



**Carbon Footprint Appraisal
for
Place Services**

**Assessment Period:
1st April 2019 – 31st March 2020**

Executive Summary

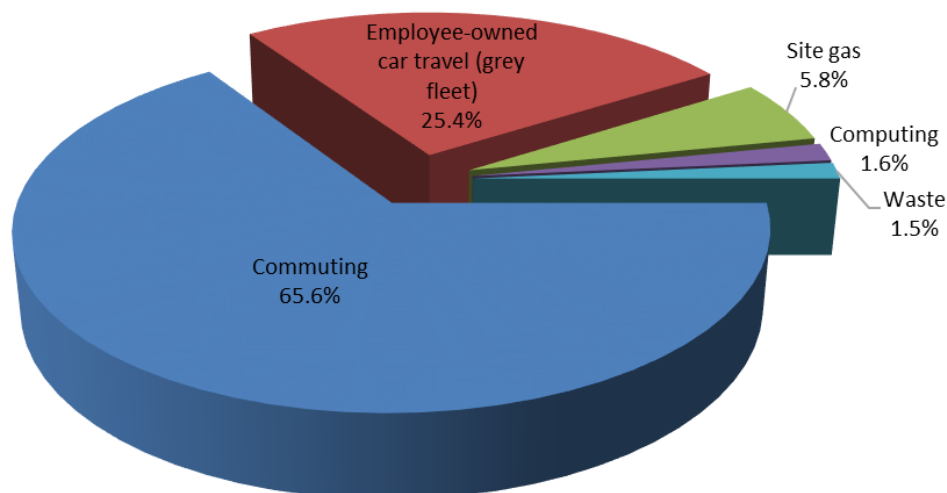
Current Performance

- Place Services's total market-based emissions are 160.2 tCO₂e excluding supply chain screening.
- The most significant emission source is Commuting accounting for 65.6% of Place Services' market-based carbon footprint.

Recommendations

- Offset the GHG emissions created within this data period to become carbon neutral.
- Set up a scheme where employees can purchase electric cars through the business through a salary sacrifice.
- 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.
- Install electric vehicles (EV) charging points at work. This will encourage and enable staff to switch to low carbon electric vehicles.

Breakdown of market-based carbon footprint



Metric	Location-Based	Market-Based
Total Tonnes CO₂e	172.42	160.20
Tonnes of CO₂e per employee	4.31	4.01
Tonnes of CO₂e per £M turnover	55.66	51.71
Total Tonnes CO₂e (Incl. Supply Chain Screening)	1,147.14	1,134.92

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Quality Control

Report issue number: 1.0
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Calculations completed by: Alex Pell
Calculations reviewed by: Myles Howard

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

Director approval: Dr. Wendy Buckley

1. Introduction

1.1. Company Overview

Place Services provides environmental assessment, planning, design and management consultancy services to public sector clients across the UK. The main specialties are arboriculture, archaeology, built heritage, landscape, urban design, planning and countryside management. Place Services is a traded service of Essex County Council at Country hall employing 55 employees.

1.2. Goals & objectives

- To be SBTi compliant and Set Net Zero targets following the Pledge to Net zero framework

1.3. Data supplied for the carbon footprint appraisal

A summary of the data supplied by Place Services for the appraisal is presented in Annex B.

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_v20.pdf

2. Calculation Scope and Accuracy

2.1. Scope of this work

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 financial control. The assessment covers the following reporting boundaries:

