Carbon Footprint Appraisal
for
Place Services (Essex County Council)

Assessment Period:
1st April 2022 – 31st March 2023

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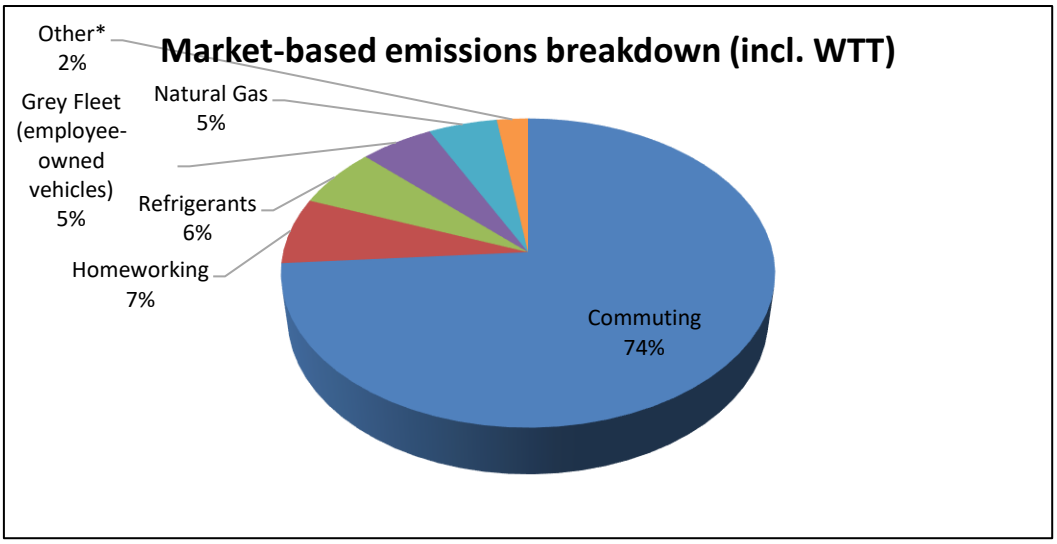
Executive Summary

Current Performance

- Place Services's total market-based emissions are 142.78 tCO_2e (with a location-based emissions of 148.83 tCO_2e).
- The most significant market-based emission source is commuting, accounting for 73.85% of Place Services's carbon footprint.

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.
- Purchase high quality or refurbished appliances from sustainable providers to reduce the embodied emissions of IT equipment.
- Encourage all homeworkers to transition to 100% renewable tariffs to reduce market-based emissions.



Other = Electricity, Scopes 1 And 2 WTT, Computing, Transmission & Distribution, Rail, Wastewater, Water, Waste, and Bus travel.

Year/Element	Location-based	Market-based
Total number of employees	62	
Tonnes of CO_2e	148.83	142.78
Tonnes of CO_2e per employee	2.40	2.30

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Quality Control

Report issue number:	1.0
Date:	30 April 2024
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1. Introduction

1.1. Company Overview

Place Services provides assessment, planning, design, and management services to the UK public sector. They specialise in arboriculture, archaeology, built heritage, landscape, urban design, and countryside management. 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
WTT	Well-To-Tank

2. Calculation Scope and Accuracy

2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1st April 2022 to 31st March 2023 resulting from the energy consumption at Place Services's facilities and its business transport activities.
Place Services's supply chain screening can be found in a separate 2022/23 report.

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.

