



Carbon Footprint Appraisal  
for  
Convergent Technologies UK Ltd

Assessment Period:  
1<sup>st</sup> January 2022 – 31<sup>st</sup> December 2022

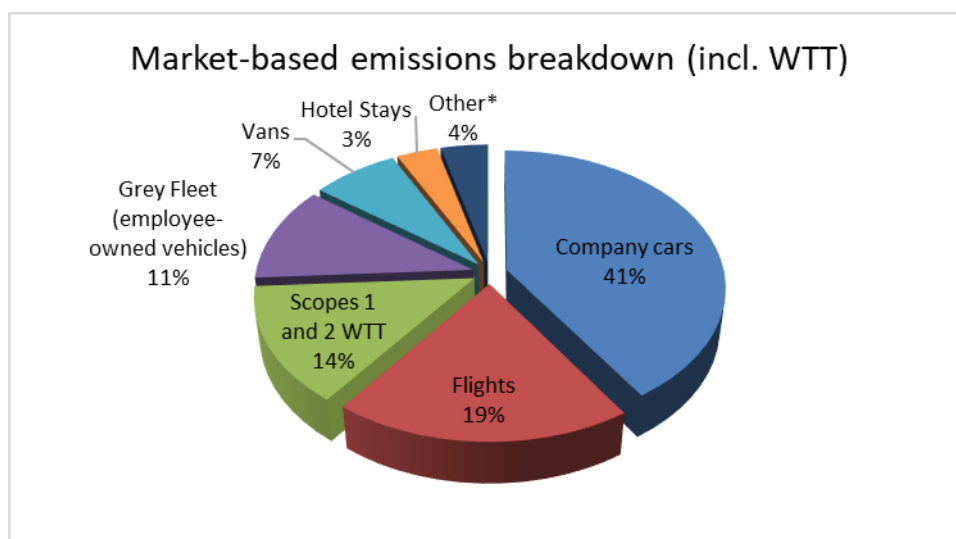
## Executive Summary

### Current Performance

- Convergent Technologies UK Ltd’s total location-based emissions are 445.94 tCO<sub>2</sub>e and market-based 441.67 tCO<sub>2</sub>e.
- The business’s total market-based emissions have increased by 33.9% from the previous year.
- The most significant emission source is company car travel, accounting for 45% of the business’s market-based carbon footprint.

### Recommendations

- Offset the GHG emissions created within this data period to maintain your carbon neutrality.
- Transition all your vehicle fleet to fully electric vehicles (EV).
- Cut back on all non-essential flights. When air travel is required, economy class tickets should be purchased as these cause about a third of the emissions compared to business class.
- Consider switching short-haul flights to rail journeys.
- Set up a scheme where employees can purchase electric cars through the business through a salary sacrifice.
- **Carry out a target setting to facilitate your reduction strategy.**



\*Other= Electricity (Market-Based), Natural Gas, Home-working, Rail, Transmission & Distribution (Market-Based), Waste, Taxi, Paper, Wastewater, Water.

Metric	2020	2021	2022	%change from the baseline year (2020)	% change from previous year
Market-based tCO <sub>2</sub> e	374.54	329.53	441.67	17.9% ▲	34.0% ▲
Market-based tCO <sub>2</sub> e per employee	3.53	2.53	2.08	-41.0% ▼	-17.8% ▼
Market-based tCO <sub>2</sub> e per £ million turnover	12.08	9.23	15.23	32.9% ▲	65.0% ▲

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## Quality Control

<b>Report issue number:</b>	1.0
<b>Date:</b>	02 May 2023
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# 1. Introduction

## 1.1. Company Overview

Convergent Technologies is a global company that designs, installs and services building systems such as electronic security, fire alarm & life safety, as well as building automation solutions. This assessment will focus on the UK division (Convergent Technologies UK) which has two sites in Crowborough, East Sussex and one site in South Quay, East London. The company has 68 company vehicles, and 212 full-time employees.

## 1.2. Goals & objectives

- To maintain carbon neutral status
- For submission to the carbon disclosure project (CDP).

## 1.3. Data supplied for the Carbon Footprint Appraisal

A summary of the data supplied by Convergent Technologies UK Ltd for the appraisal can be provided on request.

