

# Carbon Footprint Appraisal Report



Carbon Footprint Appraisal for Corps of Commissioners  
Management Ltd

Assessment Period:  
1<sup>st</sup> January 2021 – 31<sup>st</sup> December 2021

## Executive Summary

Carbon Footprint Ltd has assessed the greenhouse gas (GHG) emissions of Corps of Commissioners Management Ltd (Corps Security) from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021 based on a dataset provided by the company.

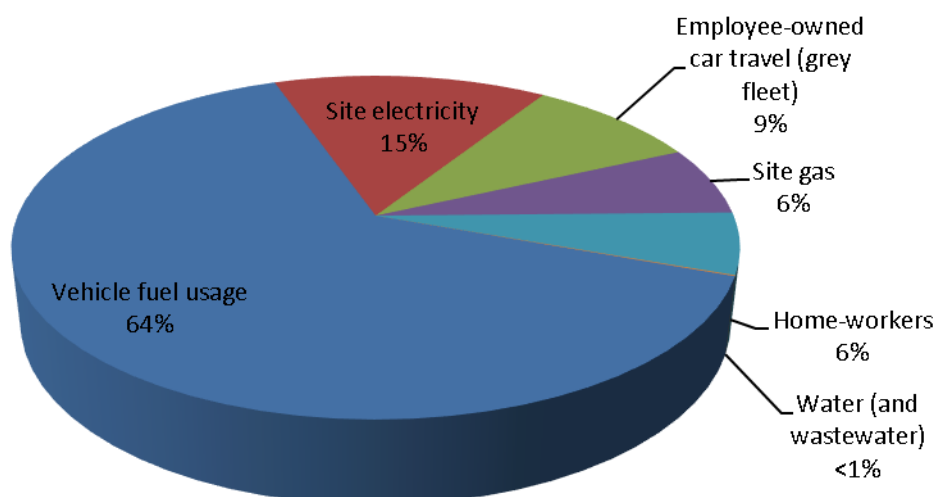
### Current Performance

- Corps Security's total emissions are 301.19 tCO<sub>2</sub>e.
- The most significant emission source is vehicle fuel usage accounting for 64% of Corps Security's carbon footprint.
- Corps Security's total emissions have decreased by 36.7% since the baseline year.

### Recommendations

- Offset the GHG emissions created within this data period to maintain your carbon neutrality
- 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
- When leasing/purchasing new vehicles, consider transitioning to electric vehicles (EV) and installing charging points on-site to encourage staff to switch too.
- Consider conducting a feasibility assessment to identify potential opportunities to install on-site renewable energy generation.

### Breakdown of carbon footprint



Metric	2019	2020	2021	% Change from baseline year	% Change from previous year
Total Tonnes CO <sub>2</sub> e	476.15	344.81	301.19	-36.7%	-12.7%
Tonnes of CO <sub>2</sub> e per employee	3.94	3.25	2.84	-27.9%	-12.7%
Tonnes of CO <sub>2</sub> e per £M turnover	5.60	3.92	3.46	-38.2%	-7.0%

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## Quality Control

<b>Report issue number:</b>	1.0
<b>Date:</b>	27 May 2022
<b>Calculations completed by:</b>	Finlay Dyche-Brookes
<b>Calculations reviewed by:</b>	Stuart Fowler
<b>Report produced by:</b>	Finlay Dyche-Brookes
<b>Report reviewed by:</b>	Stuart Fowler
<b>Director approval:</b>	Dr. Wendy Buckley

# 1. Introduction

## 1.1. Company Overview

Corps Security is specialist security services provider, and a subsidiary of the Corps of Commissioners Management Ltd. Corps Security has a total of 106 employees, located across 3 sites in the UK, included within the scope of this assessment. A further 6 sites have been omitted from the assessment as they have only been used as a base to store vehicles and the offices have not been in operation and no actual raw data has been supplied.

## 1.2. Corps Security'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. Corps Security 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 seven GHGs (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs SF <sub>6</sub> and NF <sub>3</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 Corps Security to continue 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. 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 Corps Security'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.

Additional methodology information is presented in Annex A.

## 1.7. Data supplied for the carbon footprint appraisal

A summary of the data supplied by Corps Security for the appraisal is presented in Annex B.

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

## 1.8. Abbreviations

BEIS	Department for Business Energy & Industrial Strategy
BIK	Benefit In Kind
CDP	Carbon Disclosure Project
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
Defra	Department for Environment, Food and Rural Affairs
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
WFH	Work from Home

## 2. Calculation Scope and Accuracy

### 2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1<sup>st</sup> January 2021 to 31<sup>st</sup> December 2021 resulting from the energy consumption at Corps Security's facilities and its business transport activities.

Corps Security's baseline year data and emissions can be found in the 2019 report.

