Carbon Footprint Appraisal
for
Place Services (Essex County Council)

Assessment Period:
1st April 2023 – 31st March 2024

Carbon Footprint Ltd, Belvedere House, Basing View, Basingstoke, RG21 4HG, UK
+44 (0)1256 592 599 | info@carbonfootprint.com | www.carbonfootprint.com

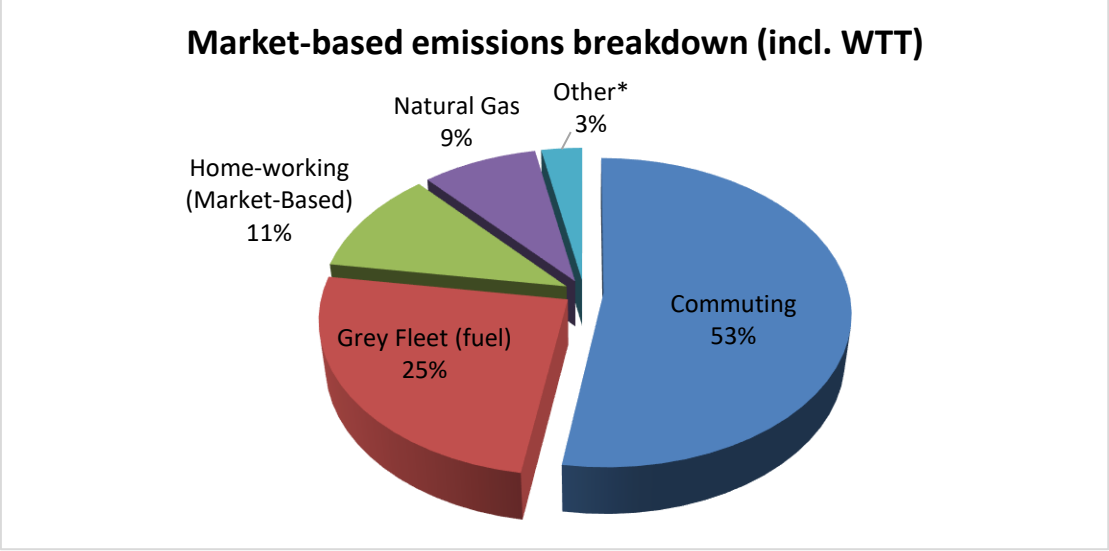
Executive Summary

Current Performance

- Place Services's total market-based emissions are 73.66 tCO_2e (with a location-based emissions of 79.54 tCO_2e).
- The most significant market-based emission source is commuting, accounting for 53% of Place Services's carbon footprint.
- The estimated error margin is not significant (+/- 4.67 tCO_2e) but should be included in any offsetting of emissions.

Recommendations

- Implement a salary sacrifice scheme to encourage employees to use more sustainable transport such electric vehicles and/or a cycle-to-work initiative.
- Install electric vehicles (EV) charging points at work. This will encourage and enable staff to switch to low carbon electric vehicles.
- Encourage all homeworkers to transition to 100% renewable tariffs to reduce market-based emissions.
- Investigate what your building owners' plans and targets are for moving away from gas-powered heating to sustainable alternatives
- Set carbon reduction targets based on intensity metrics (e.g. emissions per employee and/or per £ million turnover.



*Other= Electricity (Market-Based), Scopes 1 And 2 WTT, Computing, Transmission & Distribution (Market-Based), Rail, Wastewater, Water, Waste, Bus & Taxi.

Element	Location-based	Market-based
Total number of employees	58	
Tonnes of CO_2e	**79.54**	**73.66**
Tonnes of CO_2e per employee	**1.37**	**1.27**

Table of Contents

Quality Control

Report issue number:	1.0
Date:	07 July 2025
Calculations completed by:	Tom Vaughan
Calculations reviewed by:	Jenny Webb
Report produced by:	Jenny Webb & Tom Vaughan
Report reviewed by:	Georgina Whitlock
Director approval:	Dr. Wendy Buckley

1. Introduction

1.1. Company Overview

Place Services provides assessment, planning, design, and management services to the UK public sector. Place Services is a traded service of Essex County Council.

1.2. Data supplied for the Carbon Footprint Appraisal

A summary of the data supplied by Place Services for the appraisal can be provided on request.

