

# Carbon Footprint Appraisal Report



Carbon Footprint Appraisal for Corsham Town Council

Assessment Period:  
1<sup>st</sup> April 2019 – 31<sup>st</sup> March 2020

## Executive Summary

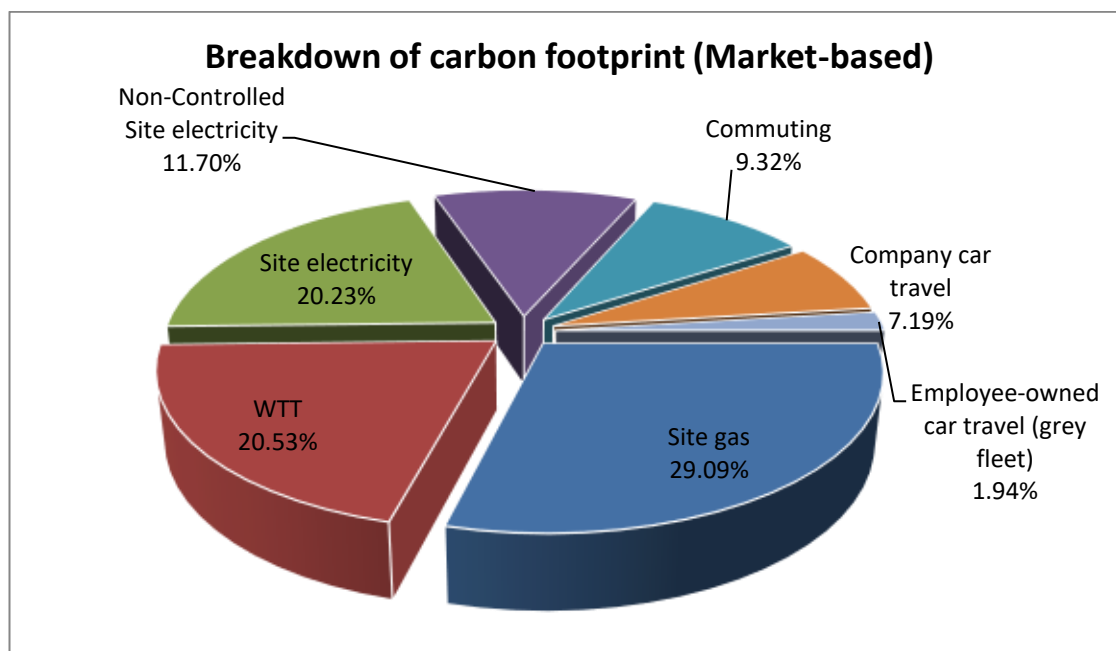
Carbon Footprint Ltd has assessed the greenhouse gas (GHG) emissions of Corsham Town Council from 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2020 based on a dataset provided by the company.

### Current Performance

- Corsham Town Council’s total market-based emissions are 38.75 tonnes of carbon dioxide equivalent.
- The most significant emission source is site gas accounting for 29.09% of Corsham Town Council’s carbon footprint.

### Recommendations

- Offset the GHG emissions created within this data period to maintain your carbon neutrality
- Switch to a renewable energy tariff to reduce emissions associated with electricity use.
- Investigate opportunities to reduce site energy consumption across all sites through implementing regular energy monitoring and conducting an energy audit.
- Install electric vehicles (EV) charging points at work. This will encourage and enable staff to switch to low carbon electric vehicles.
- Consider including other scope 3 emissions which are run and or outsourced by the council, such as groundskeeping.



| Metric   | Baseline Year (2019/20) |
|--|-------------------------|
| <b>Total Tonnes CO<sub>2</sub>e</b>              | 38.75                   |
| <b>Tonnes of CO<sub>2</sub>e per employee</b>    | 2.76                    |
| <b>Tonnes of CO<sub>2</sub>e per £M turnover</b> | 39.94                   |

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## Quality Control

**Report issue number:** 1.0  
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**Calculations completed by:** Alex Pell  
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**Director approval:** Dr. Wendy Buckley

# 1. Introduction

## 1.1. Company Overview

Corsham Town Council is located in 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>. This is the first year the council have assessed its carbon footprint in hope to achieve its target of becoming carbon neutral in 2030, with the help of a full-time environmental project officer from June 2021.

## 1.2. Corsham Town Council's carbon management journey

Carbon Footprint provides a simple six step annual journey to enhance your sustainability credentials whilst complying to best practice and differentiating your brand. Corsham Town Council has completed the first step of its annual carbon management journey.



Measure



Aim



Reduce



Offset



Communicate



Comply

The purpose of this report is to:

- Summarise the results of the carbon footprint assessment.
- Provide practical recommendations to enhance your sustainability programme and reduce your emissions.

## 1.3. What is a carbon footprint?

A carbon footprint is a measure of the impact our activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide equivalents (CO<sub>2</sub>e). A carbon footprint is made up of two parts, direct and indirect emissions.

### 1. Direct emissions:

Direct emissions are produced by sources which are owned or controlled by the reporting organisation and include electricity use, burning oil or gas for heating, and fuel consumption as a result of business travel or distribution. Direct emissions correspond to elements within scope 1 of the World Resources Institute GHG Protocol, as indicated in Table 1.

**Table 1: Direct emissions sources**

| Footprint | Activity  | 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     |
|           | Production of any of the six GHGs (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs and SF <sub>6</sub> ) | 1     |

## 2. Indirect emissions:

Indirect emissions result from a company's upstream and downstream activities. These are typically from outsourced/contract manufacturing, and products and the services offered by the organisation. Indirect emissions correspond to scopes 2 and 3 of the World Resources Institute GHG Protocol excluding employee business travel as indicated in Table 2.

