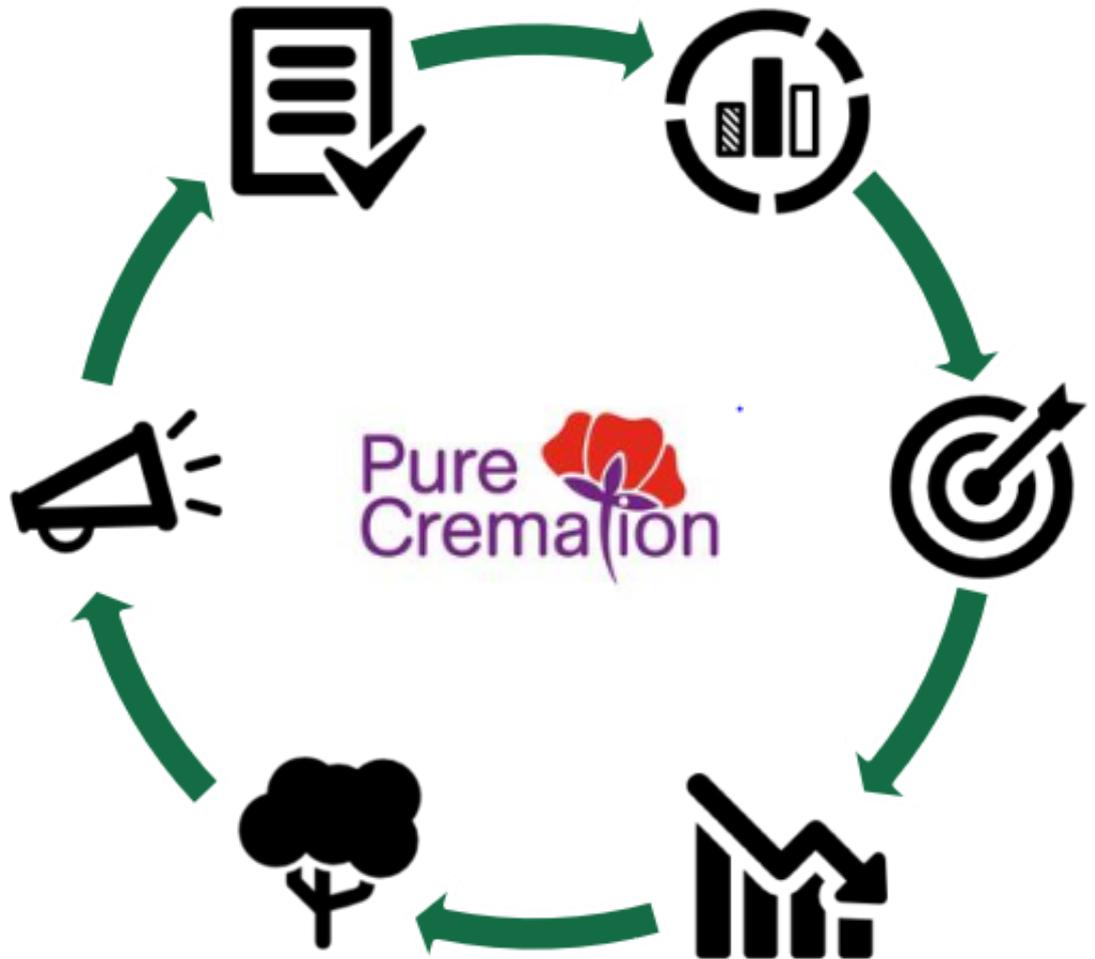


Carbon Footprint Appraisal Report



Assessment Period:
1st January 2019 - 31st December 2019

Executive Summary

Carbon Footprint Ltd has assessed the greenhouse gas (GHG) emissions of Pure Cremation Group Ltd (Pure Cremation), from 1st January 2019 to 31st December 2019 based on a dataset provided by the company.

