



**Carbon Footprint Appraisal  
for  
Corsham Town Council**

**Assessment Period:  
1<sup>st</sup> April 2021 – 31<sup>st</sup> March 2022**

## Executive Summary

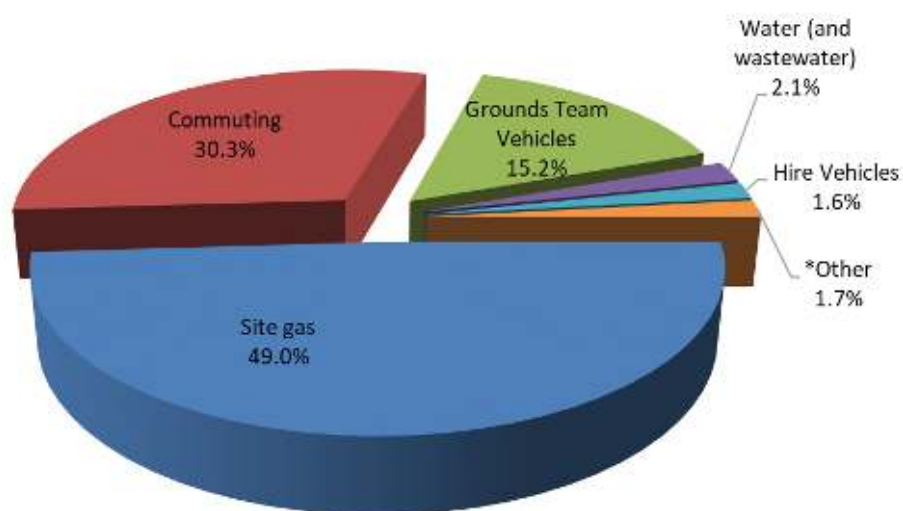
### Current Performance

- Corsham Town Council’s total market-based emissions are 21.98 tCO<sub>2</sub>e.
- Corsham Town Council’s absolute emissions have reduced by 43% since the baseline year (2019/20) emissions.
- The most significant emission source is gas usage accounting for 49% of Corsham Town Council’s market-based carbon footprint.

### Recommendations

- Offset the calculated footprint by supporting climate change solutions around the world to become a ‘Carbon Neutral Organisation’. Offsetting is a great way to demonstrate your commitment to the environment to your clients and stakeholders, and to account for your business’ carbon emissions. [carbonfootprint.com](https://carbonfootprint.com) - [Offset Quotation](#)
- Offset an additional 25% to be certified as a Carbon Neutral Plus Organisation [carbonfootprint.com](https://carbonfootprint.com) - [Offset Quotation](#)
- Investigate swapping your owned sites from gas-powered heating to sustainable alternatives such as solar thermal, and air-source heat pumps.
- In your next appraisal, include a target setting exercise, this will aid to define your carbon reduction targets year on year and the strategies that you will deploy to achieve this.

**Breakdown of 2021/22 market-based carbon footprint**



\*Other includes Employee-owned car travel (grey fleet), Home-workers, & Waste

Metric	Location-Based	Market-Based
Total Tonnes CO <sub>2</sub> e	31.85	21.98
Tonnes of CO <sub>2</sub> e per employee	2.12	1.47
Tonnes of CO <sub>2</sub> e per £M turnover	32.84	22.66



# Table of Contents

Executive Summary.....	2
1. Introduction.....	4
2. Calculation Scope and Accuracy.....	6
3. Carbon Footprint Results.....	10
4. Comparison and Benchmarking.....	11
5. Key Recommendations.....	12

## Quality Control

**Report issue number:** 3.0  
**Date:** 18 August 2022

**Calculations completed by:** Alex Pell  
**Calculations reviewed by:** Myles Howard

**Report produced by:** Alex Pell  
**Report reviewed by:** Myles Howard

**Director approval:** John Buckley

# 1. Introduction

## 1.1. Company Overview

Corsham Town Council is located in North West Wiltshire on the south-eastern edge of the Cotswolds and is a historic market town. Corsham has a population of approximately 13,000 and covers an area of 25.11km<sup>2</sup>. The council is aiming to achieve its target of becoming carbon neutral in 2030, with the help of a full-time environmental project officer from June 2021.