**Table 2: Indirect emissions sources**

| Footprint | Activity  | Scope |
|-----------|---|-------|
| Indirect  | Consumption of purchased electricity, heat steam and cooling  | 2     |
|           | Employee business travel (using transport not owned by the company)   | 3     |
|           | Employee commuting  | 3     |
|           | Transportation of an organisation's products, materials or waste by another organisation  | 3     |
|           | Outsourced activities, contract manufacturing and franchises  | 3     |
|           | GHG emissions from waste generated by the organisation but managed by another organisation  | 3     |
|           | GHG emissions from the use and end-of-life phases of the organisation's products and services   | 3     |
|           | GHG emissions arising from the production and distribution of energy products, other than electricity, steam and heat, consumed by the organisation | 3     |
|           | GHG emissions from the production of purchased raw or primary materials   | 3     |
|           | GHG emissions arising from the transmission and distribution of purchased electricity   | 3     |

For businesses, the assessment focuses on direct emissions, as these lie under the control of the organisation. However, we ask companies to recognise that there is an indirect emissions footprint and select suppliers based on their environmental credentials alongside price and performance.

### 1.4. Why is it important?

**Climate change is a global threat which will impact the lives of everyone on the planet.**

Over the past two decades the effects of climate change have accelerated. Considerable evidence exists proving climate change has been exacerbated by human activity. Changes in our post-industrial lifestyles have altered the chemical composition of the atmosphere, generating a build-up of greenhouse gases – primarily carbon dioxide, methane, and nitrous oxide levels – raising the average global temperature.

The consequences are already evident and will continue to worsen unless significant action is taken and quickly. **Sea level will continue to rise and local climate conditions to be altered, causing an increase in extreme weather events, affecting forests, crop yields, and water supplies. This can lead to homelessness, famine and conflict as resources become scarcer.**

Environmental pollution and climate change affect human health, accelerate species extinction, and disrupt vital ecosystems. **Ambient (outdoor) air pollution is responsible for at least 4 million human**

**deaths each year**<sup>1</sup>. In addition to this, poor air quality and issues of clean water availability leave us more susceptible to diseases such as COVID-19. Combined with rises in temperature and deforestation (from direct human action and climate change related events), resulting in the displacement of animals from their native habitats, the frequency of disease occurrence will increase, as disease will transfer from animals to other geographical areas and larger human populations.

It is vital that all individuals, businesses, organisations and governments work towards the common goal of reducing greenhouse gas emissions. This carbon footprint assessment will enable Corsham Town Council to begin doing its bit by monitoring, reducing and offsetting its emissions.

### 1.5. ISO 14064: 2018

This GHG report has been prepared in accordance with Part 1 of ISO 14064: 2018. The GHG inventory, report, or statement has not been verified.

This standard requires the estimation of likely error margin based on a simple error analysis, to identify uncertainty in the calculations. Our simple error analysis provides a level of uncertainty based on the accuracy of the data provided. This shows the error for each emissions source, as well as the sum of these divided by the total emissions, to produce a total percentage error.

### 1.6. 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 my market-based total higher than my location-based total?

In some cases, market-based emissions may be higher than the location-based emissions. This is typically due to:

1. The chosen energy supplier or tariff (supplier-specific factor) may be more carbon intensive than the national-grid average (location-based factor).
2. A lack of data regarding supplier tariffs means we have had to model emissions using residual mix factors.

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<sup>1</sup> World Health Organisation. <https://www.who.int/health-topics/air-pollution>

## 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.

## 1.7. 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 2019 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 2019) 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.

Additional methodology information is presented in Annex A.

## 1.8. Data supplied for the carbon footprint appraisal

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

## 1.9. Abbreviations

|                   |  |
|-------------------|--|
| BEIS              | Department for Business Energy & Industrial Strategy |
| BIK               | Benefit In Kind                                      |
| CO <sub>2</sub>   | Carbon Dioxide                                       |
| CO <sub>2</sub> e | Carbon Dioxide Equivalent                            |
| Defra             | Department for Environment, Food and Rural Affairs   |
| EU                | European Union                                       |
| EV                | Electric Vehicle                                     |
| GHG               | Greenhouse Gas                                       |
| IPCC              | Intergovernmental Panel on Climate Change            |
| ISO               | International Standards Organisation                 |
| km                | Kilometres   |
| kWh               | Kilowatt Hours                                       |
| NIC               | National Insurance Contribution                      |
| ONS               | Office for National Statistics                       |
| PAYE              | Pay As You Earn                                      |
| PHEV              | Plug-in Hybrid Electric Vehicle                      |
| PR                | Public Relations                                     |
| T&D               | Transmission & Distribution                          |
| UN                | United Nations                                       |
| WTT               | Well-To-Tank   |



## 2. Calculation Scope and Accuracy

### 2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1<sup>st</sup> April 2019 to 31<sup>st</sup> March 2020 resulting from the energy consumption at Corsham Town Council’s facilities and its business transport activities.

This report will set the base year for all further reporting emissions to be compared against.