1.3. 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

1.4. Abbreviations

AC	Air Conditioning
CO_2e	Carbon Dioxide Equivalent
Defra	Department for Environment, Food and Rural Affairs
EV	Electric Vehicle
GHG	Greenhouse Gas
ISO	International Standards Organisation
IWA	International Workshop Agreement
km	Kilometres
kWh	Kilowatt Hours
T&D	Transmission & Distribution
TTW	Tank-To-Wheel
WTT	Well-To-Tank
WTW	Well-To-Wheel

2. Calculation Scope and Accuracy

2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1st April 2023 to 31st March 2024 resulting from the energy consumption at Place Services's facilities and its business transport activities.

Place Services's baseline year data and emissions can be found in the 2019/20 report.

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 financial control. This assessment covers the reporting boundaries shown in Table 1, in line with the Greenhouse Gas Protocol Accounting and Reporting Corporate Standard.

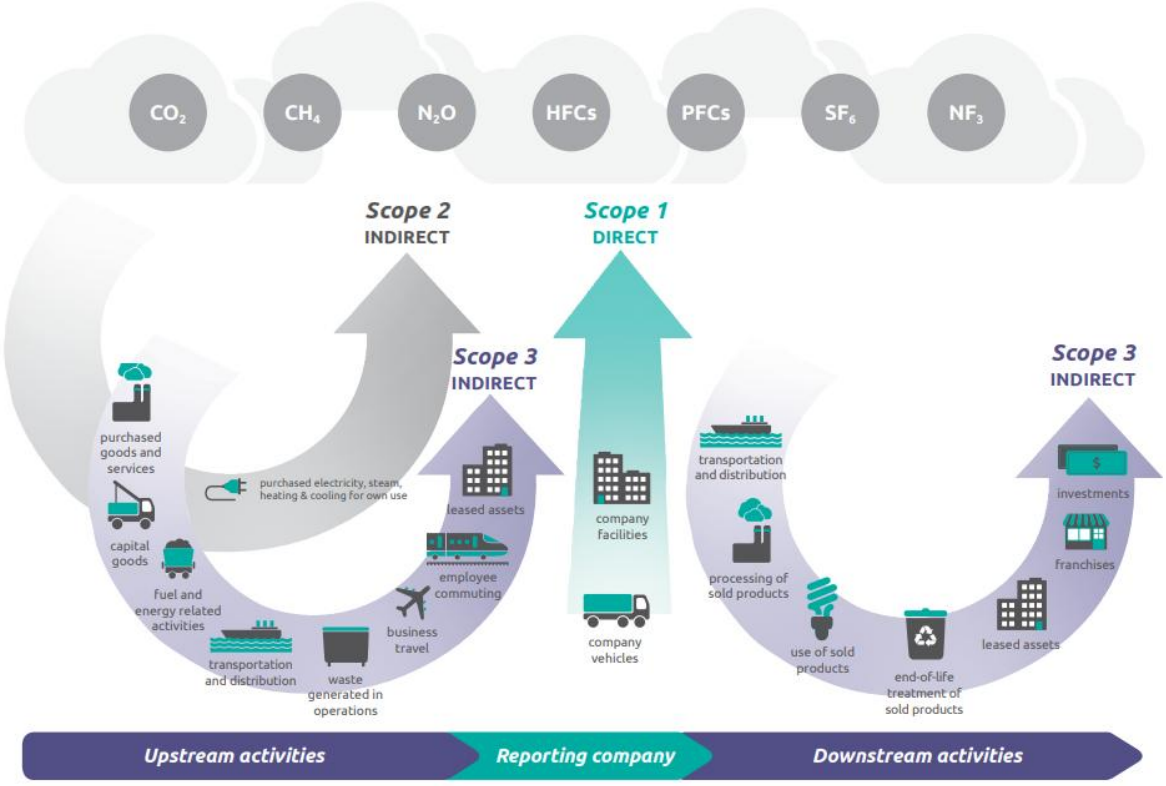


Figure 1: Overview of emissions scopes (GHG Protocol - Scope 3 Calculation Guidance v1.0 - 2013)