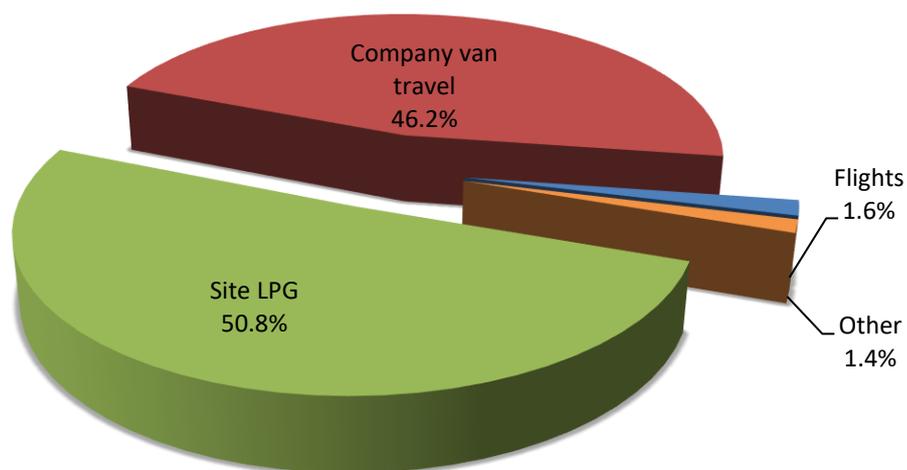
Current Performance

- Pure Cremation’s total market-based footprint is 380.03 tCO₂e; the total location-based footprint is 439.44 tCO₂e.
- Site LPG (liquid petroleum gas) and company van travel account for the greatest proportion of the GHG emissions at 50.8% and 46.2%, respectively (market-based).

Future Recommendations

- Offset to compensate for Pure Cremation’s emissions to become a Carbon Neutral organisation by funding a climate solution.
- Consider switching to electric/hybrid company vehicles when replacement is required.
- Investigate the feasibility of heat recovery systems for LPG use due to its essential use within the businesses services.
- Ensure the LPG system runs as efficiently as possible through servicing/maintenance.

Breakdown of carbon footprint (market-based)



This is the first assessment carried out by Pure Cremation and will therefore serve as a baseline for future assessments. The table below provides a summary of this year’s market and location-based emissions:

	Location-based (2019)	Market-based (2019)
Total Tonnes CO₂e	439.44	380.03
Tonnes of CO₂e per employee	10.46	9.05
Tonnes of CO₂e per £M turnover	43.94	38.00

Pure Cremation could expand the scope of assessment to include scope 3 client vehicle travel. This could be based on estimated figures. For example, an assumption of 2 people per car for funeral attendance.

Furthermore, we recommend an approach that goes beyond measuring the organisation’s GHG emissions. To become an exemplar in the market, Pure Cremation should consider offsetting its emissions to become a carbon neutral organisation. This is particularly relevant for Pure Cremation as a large proportion (50.8%) of their GHG emissions are associated with LPG use. As LPG is an essential fuel for the business’ services, it is not possible to eliminate this fuel from use to reduce associated emissions. Therefore, through the offsetting of these unavoidable emissions, Pure Cremation is able to fund a climate solution elsewhere through a variety of available offsetting projects.