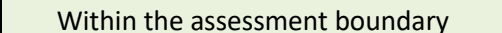
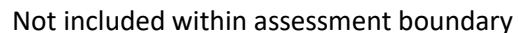
### 2.2. Organisational & reporting boundaries

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: Assessment boundary**

Scope 1 Direct Emissions	Scope 2 Energy Indirect	Scope 3 Other Indirect
<u>Fuel combustion</u> <b>Natural gas</b>	<u>Consumption of purchased electricity, heat steam and cooling</u> <b>Electricity</b>	<u>Purchased materials</u> <b>Water</b>
<u>Owned Transport</u> <b>Vehicle fuel usage</b>		<u>Transmission and distribution of energy</u> <b>Electricity</b>
<u>Process emissions</u> <b>None</b>		<u>Leased assets, outsourcing and franchising</u> <b>Homeworking</b>
<u>Fugitive emissions</u> <b>Refrigerants</b>		<u>Transport related activities</u> <b>Car travel</b>
		<u>Use of sold goods &amp; services</u> <b>None</b>
		<u>Waste Disposal</u> <b>Residual &amp; Recyclable</b>

Key:

 Within the assessment boundary	 Not included within assessment boundary
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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 Corps Security (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)	Total (tCO <sub>2</sub> e)
Vehicle fuel usage	Total fuel consumption was provided as a cost-based estimation conducted by Corps Security, based on data from company vehicle fuel cards covering the majority of the assessment period.	Good	Very High (>40%)	10%	19.3	193.0
Site electricity	Data was provided by Corps Security detailing consumption across all three sites in kWh for the entire assessment period. The London site switched energy providers at the end of February.	Very Good	Medium (5-20%)	5%	2.2	43.6
Employee-owned car travel (grey fleet)	This data is recorded internally by Corps and provided in total annual mileage across all grey fleet vehicles.	Good	Medium (5-20%)	10%	2.7	27.5
Site gas	Data was provided by Corps Security detailing consumption across the London and Bristol sites in kWh. The Glasgow site does not use natural gas.	Very Good	Medium (5-20%)	5%	1.0	19.5
Home-workers	This was assumed based on 50/50 split on occupancy type, with 40 working weeks assumed to account for some working from the office.	Poor	Medium (5-20%)	90%	15.6	17.4
Water (and wastewater)	Water consumption data was provided in the form of utility bills and supplied in cubic metres for all sites. The data provided covered 70% of the assessment period for the London site, 12% for Bristol and 18% for Glasgow. This was then extrapolated to cover the entire assessment period	Very Good	Very Low (<1%)	5%	0.0	0.3
refrigerants	No refrigerant gas top-ups were reported by Corps Security over the assessment period.	Excellent	None	0%	0.0	0.0
<b>Total</b>				<b>+/- 14%</b>	<b>+/- 40.9</b>	<b>301.19</b>

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



## 3. Carbon Footprint Results

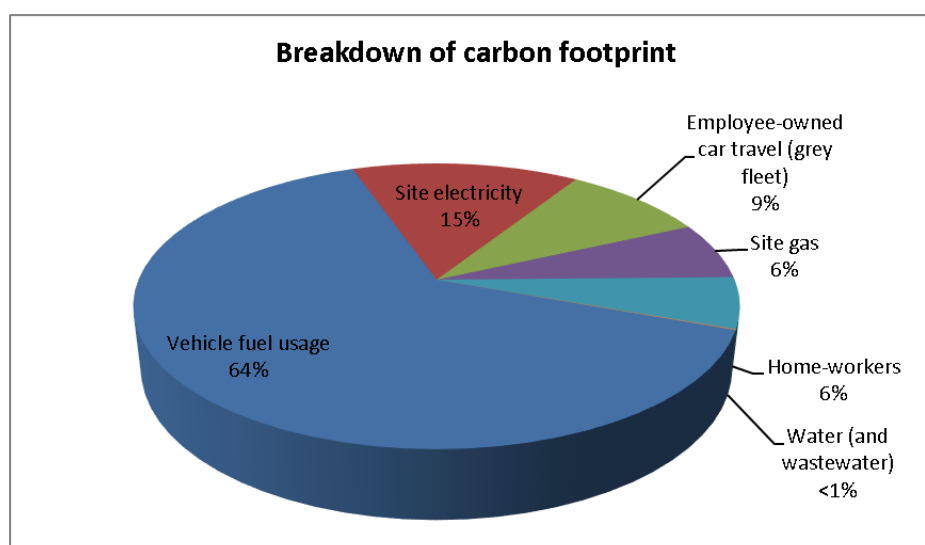
### 3.1. Summary of results

The total carbon footprint for Corps Security for the period ending 31<sup>st</sup> December 2021 was **301.19 tonnes CO<sub>2</sub>e**. The following Table 4 and Figure 2 summarise the results of Corps Security's carbon footprint calculation by scope and source activity.