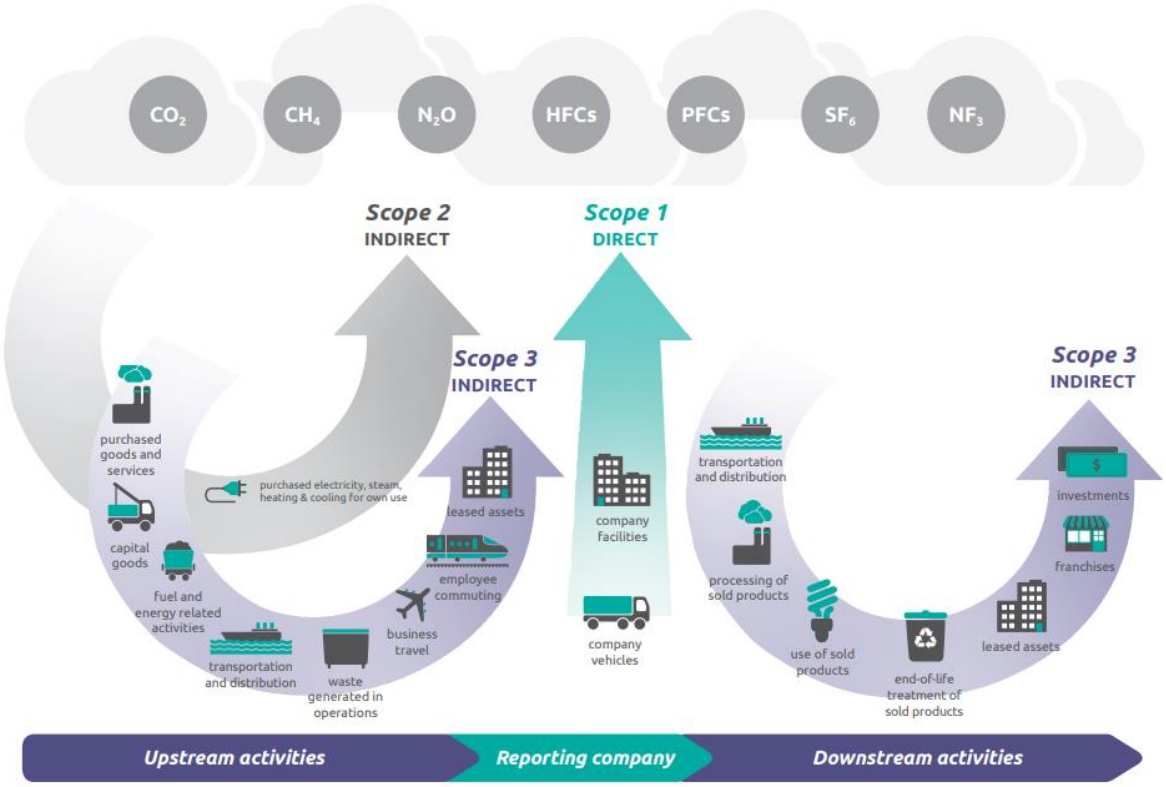


Figure 1: Overview of emissions scopes (GHG Protocol - Scope 3 Calculation Guidance v1.0 - 2013)

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	
	On-site fuel use	Activity Data	Complete	
	Company owned vehicles	Activity Data	Complete	
	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	Complete	
	2. Capital goods	Activity Data	Complete	
	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Activity Data	Complete	
	4. Upstream transportation and distribution		Not relevant	
	5. Waste generated in operation	Activity Data	Complete	
	6. Business travel (not included in scope 1 or scope 2)	Activity Data	Complete	
	7. Employee commuting	Activity Data	Complete	
	8. Upstream leased assets		Not relevant	
	9. Downstream transportation and distribution		Not relevant	
	10. Processing of sold products		Not relevant	
	11. Use of sold products		Not relevant	
	12. End-of-life treatment of sold products		Not relevant	
	13.Downstream leased assets		Not relevant	
	14. Franchises		Not relevant	
	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	Data obtained from employee survey and included annual commute distance (km), vehicle type.	Very High (>40%)	10%	10.55
Homeworking	Data obtained from employee survey and included total number of homeworking hours per year and home occupancy type.	Medium (5-20%)	50%	4.95
Natural Gas	Data obtained from total building meter reading (kWh) and apportioned to Place Service's occupied office space.	Medium (5-20%)	50%	4.29
Grey Fleet (employee-owned vehicles)	Data obtained from expense report and included annual mileage, vehicle type, and fuel type	Medium (5-20%)	5%	0.39
Refrigerants	Data obtained from logbook, included quantity (kg) and gas type.	Medium (5-20%)	1%	0.09
Water/wastewater	Data could not be obtained, an estimate of 50 litres water use per employee/day was used.	Very Low (<1%)	90%	0.09
Rail	Data obtained from travel expense report and included total cost (£) on rail fares.	Very Low (<1%)	10%	0.02
Computing	Data obtained from expense report, included number of laptops purchased and type.	Low (1-5%)	1%	0.01
Electricity (Market-Based)	Data obtained from total building meter reading (kWh) and apportioned to occupied space.	Very Low (<1%)	50%	<0.01
Waste	Data included waste type, collection frequency, and disposal route.	Very Low (<1%)	10%	<0.01
Bus	Data obtained from travel expense report and included distance travelled by bus (km).	Very Low (<1%)	5%	<0.01
Total				**+/- 20.40**