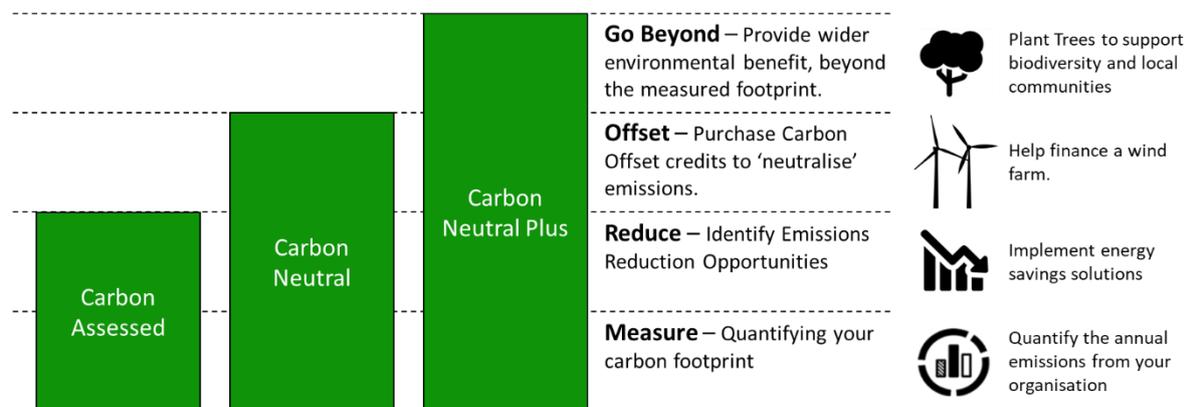


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Quality Control

Report issue number: 1.0
Date: 04 June 2020

Calculations completed by: Zoe Booth
Calculations reviewed by: Katie Elmer

Report produced by: Zoe Booth
Report reviewed by: Katie Elmer

Director approval: John Buckley

1 Introduction

1.1 Company Overview

Pure Cremation Group Ltd (Pure Cremation), is the UK’s leading direct cremation specialists. They have over 30 years’ experience of serving the bereaved. They own and run Charlton Park Crematorium in Andover, as well as providing professionalism and care to its clients through its funeral service.

1.2 Pure Cremation Group Ltd’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. Pure Cremation Group Ltd has completed the first step of their carbon management journey.



Measure



Aim



Reduce



Offset



Communicate



Comply

The purpose of this report is to:

- Summarise your carbon emission assessment results
- Recommend realistic aims for your carbon reduction target
- 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 (CO₂e). A carbon footprint is made up of two parts, direct emissions 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 scopes 1, 2 and 3 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

Footprint	Activity	Scope
	Production of any of the 6 GHGs	1
	Consumption of purchased electricity, heat steam and cooling	2
	Employee business travel (using transport not owned by the company)	3

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 scope 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	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?

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 of inaction will be disastrous. 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. It will also affect human health, accelerate species extinction, and disrupt many ecosystems.

Climate change is a global threat which will impact the lives of everyone on the planet. Hence, 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 Pure Cremation Group Ltd to begin doing its bit by monitoring, reducing and offsetting its emissions.

1.5 BS ISO 14064-1:2018

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

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

1.6 Greenhouse Gas Protocol Corporate Standard

This GHG calculation and report has been prepared in accordance with The Greenhouse Gas Protocol Corporate Standard. The GHG inventory, report, or assertion has not been verified. This report states both the location-based and market-based emissions totals for Pure Cremation.

Location-based approach – reflects the average emissions from electricity coming from the national grid energy supply.

Market-based approach – reflects the emissions from the electricity sources or products that the consumer has specifically chosen.

1.7 Calculation Methodology & Dual Reporting

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 the majority of Pure Cremation's footprint using the 2019 conversion factors developed by the UK Department for Environment, Food and Rural Affairs (Defra) and the Department for Business, Energy & Industrial Strategy (BEIS). These factors are multiplied with the company's GHG activity data. Carbon Footprint has selected this preferred method of calculation as a government recognised approach and uses data which is realistically available from the client, particularly when direct monitoring is either unavailable or prohibitively expensive. Additional methodology information is presented in Annex A. GHG emissions have been calculated in terms of tonnes of CO₂e (tCO₂e).

Location-based approach – uses the average energy generation emission factors for the UK.

Market-based approach – uses the energy generation emission factor reflecting the energy contract.

For the location-based approach, the Defra 2019 conversion factors have been used for the whole calculation. To calculate the market-based emissions, the renewable electricity tariff at Pure Cremations Charlton Park Crematorium is taken into account within the calculations. The renewable tariff is supplied by Opus Energy.