**Table 4: Results of Corps Security's carbon footprint assessment by scope and source activity**

Scope	Activity	Location-Based
Scope 1	Vehicle fuel usage	192.97
	Site gas	19.47
Scope 1 Sub Total		212.44
Scope 2	Electricity generation	40.05
Scope 2 Sub Total		40.05
Scope 3	Employee-owned car travel (grey fleet)	27.50
	Home-workers	17.38
	Electricity transmission & distribution	3.54
	Water (and wastewater)	0.28
Scope 3 Sub Total		48.70
Total tonnes of CO <sub>2</sub> e		301.19
Tonnes of CO <sub>2</sub> e per employee		2.84
Tonnes of CO <sub>2</sub> e per £M turnover		3.46
Total Energy Consumption (kWh)*		1,227,470.58

The majority of emissions arise as a result of vehicle fuel consumption, as shown in Figure 2. This element accounts for 64% of Corps Security's carbon footprint and hence is the most material emissions source. The other most significant sources of emissions are electricity consumption (including generation and T&D), accounting for 14% of the total footprint, and employee-owned car travel (grey fleet), accounting for 9%.



**Figure 2: Percentage contribution of each element of Corps Security's carbon footprint**

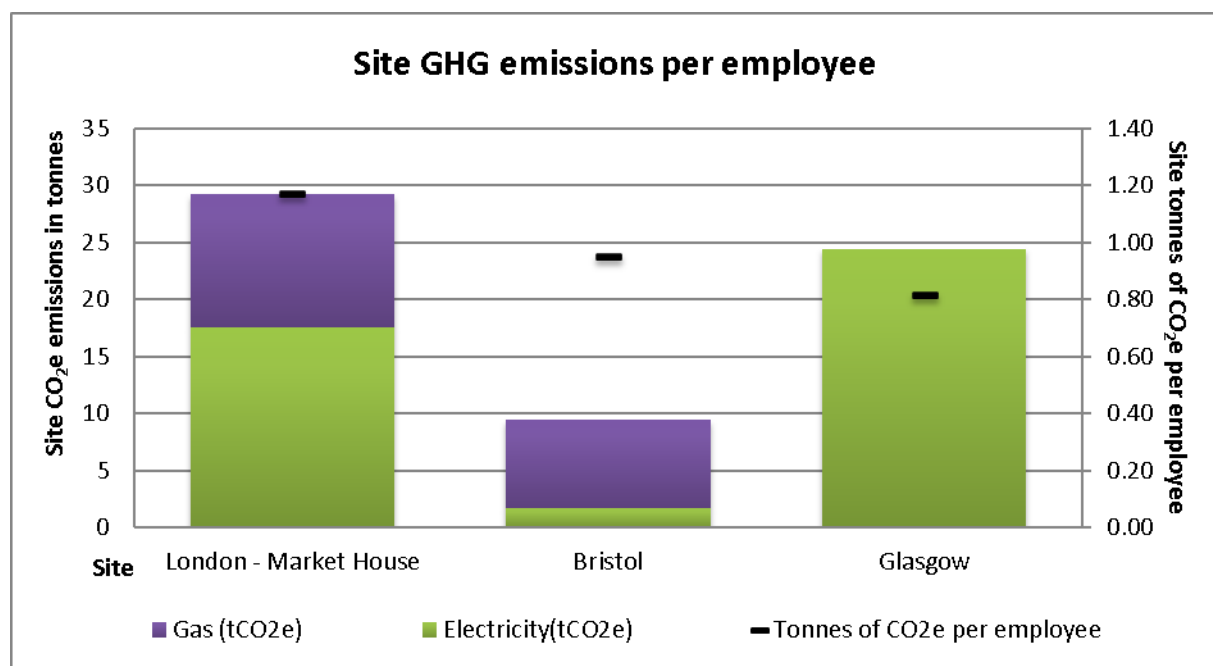
### 3.2. Emissions from energy usage at site facilities

Corps Security operates a total of 9 sites across the UK; however, due to the impact of the COVID-19 pandemic causing these sites to not be in use, the Belfast, Manchester, Leeds, Birmingham, Cardiff, and Crawley sites have not been included in this year's assessment. Corps Security has stated that these sites have been used as facilities to store vehicles only, and that the emissions from these sites would be negligible. Staff from these sites have worked from home during the assessment period, traveling to these sites to collect their vehicles; furthermore, no raw data was available to be provided by Corps Security regarding these sites.

