

# CARBON FOOTPRINTING & MANAGEMENT PLAN

BLENHEIM HOUSE CONSTRUCTION  
TE0511

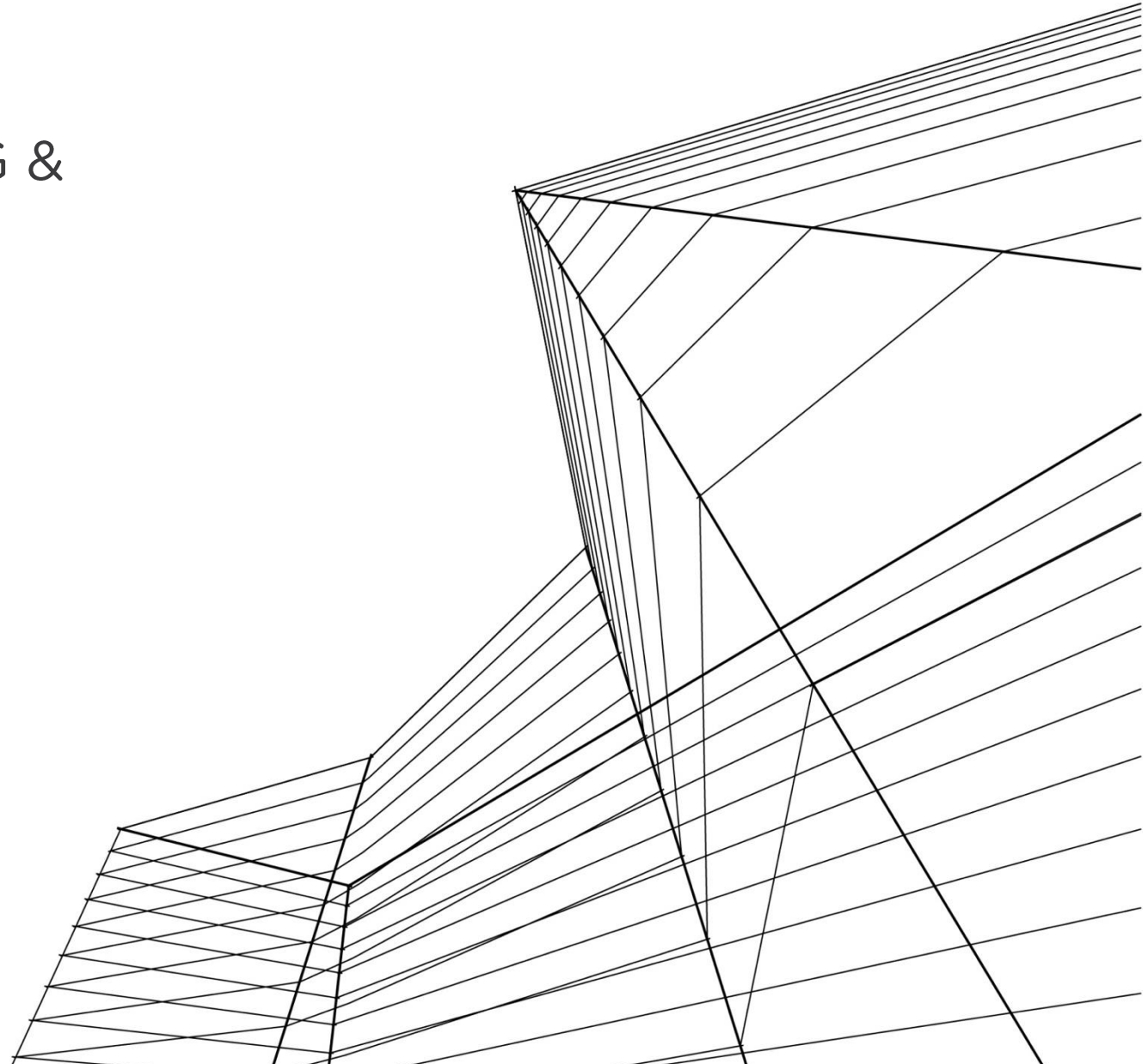
**Prepared for:**  
Blenheim House Construction

20.02.23

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# VERSION CONTROL

| Version | Date     | Author   | Checked By | Status | Comments   |
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| 1.0     | 17/06/22 | O Szyber | M Cotton   | Draft  | Client to review and confirm preferred offsetting approach |
| 2.0     | 20/02/23 | O Szyber | M Cotton   | Final  | Carbon offset evidence appended for reporting period       |

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DISCLAIMER

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# ABOUT TWIN & EARTH

**Twin & Earth provides independent engineering solutions with sustainability at its core.**

Our vision is to seamlessly integrate sustainability into the entire construction process, without it being seen as an afterthought or inconvenience. From the initial concept, through planning, construction and operation, we will ensure sustainability is woven into the process and a priority for all stakeholders.