## 1.4. Methodology for the Carbon Footprint Appraisal

The methodology document can be downloaded using this link,

[https://www.carbonfootprint.com/docs/carbon\\_footprint\\_appraisal\\_-\\_methodology\\_document.pdf](https://www.carbonfootprint.com/docs/carbon_footprint_appraisal_-_methodology_document.pdf)

## 1.5. Abbreviations

A/C	Air Conditioning
BEIS	Department for Business Energy & Industrial Strategy
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
ISO	International Standards Organisation
km	Kilometres
kWh	Kilowatt Hours
PR	Public Relations
T&D	Transmission & Distribution
UN	United Nations
WTT	Well-To-Tank

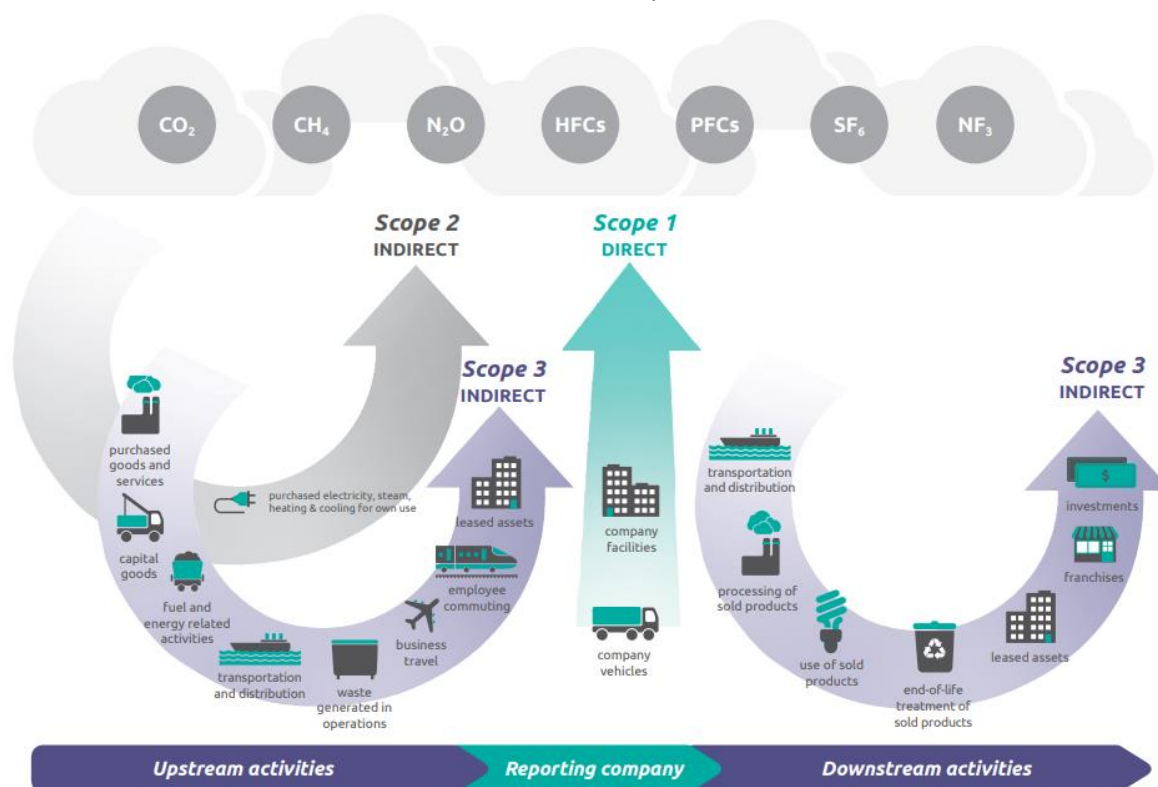
## 2. Calculation Scope and Accuracy

### 2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 resulting from the energy consumption at Convergent Technologies UK Ltd’s facilities and its business transport activities.

### 2.2. Organisational & reporting boundaries

Figure 1 shows the full boundaries of the *Greenhouse Gas Protocol Corporate and Value Chain Standards*. The organisation has accounted for all quantified GHG emissions and/or removals from facilities over which it has operational control. This assessment covers the reporting boundaries shown in Table 1, in line with the Greenhouse Gas Protocol Corporate Standard.