3. Carbon Footprint Results

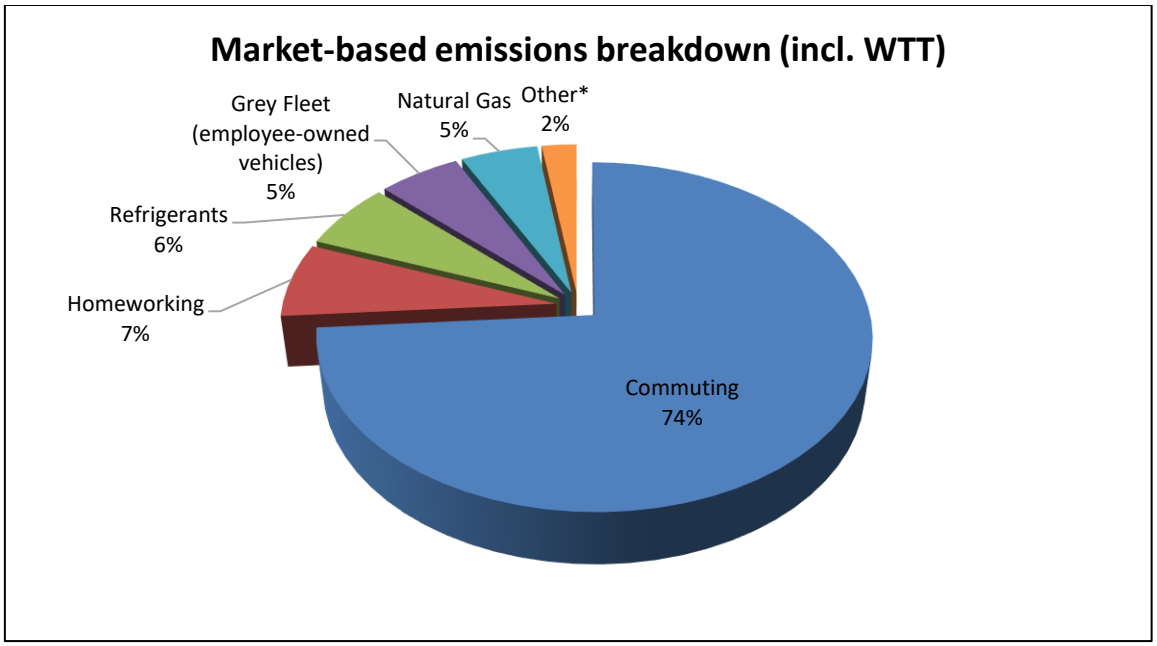
3.1. Summary of results

The total location-based carbon footprint for Place Services for the period ending 31st March 2023 is 148.83 tonnes CO_2e, and the market-based total is 142.78 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	7.33	7.33
	Refrigerants	8.98	8.98
1	**Scope 1 Total**	**16.31**	**16.31**
2	Electricity	4.47	0.00
2	**Scope 2 Total**	**4.47**	**0.00**
3.1	Water	0.10	0.10
3.2	Computing	1.50	1.50
3.3	Scopes 1 and 2 WTT	2.32	1.25
	Transmission & Distribution	0.51	0.00
3.5	Wastewater	0.19	0.19
	Waste	0.02	0.02
3.6	Grey Fleet (employee-owned vehicles)	7.82	7.82
	Rail	0.25	0.25
	Bus	<0.01	<0.01
3.7	Commuting	105.45	105.45
	Home-working	9.90	9.90
3	**Scope 3 Total**	**128.05**	**126.47**
All	**Tonnes of CO_2e**	**148.83**	**142.78**
	Tonnes of CO_2e per employee	**2.40**	**2.30**