We listen and respond to our customers. We are open and flexible to their needs and concerns, breaking down complex concepts into simple solutions that work both on paper and in practice. Our consultants take a holistic view of each proposal, focusing on responsible and technical strategies that are pragmatic and inspiring.

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# TABLE OF CONTENTS

|  |    |
|--|----|
| <a href="#">GLOSSARY</a>   | 5  |
| <a href="#">1 EXECUTIVE SUMMARY</a>  | 8  |
| <a href="#">2 INTRODUCTION</a>   | 10 |
| <a href="#">3 REPORTED EMISSIONS</a>   | 13 |
| <a href="#">4 CARBON MANAGEMENT PLAN</a>                                     | 17 |
| <a href="#">5 APPENDIX A - SCOPE 1, 2 AND 3 EMISSION INCLUSION/EXCLUSION</a> | 19 |
| <a href="#">6 APPENDIX B - CARBON OFFSET</a>                                 | 20 |

# GLOSSARY

|  |   |
|--|---|
| Carbon Neutral                         | Carbon neutrality involves the strategy of offsetting any carbon emissions through the purchasing of carbon credits and supporting licensed offsetting schemes.   |
| GHG Protocol                           | The Greenhouse Gas Protocol establishes comprehensive global standardised frameworks to measure and manage greenhouse gas emissions from private and public sector operations, value chains and mitigation actions.   |
| GHG Protocol Corporate Standard        | A standard covering the accounting and reporting of seven greenhouse gases covered by the Kyoto Protocol. The standard provides requirements and guidance for companies and other organisations preparing a GHG emissions inventory.  |
| Greenhouse Gases (GHG)                 | Any of the seven gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub> ) which contribute to the greenhouse effect by absorbing infrared radiation.  |
| Kyoto Protocol                         | The Kyoto Protocol operationalises the United Nations Framework Convention on Climate Change by committing industrialised countries and economies in transition to limit and reduce greenhouse gas emissions in accordance with agreed individual targets.  |
| Location-Based Approach                | Reflects average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data).  |
| Market-Based Approach                  | Reflects emissions from electricity that a company is purchasing, which may be different from locally generated electricity.  |
| Net Zero Carbon (NZC)                  | Organisations must not be emitting more greenhouse gases than they are removing from the atmosphere. Through this, businesses must commit to a strategy to reduce their emissions and only offset residual emissions once the strategy has been realised.   |
| PAS 2060:2014                          | A standard published by the British Standards Institute enabling organisations to demonstrate that their carbon neutrality claims are credible and verified in order to increase customer confidence.   |
| Pending Issuance Unit (PIU)            | Represents a contractual right to an anticipated delivery of an emissions reduction offset. These are typically related to carbon offsets relating to reforestation, representing the predicted sequestration. However, they are not guaranteed and cannot be used to report against UK-based emissions until verified. |
| Qualifying Explanatory Statement (QES) | An official statement or declaration that contains all the required information on the carbon neutrality of a particular organisation.  |
| Scope 1 Emissions                      | Direct GHG emissions from operations that are owned or controlled by the reporting company (e.g. fuel consumption in company-owned vehicles)  |
| Scope 2 Emissions                      | Indirect GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting company.  |
| Scope 3 Emissions                      | All indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, both upstream and downstream emissions (e.g. employee commuting, homeworking etc.)   |

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|                                     |  |
|-------------------------------------|--|
| Transmission and Distribution (T&D) | Emissions associated with electricity lost through the T&D system used to deliver purchased electricity. |
|-------------------------------------|--|

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# EXECUTIVE SUMMARY

**Blenheim House Construction are seeking to become carbon neutral with a further effort to work towards net zero carbon by 2030.**

This document acts to demonstrate the quantification of carbon emissions from Scope 1 and 2 activities, and selected Scope 3 emissions.

# 1 EXECUTIVE SUMMARY

Blenheim House Construction are seeking to become carbon neutral with a further effort to work towards net zero carbon by 2030.