- 15 employees
- 1 Office (2 smaller council buildings)
- 1 Non-controlled site

## 1.2. Data supplied for the carbon footprint appraisal

A summary of the data supplied by Corsham Town Council for the appraisal is presented in Annex A.

## 1.3. Greenhouse Gas Protocol Corporate Standard

This GHG calculation and report has been prepared in accordance with The Greenhouse Gas Protocol Corporate Standard. The GHG inventory, report, or assertion has not been separately verified.

The GHG Protocol's dual-reporting method requires both location and market-based GHG emissions to be reported alongside one another. The two methods are outlined below:

**Location-based approach** – reflects the emissions from electricity coming from the national grid energy supply. This method utilises location-based factors.

**Market-based approach** – reflects the emissions from the electricity sources or products that the consumer has specifically chosen. This method utilises supplier-specific factors as a preference, with residual factors being used where supplier-specific factors are not available.

## Why is dual-reporting important?

By calculating market-based emissions Corsham Town Council can identify the sites which are on carbon intensive tariffs, as well gaps in data availability. By switching these tariffs to renewables, your market-based Scope 2 emissions will reduce to zero. If all your electricity tariffs are renewable already, this choice will be reflected within your market-based total.

### Factor definitions

**Location-based factors** – provides the average GHG emissions associated with electricity production, transmission and distribution, for a country or region (e.g., state or province). This average includes both renewable (green) and non-renewable (brown) electricity supplies.

**Supplier-specific factor** – provides the accurate GHG emissions associated with a specific electricity tariff provided by a specified energy supplier.

**Residual mix factor** – provides the GHG emissions associated with electricity production, transmission and distribution, for a country or region (e.g., state or province) after all claimed contributions from renewables have been removed to avoid double counting their benefits. This is typically higher than the location-based factors.

## 1.4. Calculation methodology

The carbon footprint appraisal is derived from a combination of client data collection and data computation by Carbon Footprint's analysts.

Carbon Footprint's analysts have calculated Corsham Town Council's footprint using the 2021 conversion factors developed by the UK Department for Environment, Food and Rural Affairs (Defra) and the Department for Business, Energy & Industrial Strategy (BEIS). These factors are multiplied with the company's GHG activity data. Carbon Footprint has selected this preferred method of calculation as a government recognised approach and uses data which is realistically available from the client, particularly when direct monitoring is either unavailable or prohibitively expensive.

Well-to-Tank (WTT) emissions factors (DEFRA 2021) have also been used to calculate the upstream emissions for fuels and energy. The emissions factors include an average of all GHG emissions released in the production, processing and delivery of fuels or energy.

The latest methodology document can be downloaded using this link: [Carbon Footprint Appraisal - Methodology Document](#)

## 2. Calculation Scope and Accuracy

### 2.1. Scope of this work

Corsham Town Council's baseline year data and emissions can be found in the 2019/20 report.

### 2.2. Organisational & reporting boundaries

The organisation has accounted for all quantified GHG emissions and/or removals from facilities over which it has financial control. The assessment covers the following reporting boundaries:

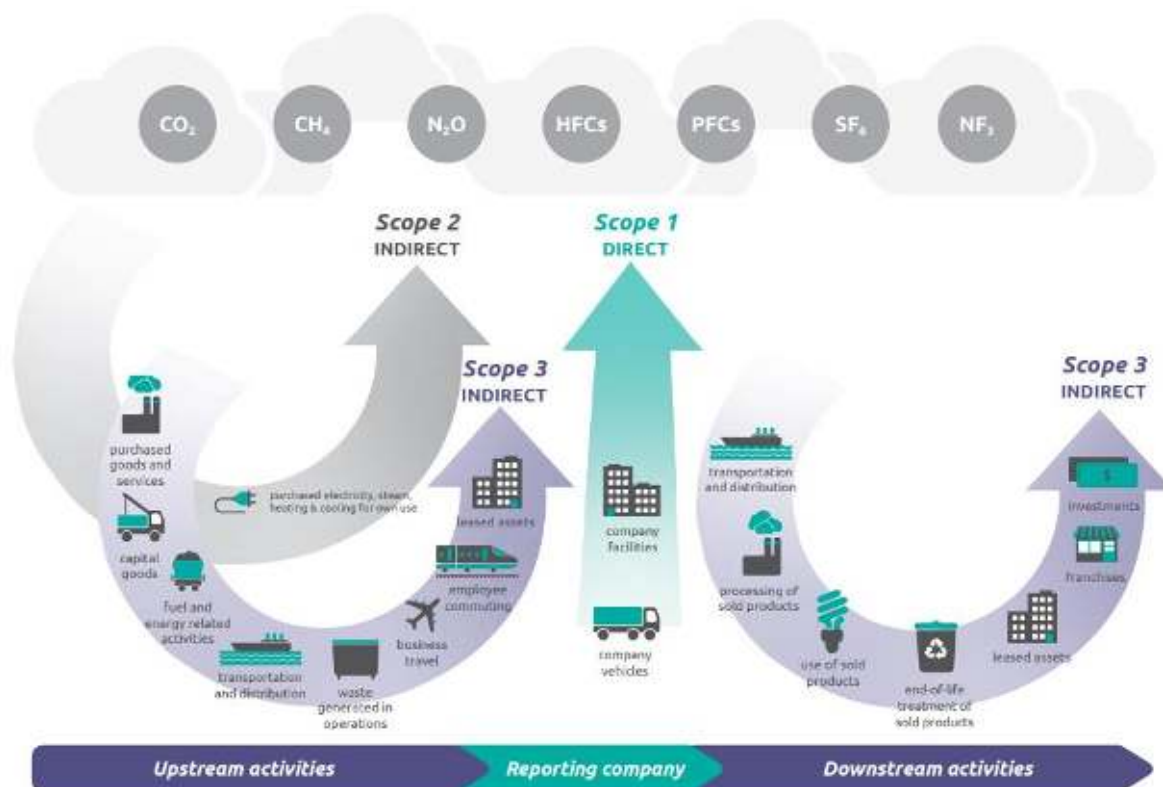


Figure 1: Overview of emissions scopes (GHG Protocol 2013)

**Table 1: GHG Assessment boundary***(All green rows have been included in this assessment; all grey rows are not applicable)*

Footprint	Activity / Scope 3 Category	Scope
Direct	Electricity, heat or steam generated on-site	1
	Natural gas, gas oil, LPG or coal use attributable to company-owned facilities	1
	Company owned vehicle travel	1
Indirect	On-site Consumption of purchased electricity, heat steam and cooling	2
Indirect	1. Purchased goods and services	3
	2. Capital goods	3
	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	3
	4. Upstream transportation and distribution	3
	5. Waste generated in operation	3
	6. Business travel (not included in scope 1 or scope 2)	3
	7. Employee commuting	3
	8. Upstream leased assets	3
	9. Downstream transportation and distribution	3
	10. Processing of sold products	3
	11. Use of sold products	3
	12. End-of-life treatment of sold products	3
	13. Downstream leased assets	3
	14. Franchises	3
	15. Investments	3

### 2.3. Calculation uncertainty assessment & materiality

The result of a carbon footprint calculation varies in accuracy depending on the data set provided. The more accurate the data supplied, the more accurate the final result. Materiality is determined by the percentage contribution of each element to the overall footprint.

Based on the accuracy of the data provided (Table 2), a simple uncertainty analysis has been used to estimate the potential error margin for the appraisal results.

**Table 2: Assessment accuracy, materiality and simple error analysis**

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO <sub>2</sub> e)
Site gas	Data was sourced from monthly utility bills for all sites and provided as evidence.	Excellent	High (20-40%)	1%	0.1
Site electricity	Data was sourced from quarterly utility bills for all sites. An internal tracking sheet was also provided as evidence.	Excellent	High (20-40%)	1%	0.1
Commuting	Data sourced from an internal survey filled out by all employees including number of days commuting and distance travelled.	Excellent	High (20-40%)	1%	0.1
Company Vehicle Travel	Internal worksheets and calculation spreadsheet provided showing fuel usage per vehicle.	Excellent	Medium (5-20%)	1%	<0.1
Non-Controlled Site electricity	Data was sourced from utility bills. Corsham pay 1/2 of this energy bill as it is split with tourist information centre, with tenants of first floor flat paying for their electricity usage.	Excellent	Medium (5-20%)	1%	<0.1
Water (and wastewater)	Water data was sourced from weekly meter readings from suppliers and bills provided for Town Hall and Public toilets.	Excellent	Low (1-5%)	1%	<0.1



Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO <sub>2e</sub> )
Employee-owned car travel (grey fleet)	Staff business milage calculations spreadsheet and calculations provided detailing miles travelled and annual fuel usage.	Excellent	Very Low (<1%)	1%	<0.1
Hire vehicles	Data sourced from internal expense records detailing annual mileage.	Excellent	Low (1-5%)	1%	<0.1
Home-workers	Data was sourced from an internal employee feedback form detailing home working hours per year.	Average	Very Low (<1%)	50%	<0.1
Waste	A waste provider report was provided detailing waste type and weight produced.	Excellent	Very Low (<1%)	1%	<0.1
<b>Total</b>				<b>+/- 1%</b>	<b>+/- 0.3</b>



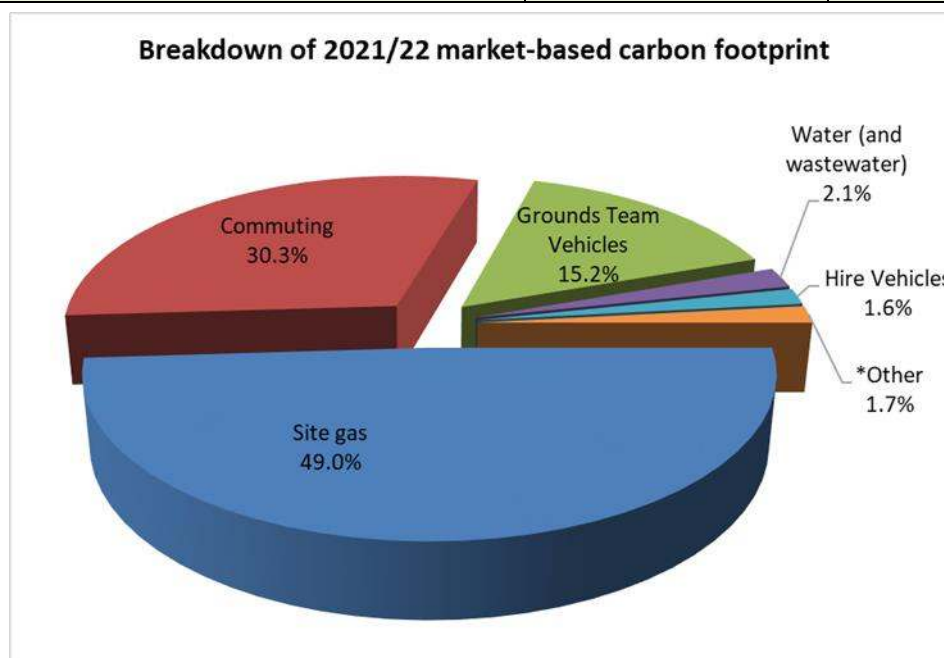
## 3. Carbon Footprint Results

### 3.1. Summary of results

The total location-based carbon footprint for Corsham Town Council for the period ending 31<sup>st</sup> March 2022 was 31.85 tonnes CO<sub>2</sub>e, and the market-based total is 21.98 tonnes CO<sub>2</sub>e.

**Table 3: Results of Corsham Town Council's carbon footprint assessment by scope and source activity**

Scope	Activity	Location Based tCO <sub>2</sub> e	Market Based tCO <sub>2</sub> e
Scope 1	Site gas	8.92	8.92
	Company vehicle travel	2.61	2.61
<b>Scope 1 Sub Total</b>		<b>11.54</b>	<b>11.54</b>
Scope 2	Electricity generation	5.32	0.00
<b>Scope 2 Sub Total</b>		<b>5.32</b>	<b>0.00</b>
Scope 3	Commuting	5.13	5.13
	Well To Tank	5.80	4.29
	Water (and wastewater)	0.44	0.44
	Hire cars	0.28	0.28
	Employee-owned car travel (grey fleet)	0.24	0.24
	Home-workers	0.06	0.06
	Waste	0.01	<0.01
	Non-Controlled Site electricity	2.57	<0.01
	Electricity transmission & distribution	0.47	<0.01
<b>Scope 3 Sub Total</b>		<b>14.99</b>	<b>10.44</b>
<b>Total tonnes of CO<sub>2</sub>e</b>		<b>31.85</b>	<b>21.98</b>
<b>Tonnes of CO<sub>2</sub>e per employee</b>		<b>2.12</b>	<b>1.47</b>
<b>Tonnes of CO<sub>2</sub>e per £M turnover</b>		<b>32.84</b>	<b>22.66</b>