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



*Other= Electricity, Scopes 1 And 2 WTT, Computing, Transmission & Distribution, Rail, Wastewater, Water, Waste, and Bus travel.

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

3.2. Emissions from commuting

The table below shows the breakdown of emissions associated with commuting by vehicle type. Petrol cars account for the majority of emissions (61%), followed by diesel (26%). These should be switched to public transport such as rail or replaced with electric vehicles to significantly reduce total emissions.

Table 4: breakdown of emissions associated with commuting

Vehicle Type	Total (tCO_2e (excl. WTT))	Percentage of total
Petrol	50.51	60.9%
Diesel	21.53	25.9%
Train	6.60	7.9%
Petrol hybrid	3.50	4.2%
Electric	0.81	1.0%
Local bus	0.05	0.1%
Grand Total	**83.00**	**100%**

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

Table 5: Well-to-Tank CO_2e Emissions breakdown

Emission Source	Market-based (tCO_2e)
Commuting	22.45
Grey Fleet (employee-owned vehicles)	1.59
Natural Gas	1.25
Electricity	<0.01
Transmission & Distribution	<0.01
Rail	<0.01
Bus	<0.01
Total	**25.34**

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 metrics (tonnes of CO_2e per employee). Place Service's reduced its total market-based emissions by approximately 11%, this is due to a significant drop in grey fleet emissions (34.53 tCO_2e). It should be noted that the assessment now includes homeworking, water, rail, and bus travel emissions. There is a gap in the reporting period between 2020 to 2022 – we recommend you complete these.

Table 6: Place Services's carbon footprint comparison and percentage change

Element	2019/20	2022/23	% change on baseline year (2019/20)
Commuting	105.07	83.00	-21.0%▼
Well-to-Tank (Market-Based)	*	25.34	n/a
Homeworking	*	9.90	n/a
Refrigerants	0.00	8.98	n/a
Site gas	9.35	7.33	-21.5%▼
Employee-owned car travel (grey fleet)	40.77	6.23	-84.7%▼
Computing	2.62	1.50	-42.9%▼
Water (and wastewater)	*	0.29	n/a
Rail travel	*	0.20	n/a
Waste	2.40	0.02	-99.3%▼
Company car travel	0.00	<0.01	n/a
Bus travel	*	<0.01	n/a
Site electricity (Market-based)	0.00	0.00	n/a
Total Tonnes of CO_2e (Location-based)	**172.42**	**148.83**	**-13.7%▼**
- Tonnes of CO_2e per employee	**4.31**	**2.40**	**-44.3%▼**
Total Tonnes of CO_2e (Market-based)	**160.20**	**142.78**	**-10.9%▼**
- Tonnes of CO_2e per employee	**4.01**	**2.30**	**-42.5%▼**

*Excluded from the scope of the assessment.