**Figure 1: Overview of emissions scopes (GHG Protocol - Scope 3 Calculation Guidance v1.0 - 2013)**



**Table 1: Convergent Technologies UK Ltd’s GHG Assessment boundary based on the Greenhouse Gas Protocol Corporate Standard**  
*(All green rows have been included in this assessment; all grey rows are not applicable; orange rows have been excluded)*

Scope	Activity	Calculation Type	Completion Status	Justification
1	Electricity, heat or steam generated on-site		Not relevant	Not applicable
1	On-site fuel use	Activity Data	Complete	
1	Company owned vehicles	Activity Data	Complete	
1	Fugitive emissions (incl. Refrigerant gases and AC)	Activity Data	Complete	
2	On-site Consumption of purchased electricity, heat steam and cooling	Activity Data	Complete	
3	1. Purchased goods and services	Activity Data	Partial	Purchased paper and water have been included in this assessment. All other purchased good & services will be included in a separate supply chain screening assessment.
3	2. Capital goods		Excluded	All other capital goods will be included in a separate supply chain screening assessment.
3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Activity Data	Complete	
3	4. Upstream transportation and distribution		Not relevant	Covered in scope 1
3	5. Waste generated in operation	Activity Data	Complete	
3	6. Business travel (not included in scope 1 or scope 2)	Activity Data	Complete	
3	7. Employee commuting	Activity Data	Partial	Homeworking has been included in this assessment.
3	8. Upstream leased assets		Not relevant	Not applicable
3	9. Downstream transportation and distribution		Not relevant	Not applicable
3	10. Processing of sold products		Not relevant	Not applicable
3	11. Use of sold products		Not relevant	Not applicable



Scope	Activity	Calculation Type	Completion Status	Justification
3	12. End-of-life treatment of sold products		Not relevant	Not applicable
3	13. Downstream leased assets		Not relevant	Not applicable
3	14. Franchises		Not relevant	Not applicable
3	15. Investments		Not relevant	Not applicable



### 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**

Emission Source	Data source / comments	Materiality	Uncertainty	Market-based Error Margin (tCO <sub>2</sub> e)
Grey Fleet (employee-owned vehicles)	Annual fuel consumption and vehicle details including engine size were provided for 60% of vehicles. An average fuel consumption was used a proxy for 40% of vehicles.	Medium (5-20%)	10%	5.0
Company Cars	Annual fuel consumption and vehicle details including engine size were provided from the fuel card log, which was submitted as evidence.	Very High (>40%)	1%	2.3
Home-working	The occupancy details, the number of homeworkers and duration they worked from home were supplied from internal records	Very Low (<1%)	50%	1.3
Flights	The number of passenger trips, cabin class and flight route were provided from expense records, which were submitted as evidence.	High (20-40%)	1%	0.9
Hotel Stays	The number of guest nights and location of hotels were provided from expense records, which were submitted as evidence. For hotel stays in Denmark, Luxembourg, Sweden, and Bulgaria, emission factors for countries with a similar fuel mix was used a proxy.	Medium (5-20%)	5%	0.8
Electricity incl. T&D	<b>Crowborough Unit 24</b> – the electricity consumption was based on actual reads covering 75% of the data period and extrapolated to cover the remaining months. <b>Crowborough Unit 18</b> – the electricity consumption was based on a mixture of actual and estimated covering half of the data period and extrapolated to cover the remaining months. <b>South Quay</b> – the electricity consumption was based on a mixture of estimated and actual readings covering 80% of the data period and extrapolated to cover the remaining months.	Very Low (<1%)	10%	0.7
Natural Gas	The natural gas consumption was provided in kWh for both sites.	Low (1-5%)	5%	0.5
Vans	Annual fuel consumption and vehicle details including engine size was provided from the fuel card log, which was submitted as evidence.	Medium (5-20%)	1%	0.4
Water	The water consumption was provided in cubic metres.	Very Low (<1%)	5%	<0.1





Emission Source	Data source / comments	Materiality	Uncertainty	Market-based Error Margin (tCO <sub>2</sub> e)
Paper	The amount of paper purchase and paper size were provided from company expenses.	Very Low (<1%)	5%	<0.1
Wastewater	The water consumption was provided in cubic metres	Very Low (<1%)	5%	<0.1
Waste	The type of waste, waste produced in tonnes and disposal route were provided from company records, which was submitted as evidence.	Very Low (<1%)	1%	<0.1
Taxi	The number of passenger trips, departure and destination locations were provided from company records.	Very Low (<1%)	5%	<0.1
Rail	The number of passenger trips, departure and destination stations were provided from expense records, which were submitted as evidence.	Very Low (<1%)	1%	<0.1
			<b>Total</b>	<b>11.7</b>