1.8 Abbreviations

BEIS	Department for Business, Energy & Industrial Strategy
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
GHG	Greenhouse Gas
LPG	Liquid Petroleum Gas
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standards Organisation
km	Kilometres
kWh	Kilowatt Hours
PR	Public Relations
UN	United Nations

2 Calculation scope and accuracy

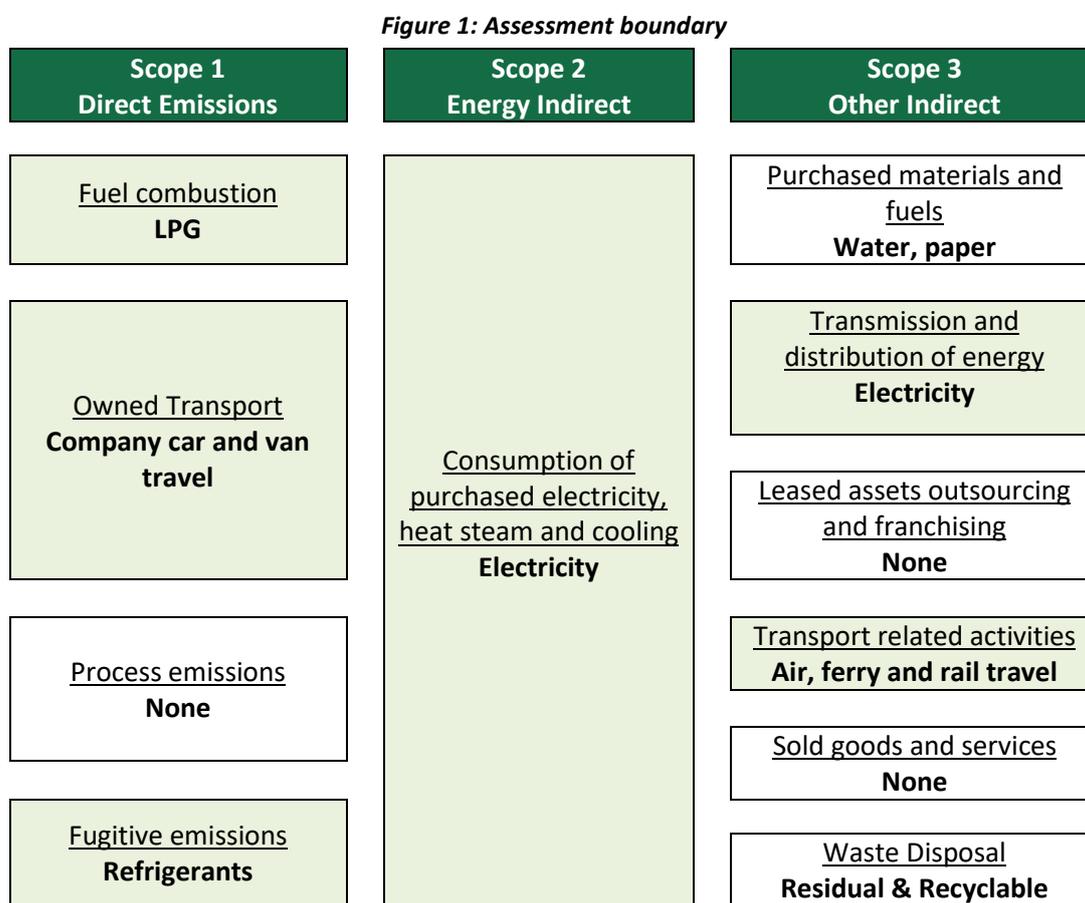
2.1 Scope of this work

Carbon Footprint has assessed the GHG emissions from 1st January 2019 to 31st December 2019 resulting from the energy consumption at Pure Cremation’s facilities and its business transport activities.

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

2.2 Organisational & reporting boundaries

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



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 Pure Cremation. An overview of the expected accuracy provided per element for this assessment is shown in Table 3.