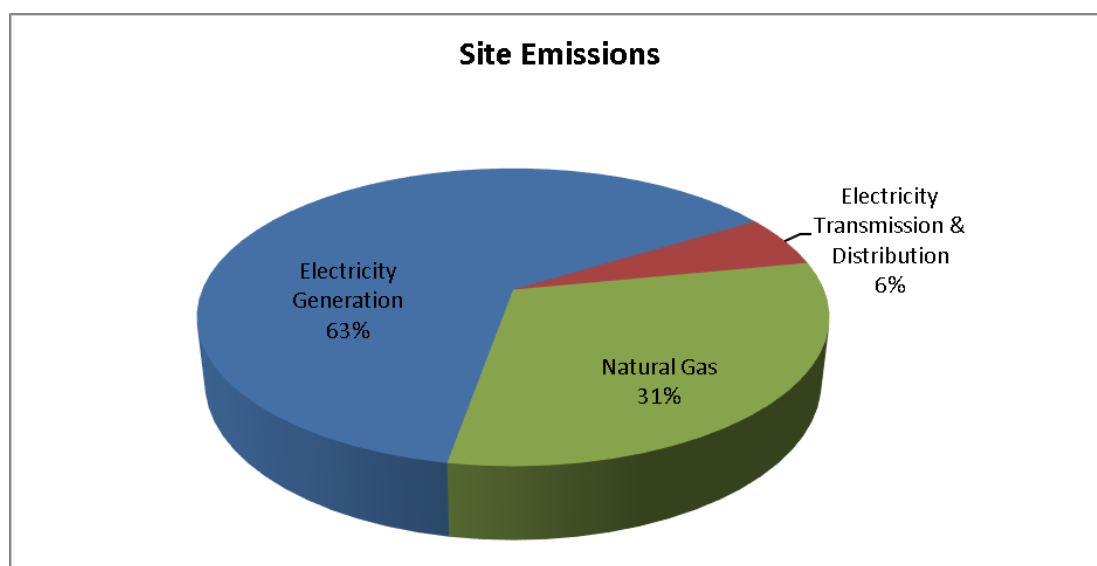
London – Market House is the site which produces the highest amount of site emissions as shown in Table 5 and Figure 3. When comparing the emissions per employee, Market House is the site with the highest tCO<sub>2</sub>e/employee ratio, whilst the Glasgow site presents the lowest ratio.

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

Site	Staff employee count	Electricity (tCO <sub>2</sub> e)	Gas (tCO <sub>2</sub> e)	Total (tCO <sub>2</sub> e)	Total emissions (%)	Emissions per employee (tCO <sub>2</sub> e)
London - Market House	25	17.53	11.65	29.18	46%	1.17
Bristol	10	1.66	7.82	9.48	15%	0.95
Glasgow	30	24.41	-	24.41	39%	0.81
<b>Total</b>	<b>65</b>	<b>43.60</b>	<b>19.47</b>	<b>63.07</b>	<b>100%</b>	<b>Average (0.98)</b>



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



*Figure 4: CO<sub>2</sub>e emissions on a per energy type basis*

### 3.3. Home Worker

For homeworkers under single-occupancy gas emissions for heating are included whereas for homeworkers under multi-occupancy gas emissions are excluded as it is assumed gas usage would have occurred regardless. Emissions from homeworking account for 6% of Corps Security's total emissions, and 38% of its scope 3 emissions.

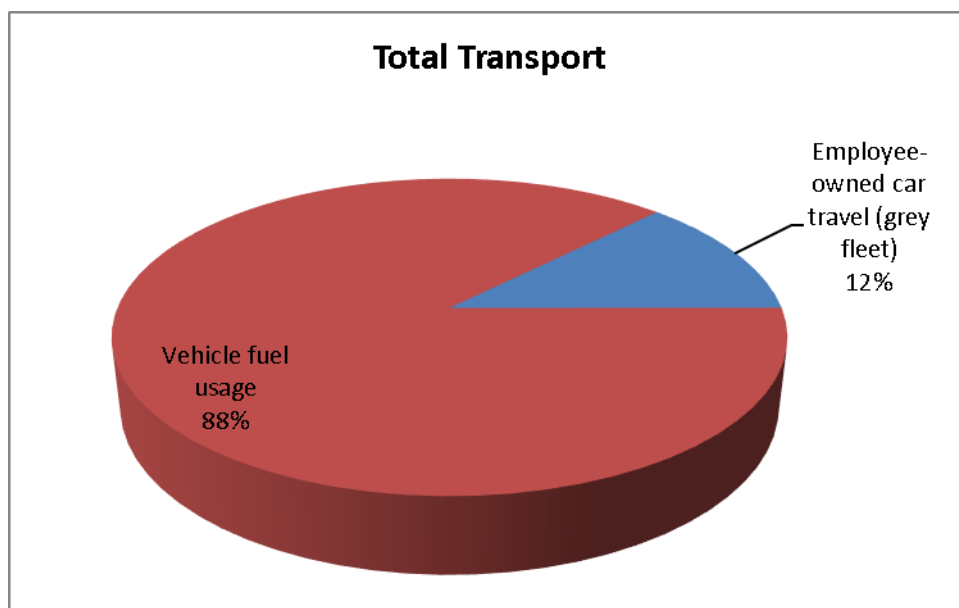
*Table 6: CO<sub>2</sub>e emissions as a result of site homeworking emissions*

Home-worker type (occupancy during working hours)	No. of home-workers	Hours worked from home in 2020/2021	Electricity Generation (tCO <sub>2</sub> e)	Natural Gas (tCO <sub>2</sub> e)	Total Emissions (tCO <sub>2</sub> e)
Single occupancy	33	1,600.0	1.37	14.68	16.05
Multi-occupancy	32	1,600.0	1.33	-	1.33
<b>Total</b>	<b>65</b>	<b>3,200.0</b>	<b>2.70</b>	<b>14.68</b>	<b>17.38</b>

### 3.4. Emissions from travel

The largest source of travel emissions is from vehicle fuel usage, as shown in Figure 5 and Table 7. This fuel is all diesel and is used by Corps Security for company vans and cars that are used to facilitate their business operations. The only other element of transport emissions was and employee-owned car travel (grey fleet).