### 2.2. Organisational & reporting boundaries

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

**Figure 1: Assessment boundary**

| Scope 1<br>Direct Emissions                      | Scope 2<br>Energy Indirect  | Scope 3<br>Other Indirect   |
|--|---|---|
| <u>Fuel combustion</u><br><b>Natural gas</b>     | <u>Consumption of purchased electricity, heat steam and cooling</u><br><b>Electricity</b> | <u>Purchased materials</u><br><b>Water, paper, Well-To-Tank</b>         |
| <u>Owned Transport</u><br><b>Company car</b>     |   | <u>Transmission and distribution of energy</u><br><b>Electricity</b>    |
| <u>Process emissions</u><br><b>None</b>          |   | <u>Leased assets, outsourcing and franchising</u><br><b>Homeworking</b> |
| <u>Fugitive emissions</u><br><b>Refrigerants</b> |   | <u>Transport related activities</u><br><b>Grey fleet, commuting</b>     |
|  |   | <u>Use of sold goods &amp; services</u><br><b>None</b>                  |
|  |   | <u>Waste Disposal</u><br><b>Residual &amp; Recyclable</b>               |

Key:

|                                |   |
|--------------------------------|---|
| Within the assessment boundary | Not included within assessment boundary |
|--------------------------------|---|

Indirect GHG sources that are outside the assessment boundary have been excluded from quantification as it is not technically feasible or cost effective, to include these in the GHG assessment.

### 2.3. Calculation accuracy & 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 which will subsequently allow for better targeting of areas where improvements can be made. Materiality is determined by the percentage contribution of each element to the overall footprint.

The data provided is derived from energy bills, expenses claims and data collected by Corsham Town Council (Table 3). Based on the accuracy of the data provided, a simple error analysis has been used to estimate the error margin for the appraisal results.

**Table 3: Assessment accuracy, materiality and simple error analysis**

| Dataset                                | Data source / comments   | Accuracy  | Materiality    | Uncertainty   | Error Margin (tCO <sub>2</sub> e) |
|--|--|-----------|----------------|---------------|-----------------------------------|
| Site electricity                       | Utility bills were provided for all sites with actual meter readings for the 12-month period. Supplier specific factors used for the market-based calculations are based on discussions with their suppliers, although no evidence was provided. | Excellent | High (20-40%)  | 1%            | <0.1                              |
| Site gas                               | Client provided utility bills for all sites showing actual reader meetings for whole 12-month period.  | Excellent | High (20-40%)  | 1%            | <0.1                              |
| Non-Controlled Site electricity        | Client provided estimated quarterly utility bills for the whole assessment period.   | Excellent | High (20-40%)  | 1%            | <0.1                              |
| Company car travel                     | Ground staff fleet milage was sourced from velocityfleet.com, where milage for each vehicle is uploaded monthly and has been approved for the entire data period.  | Very Good | Medium (5-20%) | 5%            | 0.2                               |
| Commuting                              | Commuting data including number of commuting days per year, mode of transport and distance travelled, was provided via a questionnaire completed by FTE.   | Good      | Medium (5-20%) | 10%           | 0.5                               |
| Employee-owned car travel (grey fleet) | Data was sourced from internal expensed milage sheets; showing car model, engine size, fuel type and annual distance.  | Very Good | Low (1-5%)     | 5%            | <0.1                              |
| <b>Total</b>                           |  |           |                | <b>+/- 3%</b> | <b>+/- 1.0</b>                    |

**To improve accuracy for future assessments, please see recommendations provided in Section 5.**



## 3. Carbon Footprint Results

### 3.1. Summary of results

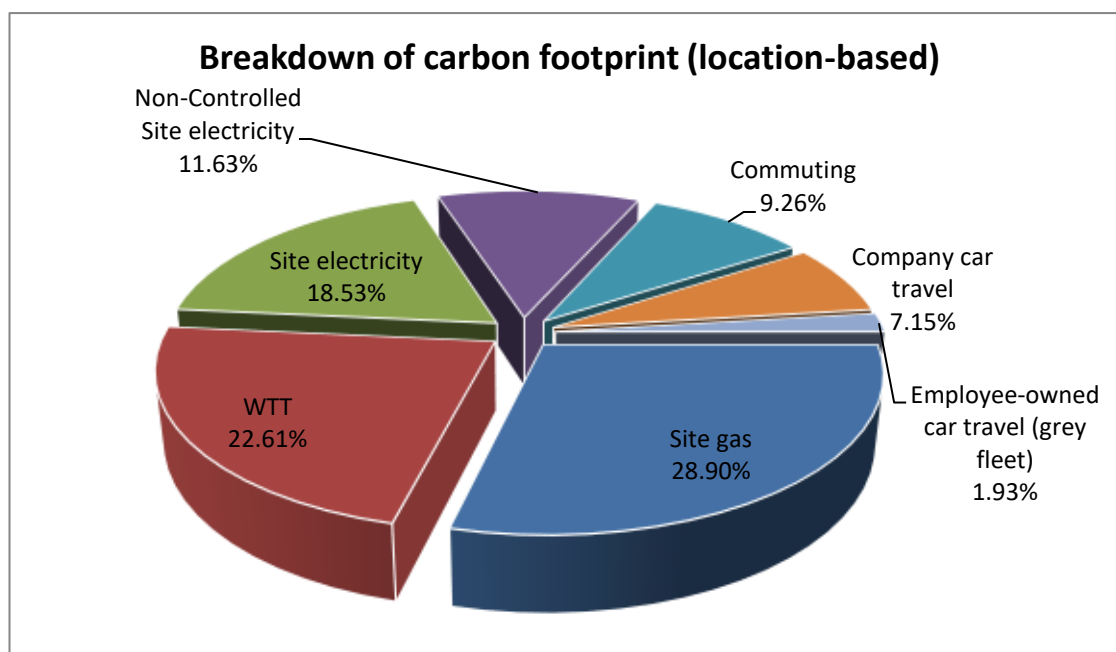
The total market-based carbon footprint for Corsham Town Council for the period ending 31<sup>st</sup> March 2020 was 38.75 tonnes CO<sub>2</sub>e (location-based is 38.63 tCO<sub>2</sub>) . The following Table 4 and Figure 2 provides a summary of results for Corsham Town Council's carbon footprint calculation by scope and source activity. Market-based GHG emissions can be reduced via internal procurement policies, ensuring that low-carbon or 100% renewable energy tariffs are utilised across all sites.