Table 1: Place Services's GHG Assessment boundary based on the Greenhouse Gas Protocol Accounting and Reporting 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	
1	On-site fuel use	Activity Data	Complete	
1	Company owned vehicles		Not relevant	
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	Paper has been included I in the assessment
3	2. Capital goods	Activity Data	Partial	Computing equipment has been included in the 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		Excluded	Relevant and recommended to include in future assessments.
3	5. Waste generated in operations	Activity Data	Complete	
3	6. Business travel (not included in scope 1 or scope 2)	Activity Data	Complete	
3	7. Employee commuting	Activity Data	Complete	
3	8. Upstream leased assets		Not relevant	
3	9. Downstream transportation and distribution		Not relevant	
3	10. Processing of sold products		Not relevant	
3	11. Use of sold products		Not relevant	
3	12. End-of-life treatment of sold products		Not relevant	
3	13. Downstream leased assets		Not relevant	
3	14. Franchises		Not relevant	
3	15. Investments		Not relevant	

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_2e)
Commuting	A commuting survey was provided covering 76% of staff. Results were extrapolated to account for all staff members.	Very High (>40%)	10%	3.87
Grey Fleet (fuel)	Vehicle fuel type, engine size and annual mileage was provided from internal records.	High (20-40%)	5%	0.92
Homeworking	Data obtained from employee survey and included total number of home working hours and home occupancy type. There was a 78% survey response rate, therefore emissions were extrapolated to account for total number of employees.	Medium (5-20%)	5%	0.40
Natural Gas	Data obtained from meter readings (kWh) and included annual consumption.	Medium (5-20%)	5%	0.37
Computing	Purchase records provided item type and quantity.	Low (1-5%)	1%	0.01
Rail	Train type and annual cost provided from internal records.	Very Low (<1%)	5%	0.01
Waste	Waste type, bin capacity and the frequency bins are emptied as well as the disposal route was provided from internal records.	Very Low (<1%)	10%	0.01
Water (and wastewater)	Internal records provided consumption and wastewater percentage.	Very Low (<1%)	5%	0.01
Bus	Bus type and distances were provided from internal records.	Very Low (<1%)	5%	<0.01
Taxi	Cost per journey and departure and destination locations provided from internal records.	Very Low (<1%)	5%	<0.01
Electricity (Market-Based)	Data obtained from monthly meter readings (kWh). Invoices were provided as supporting evidence.	Very Low (<1%)	1%	0.00
Total			**+/-6%**	**+/- 4.67**

3. Carbon Footprint Results

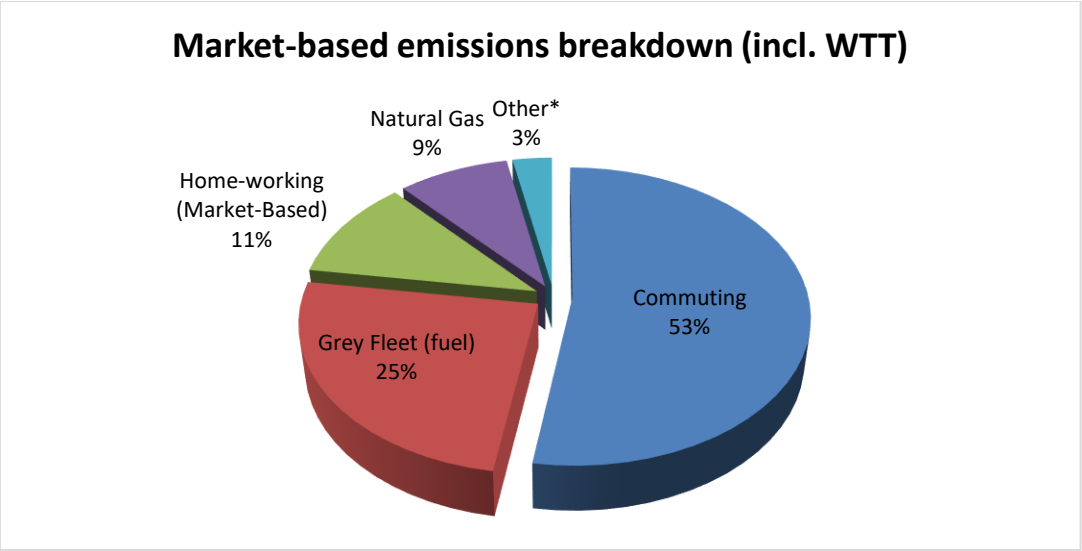
3.1. Summary of results

The total location-based carbon footprint for Place Services for the period ending 31st March 2024 is 79.54 tonnes CO_2e, and the market-based total is 73.66 tonnes CO_2e.