Travel emissions are the largest element of Corps Security's carbon footprint, accounting for 220.46 tCO<sub>2</sub>e (73% of total emissions). Hence, this is the area in which efforts should be concentrated to achieve further emission reductions.



**Figure 5: Percentage contribution of each element to transportation emissions**

**Table 7: CO<sub>2</sub>e emissions due to transportation**

Type of Travel / Transport	Tonnes of CO <sub>2</sub> e
Vehicle fuel usage	192.97
Employee-owned car travel (grey fleet)	27.50
<b>Total</b>	<b>220.46</b>

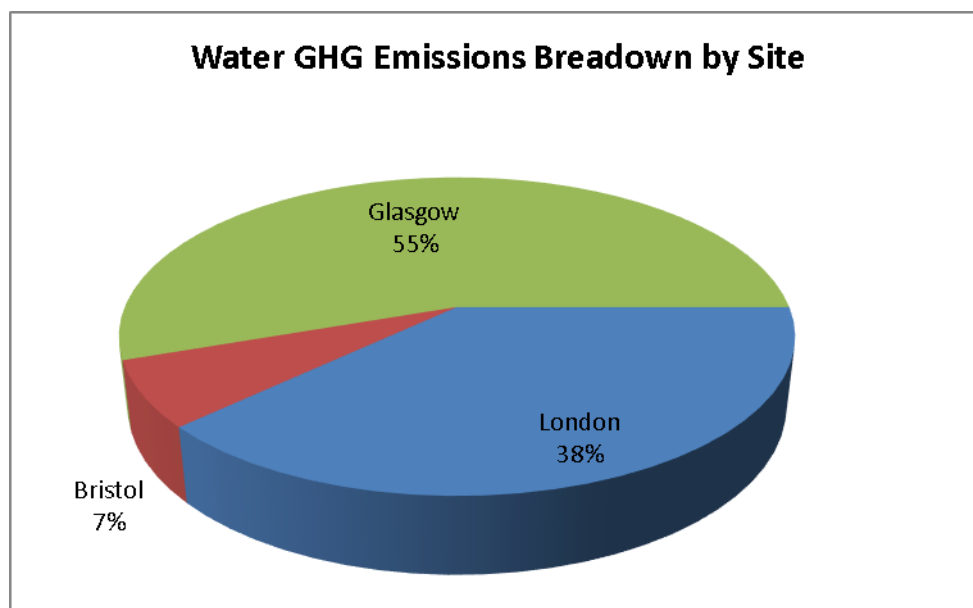
The detailed results are given in Annex B.

### 3.5. Emissions from Water

Emissions from water have been calculated based on utility bills provided by Corps Security. As expected, the Glasgow site uses the most water, due to it having the most employees (30) working from this site.

**Table 8: CO<sub>2</sub>e emissions arising from water consumptions and wastewater production**

Site	Water supply (m <sup>3</sup> )	Water Supply (tCO <sub>2</sub> e)	Estimated wastewater (%)	Wastewater treatment (tCO <sub>2</sub> e)	Total emissions from water consumption (tCO <sub>2</sub> e)
London	256	0.04	100%	0.07	0.11
Bristol	45	0.01	100%	0.01	0.02
Glasgow	372	0.06	100%	0.10	0.16
<b>Total</b>	<b>673</b>	<b>0.10</b>	<b>100%</b>	<b>0.18</b>	<b>0.28</b>



**Figure 6: percentage contribution per site from water and wastewater emissions**



## 4. Comparison and Benchmarking

### 4.1. Comparison to base year emissions

Corps Security's baseline year data and emissions can be found in the 2019 report

The Table 9 and Figure 7 below show historical emissions per activity, as well as Corps Security's total carbon footprint and carbon intensity metrics (tonnes of CO<sub>2</sub>e per employee and tonnes of CO<sub>2</sub>e per £M turnover).