## 3. Carbon Footprint Results

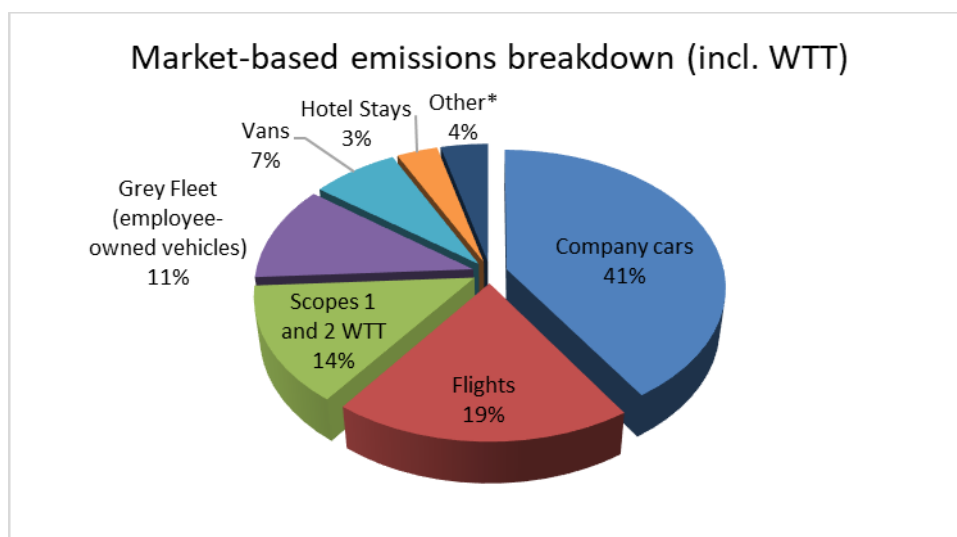
### 3.1. Summary of results

The total location-based carbon footprint for Convergent Technologies UK Ltd for the period ending 31<sup>st</sup> December 2022 is 445.94 tonnes CO<sub>2</sub>e, and the market-based total is 441.67 tonnes CO<sub>2</sub>e.

*Table 3: Results of Convergent Technologies UK Ltd’s carbon footprint assessment by scope and GHG Protocol emission categories*

Scope	Emission Source	Location-Based	Market-Based
1	Company cars	179.98	179.98
1	Vans	32.08	32.08
1	Natural Gas	7.70	7.70
<b>1</b>	<b>Scope 1 Total</b>	<b>219.75</b>	<b>219.75</b>
2	Electricity	8.15	3.88
<b>2</b>	<b>Scope 2 Total</b>	<b>8.15</b>	<b>3.88</b>
3.6	Flights	85.80	85.80
3.3	Scopes 1 and 2 WTT	61.21	61.21
3.6	Grey Fleet (employee-owned vehicles)	49.57	49.57
3.6	Hotel Stays	15.48	15.48
3.7	Home-working	2.55	2.55
3.6	Rail	1.52	1.52
3.3	Transmission & Distribution	0.92	0.92
3.5	Waste	0.74	0.74
3.6	Taxi	0.11	0.11
3.1	Paper	0.06	0.06
3.5	Wastewater	0.05	0.05
3.1	Water	0.03	0.03
<b>All</b>	<b>Scope 3 Total</b>	<b>218.04</b>	<b>218.04</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e</b>	<b>445.94</b>	<b>441.67</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e per employee</b>	<b>2.10</b>	<b>2.08</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e per £ million turnover</b>	<b>15.38</b>	<b>15.23</b>

A full breakdown of emissions by source has been provided in Annex A.



\*Other= Electricity (Market-Based), Natural Gas, Home-working, Rail, Transmission & Distribution (Market-Based), Waste, Taxi, Paper, Wastewater, Water.