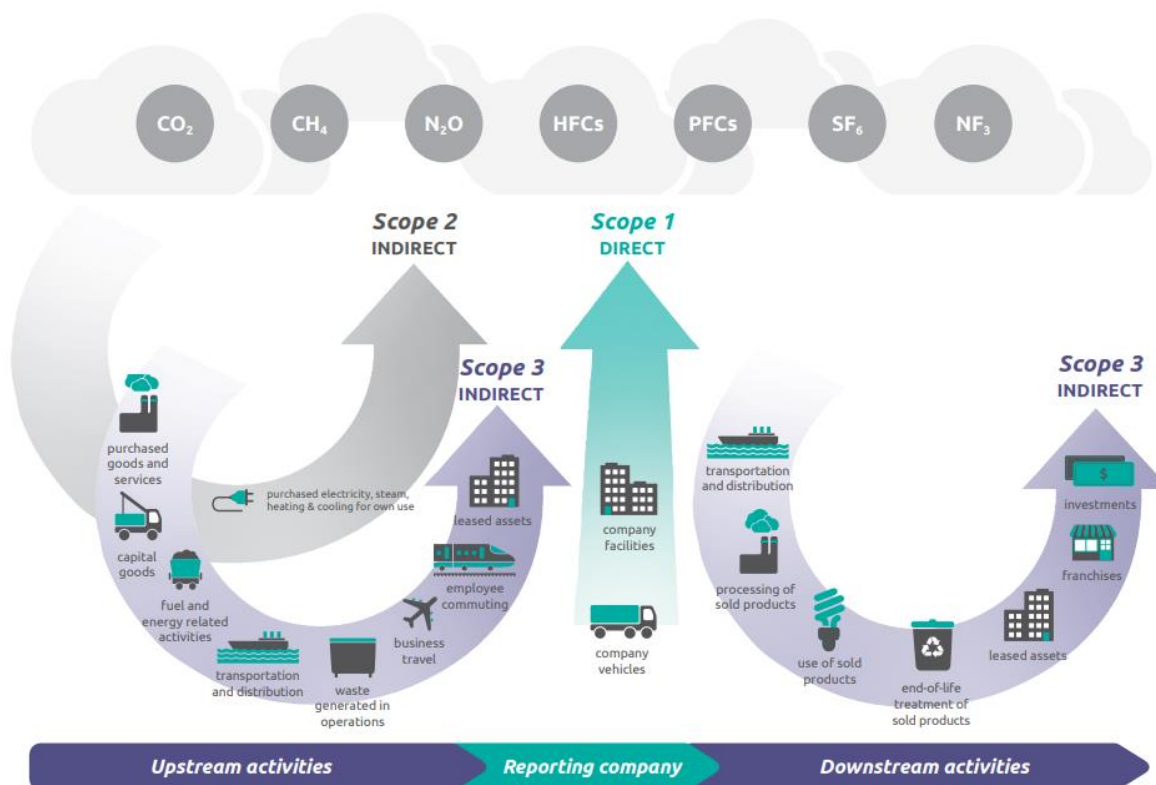


Figure 1: Overview of emissions scopes (GHG Protocol - Scope 3 Calculation Guidance v1.0 - 2013)

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

Footprint	Scope	Activity	Calculation Type	Completion Status	Justification
Direct	1	Electricity, heat or steam generated on-site		Not relevant	Not applicable
	1	Natural gas, gas oil, LPG or coal use attributable to company-owned facilities	Activity Data (Newly Calculated)	Complete	Part of Place Services direct Emissions
	1	Company owned vehicle travel		Not relevant	Not applicable
Indirect	2	On-site Consumption of purchased electricity, heat steam and cooling	Activity Data (Newly Calculated)	Complete	Part of Place Services indirect Emissions
Indirect	3	1. Purchased goods and services	Spend Based Data	Complete	Potentially material element of supply chain
	3	2. Capital goods		Excluded	Potentially material element of supply chain
	3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)		Excluded	Potentially material element of supply chain
	3	4. Upstream transportation and distribution		Excluded	Potentially material element of supply chain
	3	5. Waste generated in operation	Activity Data (Newly Calculated)	Complete	
	3	6. Business travel (not included in scope 1 or scope 2)	Activity Data (Newly Calculated)	Complete	Material element of Place Services indirect Emissions
	3	7. Employee commuting and home working	Activity Data (Newly Calculated)	Complete	Material element of Place Services indirect Emissions
	3	8. Upstream leased assets		Excluded	Could be considered in future assessments
	3	9. Downstream transportation and distribution		Excluded	Potentially material element of supply chain
	3	10. Processing of sold products		Not relevant	Not applicable
	3	11. Use of sold products		Not relevant	Not applicable
	3	12. End-of-life treatment of sold products		Not relevant	Not applicable
	3	13. Downstream leased assets		Excluded	Potentially material element of supply chain
	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 3), a simple uncertainty analysis has been used to estimate the potential error margin for the appraisal results.