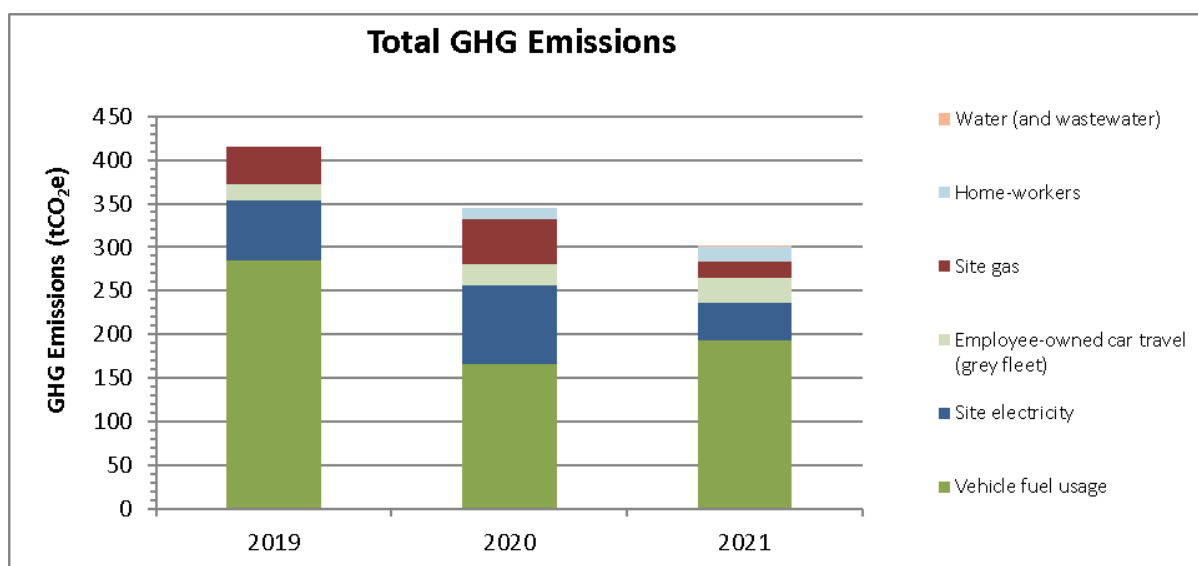
**Table 9: Corps Security's carbon footprint comparison and percentage change**

Element	2019 (tCO <sub>2</sub> e)	2020 (tCO <sub>2</sub> e)	2021 (tCO <sub>2</sub> e)	% Change on baseline year (2019)	% Change on previous year (2020)
Vehicle fuel usage	284.39	166.10	192.97	-32.1%	16.2%
Site electricity	100.75	90.32	43.60	-56.7%	-51.7%
Grey fleet	18.67	23.40	27.50	47.2%	17.5%
Site gas	42.56	52.75	19.47	-54.3%	-63.1%
Home-workers	-	12.24	17.38	n/a	41.9%
Taxi travel	3.00	-	-	-100.0%	n/a
Rail travel	5.63	-	-	-100.0%	n/a
Flights	21.14	-	-	-100.0%	n/a
<b>Total Tonnes of CO<sub>2</sub>e</b>	<b>476.15</b>	<b>344.81</b>	<b>301.19</b>	<b>-36.7%</b>	<b>-12.7%</b>
<b>Tonnes of CO<sub>2</sub>e per employee</b>	<b>3.94</b>	<b>3.25</b>	<b>2.84</b>	<b>-27.9%</b>	<b>-12.7%</b>
<b>Tonnes of CO<sub>2</sub>e per £M turnover</b>	<b>5.60</b>	<b>3.92</b>	<b>3.46</b>	<b>-38.2%</b>	<b>-7.0%</b>

Corps Security has decreased its total carbon footprint by 36.7% between this period and the baseline year. This is due to reductions in all elements of their footprint against the baseline year apart from grey fleet travel. This is mainly due to the commuting involved from employees' homes to collect their company vehicles.

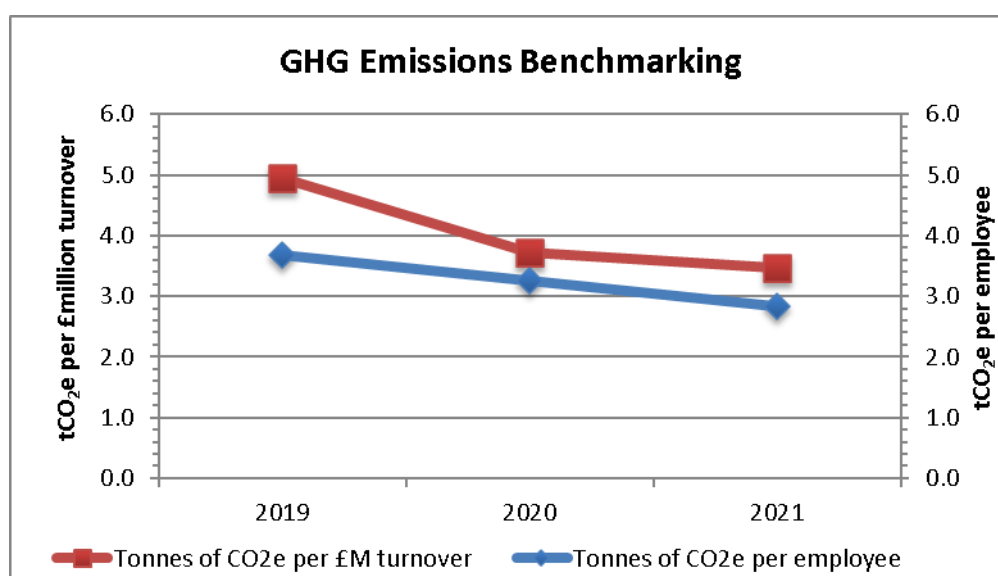
Decreases in both site electricity and natural gas consumption were expected to be seen against both the baseline and previous year, as Corps Security has opted to reduce their business operations from 9 sites to 3. Furthermore, improvements in efficiency of the UK national grid have further aided a reduction in emissions as a result of site electricity consumption. An increase in vehicle fuel consumption against the previous year indicates an increase to in Corps Security's business activities as restrictions due to the COVID-19 pandemic were reduced since the last assessment.