**Table 4: Results of Corsham Town Council's carbon footprint assessment by scope and source activity**

| Scope  | Activity                                | Location-Based | Market-Based |
|--|---|----------------|--------------|
| Scope 1  | Site gas                                | 11.16          | 11.16        |
|  | Company car travel                      | 2.76           | 2.76         |
| <b>Scope 1 Sub Total</b>                         |   | <b>13.92</b>   | <b>13.92</b> |
| Scope 2  | Electricity generation                  | 6.60           | 7.20         |
| <b>Scope 2 Sub Total</b>                         |   | <b>6.60</b>    | <b>7.20</b>  |
| Scope 3  | Well To Tank                            | 8.73           | 7.88         |
|  | Non-Controlled Site electricity         | 4.49           | 4.87         |
|  | Commuting                               | 3.58           | 3.58         |
|  | Employee-owned car travel (grey fleet)  | 0.75           | 0.75         |
|  | Electricity transmission & distribution | 0.56           | 0.56         |
| <b>Scope 3 Sub Total</b>                         |   | <b>18.11</b>   | <b>17.63</b> |
| <b>Total tonnes of CO<sub>2</sub>e</b>           |   | <b>38.63</b>   | <b>38.75</b> |
| <b>Tonnes of CO<sub>2</sub>e per employee</b>    |   | <b>2.76</b>    | <b>2.74</b>  |
| <b>Tonnes of CO<sub>2</sub>e per £M turnover</b> |   | <b>39.94</b>   | <b>39.68</b> |

The most significant contributor to total market based GHG emissions is from site gas which accounts for 28.90%, as shown in figure 2. The other most significant sources of emissions are from the council's Well-To-Tank (WTT) and site electricity, contributing 22.61% and 18.53% respectively.

Due to the restrictions from COVID-19 being in place throughout the assessment period, there was a shift in employee and public behaviours and typical energy usage across all sites. Within the Utility bills provided, it was clear from April – June there was a significantly lower usage rate for all sites, including public conveniences, which in comparison to a year prior would have reduced the total emissions created within this assessment.



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

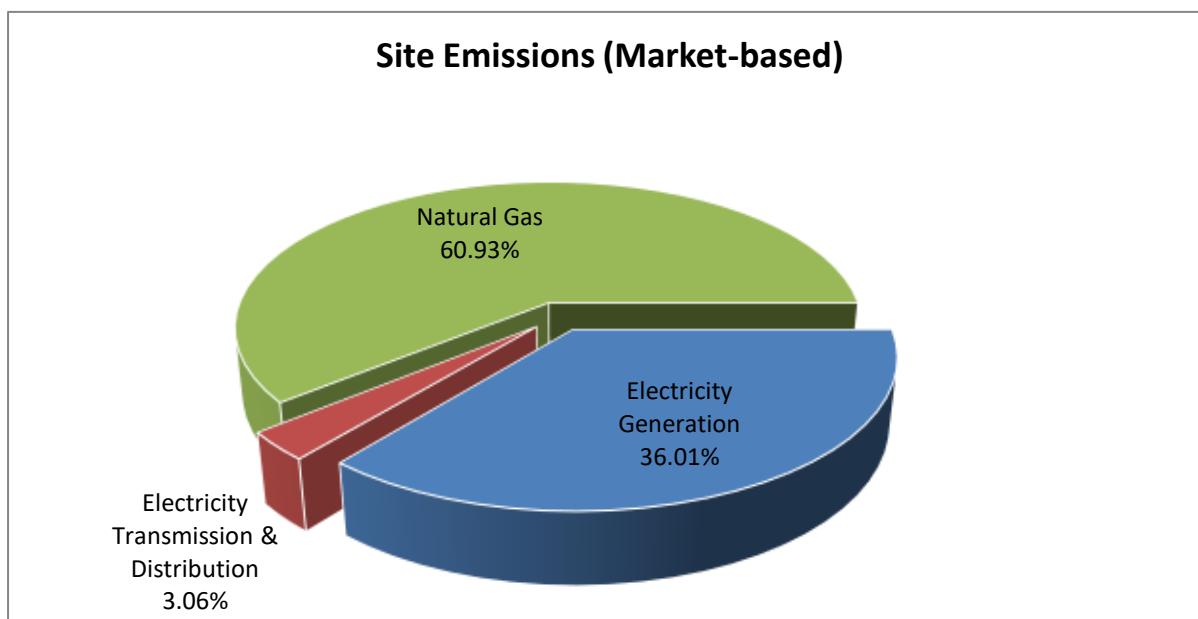
### 3.2. Emissions from energy usage at site facilities

As shown in figure 3, the most significant source of site emissions is from natural gas (60.93%), with the second largest emission source from site facilities being electricity (36.01%).

The Town Hall produces the highest amount of site emissions as shown in Table 5. The Town Hall is the only site to utilise natural gas however this factor contributes to the largest tCO<sub>2</sub>e output of all site emissions. The town hall operates at the largest tCO<sub>2</sub>e per employee, which is expected. This can be compared in future years per site to evaluate site efficiency.