**Figure 2: Percentage contribution of each element of Convergent Technologies UK Ltd's market-based carbon footprint**

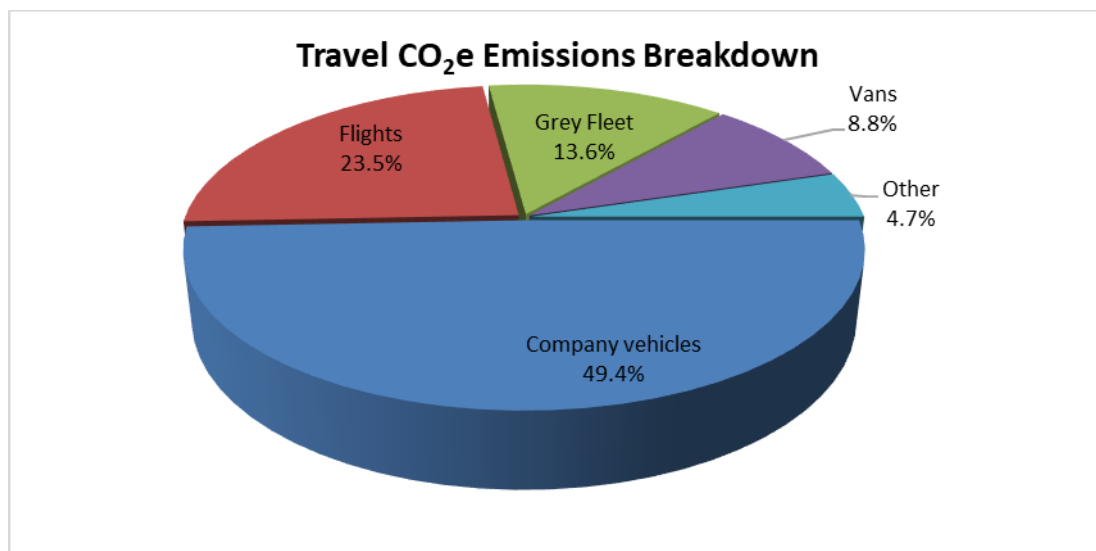
### 3.2. Emissions from transport

Table 4 and Figure 3 below represent the GHG emissions resulting from travel. The most significant source of travel emissions is associated with company car travel, accounting for 49% of total travel emissions.

Currently 85% of Convergent Technologies company cars are hybrid and the rest are utilising either diesel or petrol. Whilst all its company vans are diesel powered. We recommend that Convergent Technologies goes a step further by transitioning all company vehicles to fully electric vehicles. Additionally, Convergent Technologies should cut back on all non-essential flights and switch all domestic/short-haul flights to rail journey to reduce emissions associated flights.

**Table 4: CO<sub>2</sub>e emissions associated with transport**

GHG Protocol Emission Category	Emission Source	Location-Based	Market-Based
Company owned vehicles	Company cars	179.98	179.98
Company owned vehicles	Vans	32.08	32.08
<b>Subtotal: Company owned vehicles</b>		<b>212.05</b>	<b>212.05</b>
6. Business travel (not included in scope 1 or scope 2)	Flights	85.80	85.80
6. Business travel (not included in scope 1 or scope 2)	Grey Fleet (employee-owned vehicles)	49.57	49.57
6. Business travel (not included in scope 1 or scope 2)	Hotel Stays	15.48	15.48
6. Business travel (not included in scope 1 or scope 2)	Rail	1.52	1.52
6. Business travel (not included in scope 1 or scope 2)	Taxi	0.11	0.11
<b>Subtotal: 6. Business travel (not included in scope 1 or scope 2)</b>		<b>152.48</b>	<b>152.48</b>



**Figure 3: Percentage contribution of each element to transportation emissions**

*Other represents hotel stays, rail and taxi travel*

### 3.3. 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. **Convergent Technologies can reduce these emissions by reducing fuel and energy usage.**

**Table 5: Well-To-Tank CO<sub>2</sub>e emissions breakdown**

Element of Footprint (Well-To-Tank)	Market-based tCO <sub>2</sub> e	%Contribution
Company vehicles	50.30	62.8%
Grey Fleet (employee-owned vehicles)	9.93	12.4%
Flights	8.47	10.6%
Vans	7.65	9.5%
Electricity	1.95	2.4%
Natural Gas	1.31	1.6%
Rail	0.30	0.4%
Transmission & Distribution	0.18	0.2%
Taxi	0.02	<0.1
<b>Total</b>	<b>80.11</b>	<b>100%</b>



## 4. Comparison and Benchmarking

### 4.1. Comparison to base year emissions

This is the third carbon footprint assessment that Convergent Technologies has carried. For the baseline year data and emission, this can be found in the 2020 report.