The full breakdown can be seen in Figure 7 and Figure 8.



**Figure 7: Detailed emissions comparison for the various aspects of Corps Security's emissions**

Benchmarked against employee numbers and company turnover (adjusted for inflation) the carbon emissions statistics show reductions against both intensity metrics against both the previous and baseline year. When analysing tonnes of CO<sub>2</sub>e per £M turnover, a reduction of 0.26 tCO<sub>2</sub>e can be noted against the previous year, equating to a reduction of 7%; regarding changes in emissions per £M turnover against the baseline year, a reduction of 30% (1.48 tCO<sub>2</sub>e) can be seen. When looking at tCO<sub>2</sub>e per employee, a reduction of 0.41 tCO<sub>2</sub>e can be seen against the previous year, equating to a reduction of 13%. On comparison, a reduction of 23% (0.84 tCO<sub>2</sub>e) can be seen against the baseline year.



**Figure 8: Carbon footprint of Corps Security for internal benchmarks**

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)

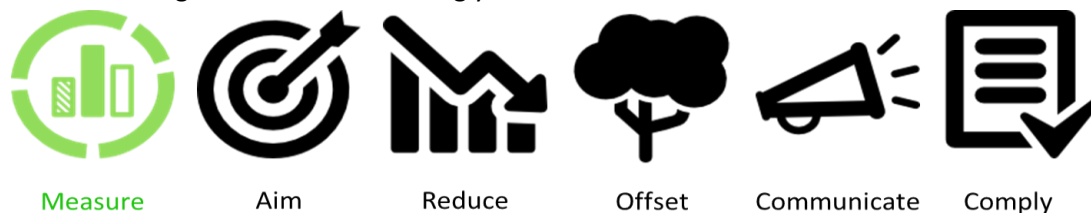
Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 10 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

**Table 10: Corps Security's benchmarked GHG emissions**

Year/Element	Location based
Turnover in £million	87.02
Total number of employees	106
Tonnes of CO <sub>2</sub> e	301.19
Tonnes of CO <sub>2</sub> e per £ million	3.46
Tonnes of CO <sub>2</sub> e per employee	2.84
<b>Scope 1 &amp; 2 Emissions</b>	
Scope 1 & 2 tonnes CO <sub>2</sub> e	252.49
Scope 1 & 2 tonnes CO <sub>2</sub> e per £ million	2.90
Scope 1 & 2 tonnes CO <sub>2</sub> e per employee	2.38

## 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

I recommend setting carbon reduction targets based on intensity metrics (e.g. emissions per employee or per £M turnover), against the baseline year.

All targets set should be reviewed regularly and amended accordingly (i.e. target increased if it is met ahead of schedule). An action plan should be developed to set out how the targets will be met, with specific people allocated the responsibility of carrying out the identified actions.

More details and recommendations for setting targets can be found in our Target Setting paper, using the following link:

[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)

Carbon Footprint Ltd can support you in setting realistic targets, including forecasting emissions to 2050, achieving Net Zero and aligning to targets with the Science Based Target Initiative (SBTi). Let me know if you would like more information on this service.

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

The estimated overall error margin is moderate at +/- 14%. To improve the accuracy of future assessments, we recommend the following:

- Record fuel (diesel) consumption in litres, avoiding the error associated with calculations using cost-based analysis. A good way to undertake this is to record data weekly/monthly in a master file.
- Record instances of homeworking to avoid estimation based on average working hours from home.
- Break down employee-owned vehicle travel by fuel consumption as opposed to distance. Or, where this is not feasible, record the vehicle type, emissions rating, vehicle efficiency, engine size and fuel type, reducing the error associated with calculations based on mileage.



## 5.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Offset the calculated footprint by supporting change solutions around the world to maintain the 'Carbon Neutral Organisation' certification.
- 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.
- When leasing/purchasing new vehicles, consider transitioning to electric vehicles (EV) and installing charging points on-site to encourage staff to switch too.
- Consider conducting a feasibility assessment to identify potential opportunities to install on-site renewable energy generation. A typical payback period for solar photovoltaic (PV) panels is around 8 years.
- Continue transitioning to electric vehicles (EV), to build on the carbon reductions you will already be benefiting from.
- 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.

### 5.2.1. 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 11: 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).

