

The Green House Hotel

Carbon Emissions Report

2019-2022



This document has been prepared by Climax Community

1. Introduction

The Paris Agreement sets out the objective to limit climate change to well below 2 degrees Celsius above pre-industrial levels. Science tells us that, to accomplish this objective, the world needs to achieve net zero emissions of greenhouse gases by the second half of this century.

Greenhouse gases (GHG) are the gases responsible for global warming. The main greenhouse gases are carbon dioxide, methane, and nitrous oxide hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride. GHG are emitted into the atmosphere as a result of various business activities including, but not limited to electricity use (non-renewable), heating, or driving cars. GHG emissions are reported as carbon dioxide equivalent (CO₂e) and the total emissions for a reporting period are usually known as Carbon Footprint.

Measuring an organisation’s carbon footprint can help save money, generate new opportunities, meet customer demands, and become more resilient to increasing regulations. SMEs (Small and Medium-sized Enterprises) are responsible for nearly 30% of the GHG emissions in the UK [1]. Measuring and reducing a company’s footprint is the first step to help limit global warming. Demo has gone through the process of understanding its carbon emissions and what steps they need to take in order to reduce their impact. The results are outlined in the following sections below.

2. Reporting Boundaries

Reporting period:	2019 - 2022
Reporting unit:	kgCO ₂ e
Business site for reporting:	All Sites
Employee count:	35
Electricity accounting method:	Market-Based Approach
Geographical boundary:	South West, United Kingdom
Reporting boundary:	Operational Control

The methodology for measuring and reporting carbon emissions equivalent for The Green House Hotel is based on the World Business Council for Sustainable Development (WBCSD) & World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol Standard. The carbon emissions were calculated in accordance with this well-recognised and widely adopted standard in order to provide consistency and comparability. For carbon emissions and conversion factors, we refer to BEIS Greenhouse Gas Conversion Factors, which are updated annually.

In addition, carbon-related Key Performance Indicators (KPIs) are also calculated following the guidelines provided by BEIS and DEFRA based on a decrease in GHG emissions intensity using an appropriate normalising factor. This is used to take into account increases or decreases in production over time.

[1] Natwest Group - A Springboard to Sustainability
<https://www.natwest.com/business/insights/sustainability/climate/springboard-to-sustainability-160bn-opportunity-for-smes-tackling-climate-change.html>

3. The Green House Hotel carbon emission results for 2019

The carbon footprint of The Green House Hotel for all sites in 2019 was:



538,834kgCO₂e



This is equal to the carbon sequestered by

8,891

tree seedlings grown for 10 years

4. Carbon KPIs for 2019

To accurately compare The Green House Hotel's emissions on a yearly basis, it is useful to create carbon-related KPIs such as carbon emissions by number of employees and per £ of revenue or funding. Below the carbon KPIs for the 2019 reporting period can be visualised:

Carbon emissions by revenue (kgCO ₂ e/£)	0.28
Carbon emissions by employees (kgCO ₂ e/FTE)	15,395