Table 2: Assessment accuracy, materiality and simple error analysis

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO _{2e})
Employee-owned car travel (grey fleet)	Total milage was provided for grey fleet. Vehicle details were not available, so the average unknown fuel emission factor has been assumed.	Poor	Low (1-5%)	90%	36.7
Site electricity	Data sourced from electricity/gas report from Essex County Council detailing total kWh consumption and proof of renewable tariff.	Average	Low (1-5%)	50%	6.1
Commuting	Commuting data provided, detailing method of transport and daily one way distance which was upscaled to assume 5 days travel for 220 days per year.	Very Good	Medium (5-20%)	5%	5.3
Site gas	Data sourced from electricity/gas report from Essex County Council.	Average	Very Low (<1%)	50%	4.7
Computing	Data based on typical assumptions of 5 new starters, 1 upgrade and 1 replacement (7 total laptops).	Average	Very Low (<1%)	50%	1.3
Waste	Data sourced from bin capacity in litres and bin collection timescales. Note this method assumes all bins are at full capacity when collected.	Very Good	Very Low (<1%)	5%	0.1
Total				+/- 31%	+/- 54.2



3. Carbon Footprint Results

3.1. Summary of results

The total location-based carbon footprint for Place Services, excluding supply chain screening, for the period ending 31st March 2020 was 172.42 tonnes CO₂e, and the market-based total is 160.20 tonnes CO₂e.

Table 3: Results of Place Services's carbon footprint assessment by scope and source activity

Scope	Activity	Location Based (tCO ₂ e)	Market Based (tCO ₂ e)
Scope 1	Site gas	8.27	8.27
Scope 1 Sub Total		8.27	8.27
Scope 2	Electricity generation	9.89	0.00
Scope 2 Sub Total		9.89	0.00
Scope 3	Commuting	84.08	84.08
	Employee-owned car travel (grey fleet)	32.47	32.47
	Well To Tank	31.85	30.36
	Computing	2.62	2.62
	Waste	2.40	2.40
	Electricity transmission & distribution	0.84	0.00
Scope 3 Sub Total		154.26	151.93
Total tonnes of CO₂e		172.42	160.20
Tonnes of CO₂e per employee		4.31	4.01
Tonnes of CO₂e per £M turnover		55.66	51.71
Scope 3 Screening Sub Total		974.72	974.72
Total tonnes of CO₂e (including scope 3 screening)		1,147.14	1,134.92

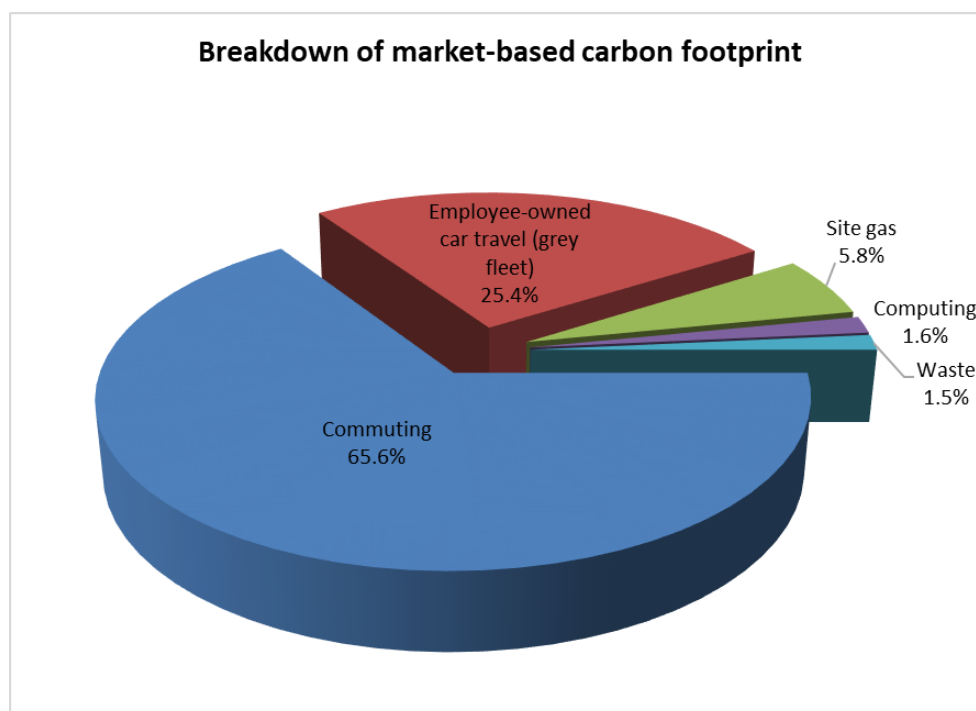


Figure 2: Percentage contribution of each element of Place Services' market-based carbon footprint

3.2. Emissions from travel

Figure 3 shows the GHG emissions resulting from business travel.