**Table 5: CO<sub>2</sub>e emissions as a result of site energy consumption and per employee**

| Site                | No. of staff | Electricity usage (kWh) | Electricity (tCO <sub>2</sub> e) | Gas Usage (kWh) | Gas (tCO <sub>2</sub> e) | Total tCO <sub>2</sub> e | tCO <sub>2</sub> e per employee |
|---------------------|--------------|-------------------------|----------------------------------|-----------------|--------------------------|--------------------------|---------------------------------|
| Town Hall           | 10           | 22,142                  | 6.14                             | 60,712          | 11.16                    | 17.30                    | 1.73                            |
| Guide Hut           | 4            | 1,169                   | 0.32                             | -               | 0.00                     | 0.32                     | 0.08                            |
| Public Conveniences | -            | 2,502                   | 0.69                             | -               | 0.00                     | 0.69                     | -                               |
| <b>Total</b>        | <b>14</b>    | <b>25,813</b>           | <b>7.16</b>                      | <b>60,712</b>   | <b>11.16</b>             | <b>18.32</b>             | <b>1.81</b>                     |



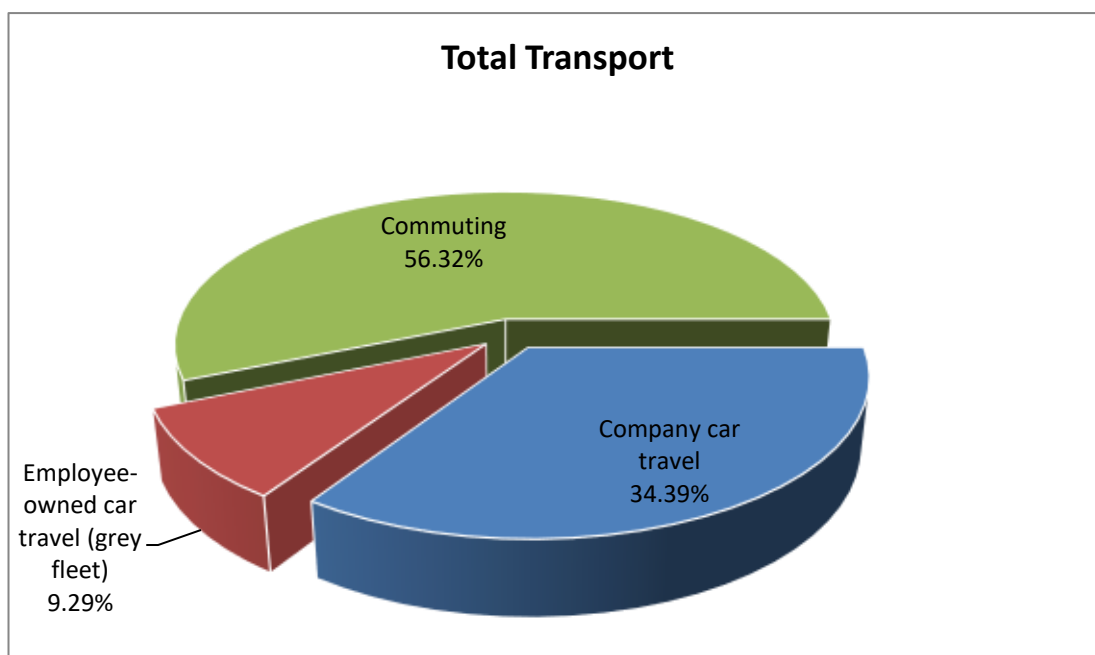
*Figure 3: CO<sub>2</sub>e emissions on a per site and per energy type basis*

### 3.3. Emissions from Non-Controlled Sites

Non-Controlled sites are locations where the council operate but have little or no control over the emissions created within this space. Arnold house is a non-controlled site where the tourist information centre is situated, along with the grounds team. Electricity bills are estimated for this site and the council are responsible for a 'contribution' to the landlord.

### 3.4. Emissions from travel

Corsham Town Council have also chosen to include GHG emissions associated with employee commuting (Scope 3). This is the most significant source of travel emissions followed by company car travel, contributing to 56.32% and 34.39% respectively as shown in Figure 4 and Table 6. There are 10 members of staff which commute, covering a combined distance of 12,218 miles per annum. Company car travel covers a total distance of 8,634 which is tracked via velocityfleet.com website where mileage is uploaded and approved monthly. Employee-owned vehicles (grey fleet) contributed 9.29% of total travel related emissions with an annual distance of 3,250 miles.



**Figure 4: Percentage contribution of each element to transportation emissions**

**Table 6: CO<sub>2</sub>e emissions due to transportation**

| Type of Travel / Transport             | Tonnes of CO <sub>2</sub> e |
|--|-----------------------------|
| Commuting                              | 4.52                        |
| Company car travel                     | 2.76                        |
| Employee-owned car travel (grey fleet) | 0.75                        |
| <b>Total</b>                           | <b>8.03</b>                 |

The detailed results are given in Annex B.

### 3.5. Emissions from Well to Tank

Well-to-tank emissions relate to the upstream emissions of fuel and energy; accounting for extraction, processing, and transport of fuels/energy. Well to tank emissions account for 22.61% of the total footprint during this assessment period. The majority of WTT emissions (51.43%) are associated with site electricity. **Corsham Town Council can reduce these emissions by reducing fuel and energy usage.**

**Table 7: Well To Tank CO<sub>2</sub>e Emissions location-based breakdown**

| Element of Footprint (Well-To-Tank)    | Tonnes of CO <sub>2</sub> e |
|--|-----------------------------|
| Non-Controlled Site electricity        | 4.49                        |
| Site gas                               | 1.45                        |
| Site electricity                       | 1.00                        |
| Commuting                              | 0.94                        |
| Company car travel                     | 0.66                        |
| Employee-owned car travel (grey fleet) | 0.19                        |
| <b>Total</b>                           | <b>8.73</b>                 |



## 4. Comparison and Benchmarking

### 4.1. Comparison to base year emissions

This report will set the base year for all further reporting emissions to be compared against.