5. Carbon breakdown by site for 2019

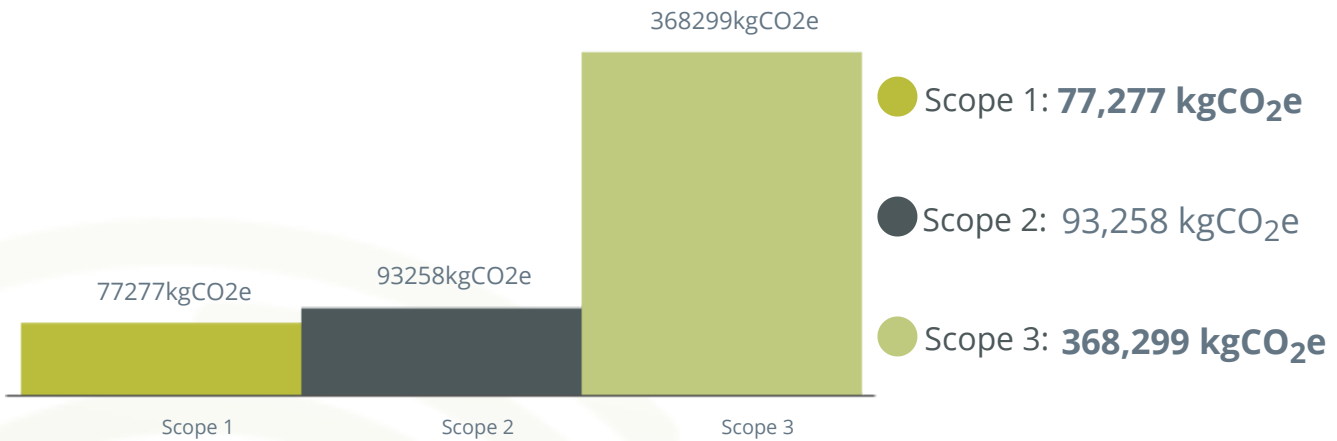
The table below provides a breakdown of carbon emissions at a site level for The Green House Hotel and 2019:

Site	Location	Carbon Footprint (kgCO ₂ e)
The Green House Hotel	Bath and North East Somers...	538,834

6. The Green House Hotel's carbon emissions displayed by Scopes for 2019

In order to accurately measure and report the carbon footprint of The Green House Hotel, the carbon emissions have been divided into Scopes, in accordance with the Greenhouse Gas Protocol:

- Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organisation (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles).
- Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although Scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organisation's GHG inventory because they are a result of the organisation's energy use.
- Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organisation, but that the organisation indirectly impacts in its value chain. Scope 3 emissions include all sources not within an organisation's Scope 1 and 2 boundaries. Most of Scope 3 emissions are currently optional to report for businesses with fewer than 250 employees.



Scope 1:

Company facilities (gas):	76924
Company facilities (other fuels):	0
Company vehicles fuel:	0
Company vehicles (freight):	0
Fugitive emissions (refrigerants):	353

Scope 2:

Purchased electricity:	93258
District heating:	0
Electricity for EV:	0

Scope 3:

1. Purchased goods and services:	333463
2. Capital goods (IT)	2133
3. Electricity transmission:	6528
4. Transportation (freight):	0
5. Waste:	11603
5. Wastewater:	1438
6. Business travel:	2843
6. Hotel stays:	0
7. Employee commuting:	10291
7. Employee homeworking:	0
8. Leased assets (facilities):	0
8. Leased assets (transport):	0
Events:	0

7. The Green House Hotel's carbon emissions displayed by business activity for 2019

The business activities were divided into 4 sectors to visualise the sources of emissions, according to the DEFRA categorisation of carbon factors. Energy and transport are the direct business activities, whereas products & services and waste outline the indirect activities that produce carbon emissions, including homeworking emissions and events.



Energy: **176,710 kgCO₂e**

Transport: **13,134 kgCO₂e**

Products & Services: **337,387 kgCO₂e**

Waste: **11,603 kgCO₂e**

Energy:

Natural gas: 76924
 Electricity transmission: 6528
 Electricity usage: 93258
 District heating: 0
 Petrol: 0
 Diesel: 0
 LPG: 0
 Heating oil: 0
 Wood chips: 0

Transport:

Electricity for EV: 0
 EV electricity transmission: 0
 3rd party transportation (freight): 0
 Company vehicles (freight): 0
 Business travel: 2843
 Employee commuting: 10291
 Company vehicles (cars): 0
 Company vehicles (vans): 0
 HGV and fork trucks: 0

Products & Services:

Purchased goods: 282007
 Purchased services: 53271
 Employee hotel stays: 0
 Employee food & drinks: 318
 External emissions: 0
 Employee homeworking: 0
 Wastewater: 1438
 Refrigerant leaks: 353
 Events: 0