Table 3: Assessment accuracy, materiality and simple error analysis

Dataset	Source of data and comments	Accuracy	Materiality	Uncertainty	Estimated Error Margin (tCO ₂ e) ¹
Site LPG	Data provided on litres of LPG purchased.	Excellent	High	1%	1.93
Company van travel	Mileages provided for all vans from their fleet tracker data.	Excellent	High	1%	1.76
Flights	Airport origin and destination, along with flight class provided for all flights using data from their online booking system.	Excellent	Low	1%	0.06
Company car travel	Mileage provided from fleet tracker data.	Excellent	Very Low	1%	0.04
Rail travel	Origin and destination stations provided using data from online rail account.	Excellent	Very Low	1%	0.02
Ferry travel	Origin and destination port provided based on booking confirmation records. Passenger type was also provided (e.g. car)	Excellent	Very Low	1%	0.00
Site electricity	kWh electricity data provided based on energy bills. Renewable energy supplied by Opus energy.	Excellent	Very Low	1%	0.00
Refrigerants	Air conditioning units were new with initial filling occurring during the data period and no leaks.	Excellent	n/a	n/a	n/a
Total for market-based tCO₂e					3.80
Total for location-based tCO₂e					4.39

¹ Estimated error margin figures are for market-based emissions

The estimated error margin for both market-based and location-based methods equate to 1% of the overall respective carbon footprint. To improve accuracy for future assessments, we recommend that you ask your energy supplier for evidence of your renewable energy on contract renewal.



3 Carbon Footprint Results

3.1 Summary of results

The total market-based carbon footprint for Pure Cremation for the period ending 31st December 2019 was 380.03 tonnes CO₂e. Table 4 provide a summary of results for Pure Cremation's carbon footprint calculation by scope and source activity.

Table 4: Results of Pure Cremation Group Ltd's carbon footprint assessment by scope and source activity

Scope	Activity	Market-based (tCO ₂ e)	Location-based (tCO ₂ e)
Scope 1	Site LPG	193.10	193.10
	Company van travel	175.72	175.72
	Company car travel	3.56	3.56
Scope 1 Sub Total		372.39	372.39
Scope 2	Electricity generation	0.00	54.76
Scope 2 Sub total		0.00	54.76
Scope 3	Flights	6.03	6.03
	Electricity transmission & distribution	0.00	4.65
	Rail travel	1.57	1.57
	Ferry travel	0.05	0.05
Scope 3 Sub Total		7.65	12.30
Overall Total		380.03	439.44
Tonnes of CO₂e per employee		9.05	10.46
Tonnes of CO₂e per £M turnover		38.00	43.94

Liquid petroleum gas (LPG) is used on site to carry out cremations and accounts for 50.8% of total market-based carbon footprint (Figures 2 & 3). Company van travel accounts for a further 46.2%. Comparatively, GHG emissions associated with flights and 'Other' are much lower at 1.6% and 1.4%, respectively. 'Other' comprises rail, car and ferry travel.