### 5.2.2. Funding opportunities

The following section provides details of current funding opportunities in the UK that may be applicable to Corps Security 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 CO2 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>



### 5.3. 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>.

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*



## 5.4. Carbon Footprint Standard

### 5.4.1. Brand endorsement

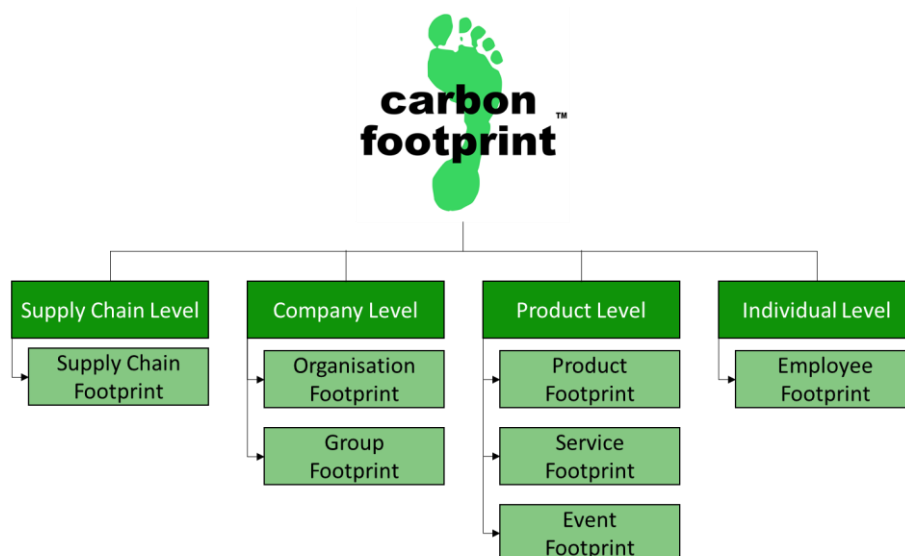
Corps Security, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint. By achieving this Corps Security has qualified to use the Carbon Footprint Standard branding. This can be used on all marketing materials, including website and customer tender documents, to demonstrate your 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.

### 5.4.2. Scope

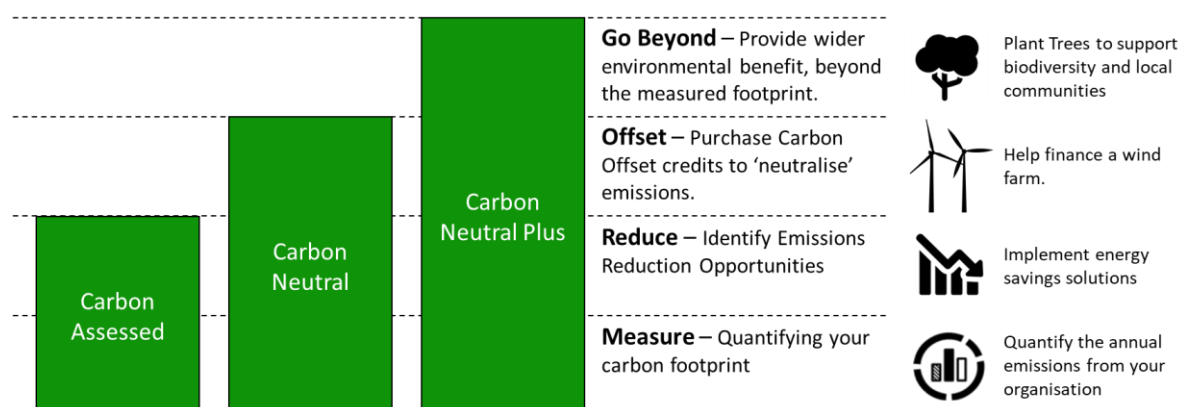
Over time, you can progress your carbon footprinting to increase the scope and encompass your products, supply chain and your employees. By doing so you will be able to receive the Carbon Footprint Standard for these categories, thus standing out amongst your competitors and truly driving the sustainability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



Once the scope has been identified, the Carbon Footprint Standard will allow Corps Security 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.



### 5.4.3. 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. Associated Issuing Bodies (AIB) Residual Mix Factors (2021)
2. BEIS GHG Conversion Factors for Company Reporting (2021)
3. Decarbonising transport: a better, greener Britain ([publishing.service.gov.uk](https://publishing.service.gov.uk))
4. Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)
5. HM Revenue & Customs (2019) <https://www.gov.uk/government/publications/enhanced-capital-allowances>.
6. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (March 2004)
7. UK Government (July 2021) UK Government's Decarbonising Transport Plan (July 2021)
8. United Nations (UN) Climate Transparency Report for International Emissions Factors (2021)
9. 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)
10. 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 Corps Security'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 Corps Security 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 Corps Security. It should be noted that the latter has been calculated by Carbon Footprint Ltd, and not provided by Corps Security.

### 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 12: 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	19,471	19,435	26	10
Vehicle fuel usage	192,969	190,400	190,400	190,400
<b>Total</b>	<b>212,439</b>	<b>209,834</b>	<b>190,425</b>	<b>190,410</b>