Table 6 below shows historical emissions per activity, as well as the 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 6: Convergent Technologies UK Ltd’s market-based carbon footprint comparison and percentage change**

Element	2020	2021	2022	% change on baseline year (2020)	% change on previous year
Company Car and Vans	204.62	205.93	212.05	3.6% ▲	3.0% ▲
Flights	95.06	16.10	77.33	-18.7% ▼	380.3% ▲
Well To Tank (Market-Based)	64.27	67.58	80.11	24.6% ▲	18.5% ▲
Employee-owned car travel (grey fleet)	0.00	24.65	39.64	n/a	60.8% ▲
Hotel stays	0.00	3.37	15.48	n/a	359.8% ▲
Site gas	2.83	3.64	7.70	172.1% ▲	111.8% ▲
Site electricity (Market-based)	2.21	3.97	4.62	108.6% ▲	16.4% ▲
Home-workers	3.84	3.18	2.55	-33.6% ▼	-19.8% ▼
Rail travel	1.29	0.85	1.21	-5.9% ▼	43.% ▲
Waste	0.23	0.20	0.74	214.4% ▲	262.7% ▲
Taxi travel	0.00	0.04	0.09	n/a	123.6% ▲
Water (and wastewater)	0.18	0.03	0.08	-56.5% ▼	186.% ▲
Paper	*	*	0.06	n/a	n/a
<b>Total Market-based tCO<sub>2</sub>e</b>	373.54	329.53	441.67	17.9% ▲	34.0% ▲
<b>Market-based tCO<sub>2</sub>e per employee</b>	3.53	2.53	2.08	-41.0% ▼	-17.8% ▼
<b>Market-based tCO<sub>2</sub>e per £M turnover</b>	12.08	9.23	15.23	32.9% ▲	65.0% ▲

\*Not included in the assessment scope

Convergent Technologies’s total market-based carbon footprint has increased by 34.0% between this period and the previous year. This is largely due to an increase in business travel especially from company vehicles, flights, and employee-owned car travel. This is attributed to increase in employee numbers and the staff travelling more due to increased workload.

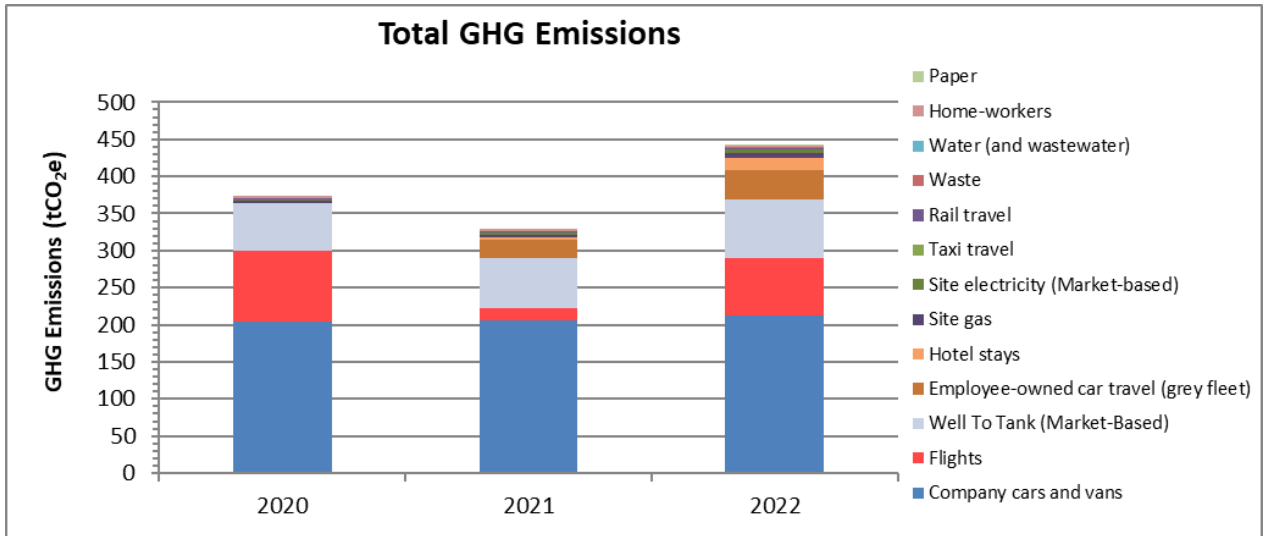


Figure 4: Detailed emissions comparison for the various aspects of Convergent Technologies UK Ltd's emissions