**Figure 2: Percentage contribution of each element of Corsham Town Council's market-based carbon footprint**

*Other\* includes employee-owned car travel, home-workers and waste.*



## 4. Comparison and Benchmarking

### 4.1. Comparison to base year emissions

**Table 4: Corsham Town Council's carbon footprint comparison and percentage change**

Scope	Activity	2019/20 (Baseline Year)		2021/22 (Current Assessment)		% change on baseline year (market-based)
		Location- Based	Market- Based	Location- Based	Market- Based	
Scope 1	Site gas	11.16	11.16	8.92	8.92	-20.0%
	Grounds Team Vehicles	2.76	2.76	2.61	2.61	-5.3%
<b>Scope 1 Sub Total</b>		<b>13.92</b>	<b>13.92</b>	<b>11.54</b>	<b>11.54</b>	<b>-17.1%</b>
Scope 2	Electricity generation	6.60	7.20	5.32	0.00	-100.0%
<b>Scope 2 Sub Total</b>		<b>6.60</b>	<b>7.20</b>	<b>5.32</b>	<b>0.00</b>	<b>-100.0%</b>
Scope 3	Commuting	3.58	3.58	5.13	5.13	43.2%
	Well To Tank	8.73	7.88	5.80	4.29	-45.5%
	Employee-owned car travel	0.75	0.75	0.24	0.24	-68.0%
	Non-Controlled Site electricity	4.49	4.87	2.57	0.00	-100.0%
	Electricity transmission & distribution	0.56	0.56	0.47	0.00	-100.0%
<b>Scope 3 Sub Total</b>		<b>18.11</b>	<b>17.63</b>	<b>14.99</b>	<b>10.44</b>	<b>-40.8%</b>
<b>Total tonnes of CO<sub>2</sub>e</b>		<b>38.63</b>	<b>38.75</b>	<b>31.85</b>	<b>21.98</b>	<b>-43.3%</b>
<b>Tonnes of CO<sub>2</sub>e per employee</b>		<b>2.76</b>	<b>2.74</b>	<b>2.12</b>	<b>1.47</b>	<b>-46.9%</b>
<b>Tonnes of CO<sub>2</sub>e per £M turnover</b>		<b>39.94</b>	<b>39.68</b>	<b>32.84</b>	<b>22.66</b>	<b>-43.3%</b>

Corsham Town Council's total market-based carbon footprint reduced by 43.3% between this period and the baseline year. This is most notably due to switching electricity tariffs in all sites (controlled and non-controlled) to 100% renewable electricity tariffs. In contrast employee commuting has increased by 43.2% due to an increased number of employees.

## 4.2. External benchmarking

Companies often like to benchmark themselves against similar organisation in their sector. Carbon Footprint Ltd has an online tool you can use to find publicly available information on other organisations that have reported their emission.

The Carbon Benchmarking Tool is free to use and can be found online at:

[https://www.carbonfootprint.com/carbon\\_benchmark.html](https://www.carbonfootprint.com/carbon_benchmark.html)

Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 5 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

**Table 5: Corsham Town Council's benchmarked GHG emissions**

Year/Element	Location based	Market based
Turnover in £million	0.97	0.97
Total number of employees	15	15
Tonnes of CO <sub>2</sub> e	31.85	21.98
Tonnes of CO <sub>2</sub> e per £ million	32.84	22.66
Tonnes of CO <sub>2</sub> e per employee	2.12	1.47
Scope 1 & 2 Emissions		
<b>Scope 1 &amp; 2 tonnes CO<sub>2</sub>e</b>	<b>16.86</b>	<b>11.54</b>
<b>Scope 1 &amp; 2 tonnes CO<sub>2</sub>e per £ million</b>	<b>17.38</b>	<b>11.89</b>
<b>Scope 1 &amp; 2 tonnes CO<sub>2</sub>e per employee</b>	<b>1.12</b>	<b>0.77</b>

## 5. Conclusion

Corsham Town Council, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint and has made carbon reductions as shown in Table 4.