**Table 8: Corsham Town Council's carbon footprint comparison**

| Element  | Tonnes of CO <sub>2</sub> e for footprint ending in March of calculation period: |
|--|--|
|  | 2021   |
| Site electricity                                 | 8.16   |
| Site gas   | 12.61  |
| Company car travel                               | 3.42   |
| Employee-owned car travel (grey fleet)           | 0.94   |
| Non-Controlled Site electricity                  | 8.98   |
| Well To Tank                                     | 8.73   |
| Commuting*                                       | 4.52   |
| <b>Total Tonnes of CO<sub>2</sub>e</b>           | <b>38.37</b>   |
| <b>Tonnes of CO<sub>2</sub>e per employee</b>    | <b>2.74</b>  |
| <b>Tonnes of CO<sub>2</sub>e per £M turnover</b> | <b>39.68</b>   |

Carbon Footprint recommends that organisations use the base-year GHG inventory as a benchmark to measure against. When using the base-year GHG inventory as a benchmark, organisations can set realistic reduction targets and measure their progress year on year. This can also provide excellent marketing opportunities, where real figures can demonstrate your commitment towards helping fight climate change.

### 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 9 Summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

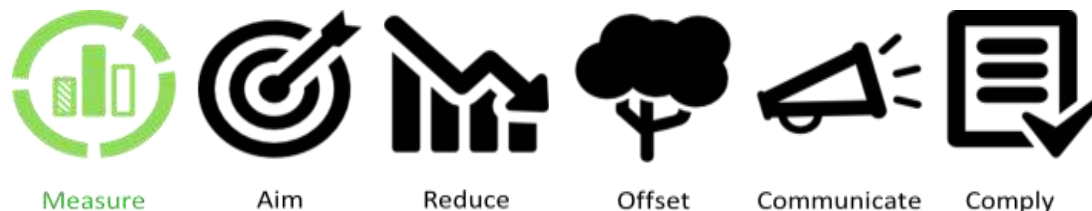
**Table 9: Corsham Town Council's benchmarked GHG emissions**

| <b>Year/Element</b>                                | <b>Location based</b> | <b>Market based</b> |
|--|-----------------------|---------------------|
| Turnover in £million                               | 0.97                  | 0.97                |
| Total number of employees                          | 14                    | 14                  |
| Tonnes of CO <sub>2</sub> e                        | 38.63                 | 38.37               |
| Tonnes of CO <sub>2</sub> e per £ million          | 39.94                 | 39.68               |
| Tonnes of CO <sub>2</sub> e per employee           | 2.76                  | 2.74                |
| <b>Scope 1 &amp; 2 Emissions</b>                   |                       |                     |
| Scope 1 & 2 tonnes CO <sub>2</sub> e               | 20.52                 | 21.12               |
| Scope 1 & 2 tonnes CO <sub>2</sub> e per £ million | 21.22                 | 21.84               |
| Scope 1 & 2 tonnes CO <sub>2</sub> e per employee  | 1.47                  | 1.51                |



## 5. Key Recommendations

The following recommendations are designed to help you build upon the results of the appraisal and your carbon management over the coming year.



### 5.1. Carbon & sustainability targets

#### 5.1.1. Target setting

Corsham Town Council have set an internal target to become Carbon Neutral by 2030. The council should continue to assess GHG emissions annually to track its carbon reduction progress.

In addition, I recommend the council set both long and short-term reduction targets to help them achieve their goals. Reduction targets can be set based on absolute emissions (tCO<sub>2</sub>e), intensity metrics (e.g., emissions per employee or per capita population), as well as activity data (e.g. kWh). All targets set should be reviewed and amended accordingly (i.e., target increased if it is met ahead of schedule).

Below we have included a link to our Target Setting paper 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)

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

The estimated overall error margin is +/- 3%. To improve the accuracy of future assessments, we recommend the following:

- During data collection, we recommend that you create a folder of evidence that can be provided during the audit process. This will ensure that the process runs smoothly each year.
- Continue to take meter readings for all controlled sites to get accurate site electricity/gas usage.
- Ensure that all vehicle data is recorded throughout the year such as car make and model including engine size. This will allow Carbon Footprint to calculate your emissions more accurately from this source.



### 5.3. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Offset the calculated footprint by supporting change solutions around the world to gain the 'Carbon Neutral Organisation' certification, which is in line with your 2030 target to become carbon neutral through the following link [carbonfootprint.com - Offset Quotation](https://www.carbonfootprint.com)
- Switch to a renewable energy tariff for all sites to reduce emissions associated with electricity use. Many "green" electricity tariffs are now the same price as the traditional brown tariffs. Once you have done this you will be able to report your market-based emissions alongside your location based. This objective is within the Corsham Town Council's environmental policy 2022, make this a priority due to the majority of current emissions via gas and electricity.
- Continue conducting feasibility assessments to identify opportunities to install on-site renewable energy generation across the Council's sites, particularly those with high energy consumption. This will reduce the location and market-based footprints due to a lower demand on energy supplied by the national grid. However, improvement in energy efficiency should be first priority.
- Consider including other scope 3 emissions which are run and or outsourced by the council, these can include, any contract work which is undertaken and consider including these emissions into the carbon neutrality target for 2030.
- Install EV charging points at work. This will encourage and enable staff to switch to low carbon electric vehicles. Providing electric charging facility shows your staff and stakeholders that your business is serious about reducing emissions and will support other staff behavioural change initiatives.
- Set carbon reduction targets based on intensity metrics (e.g., emissions per employee and/or per £M turnover). These can be aligned to the Science Based Target Initiative as well.
- Evaluate the effectiveness of using remote meetings and limited travel during COVID-19 and re-define what your business classifies as "essential" travel going forwards, encouraging the use of sustainable alternatives. This objective is also within your current environmental policy via hosting online meetings.