Waste:

Landfill waste: 11412
 Recyclable waste: 0
 Food waste: 191

8. The Green House Hotel carbon emission results for 2022

The carbon footprint of The Green House Hotel for all sites in 2022 was:



358,715kgCO₂e



This is equal to the carbon sequestered by

5,919

tree seedlings grown for 10 years

9. Carbon KPIs for 2022

To accurately compare The Green House Hotel's emissions on a yearly basis, it is useful to create carbon-related KPIs such as carbon emissions by number of employees and per £ of revenue or funding. Below the carbon KPIs for the 2022 reporting period can be visualised:

Carbon emissions by revenue (kgCO ₂ e/£)	0.176
Carbon emissions by employees (kgCO ₂ e/FTE)	10,249

10. Carbon breakdown by site for 2022

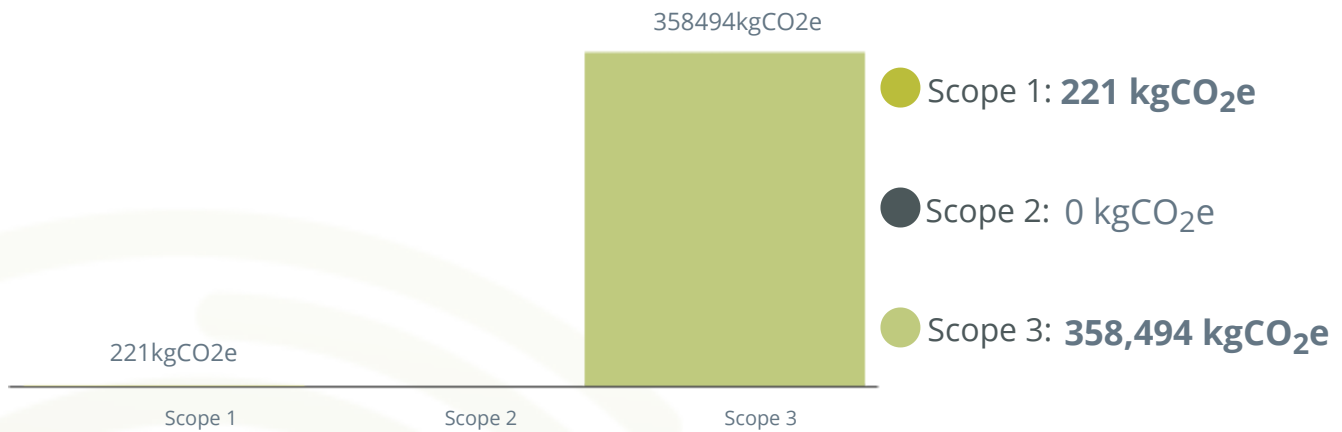
The table below provides a breakdown of carbon emissions at a site level for The Green House Hotel and 2022:

Site	Location	Carbon Footprint (kgCO ₂ e)
The Green House Hotel	Bath and North East Somers...	358,715

11. The Green House Hotel's carbon emissions displayed by Scopes for 2022

In order to accurately measure and report the carbon footprint of The Green House Hotel, the carbon emissions have been divided into Scopes, in accordance with the Greenhouse Gas Protocol:

- Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organisation (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles).
- Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although Scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organisation's GHG inventory because they are a result of the organisation's energy use.
- Scope 3 emissions are the result of activities from assets not owned or controlled by the reporting organisation, but that the organisation indirectly impacts in its value chain. Scope 3 emissions include all sources not within an organisation's Scope 1 and 2 boundaries. Most of Scope 3 emissions are currently optional to report for businesses with fewer than 250 employees.