This document forms the Qualifying Explanatory Statement (QES) to demonstrate that Blenheim House Construction has achieved carbon neutrality, as per PAS 2060:2014. Furthermore, Blenheim House Construction are committed to achieving carbon neutrality under the guidelines of PAS 2060:2014.

| PAS 2060 Requirement                          | Technical Capability  |
|---|---|
| Declaration subject                           | Blenheim House Construction   |
| Assessment option followed                    | Option 1: Demonstrating carbon neutrality   |
| Baseline year                                 | 1 <sup>st</sup> April 2021 – 31 <sup>st</sup> March 2022                                |
| Achievement period                            | 1 <sup>st</sup> April 2021 – 31 <sup>st</sup> March 2022                                |
| Commitment period                             | 1 <sup>st</sup> April 2021 – 31 <sup>st</sup> March 2022                                |
| Total GHG emissions                           | 242 tCO <sub>2</sub> eq   |
| GHG emissions reduction in application period | This is the baseline year measured retrospectively, 100% of emissions have been offset. |
| Validation                                    | Independent third-party assessment by Twin&Earth Ltd                                    |



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# INTRODUCTION

Blenheim House Construction have quantified their carbon footprint in accordance with PAS2060:2014.

## 2 INTRODUCTION

Blenheim House Construction have quantified their carbon footprint in accordance with PAS2060:2014.

### 2.1 General Information

Blenheim House Construction (BHC) are a main contractor specialising in new build and refurbishment within the commercial, residential and retail sectors in London and Southeast England.

As a main contractor, BHC are in a position to heavily influence the sustainability of the developments that they work on, be that through the procurement of materials, construction operations and practices.

As such, Blenheim House Construction have pledged to become carbon neutral by 2022 and implement measures with an effort to be net zero carbon by 2030.

#### 2.1.1 Carbon neutral vs net zero carbon

Although often used interchangeably, carbon neutral and net zero carbon are not the same. Carbon neutral refers to a policy of achieving a carbon reduction purely through offsets, whereas, net zero carbon means implementing a strategy to reduce emissions, and offsetting as a 'last resort' once the strategy has been realised.

A business can claim to be carbon neutral whilst working toward being net zero carbon through a carbon management plan.

<sup>1</sup> [www.ghgprotocol.org](http://www.ghgprotocol.org)

#### 2.1.2 Scope

The operational boundaries for the business have been set in accordance with the Greenhouse Gas Protocol<sup>1</sup>. It has been deemed that the baseline year carbon emissions will be calculated on a mix of location-based and market-based methodologies for the following Scopes:

- Direct Scope 1 emissions from sources owned and controlled by Blenheim House Construction (market-based).
- Indirect Scope 2 emissions from the generation of purchased electricity by Blenheim House Construction (market-based).
- Scope 3 indirect emissions from business travel, employee commuting and employee homeworking (location based).

This inventory methodology has been followed as it aligns with the GHG Protocol Corporate Standard.

The reporting period for the baseline year has been selected as the 1<sup>st</sup> April 2021 – 31<sup>st</sup> March 2022.

#### 2.1.3 Rationale and approach

The organisational boundaries have been set in line with the control approach, under which Blenheim House Construction account for 100% of GHG emissions of which it has operational control. This includes all leased offices and staff business mileage.

Due to the recent global restrictions and uncertainty caused by Covid-19, the reporting boundary includes the emissions of employee commuting and homeworking. This is to better represent the total emissions of the business, as it is anticipated Scope 1 and 2 emissions would be lower than pre-pandemic conditions.

Some GHG sources have been excluded from the data reporting process as it was deemed they contribute a non-material portion to the carbon

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footprint for the business. This includes homeworking emissions as they contribute to less than 0.1% of BHC's total GHG emissions and some very small office-based emissions, primarily from water use and material procurement.

#### **2.1.4 Responsible individuals**

The individuals responsible for the evaluation and provision of data necessary for the declaration are:

- Gareth Williams (Blenheim House Construction – Sustainability Manager)
- Matt Cotton (Twin&Earth – Director)
- Oliver Szyber (Twin&Earth – Energy and Sustainability Consultant)

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# REPORTED EMISSIONS

This section details the reported direct and indirect emissions for the baseline year.

## 3 REPORTED EMISSIONS

This section details the reported direct and indirect emissions for the baseline year.