#### 5.3.1. Setting carbon reduction budgets based on emissions

Having an agreed and defined system for investing in future carbon reduction activities helps drive carbon reduction and cost savings in a business. Many leading organisations are doing this through setting an "Internal Carbon Tax" or an "Internal Carbon Price" within their organisation (see [http://www.carbonfootprint.com/internal\\_carbon\\_pricing.html](http://www.carbonfootprint.com/internal_carbon_pricing.html) for more information).

We suggest starting by setting a price of £40-50 per tonne of CO<sub>2</sub>e, in line with guidance provided by the Grantham Research Institute on Climate Change and the Environment<sup>1</sup>. You may wish to collect the "taxation" by each functional group (depending on their emissions), or simply account for this at the top-level company budgeting.

**Table 10: Carbon price compared to energy and travel costs**

| Emissions Source                                | Electricity | Natural Gas | Car Miles   | Flights  |
|---|-------------|-------------|-------------|----------|
| <b>1 tonne CO<sub>2</sub>e is equivalent to</b> | 3,950 kWh   | 5,450 kWh   | 3,625 miles | 5,446 km |
| <b>Cost to produce 1 tonne CO<sub>2</sub>e</b>  | £511        | £159        | £1,631*     | £524     |
| <b>£40-£50 carbon price represents</b>          | 8-10%       | 25-31%      | 2-3%        | 8-10%    |

\*Assumes a rate of 45p per mile

We recommend allocating this defined budget to help both internal and external carbon reduction activities. For example, it could be split:

- 75% on internal carbon reduction measures
- 25% on external carbon offsetting activities

Investments in internal carbon reduction activities should be made based on the level of carbon savings and the associated cost savings. Good carbon reduction investments usually pay for themselves and give a return on investment to the business within 3 years. Carbon offsetting return on investment is primarily measured through access to tenders, brand enhancement and PR (use marketing return on investment techniques).

### 5.3.2. Funding opportunities

The following section provides details of current funding opportunities in the UK that may be applicable to Corsham Town Council in order to increase the percentage of electric/hybrid vehicles within the fleet.

#### **Plug-in car & van grants & incentives:**

Sales of all new non-zero emission road vehicles will be phased out by 2040 UK Government (2021)

- Cars and vans (under 3.5t): all new cars and vans required to have significant zero emissions capability from 2030 and 100% zero emissions at the tailpipe from 2035.
- Heavy Goods Vehicles (above 3.5t): sales of all new medium sized trucks (up to and including 26t) to be zero emissions from 2035, with the heaviest (>above 26t) zero emission by 2040\*
- Powered two wheelers: all new motorcycle and scooters to be fully zero emissions at the tailpipe from 2035

This funding is provided in the form of grants issued by the UK Government, which go towards the purchase of a plug-in electric vehicle. The levels of funding are as follows:

- 35% of the cost of a van, up to a maximum of £6,000 (for large vans)
- 35% of the cost of a car, up to a maximum of £2,500 (for cars with a list price below £35,000)

This will help to reduce the company's vehicle travel emissions. Further details on which vehicles are eligible are available through this website: <https://www.gov.uk/plug-in-car-van-grants>

The following schemes incentivise all types of vehicle acquisitions, including for employee-owned vehicles:

- Leasing - There are significant tax incentives if you lease an electric vehicle under a company 'salary sacrifice' programme. This type of programme is increasingly used instead of old-style company car programmes. Lease costs are taken off an employee's gross salary. This means that the employee's tax burden (PAYE and NIC) is then reduced (by the lease costs). For fossil-

fuelled cars, employees would still be hit with high Benefit in Kind (BIK) taxes that (in 2021) can be as high as 37% of the P11D value of the vehicle compared with 1% for full EVs. This makes the EV an exceptionally good candidate as a salary sacrifice option. More so for higher tax bracket earners.

- Company car - If you get a company car, you will also benefit again from the very low BIK (tax year 2021, full EVs BIK at 1%, compared with >150g/km CO<sub>2</sub> car BIK at 37%) – reducing your tax burden. Full EVs also qualify for Enhanced Capital Allowances (EHA) – at time of writing permitting the business to ‘write down’ the full value of the vehicle within one year against profits and thus reduce corporate taxes.
- Buying an EV outright – Although, car leasing is increasingly popular, many people still wish to buy a car outright. For this, the UK incentivises purchase of EVs for cars with electric range of greater than 70 miles as April 2021 to up to £2500 for cars with a list price under £35,000.

### **Workplace Charging Scheme:**

This funding is provided in the form of vouchers issued by the UK Government, which go towards the purchase of electric vehicle charging points.

The grant cap is set at a maximum of £350 (including VAT) per socket. Each company can apply for up to 40 sockets (across all sites).

For more information, refer to: <https://www.gov.uk/guidance/workplace-charging-scheme-guidance-for-applicants>



## 5.4. 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>.

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*



## 5.5. Carbon Footprint Standard

### 5.5.1. Brand endorsement

Corsham Town Council, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint. 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.



The Carbon Footprint Standard is recognition of your organisation’s commitment to carbon management. The text to the right-hand side of the logo demonstrates what level you have achieved in line with international best practice.

