	197	14.5	94	197


Gross scope 1 + 2 combined (tCO2e)
Exported generation (tCO2e)
Net combined (tCO2e)
Min. offset credits required for FY22/23

Scope 1 inc. refrigerant	Scope 2	Total
94	206	300
0	0	0.0
94	206	300
		300

Appendix C: Carbon offsetting certificate.



Appendix D: Third Party Audit letter.



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Hoare Lea LLP
c/o Ashley Bateson, Hoare Lea
(by email to: AshleyBateson@hoarelea.com)

16 October 2024

Our Ref. P128326-1000

Dear Sir,

Independent 3rd party verification audit of net zero carbon – operational energy; Hoare Lea LLP portfolio of offices

We are pleased to present our 3rd party audit report of the net zero carbon - operational energy for the Hoare Lea LLP (Hoare Lea) portfolio of 12 offices in the enclosed Appendix A. This is for the reporting period of 01 October 2022 to 30 September 2023. This is the third year of reporting the carbon emissions of this portfolio of offices.

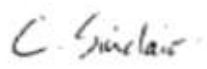

Hoare Lea is a signatory of the World Green Building Council (WorldGBC) Net Zero Building Commitment and thus they have set out to assess the portfolio in accordance with the requirements of the UKGBC Net Zero Carbon Building Framework (the Framework) to satisfy the WorldGBC commitment. The Hoare Lea assessment highlights that:

- The total annual energy consumption for the portfolio is 147kWh/m²/year, resulting in a total annual carbon emission (Scope 1 and 2) of 300tCO₂e
- Regarding Transition Fund arrangement: To demonstrate leadership, Hoare Lea has established a transition fund at a carbon price of £95/tCO₂e to cover the total annual carbon emissions as reported above:
 - A total of £8,500 have been used to purchase international carbon credits via the fund for the reporting period of 01 October 2022 to 30 September 2023.
 - Hoare Lea have committed to invest the remainder of the transition fund (£20,000) in a community-based carbon reduction project in the UK which will be spent in the next carbon accounting year (01 October 2024 to 30 September 2025).
- A carbon reduction strategy has been developed to be implemented for the continual improvement of the portfolio

This verification audit concludes that the approach taken by Hoare Lea is consistent with the requirements of the UKGBC Net Zero Carbon Framework for operational energy. The operational energy stage for the reporting period is verified as satisfying the Framework.

Appendix A of this letter provides commentary on our findings and information regarding the requirements to satisfy the UKGBC's Net Zero Carbon Buildings Framework at operational stage.

Yours sincerely



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BRE is a trading name of the company.

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