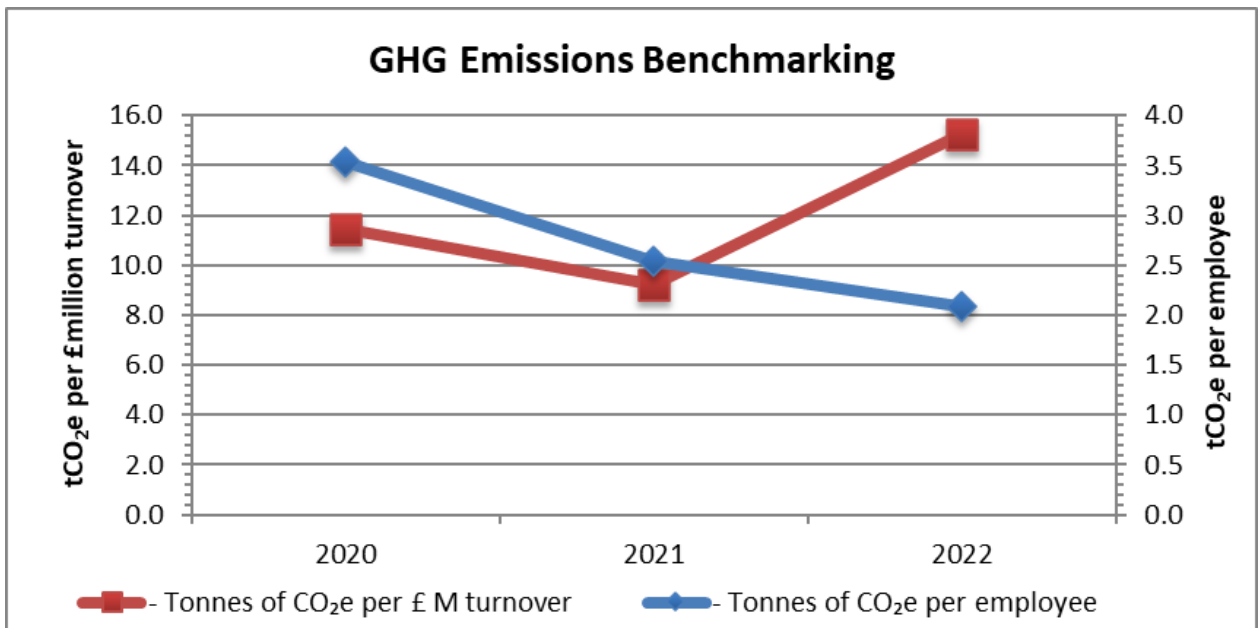


Figure 5: Carbon footprint of Convergent Technologies for internal benchmarks

## 4.2. External benchmarking

Companies often find it useful to benchmark themselves against similar organisations 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 7 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

**Table 7: Convergent Technologies UK Ltd’s benchmarked GHG emissions**

Year/Element	Location based	Market based
Total number of employees	212	212
Turnover in £ million	29	29
Tonnes of CO <sub>2</sub> e	445.94	441.67
Tonnes of CO <sub>2</sub> e per employee	2.10	2.08
Tonnes of CO <sub>2</sub> e per £ million turnover	15.38	15.23
Scope 1 & 2 Emissions		
Tonnes of CO <sub>2</sub> e	227.90	223.63
Tonnes of CO <sub>2</sub> e per employee	1.08	1.05
Tonnes of CO <sub>2</sub> e per £ million turnover	7.86	7.71

## 5. Conclusion

Convergent Technologies UK Ltd, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint and shown a reduction of 34% from the baseline year, based on its emissions per employee. By achieving this Convergent Technologies UK Ltd 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

Convergent Technologies UK Ltd should set targets based on per employee and/or per £M turnover, which will account for business growth. Many organisations are now setting targets based on the Science Based Target initiative. Typical targets cover mid term and longer terms goals such as:

- 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 clear roadmap for individual emissions sources should be in place. This will ensure the strategy for reducing CO<sub>2</sub>e emissions and tracking toward a net zero target is appropriate for the business.