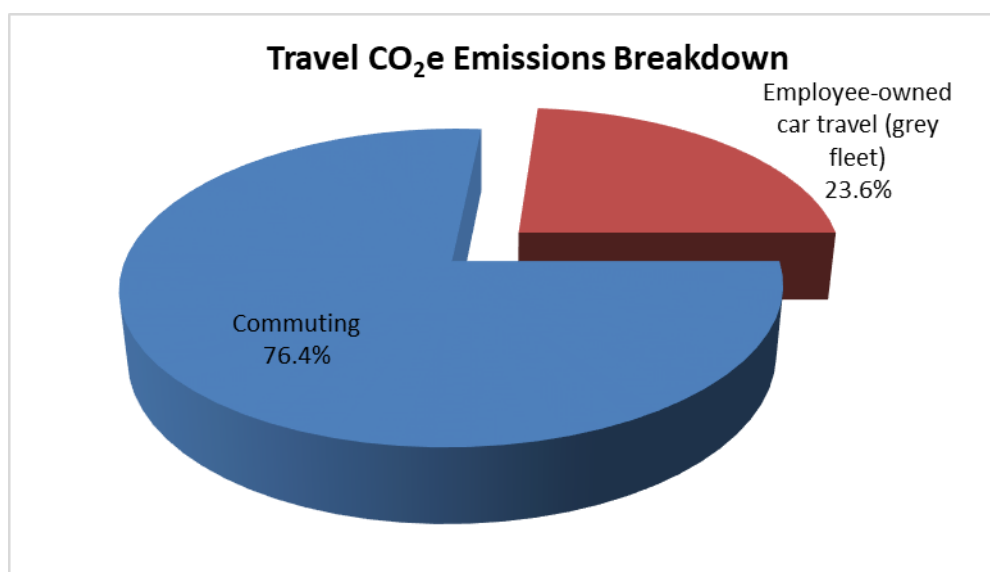


Figure 3: Percentage contribution of each element to transportation emissions

Table 4 shows the commuting methods and the associated GHG emissions. Commuting via car rather than public transport is more carbon intensive as the CO₂e emissions per mile is 76.7% larger. Employees should be encouraged to commute where possible via public transport.

Table 4: Emissions from employee commuting

Annual commuting Distance Miles	Vehicle Type	Emissions (tCO ₂ e)	% contribution
267,564	Cars	76.26	90.7%
115,148	Rail	7.63	9.1%
1,012	Bus	0.20	0.2%
383,724		84.08	100%



4. Comparison and Benchmarking

4.1. Comparison to base year emissions

Table 5: Place Services's carbon footprint comparison and percentage change

Element	Tonnes of CO ₂ e for footprint ending in March of calculation period:
	2019/20
Commuting	84.08
Employee-owned car travel (grey fleet)	32.47
Site gas	8.27
Computing	2.62
Waste	2.40
Site electricity (Market-based)	0.00
Site electricity (Location-based)	10.72
Well To Tank (Market-Based)	31.85
Well To Tank (Location-Based)	30.36
Total Tonnes of CO₂e (Location-based)	172.42
- Tonnes of CO ₂ e per employee	4.31
- Tonnes of CO ₂ e per £M turnover	55.66
Total Location-based Tonnes CO₂e (Incl. Supply Chain Screening)	1,147.14
Total Tonnes of CO₂e (Market-based)	160.20
- Tonnes of CO ₂ e per employee	4.01
- Tonnes of CO ₂ e per £M turnover	51.71
Total Market-based Tonnes CO₂e (Incl. Supply Chain Screening)¹	1,134.92

¹ Supply Chain Screening to be delivered in a separate report.