### 5.5.2. Scope

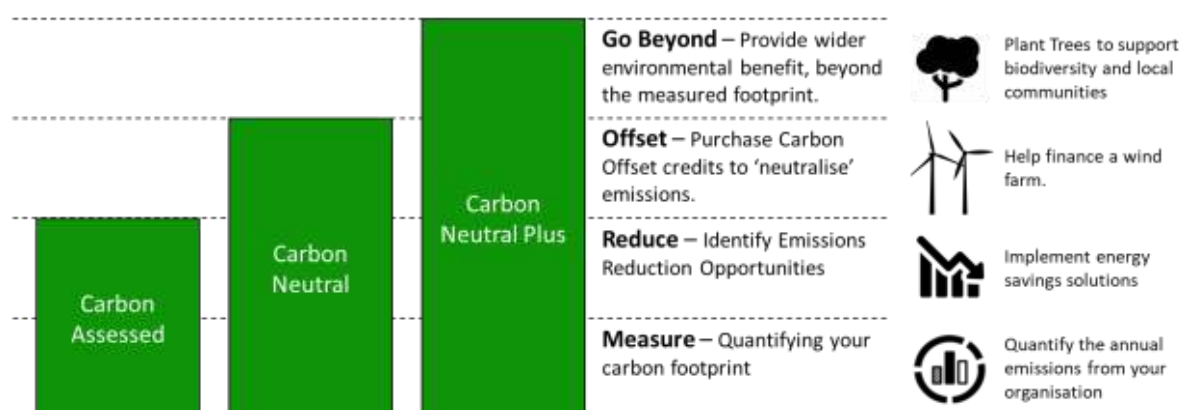
Over time, you can progress your carbon footprinting to increase the scope and encompass your products, supply chain and your employees. By doing so you will be able to receive the Carbon Footprint Standard for these categories, thus standing out amongst your competitors and truly driving the sustainability of your brand.



Once the scope has been identified, the Carbon Footprint Standard will allow Corsham Town Council to develop from a novice to an exemplar in the market. You can progress from a Carbon Assessed Organisation to a Carbon Neutral or a Carbon Neutral Plus Organisation by supporting a range of environmental projects that come with wider CSR and PR opportunities.



Alongside the sustainability rationale, this will allow you to leverage the Carbon Footprint Standard to truly stand out in your market. Progressing will resonate with like-minded customers and will help your business grow.



### 5.5.3. Communicate

Make sure you communicate your actions and achievements effectively, both within your organisation, to help develop your culture, and externally to help improve your brand image.

When promoting your actions, be sure to utilise all marketing channels available to you, such as website, newsletters, brochures, press releases, conferences/events and social media etc.

You should:

- Explain why climate change matters to you (for more information visit: [www.carbonfootprint.com/warming.html](http://www.carbonfootprint.com/warming.html))
- Tell the story of where you have come from, the progress you have made and what your commitment is for the future (e.g. targets).
- Be clear and accurate about what you have achieved – take care not to exaggerate.
- Use the Carbon Footprint Standard branding, certificates, images of offset projects you are supporting and graphs of your carbon performance to help communicate your point in a clear and enticing manner.

## 6. References

1. BEIS GHG Conversion Factors for Company Reporting (2019)
2. Decarbonising transport: a better, greener Britain ([publishing.service.gov.uk](https://publishing.service.gov.uk))
3. Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)
4. HM Revenue & Customs (2019) <https://www.gov.uk/government/publications/enhanced-capital-allowances>.
5. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (March 2004)
6. UK Government (July 2021) UK Government's Decarbonising Transport Plan (July 2021)
7. Grantham Research Institute on Climate Change and the Environment, 2019. *Policy Brief: How to price carbon to reach net-zero emissions in the UK*. Available at: [https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2019/05/GRI-POLICY-BRIEF\\_How-to-price-carbon-to-reach-net-zero-emissions-in-the-UK.pdf](https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2019/05/GRI-POLICY-BRIEF_How-to-price-carbon-to-reach-net-zero-emissions-in-the-UK.pdf)
8. [Quarterly energy prices December 2021 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)



## A. Annex A – Calculation Methodology (Additional Notes)

### A.1 How is the carbon footprint calculated?

Carbon Footprint confirms that the methodology used to quantify the carbon footprint meets the following principles:

- a) The subject and its boundaries have been clearly identified and documented.
- b) The carbon footprint has been based on primary activity data unless the entity could not demonstrate that it was not practicable to do so, in which case an authoritative source of secondary data relevant to the subject was used.
- c) The methodology employed minimised uncertainty and yielded accurate, consistent and reproducible results.
- d) Emission factors used are germane to the activity concerned and current at the time of quantification.
- e) Conversion of non-CO<sub>2</sub> greenhouse gases to CO<sub>2</sub>e has been based upon the 100-year Global Warming Potential figures published by the IPCC or national (Government) publication.
- f) Carbon footprint calculations have been made exclusive of any purchases of carbon offsets.
- g) All carbon footprints have been expressed as an absolute amount in tCO<sub>2</sub>e.

### A.2 Biomass

There are no CO<sub>2</sub> emissions from the combustion of biomass to be considered within this report.

### A.3 Greenhouse gas removals

Within the calculation of Corsham Town Council's carbon footprint, there are no business processes resulting in the reduction of greenhouse gases from the atmosphere to be deducted from the calculation.

## B. Annex B – 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.

### B.4 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 11: 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           | 11,162               | 11,141                                  | 15                                      | 6  |
| Company car travel | 2,760                | 2,723                                   | 0                                       | 36                                       |
| <b>Total</b>       | <b>13,922</b>        | <b>13,865</b>                           | <b>15</b>                               | <b>42</b>                                |