Scope 1:

Company facilities (gas):	8
Company facilities (other fuels):	0
Company vehicles fuel:	0
Company vehicles (freight):	0
Fugitive emissions (refrigerants):	213

Scope 2:

Purchased electricity:	0
District heating:	0
Electricity for EV:	0

Scope 3:

1. Purchased goods and services:	291328
2. Capital goods (IT)	476
3. Electricity transmission:	3691
4. Transportation (freight):	0
5. Waste:	51212
5. Wastewater:	905
6. Business travel:	585
6. Hotel stays:	0
7. Employee commuting:	10014
7. Employee homeworking:	283
8. Leased assets (facilities):	0
8. Leased assets (transport):	0
Events:	0

12. The Green House Hotel's carbon emissions displayed by business activity for 2022

The business activities were divided into 4 sectors to visualise the sources of emissions, according to the DEFRA categorisation of carbon factors. Energy and transport are the direct business activities, whereas products & services and waste outline the indirect activities that produce carbon emissions, including homeworking emissions and events.



Energy: **3,699 kgCO₂e**



Transport: **10,599 kgCO₂e**



Products & Services: **293,205 kgCO₂e**



Waste: **51,212 kgCO₂e**



Energy:

Natural gas: 8

Electricity transmission: 3691

Electricity usage: 0

District heating: 0

Petrol: 0

Diesel: 0

LPG: 0

Heating oil: 0

Wood chips: 0

Transport:

Electricity for EV: 0

EV electricity transmission: 0

3rd party transportation (freight): 0

Company vehicles (freight): 0

Business travel: 585

Employee commuting: 10014

Company vehicles (cars): 0

Company vehicles (vans): 0

HGV and fork trucks: 0

Products & Services:

Purchased goods: 259763

Purchased services: 31511

Employee hotel stays: 0

Employee food & drinks: 530

External emissions: 0

Employee homeworking: 283

Wastewater: 905

Refrigerant leaks: 213

Events: 0

Waste:

Landfill waste: 51045

Recyclable waste: 0

Food waste: 167

13. The Green House Hotel's carbon neutrality

As part of their climate strategies, many companies, organisations, cities, regions and financial institutions are relying on voluntary carbon offsetting payment to receive credit for a certified unit of emission reduction or removal carried out by another actor.

To become a carbon neutral company, The Green House Hotel should balance their yearly carbon emissions using high-quality and verified carbon credits through recognised certification bodies. A carbon credit is a tradeable certificate that stands for one tonne of carbon dioxide equivalent (tCO₂e). It represents carbon that has been avoided, reduced or sequestered through a project and can be purchased as a means of offsetting emissions elsewhere.

This certification bodies will ensure the carbon credits are:

- Real
- Measurable
- Permanent
- Additional
- Independently verified
- Unique

The offsetting strategy adopted by The Green House Hotel should follow the Principle 1 of the The Oxford Principles for Net Zero Aligned Carbon Offsetting [2] and involves:

- Prioritising reducing the company's own emissions and scaling up removals, minimising the need for offsets to achieve net zero
- Using offsets that are verifiable and correctly accounted for, have a low risk of non- additionality, reversal, and creating negative unintended consequences
- Disclosing current emissions, accounting practices and targets to reach net zero

It is important to note that carbon neutrality is an interim step that businesses take whilst on their journey towards net-zero emissions. Not all businesses choose to become carbon neutral.

To achieve carbon neutrality for 2022, The Green House Hotel would need to buy a total of 359 carbon credits through recognised organisations such as the United Nations or the Gold Standard:

The United Nations: <https://offset.climateneutralnow.org/AllProjects>

Gold Standard:<https://marketplace.goldstandard.org/collections/projects>

[2] The Oxford Principles for Net Zero Aligned Carbon Offsetting - <https://www.smithschool.ox.ac.uk/sites/default/files/2022-01/Oxford-Offsetting-Principles-2020.pdf>

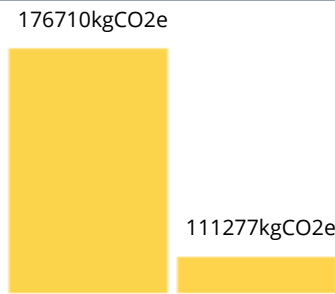
14. The Green House Hotel's carbon reduction plan based on baseline year (2019)