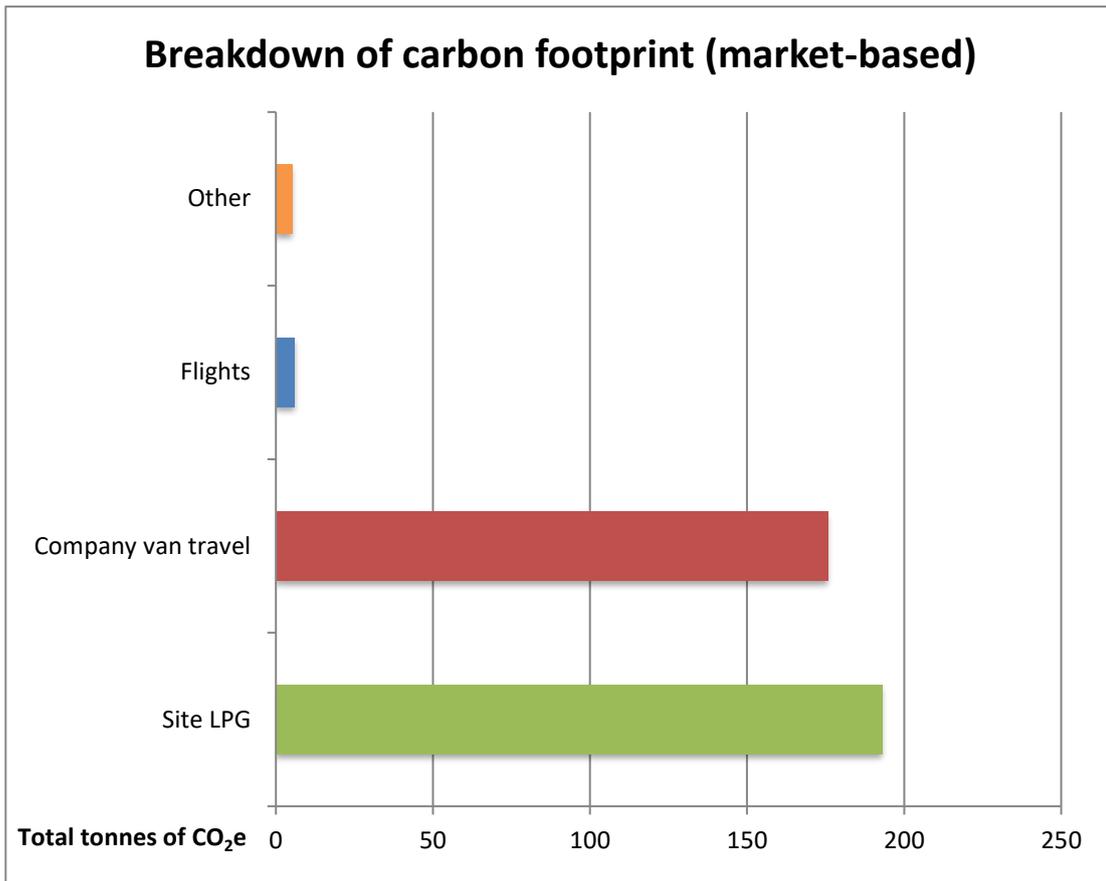


Figure 2: Contribution in tonnes of CO₂e of each element of Pure Cremation Group Ltd's carbon footprint²