### 3.1 Emission sources

All Scope 1 and 2 GHG emissions within Blenheim House Construction's operational control boundaries, as previously defined. Emissions from selected Scope 3 categories have also been included, as previously defined. Where emissions data is not readily available and have needed estimation, industry standards have been used alongside a conservative approach, so as to avoid underestimation.

| GHG Emissions              | Description   | 1 <sup>st</sup> April 2021 – 31 <sup>st</sup> March 2022 (tCO <sub>2</sub> eq) | % of total footprint |
|----------------------------|---|--|----------------------|
| Scope 1                    | Direct GHG emissions arising from fuel consumption of owned/leased vehicles.                  | 14.39  | 5.93%                |
|                            | Direct GHG emissions arising from employee business mileage.                                  | 39.91  | 16.46%               |
|                            | Direct GHG emissions arising from the consumption of gas used on site.                        | 21.33  | 8.80%                |
| Scope 2                    | Indirect GHG emissions arising from consumption of purchased electricity on company premises. | 4.90   | 2.02%                |
| Scope 3                    | Indirect emissions arising from employee commuting.   | 118.39   | 48.83%               |
|                            | Indirect emissions arising from general office waste disposal                                 | 43.37  | 17.89%               |
| <b>Total GHG emissions</b> |   | <b>242.63</b>  | <b>100%</b>          |

## 3.2 Methodology

GHG emissions associated with Blenheim House Construction's defined boundary establishes the baseline emissions for the period 1<sup>st</sup> April 2021 – 31<sup>st</sup> March 2022. Subsequently, emissions have been calculated in line with the GHG Protocol, with uncertainties having been minimised as reasonably as possible.

To calculate the carbon footprint, the emissions factors published by BEIS UK (2021)<sup>2</sup> have been used. Where data was not explicitly available, relevant British Standards and CIBSE Benchmarks were used to estimate quantities.

The following methodology presents a reasonable worst-case scenario for Blenheim House Construction's carbon footprint.

### 3.2.1 Scope 1 emissions

To calculate all Scope 1 emissions, recorded mileage data and vehicle data was used for both company owned/leased vehicles and employee mileage allowance. As details of the vehicle types for company vehicles were readily available, a market-based approach was used using the manufacturer reported emissions details to calculate the total carbon emitted per kilometre travelled. A location-based approach was used to calculate the emissions associated with the business mileage allowance.

As BHC's office uses gas boilers to heat the building, the recorded gas meter usage was used to calculate the equivalent GHG emissions associated with the gas consumption. A location-based approach was used to calculate the equivalent GHG emissions.

<sup>2</sup> [www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021](https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021)

### 3.2.2 Scope 2 emissions

Blenheim House Construction have 1 office located in Chertsey, which they own (The Old Bank House, 11-13 London St, Chertsey, KT16 8AP). Metering data for office energy use was readily available, the annual energy consumption has been apportioned to the floor area occupied by BHC as they are not the sole tenant of the property.

Although all energy purchased energy is via a 100% renewable tariff, the provider does not meet the three principles of being a 'high quality green tariff' supplier (as defined by the UKGBC<sup>3</sup>), a location-based reporting method has been taken to calculate emissions.

### 3.2.3 Scope 3 emissions

Various Scope 3 emissions have been captured using employee surveys to identify the commuting and homeworking arrangements of staff. The data was then extrapolated to quantify the GHG emissions associated with each activity.

All employees reported their commuting details, where all primary and secondary modes of transport to the Chertsey office were reported, including the typical transportation distances.

Office waste data was not readily available, as such, weekly waste arisings have been estimated based on the number of employees and standard data as set out in BS 5906:2005 Waste management in buildings – Code of practice.

### 3.2.4 Data quality

To complete the GHG emissions audit, primary data was used where possible. With data derived from invoices and employee surveys, and

<sup>3</sup> <https://www.ukgbc.org/wp-content/uploads/2021/03/Renewable-Energy-Procurement-Carbon-Offsetting-Guidance-for-Net-Zero-Carbon-Buildings.pdf>

emissions factors sourced from the appropriate national databases, this allows for a high confidence in the data.

If any uncertainties have been identified, efforts have been made to not underestimate the actual carbon footprint of the activity.

### **3.2.5 Assumptions**

Where partial data was available, reasonable assumptions have been made so not to underrepresent the actual carbon emissions. Where to and from travel details have been provided, online maps or distance-based calculators have been used.

Homeworking emissions were calculated using the Eco Act Whitepaper, where exact equipment data was not available, appropriate benchmarks were used.

Total emissions from waste were calculated using an average-data method. Guidance data was taken from BS5906-2005 (Waste management in buildings - code of practice).

### **3.2.6 Exclusions**

Some GHG sources have been excluded from the reporting at this point as they account for less than 1% of reported emissions. This currently extends to homeworking, water use and paper use of the business.