Table 3: Results of Place Services's carbon footprint assessment by scope and GHG Protocol emission categories

Scope	Emission Source	Location-Based (tCO_2e)	Market-Based (tCO_2e)
1	Natural Gas	6.33	6.33
	Refrigerants	0.00	0.00
Scope 1 Total		**6.33**	**6.33**
2	Electricity	4.43	0.00
Scope 2 Total		**4.43**	**0.00**
3.1	Water	0.03	0.03
3.2	Computing	0.93	0.93
3.3	Scopes 1 and 2 WTT	2.03	1.05
	Transmission & Distribution	0.47	0.00
3.5	Wastewater	0.03	0.03
	Waste	0.02	0.02
3.6	Rail	0.17	0.17
	Bus	0.01	0.01
	Taxi	0.01	0.01
	Scope 3 vehicles (fuel)	18.31	18.31
3.7	Commuting	38.70	38.70
3.7	Homeworking	8.08	8.08
Scope 3 Total		**68.78**	**67.33**
All	**Tonnes of CO_2e**	**79.54**	**73.66**
	Tonnes of CO_2e per employee	**1.37**	**1.27**

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



*Other= Electricity (Market-Based), Scopes 1 And 2 WTT, Computing, Transmission & Distribution (Market-Based), Rail, Wastewater, Water, Waste, Bus & Taxi.

Figure 2: Percentage contribution of each element of Place Services's market-based carbon footprint

3.2. Emissions from employee commuting

Table 4 shows the GHG emissions from employee commuting, split by lifecycle stage:

- **Well-to-Tank (WTT):** refers to the upstream emissions of getting the fuel/energy to the point of use (extraction, refining and distribution to a fuel station)
- **Tank-to-Wheel (TTW):** emissions generated during operation (while fuel/energy is being used)
- **Well-to-Wheel:** full lifecycle combined emissions from source to consumption (WTT and TTW combined)

Table 4: CO_2e emissions from employee commuting

Transport mode	Annual Mileage	Well-to-tank Emissions (tCO_2e)	Tank-to-wheel Emissions (tCO_2e)	Total (tCO_2e)
Car - petrol	50,544	4.88	17.58	**22.46**
Car - diesel	22,460	1.97	8.09	**10.06**
Rail	38,070	0.72	2.86	**3.58**
Car - hybrid	7,830	0.47	1.81	**2.28**
Car - electric	2,160	0.06	0.25	**0.31**
Total	**121,064**	**8.10**	**30.59**	**38.69**

Commuting by cars account for 91% of the total emissions. Going forwards, Place Services should encourage staff to travel by public transport instead of personal cars. This can be achieved by displaying local train and bus routes and timetables. Place Services could also ask staff what their perceived barriers are for using public transport for commuting in order to help identify potential solutions.

3.3. Emissions from business travel

Table 5 shows the GHG emissions from business travel, with grey fleet accounting for 99% of the total emissions.

Table 5: CO_2e emissions associated with business travel

GHG Protocol Emission Category	Emission Source	Well-to-Tank (tCO_2e)	Tank-to-Wheel (tCO_2e)	Well-to-Wheel (Total) (tCO_2e)
6. Business travel (not included in scope 1 or scope 2)	Grey Fleet	3.85	14.47	**18.31**
	Rail	0.04	0.14	**0.17**
	Taxi	<0.01	<0.01	**0.01**
	Bus	<0.01	<0.01	**0.01**
Total		**3.88**	**14.61**	**18.49**

3.4. 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. **Place Services can reduce these emissions by reducing fuel and energy usage.**

Table 6: Well-To-Tank CO_2e Emissions breakdown

Emission Source	Location-Based (tCO_2e)	Market-Based (tCO_2e)
Commuting	8.11	8.11
Grey Fleet (fuel)	3.85	3.85
Natural Gas	1.05	1.05
Electricity	0.98	0.00
Transmission & Distribution	0.08	0.00
Rail	0.04	0.04
Bus	0.00	0.00
Taxi	0.00	0.00
Total	**14.10**	**13.03**

4. Comparison, Publication, and Benchmarking

4.1. Comparison to base year emissions

The table below shows historical emissions per activity, as well as the total carbon footprint and carbon intensity metric (tonnes of CO_2e per employee[1]).