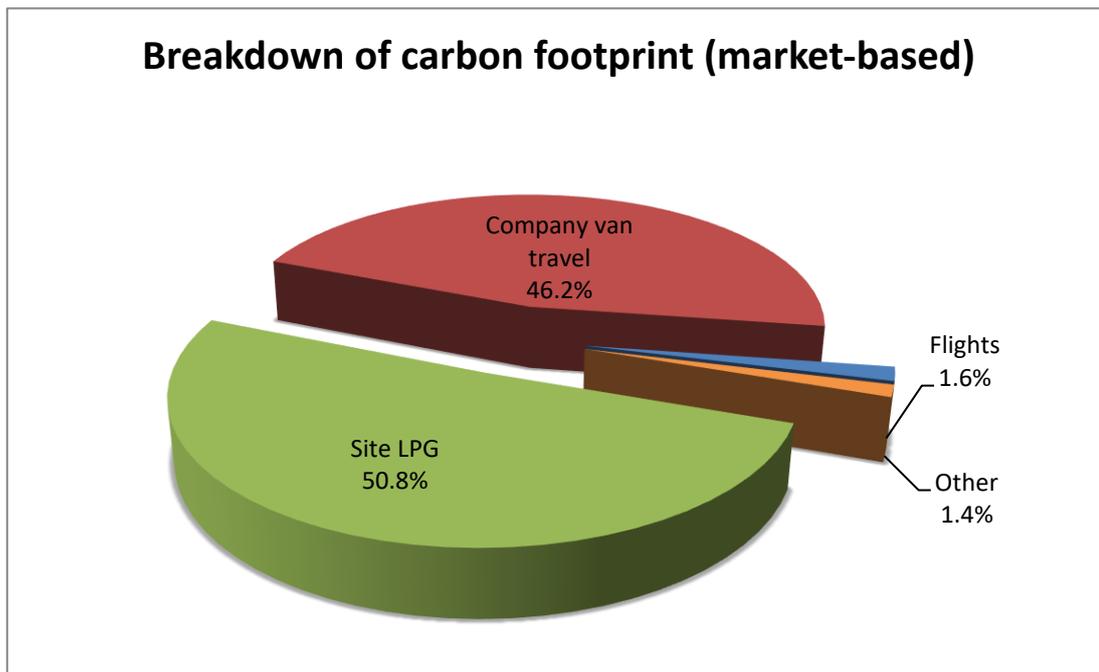


Figure 3: Percentage contribution of each element of Pure Cremation Group Ltd's carbon footprint³

² Other comprises rail, car and ferry travel

³ Other comprises rail, car and ferry travel

The contribution of site utilities to the total GHG emissions when assessing using a location-based method is higher at a combined 57.4% (see Figure 4). Company van travel still accounts for a large proportion of the overall footprint at 40%, whilst flights and ‘other’ account for a combined 2.6%.

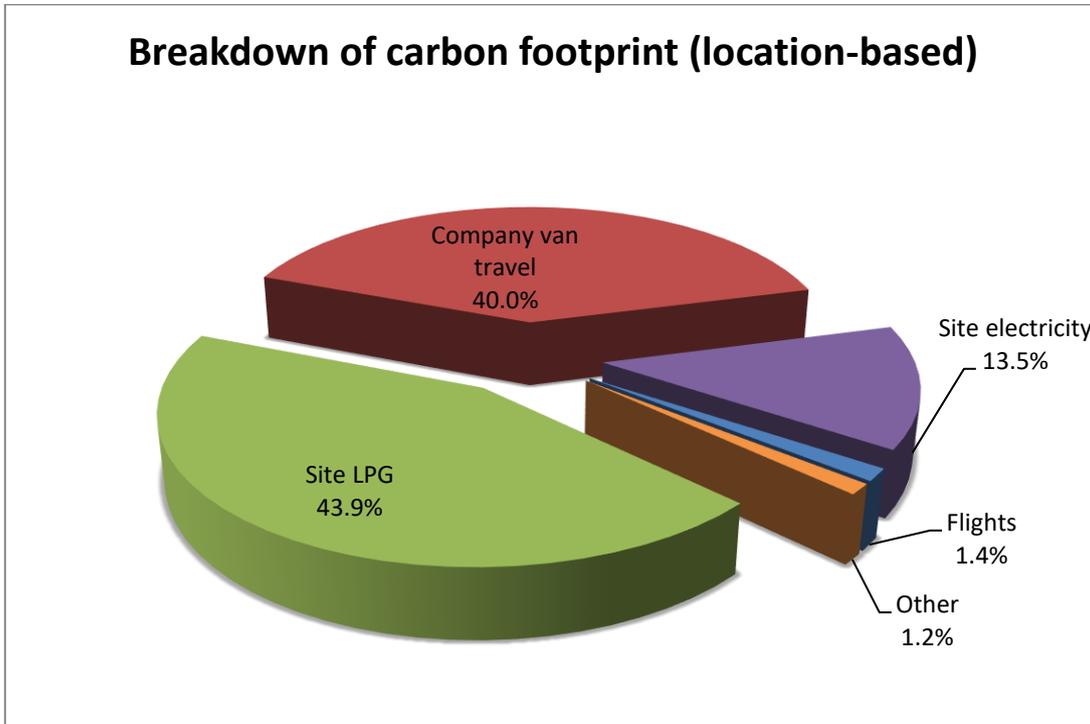


Figure 4: Percentage contribution of each element of Pure Cremation Group Ltd’s carbon footprint⁴

Due to the use of LPG for cremation, it is unlikely that Pure Cremation will be able to reduce the quantity used as this is essential to the service they provide. However, we recommend that Pure Cremation investigate options such as servicing to ensure that the system runs as efficiently as possible.