By measuring and reducing emissions, there are business opportunities that can be unlocked, such as:

- Saving money – helps identify which business activities use a lot of energy and so helps reduce energy and resource use.
- Generating new business – reduce costs to become more competitive and bring in new customers. Use your credentials to actively market your business. This is becoming an increasingly important element of the procurement process.
- Meeting the information demands of customers – helps meet customer requests for information on greenhouse gas emissions.

The potential carbon reduction of The Green House Hotel's 2019 carbon emissions (baseline year) if the following actions are implemented can be visualized below:

Energy:



Energy Emissions:

176,710 kgCO₂e

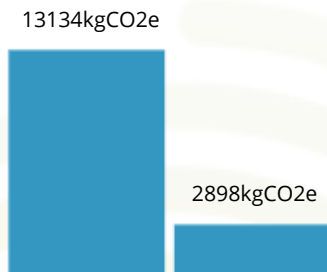
Potential Reduction:

111,277 kgCO₂e

Actions with highest reduction (kgCO₂e)

Renewable energy provider	93258
Wall Cavities	11539
Double Glazing	6154
Led Lighting	326

Transport:



Transport Emissions:

13,134 kgCO₂e

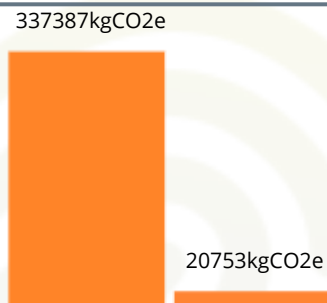
Potential Reduction:

2,898 kgCO₂e

Actions with highest reduction (kgCO₂e)

Reduce business flights	2209
Cycle to work scheme	689
Electrify cars	0
Fuel efficiency for vehicles	0

Products & Services:



Products & Services Emissions:

337,387 kgCO₂e

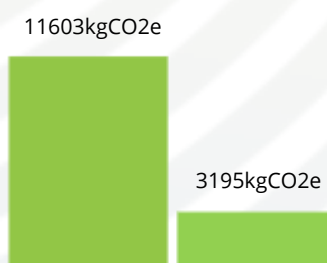
Potential Reduction:

20,753 kgCO₂e

Actions with highest reduction (kgCO₂e)

Organic food	13432
Green cloud services	7032.96
Water recycling system	288
Vegetarian food	0

Waste:



Waste Emissions:

11,603 kgCO₂e

Potential Reduction:

3,195 kgCO₂e

Actions with highest reduction (kgCO₂e)

Set a recycling station	2282
Reduce use of plastic wrap...	913
Reusable utensils	0

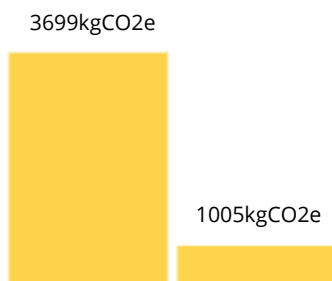
15. The Green House Hotel's carbon reduction plan based on the latest year (2022)

By measuring and reducing emissions, there are business opportunities that can be unlocked, such as:

- Saving money – helps identify which business activities use a lot of energy and so helps reduce energy and resource use.
- Generating new business – reduce costs to become more competitive and bring in new customers. Use your credentials to actively market your business. This is becoming an increasingly important element of the procurement process.
- Meeting the information demands of customers – helps meet customer requests for information on greenhouse gas emissions.