Table 7: Place Services's carbon footprint comparison and percentage change

Element	2019/20	2022/23	2023/24	% change on baseline year (2019/20)	% change on previous year
Commuting	105.07	83.00	30.59	-70.9%▼	-63.1%▼
Employee-owned car travel (grey fleet)	40.77	6.23	14.47	-64.5%▼	132.2%▲
Well To Tank (Market-Based)	*	25.34	13.03	n/a	-48.6%▼
Home-working	*	9.90	8.08	n/a	-18.3%▼
Site gas	9.35	7.33	6.33	-32.3%▼	-13.7%▼
Computing	2.62	1.50	0.93	-64.4%▼	-37.6%▼
Rail travel	*	0.20	0.14	n/a	-30.3%▼
Water (and wastewater)	*	0.29	0.06	n/a	-78.9%▼
Waste	2.40	0.02	0.02	-99.3%▼	-0.1%▼
Taxi travel	0.00	0.00	0.01	n/a	n/a
Total Tonnes of CO_2e (Market-based)	**160.20**	**142.78**	**73.66**	**-53.9%▼**	**-48.4%▼**
Tonnes of CO_2e per employee	**4.01**	**2.30**	**1.27**	**-68.3%▼**	**-44.9%▼**

*= Not assessed.

Place Services has decreased its total carbon footprint by 54% since the baseline year, and by 48% since the previous year. The biggest decrease is from employee commuting, which is a result of improved data collection from staff.

Benchmarked against employee numbers, the carbon emissions statistics show a decrease in intensity metric since 2019/20 (Table 7 & Figure 3).

[1] Adjusted for inflation.

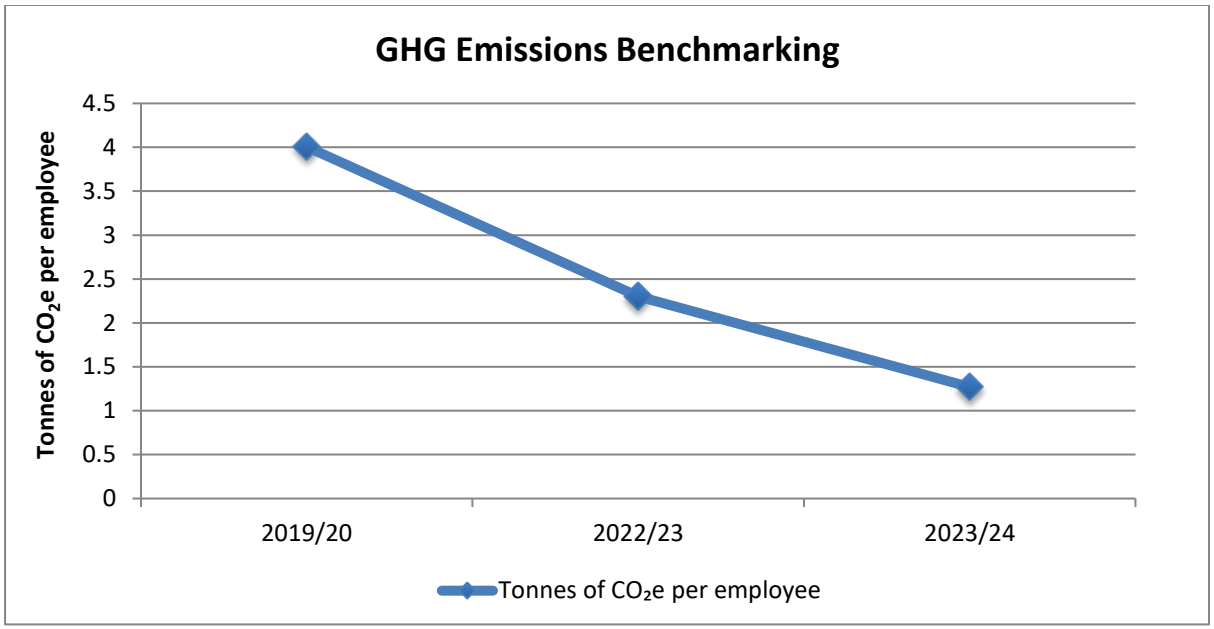


Figure 3: Carbon footprint of Place Services for internal benchmarks

4.2. External Publication and Benchmarking of Your Carbon Footprint

We strongly encourage you now to **publish your carbon footprint results on Carbon Database Initiative (CaDI)** – our new global platform. Follow this link to grant us permission to publish your results automatically.

https://carbondi.com/

External publication demonstrates your commitment to carbon management and to responsible transparency. Your results will also be endorsed on CaDI as 'Verified' for additional peace of mind for you and viewers of the data.