Air travel accounts for only 1.6% of the total market-based emissions. Due to the nature of the business, business flights are not typically expected. Following discussion with Pure Cremation’s managing director, it was explained that the majority of these flights were for business development purposes including exploration of potential expansion opportunities in countries such as Germany; as well as visits to the newly purchased Glasgow site. Two flights were also taken to the Netherlands to visit the cremator manufacturers.

⁴ Other comprises rail, car and ferry travel.



4 Comparison and Benchmarking

4.1 Comparison to base year emissions

This is the first carbon footprint assessment Pure Cremation has carried out and, therefore, it will serve as a base year for future carbon footprint assessments.

Table 5 shows this years' emissions per activity, as well as Pure Cremation's total carbon footprint and carbon intensity metrics (tonnes of CO₂e per employee and tonnes of CO₂e per £M turnover).

Table 5: Pure Cremation Group Ltd's carbon footprint comparison and percentage change

Element	Market-based emissions (tCO ₂ e)
Site LPG	193.10
Company van travel	175.72
Flights	6.03
Company car travel	3.56
Rail travel	1.57
Ferry travel	0.05
Site electricity	0.00
Total Tonnes of CO₂e	380.03
Tonnes of CO₂e per employee	9.05
Tonnes of CO₂e per £M turnover	38.00

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.



5 Key Recommendations

Carbon Footprint Ltd advises organisations like yours to work towards the reduction of their emissions. In so doing this will maximise business benefits through reduced energy and travel costs, and new marketing opportunities.

Below are top level recommendations to ensure your organisation leverages the most out of being a carbon footprint approved business.

1. Set targets to reduce emissions year on year and offset your unavoidable emissions to become a Carbon Neutral/Carbon Neutral Plus organisation
2. Communicate targets and actions to employees, customers and other stakeholders
3. Monitor your usage of fuels and travel during the year, to ensure you stay on track towards meeting your targets
4. Due to the essential nature of LPG within the services offered, the quantity used is unlikely to be reduced. However, servicing/maintenance could ensure that the system runs as efficiently as possible.
5. Investigate the possibility for heat recovery from the LPG heat waste. If feasible, this could be used for district-style heating for nearby buildings, or used to generate electricity/heating onsite.
6. Consider switching to electric/hybrid company vehicles when replacement is required to reduce emissions associated with company car and van travel.
7. Widen the scope to include client cars using estimated figures. For example, an assumption of 2 people per car for funeral attendance. This would be included as a scope 3 emissions and would provide a more holistic total.
8. Ask your supplier for evidence of a renewable tariff at the point of contract renewal.
9. Where possible, use telecom/video-conferencing to communicate rather than air travel. If this is not deemed possible, flying in economy class would reduce emissions associated with air travel.
10. Market your company as “Carbon Footprint Approved” by using the branding on all your marketing and sales materials, including web site, leaflets, business cards, e-mails, letter headed paper etc.

Contact Carbon Footprint Ltd if you would like to discuss these or any other carbon management activities.



6 Carbon Footprint Standard

6.1 Brand endorsement

Pure Cremation Group Ltd, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint. By achieving this Pure Cremation Group 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.



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.

6.2 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, utilise all marketing channels available to you, such as website, newsletters, brochures, press releases, conferences/events and social media etc.

Ensure to:

- Explain why climate change matters to you (for more information visit: 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 done – take care not to exaggerate.
- Use the Carbon Footprint Standard branding provided, certificates, images of any offset projects you are supporting and graphs of your carbon performance, to help communicate your point in a clear and enticing manner.

7 References

1. BEIS GHG Conversion Factors for Company Reporting (July 2019)
2. Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)
3. The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (March 2004)

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-CO₂ greenhouse gases to CO₂e 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 tCO₂e.

A.2 Biomass

There are no CO₂ emissions from the combustion of biomass to be considered within this report.

A.3 Greenhouse gas removals

Within the calculation of Pure Cremation Group Ltd's carbon footprint, there are no business processes resulting in the reduction of greenhouse gases from the atmosphere to be deducted from the calculation.