The potential carbon reduction of The Green House Hotel's 2022 carbon emissions if the following actions are implemented can be visualized below:

Energy:



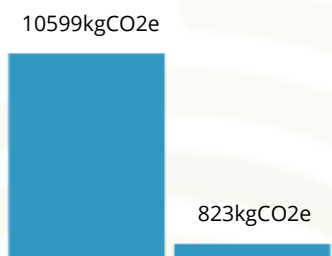
Energy Emissions:
3,699 kgCO₂e

Potential Reduction:
1,005 kgCO₂e

Actions with highest reduction (kgCO₂e)

Efficient Appliances	738
Smart Metering	185
Switch off devices	74
Efficient Boiler	2

Transport:



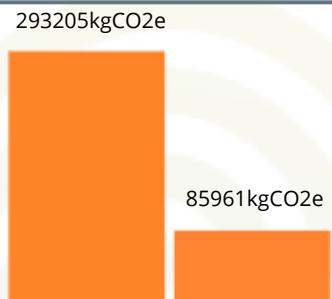
Transport Emissions:
10,599 kgCO₂e

Potential Reduction:
823 kgCO₂e

Actions with highest reduction (kgCO₂e)

Cycle to work scheme	819
Low-carbon business travels	4
Electrify cars	0
Reduce business flights	0

Products & Services:



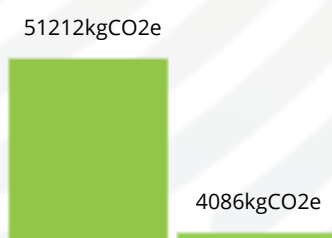
Products & Services Emissions:
293,205 kgCO₂e

Potential Reduction:
85,961 kgCO₂e

Actions with highest reduction (kgCO₂e)

Supplier engagement	69166.8
Organic food	11885
Green cloud services	4721.2
Green teleworking	129

Waste:



Waste Emissions:
51,212 kgCO₂e

Potential Reduction:
4,086 kgCO₂e

Actions with highest reduction (kgCO₂e)

Reduce use of plastic wrap...	4084
Ban single-use plastics	2.21
Reusable utensils	0

16. The Green House Hotel's net-zero plan

The next stage for The Green House Hotel is to continue monitoring their carbon emissions on a yearly basis, reduce their carbon footprint in line with the SME Climate Hub, and set a net-zero target year. Through the SME Climate Hub, a government initiative where small and medium companies can pledge to become net-zero emissions, The Green House Hotel can commit to the following targets:

- Reduce their Scope 1, Scope 2, and business travel emissions by 50% by 2030.
- Reduce these three categories of emissions to 0 by 2050 at the latest.

Total carbon emissions reduction progress:

Activity	2019	2020	2021	2022
Scope 1:	77,277	Not measured	Not measured	221
Scope 2:	93,258	Not measured	Not measured	0
Business Travels:	2843	0	0	585
Total:	173,378	0		806

Through this initiative, The Green House Hotel must pledge to reduce their Scope 1, Scope 2, and business travel emissions by 50% by 2030, and reduce emissions to 0 by 2050 the latest. The Green House Hotel can sign the net-zero commitment letter below:

<https://businessclimatehub.org/sme-climate-commitment/>



Using Climate Essentials, The Green House Hotel has taken the first steps towards becoming a net-zero company and has committed to monitor and reduce their carbon emissions on a yearly basis. The information collected in this report is key to keep track of environmental pledges and communicate to different stakeholders The Green House Hotel's pathway to net zero.

Based on analysing the carbon footprint for its baseline year (2019), compared to the latest measured year (2022), it can be realised that there has been a significant reduction in Green House Hotel's direct emissions (Scope 1) from over 77 tonnes of CO₂e to under 1 tonne. A similar trend is observed when looking at Scope 2 emissions, which decreased from over 93 tonnes of CO₂e in 2019 to zero in 2022, this can be directly attributed to a switch in the electricity and gas tariffs to a renewable-based one. It can also be inferred that the Scope 3 emissions have also slightly decreased by around 3% when compared to the baseline year of 2019. Finally, the total carbon footprint (Scopes 1,2,&3) has decreased by around 33% from the baseline year to 2022.