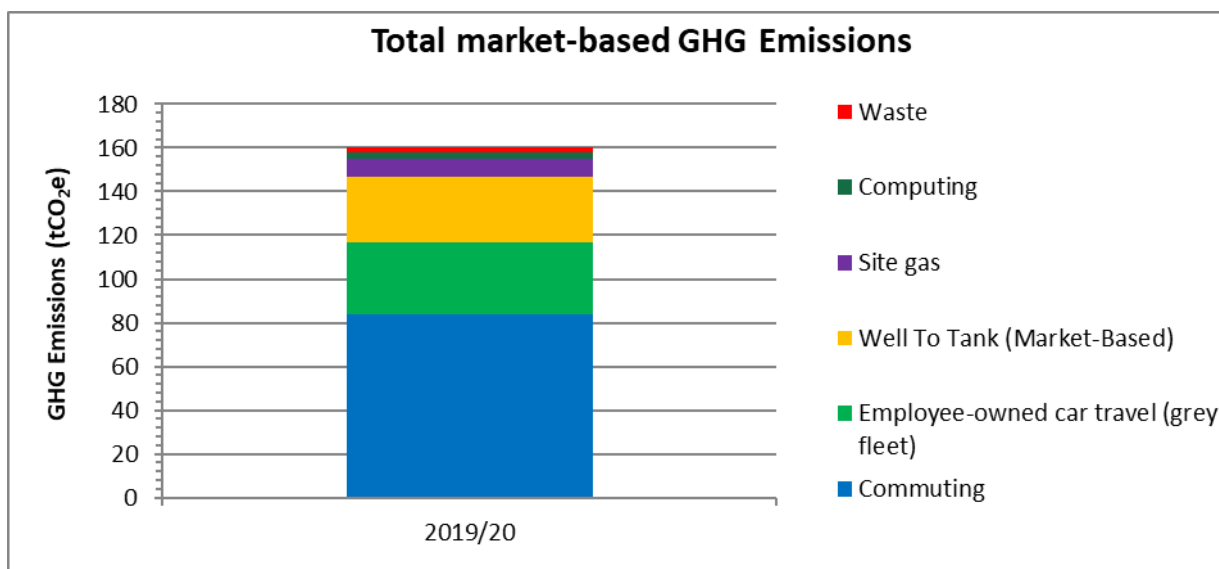


Figure 4: Detailed emissions comparison for the various aspects of Place Services's market-based emissions

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

Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 6 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

Table 6: Place Services' benchmarked GHG emissions

Year/Element	Location based	Market based
Turnover in £million	3.10	3.10
Total number of employees	40	40
Tonnes of CO₂e	172.42	160.20
Tonnes of CO₂e per £ million	55.66	51.71
Tonnes of CO₂e per employee	4.31	4.01
Total Tonnes CO₂e (Incl. Supply Chain Screening)	1,147.14	1,134.92
Scope 1 & 2 Emissions		
Scope 1 & 2 tonnes CO₂e	18.16	8.27
Scope 1 & 2 tonnes CO₂e per £ million	5.86	2.67
Scope 1 & 2 tonnes CO₂e per employee	0.45	0.21

5. Conclusion

Place Services, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint and has achieved: the Carbon Footprint CO₂e Assessed Organisation standard. By achieving this Place Services 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

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 the Science Based Target initiative. Typical targets cover midterm 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 CO₂e emissions and tracking toward a net zero target is appropriate for the business.

This can be achieved by carrying out a target setting workshop as soon as possible to develop clear and achievable targets using a bottom-up approach.

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

6.1.2. Expand the Scope of the Assessment

We recommend that the scope of the assessment is expanded in future to include an assessment of:

- Include air transport services in appraisal assessment using primary data instead of supply chain cost.
- Outsourced Logistics (upstream and downstream)
- Homeworking
- Downstream emissions (from in use of products and end of life of products)

6.1.3. Improving the accuracy of future carbon footprint assessments

The estimated overall error margin is +/- 31%. This error margin percentage could account for a difference of +/- 54.2 tCO₂e.

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

- When asking employees to fill out expense claims, ask for the mode of transport, distance travelled, fuel type and engine size (for vehicles) to also be recorded in addition to the journey cost.
- Liaise with building managers regarding sub-metering your current electricity/gas supply.

6.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Offset the calculated footprint by supporting climate change solutions around the world to become a 'Carbon Neutral Organisation'.
- Set up a scheme where employees can purchase electric cars through the business through a salary sacrifice.
- 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.
- 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.

6.3. Carbon offsetting

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

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

The cost of offsetting has reduced considerably over recent times. This could be readily funded via the internal carbon pricing system.

Example of Carbon Offsetting Projects:



Tree Planting in UK Schools



Avoided Deforestation in the Brazilian Amazon



Clean Water in Rwanda