Using CaDI, you can also search other organisations that have reported their emissions to benchmark your performance.

Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 8 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

Table 8: Place Services's benchmarked GHG emissions

Element	Location-based	Market-based
Total number of employees	58	
Tonnes of CO_2e	79.54	73.66
Tonnes of CO_2e per employee	1.37	1.27
Scope 1 & 2 Emissions		
Tonnes of CO_2e	**10.76**	**6.33**
Tonnes of CO_2e per employee	**0.19**	**0.11**

5. Conclusion

Place Services, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint and 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. Improving the accuracy of future carbon footprint assessments

The estimated overall error margin is +/- 6% (which represents +/- 4.67 tCO_2e of the total assessed emissions).

To improve the accuracy of future assessments, we recommend the following:

- Implement a monthly data and carbon tracking system, such as Carbon Footprint Ltd's Sustrax MX platform.

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 purchased goods and services as well as capital goods, 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 Target setting for net zero

Place Services 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 typical mid-term and longer terms goals to reach net zero (ISO's International Workshop Agreement on Net Zero Guidance - IWA 42:2022[2]):

- 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_2e 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.

[2] ISO - Net Zero Guidelines

6.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Set up a salary sacrifice scheme for employees to purchase/lease electric vehicles, bicycles (e-bikes) and scooters.
- 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.
- Encourage all homeworkers to transition to 100% renewable tariffs to reduce market-based emissions and increase the sustainability of their homes.
- Investigate what building owners' plans and targets are for moving away from gas-powered heating to more sustainable alternatives such as air-source heat pumps, electric immersion, solar thermal or hydrogen.

6.3. Carbon offsetting

Carbon offsetting provides a practical solution for compensating for emissions that cannot be reduced by supporting projects that achieve an equivalent reduction in carbon dioxide elsewhere. Global net-zero 2050 targets cannot be met solely through current reduction commitments. This is why the Voluntary Carbon Market exists and the reason why your support of carbon offset projects is vital to bridge the gap.

Projects are categorised as either 'reductions' or 'removals':

- **Reductions**: These projects aim to reduce emissions by preventing them from occurring in the first place. Examples include renewable energy projects and energy efficiency improvements.
- **Removals**: These projects focus on removing existing carbon dioxide from the atmosphere. Examples include afforestation, reforestation, and carbon capture and storage.

In addition, many projects place a strong emphasis on both social and environmental benefits (satisfying UN Sustainable Development Goals). It's essential to note that global net-zero targets cannot be met solely through emission reductions. Support from the voluntary carbon market through carbon offsets plays a crucial role in reaching these targets.
All Carbon Footprint's projects score highly across the key criteria of additionality, permanence, measurability, and leakage. Increasing numbers of projects are also gaining ICVCM CCP status, reflecting their high integrity. You can view and compare the ratings of ca. 2,000 projects on CRISP – CRISP – Carbon Ratings InSight Platform

Annex A

A full breakdown of Place Services'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 (tCO_2e)	Market-Based (tCO_2e)
1	On-site fuel use	Natural Gas	6.33	6.33
	Fugitive emissions (incl. Refrigerant gases and AC)	Refrigerants	0.00	0.00
Scope 1 Total			**6.33**	**6.33**
2	On-site Consumption of purchased electricity, heat steam and cooling	Electricity	4.43	0.00
Scope 2 Total			**4.43**	**0.00**
3.1	1. Purchased goods and services	Water	0.03	0.03
3.2	2. Capital goods	Computing	0.93	0.93
3.3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Scopes 1 and 2 WTT	2.03	1.05
		Transmission & Distribution	0.47	0.00
3.5	5. Waste generated in operation	Wastewater	0.03	0.03
		Waste	0.02	0.02
3.6	6. Business travel (not included in scope 1 or scope 2)	Grey Fleet (fuel)	18.31	18.31
		Rail	0.17	0.17
		Bus	0.00	0.00
		Taxi	0.00	0.00
3.7	7. Employee commuting	Commuting	38.70	38.70
		Homeworking	8.08	8.08
Scope 3 Total			**68.78**	**67.33**
All	**Tonnes of CO_2e**		**79.54**	**73.66**
	Tonnes of CO_2e per employee		**1.37**	**1.27**