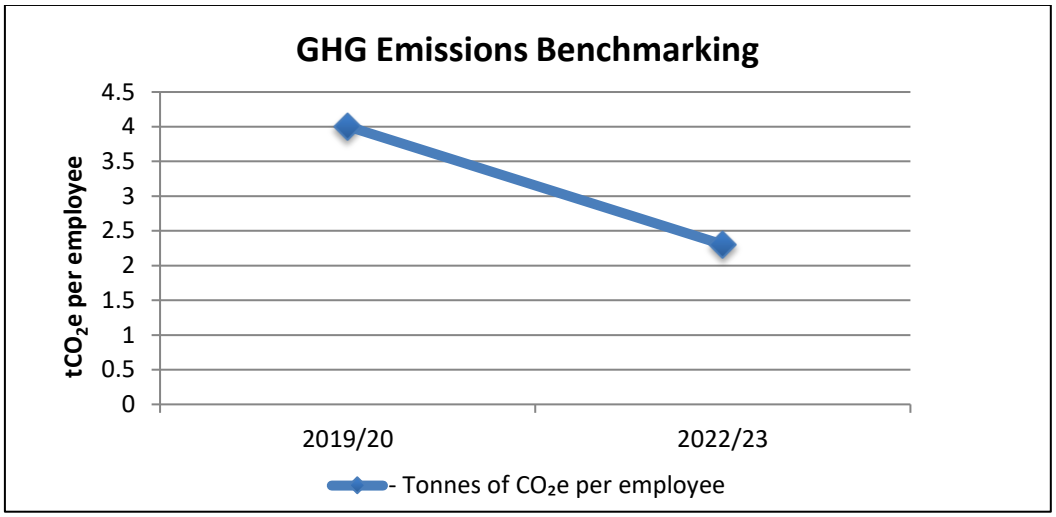


Figure 3: Carbon footprint of Place Services for internal benchmarks

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.

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.

As a Carbon Footprint client, your headline carbon footprint results will be automatically uploaded to your CaDI account for your ease – **though, rest assured, they will only be made public upon you choosing to publish them.**

Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly.

Table summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

Table 7: Place Services's benchmarked GHG emissions

Year/Element	Location-based	Market-based
Total number of employees	62	
Turnover in £ million	0	
Tonnes of CO_2e	148.83	142.78
Tonnes of CO_2e per employee	2.40	2.30
Scope 1 & 2 Emissions		
Tonnes of CO_2e	**20.78**	**16.31**
Tonnes of CO_2e per employee	**0.34**	**0.26**

5. Conclusion

Place Services, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint for the period 1st April 2022 – 31st March 2023 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. Target setting for net zero

Place Services target setting report can be found in the target setting 2019/2020 report.

6.1.2. Improving the accuracy of future carbon footprint assessments

The estimated overall error margin is +/- 20.40 tCO_2e of the total assessed emissions.

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

- Provide monthly utility bills, for both gas and electric consumption.
- Provide details of routes and destinations for rail travel to calculate actual distances.

6.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Set up a scheme where employees can lease/purchase electric vehicles, bicycles (e-bikes) and scooters through a salary sacrifice scheme. If possible, install charging points on-site to encourage staff to switch to electric vehicles.
- 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.
- To extend the life of your computing hardware, aim to purchase models with sufficient RAM and modern components (there are available databases such as Eurostar that highlight more efficient models). Consider purchasing refurbished or easily repairable models to avoid purchasing new appliances.

6.3. Carbon offsetting

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

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.

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	7.33	7.33
	Fugitive emissions (incl. Refrigerant gases and AC)	Refrigerants	8.98	8.98
Scope 1 Total			**16.31**	**16.31**
2	On-site Consumption of purchased electricity, heat steam and cooling	Electricity	4.47	0.00
Scope 2 Total			**4.47**	**0.00**
3.1	1. Purchased goods and services	Water	0.10	0.10
3.2	2. Capital goods	Computing	1.50	1.50
3.3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Scopes 1 and 2 WTT	2.32	1.25
		Transmission & Distribution	0.51	0.00
3.5	5. Waste generated in operation	Wastewater	0.19	0.19
		Waste	0.02	0.02
3.6	6. Business travel (not included in scope 1 or scope 2)	Grey Fleet (employee-owned vehicles)	7.82	7.82
		Rail	0.25	0.25
		Bus	0.00	0.00
3.7	7. Employee commuting	Commuting	105.45	105.45
		Home-working	9.90	9.90
Scope 3 Total			**128.05**	**126.47**
All	**Tonnes of CO_2e**		**148.83**	**142.78**
	Tonnes of CO_2e per employee		**2.40**	**2.30**