Refrigerant leakage has also been excluded for this reporting year due to lack of available information from the building management team. It is anticipated that this will be reported in subsequent reporting periods.

### **3.2.7 Justification**

The above methodologies have been chosen so as to align with the GHG Standard. The methodologies will be continually reviewed through subsequent reporting years to reflect best-practice.

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# CARBON MANAGEMENT PLAN

**In order to achieve net-zero carbon, a series of measures have been identified for Blenheim House Construction to reduce their carbon emissions as much as is reasonably possible.**

Blenheim House Construction have devised a carbon management plan in order to reduce its carbon intensity and demonstrate that they are committed to being carbon neutral.



## 4 CARBON MANAGEMENT PLAN

Blenheim House Construction have devised a carbon management plan in order to reduce its carbon intensity and demonstrate they are committed to being carbon neutral.

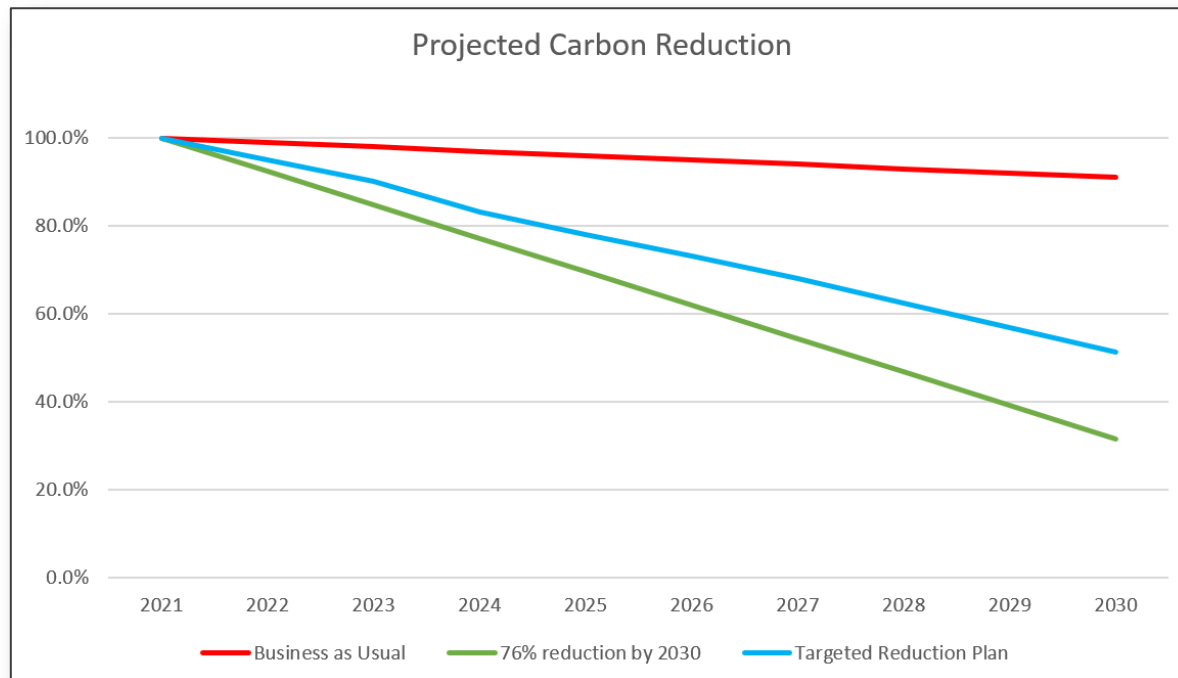
### 4.1 Carbon Management Plan

In order to demonstrate Blenheim House Construction's commitment towards carbon neutrality, a carbon management plan has been drawn up to map out the potential carbon reduction measures that can be introduced, as far as reasonably possible, with remaining emissions being off-set through a reputable scheme.