By achieving this Corsham Town Council has qualified to use the Carbon Footprint Standard branding. This can be used on all marketing materials, including website and customer tender documents, to demonstrate your carbon management achievements.



## 6. Recommendations

### 6.1. Carbon & sustainability targets

#### 6.1.1. Target setting

Corsham Town Council should set targets based on per employee and/or per £M turnover, which will account for growth. Many organisations are now setting targets based on the Science Based Target initiative. Typical targets cover midterm and longer terms targets aligned to the goal of limiting global warming to 1.5 degree are:

- A 50% reduction in emissions per £M turnover/employee by 2030.
- A 90% reduction in emissions per £M turnover/employee by 2045.

All targets set should be reviewed regularly and amended accordingly (i.e., target increased if it is met ahead of schedule).

A hyperlink to Carbon Footprint Ltd's whitepaper on target setting can be found below:

[https://www.carbonfootprint.com/docs/2021\\_12\\_cfp\\_practical\\_target\\_setting\\_-\\_white\\_paper\\_v10.pdf](https://www.carbonfootprint.com/docs/2021_12_cfp_practical_target_setting_-_white_paper_v10.pdf)

#### 6.1.2. Expand the Scope of the Assessment

We recommend that the scope of the assessment is expanded in future years to include the Scope 3 elements shown in white, in Table 1.

#### 6.1.3. Improving the accuracy of future carbon footprint assessments

Carbon Footprint Ltd has discussed the data sources with Corsham Town Council. The estimated overall error margin is +/- 0.4 tCO<sub>2</sub>e. The error margin percentage is +/- 1%.

## 6.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Offset the calculated footprint by supporting climate change solutions around the world to become a 'Carbon Neutral Organisation'. Offsetting is a great way to demonstrate your commitment to the environment to your clients and stakeholders, and to account for your business' carbon emissions. [carbonfootprint.com](https://carbonfootprint.com) - [Offset Quotation](#)
- Offset an additional 25% to be certified as a Carbon Neutral Plus Organisation [carbonfootprint.com](https://carbonfootprint.com) - [Offset Quotation](#)
- Investigate swapping your owned sites from gas-powered heating to sustainable alternatives such as solar thermal, and air-source heat pumps.
- Increase the thermal insulation of your owned buildings to reduce heating energy consumption such as fiberglass and cavity wall insulation, double glazing, and draft excluders.
- In your next appraisal, include a target setting exercise, this will aid to define your carbon reduction targets year on year and the strategies that you will deploy to achieve this.

## 6.3. Carbon offsetting

**Carbon offsetting is a great way to compensate for the emissions that you cannot reduce, by funding an equivalent carbon dioxide saving elsewhere.**

We can provide both UK-based and international projects for you to support. The majority of projects focus on the development of renewable energy in developing countries, however there are others which have a greater focus on social benefits as well as environmental benefits. Further detail on the type and specific projects that we currently have in our portfolio can be provided on request or be found at: <http://www.carbonfootprint.com/carbonoffsetprojects.html>.

The cost of offsetting has reduced considerably over recent times. This could be readily funded via the internal carbon pricing system (see the Funding opportunities section above for further details).

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*

## A. Annex A –Supplied Data and Emissions Breakdown

This Annex has been provided as a separate Excel file alongside the report.

This annex shows the data that Corsham Town Council has supplied Carbon Footprint Ltd for the calculation of its emissions. At the end of each table one or several columns have been added that display the emissions and calculations associated for each item of data provided by Corsham Town Council. It should be noted that the latter has been calculated by Carbon Footprint Ltd, and not provided by Corsham Town Council.

### A.1 Scope 1 emissions breakdowns

The table below demonstrates the company's Scope 1 CO<sub>2</sub>e emissions in their respective greenhouse gases.

**Table 6: CO<sub>2</sub>e Emissions breakdown for Scope 1 emissions into their greenhouse gases**

Activity	kg CO <sub>2</sub> e	kg CO <sub>2</sub> in CO <sub>2</sub> e	kg CH <sub>4</sub> in CO <sub>2</sub> e	kg N <sub>2</sub> O in CO <sub>2</sub> e
Site gas	8,923	8,906	12	5
Company car travel	2,615	2,580	0	35
<b>Total</b>	<b>11,537</b>	<b>11,486</b>	<b>12</b>	<b>39</b>