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 to include the aspects that are identified as excluded in Table 1.

The most material element would likely be, employee commuting, due to the nature of your business, so we recommend you focus on capturing data for this ready for next year's appraisal.

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

The estimated overall error margin is 11.7 tCO<sub>2</sub>e. To improve the accuracy of future assessments, we recommend the following:

- Review to see if company records can be improved to capture all fuel or mileage data for grey-fleet vehicles.

## 6.2. 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.
- Transition all your vehicle fleet to fully electric vehicles (EV).
- Cut back on all non-essential flights. When air travel is required, economy class tickets should be purchased as these cause about a third of the emissions compared to business class. When booking unavoidable flights, consider selecting a specific airline based on their sustainability credentials and how modern their aircraft fleet is. Check out how different airlines compare on our sustainable flying webpage:  
[https://www.carbonfootprint.com/sustainable\\_flying.html](https://www.carbonfootprint.com/sustainable_flying.html).
- Consider switching short-haul flights to rail transport where possible (e.g., London to Paris, Amsterdam or Brussels) (e.g. London to Edinburgh or Glasgow).
- Set up a scheme where employees can purchase electric vehicles, bicycles (e-bikes) and scooters through a salary sacrifice scheme. If possible, install charging points on-site to

## 6.3. Carbon offsetting

**Carbon offsetting is the pragmatic way to compensate for the emissions that you cannot reduce, by funding an equivalent carbon dioxide saving elsewhere. We note that Science Based Targets supports this as what they call Beyond Value Chain Mitigation (BVCM) and that it provides an urgently needed way for companies to cut emissions outside of their value chains in line with societal net-zero (see link - [Net-Zero: Urgent Beyond Value Chain Mitigation Is Essential - Science Based Targets](#))**

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.

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*

## Annex A

A full breakdown of Convergent Technologies UK Ltd’s emission sources is given below. This aligns with the GHG Protocol classification methodology and provides each associated emission source:

Scope	GHG Protocol Emission Category	Emission Source	Location-Based	Market-Based
1	On-site fuel use	Natural Gas	7.70	7.70
1	Company owned vehicles	Company vehicles	179.98	179.98
1	Company owned vehicles	Vans	32.08	32.08
<b>1</b>	<b>Scope 1 Total, Tonnes of CO<sub>2</sub>e</b>		<b>219.75</b>	<b>219.75</b>
2	On-site Consumption of purchased electricity, heat steam and cooling	Electricity	8.15	3.88
<b>2</b>	<b>Scope 2 Total, Tonnes of CO<sub>2</sub>e</b>		<b>8.15</b>	<b>3.88</b>
3.1	1. Purchased goods and services	Paper	0.06	0.06
3.1	1. Purchased goods and services	Water	0.03	0.03
3.3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Scopes 1 and 2 WTT	61.21	61.21
3.3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Transmission & Distribution	0.92	0.92
3.5	5. Waste generated in operation	Waste	0.74	0.74
3.5	5. Waste generated in operation	Wastewater	0.05	0.05
3.6	6. Business travel (not included in scope 1 or scope 2)	Flights	85.80	85.80
3.6	6. Business travel (not included in scope 1 or scope 2)	Grey Fleet (employee-owned vehicles)	49.57	49.57
3.6	6. Business travel (not included in scope 1 or scope 2)	Hotel Stays	15.48	15.48
3.6	6. Business travel (not included in scope 1 or scope 2)	Rail	1.52	1.52
3.6	6. Business travel (not included in scope 1 or scope 2)	Taxi	0.11	0.11
3.7	7. Employee commuting	Home-working	2.55	2.55
	<b>Scope 3 Total, Tonnes of CO<sub>2</sub>e</b>		<b>218.04</b>	<b>218.04</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e</b>		<b>445.94</b>	<b>441.67</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e per employee</b>		<b>2.10</b>	<b>2.08</b>
<b>All</b>	<b>Tonnes of CO<sub>2</sub>e per £ million turnover</b>		<b>15.38</b>	<b>15.23</b>