| Measure/Initiative                     | Description  |
|--|--|
| <b>Renewable Energy Tariff</b>         | Blenheim House construction already lease an office where the energy tariff is 100% renewable. However, it is recommended that a 'high quality energy tariff' provider is used, if possible. Otherwise, the current tariff is maintained and carried forward to any future office occupancy.   |
| <b>Vehicle Electrification</b>         | Switch from fossil fuel vehicles to electric cars. Offer a salary sacrifice scheme for EV vehicle purchase, encouraging employees to electrify their transport.  |
| <b>Teleconferencing</b>                | Encourage employees to utilise teleconferencing where possible and extend this to encourage clients to host meetings online.   |
| <b>Paperless</b>                       | Switch to paperless where feasible.  |
| <b>Environmental Management System</b> | Maintain current ISO 14001 Environmental Management System (EMS).  |
| <b>Environmental Purchasing Policy</b> | Implement an Environmentally Preferable Purchasing (EPP) Policy encouraging the procurement of goods and services to be sourced with environmental responsibility being taken into account. Examples of this could be when sourcing furniture, to source re-used or refurbished furniture where possible. This can also extend to the use of consultancy services, only contracting businesses who are carbon neutral. |
| <b>Travel Policy</b>                   | Implement a company travel policy which encourages the use of public transport (this could be done through providing incentives). The travel policy will encourage offices to have facilities designed to facilitate the use of public transportation, biking, EV charging etc.  |

|                          |   |
|--------------------------|---|
| <b>Annual Reporting</b>  | Commit to annually reporting of carbon emissions and expand the reporting scope as is required. Ensure that reporting is continually updated to reflect best practice.                                  |
| <b>Office Energy</b>     | Replace existing gas boiler with an all-electric system, such as ASHPs. There is potential to incorporate photovoltaics on areas of the roof.   |
| <b>Energy Efficiency</b> | Retrofit the office building to reduce energy demands. This will include installing double glazing, incorporating LED lighting, PIR sensors, insulate external walls (e.g. cavity wall insulation) etc. |
| <b>Recycling</b>         | Maximise opportunities to reduce waste going to landfill and recycle where possible.  |

By implementing the above Carbon Management Plan, it is expected that Blenheim House Construction could reduce their carbon emissions by **40%** by 2030, with the remaining emissions to be offset.



For the baseline year, 100% of emissions have been offset, having purchased 243 carbon credits. See Appendix B for the carbon offset certification.

## 5 APPENDIX A – SCOPE 1, 2 AND 3 EMISSION INCLUSION/EXCLUSION

| Emission Source                         | Description  | Included/Excluded | Justification  |
|---|--|-------------------|--|
| Transport and distribution (upstream)   | Employee business travel                           | Included          | All travel has been captured, this includes car mileage, train travel, taxi travel and underground (London) travel. No flights were taken in the reporting period.   |
| Transport and distribution (upstream)   | Employees commuting to and from work               | Included          | All commuting travel has been captured, as above.  |
| Purchased goods and services (upstream) | Extraction of materials and production of goods.   | Excluded          | Emissions from the procurement of goods have been excluded as they would not have a material impact in this recording year.  |
| Purchased goods and services (upstream) | Water supply and wastewater treatment              | Excluded          | Emissions from water usage and wastewater treatment were estimated, however they account for less than 0.05% of reported emissions.  |
| Waste from operation                    | Waste disposal                                     | Included          | Emissions relating to waste disposal from the office has been captured. Due to the uncertainty of how the waste is disposed, it has been assumed any waste is taken to landfill.                               |
| Energy related activities               | Purchase of gas for consumption within office      | Included          | Emissions relating to office gas consumption has been captured.  |
| Energy related activities               | Purchase of electricity for office-based employees | Included          | Emissions relating to the purchase of electricity have been captured using both the location-based and market-based methodology. The carbon neutrality claims relate directly to the location-based emissions. |
| Energy related activities               | Energy use for homeworking employees               | Excluded          | Emissions related to homeworking were recorded, however, amount to 0.12% of total emissions, and are deemed to not have a material impact.   |
| Energy related activities               | Generation of electricity which is lost to T&D     | Excluded          | As energy is sourced from a 100% renewable tariff, any T&D losses will not have a material carbon impact.  |
| Investments                             | Operations of investments                          | Excluded          | There are no investments to report on.   |

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|  |                                       |          |   |
|--|---------------------------------------|----------|---|
| Upstream and/or downstream activities of leased assets | Operations of assets owned and leased | Excluded | There are no assets owned by the business which are leased. |
|--|---------------------------------------|----------|---|

## 6 APPENDIX B - CARBON OFFSET

*We are delighted to confirm the retirement of*  
**243 Verified Emission Reductions (VERs)**  
*for*  
**Blenheim House Construction Ltd**  
*on 16/02/2023*

**20 MW Biomass Power Project in Chhattisgarh, India - (243x)**

*These credits have been retired, saving **243** tonnes of CO2 emissions  
from being released into the atmosphere.  
Thank you for investing in a safer climate and more sustainable world.*

**Order number: [GSM17655](#)**

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