

# Carbon Footprint Appraisal Report



Carbon Footprint Appraisal for Winchester City Council

Assessment Period:  
1<sup>st</sup> April 2020 – 31<sup>st</sup> March 2021

## Executive Summary

Carbon Footprint Ltd has assessed the greenhouse gas (GHG) emissions of Winchester City Council (WCC) from **1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021** based on a dataset provided by the council.

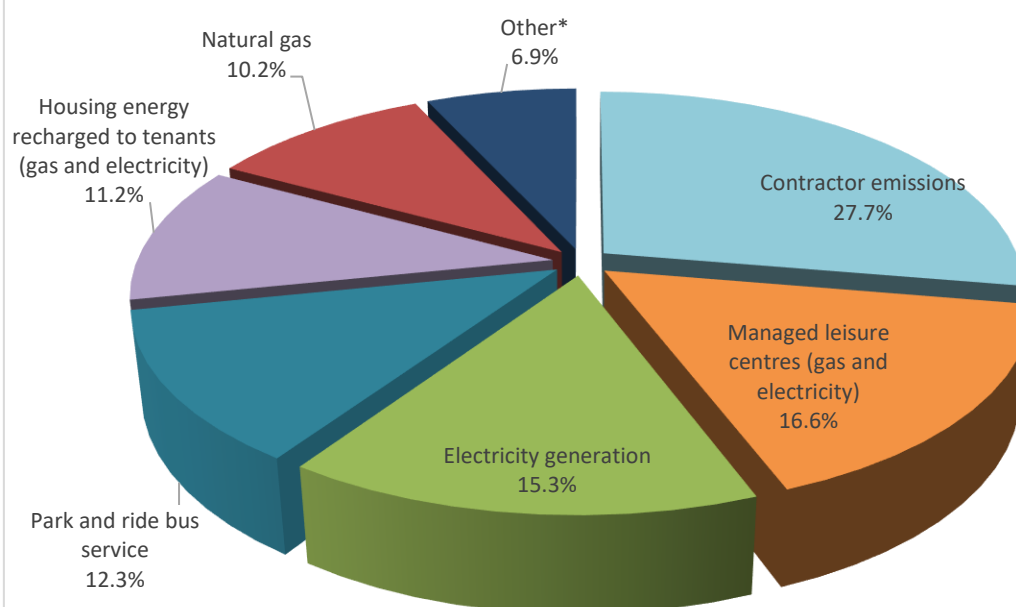
### Current Performance

- Winchester City Council's total location-based emissions are 3,226.83 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e). Total market-based emissions are 2,810.04 tonnes of CO<sub>2</sub>e.
- The estimated error margin is +/- 287.3 tonnes of CO<sub>2</sub>e.
- The most significant emission source is contractor emissions accounting for 27.7% of the total carbon footprint.

### Recommendations

- Continue to investigate opportunities to reduce site energy consumption across both the housing and non-housing sites through regular energy monitoring and energy audits.
- Conduct feasibility assessments to identify potential opportunities to install on-site renewable energy generation across the Council's sites.
- Transition all non-domestic sites to using only 100% renewable energy tariffs to reduce emissions associated with electricity use.
- Educate and promote incentives for energy efficiency improvements in domestic properties.
- Engage with those in the Council's supply chain (e.g., contractors) to investigate opportunities to reduce emissions associated with their services.

### Breakdown of carbon footprint



\*Other includes emissions from homeworking, water, kerosene, other council fuel use, electricity transmission and distribution, business travel (rail, taxi, grey fleet, council-owned cars and vans), and employee commuting.

Metric	2009/10	2019/20	2020/21	% Change from baseline year	% Change from previous year
Total Tonnes CO <sub>2</sub> e (Scope 1&2) <sup>1</sup>	3,436.31	1,163.50	874.65	-74.5%	-24.8%
Total Location-based Tonnes CO <sub>2</sub> e	5,476.89	4,383.02	3,226.83	-41.1%	-26.4%
Total Market-based Tonnes CO <sub>2</sub> e	-	4,267.71	2,810.04	n/a	-34.2%
Tonnes of CO <sub>2</sub> e per employee <sup>1</sup>	9.61	9.39	7.92	-17.6%	-15.7%
Tonnes of CO <sub>2</sub> e per capita <sup>1</sup>	0.05	0.03	0.02	-54.8%	-37.1%

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<sup>1</sup> Location-based GHG emissions

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## Quality Control

<b>Report issue number:</b>	1.0
<b>Date:</b>	07 March 2022
<b>Calculations completed by:</b>	Zoe Rudge
<b>Calculations reviewed by:</b>	Georgina Whitlock
<b>Report produced by:</b>	Zoe Rudge
<b>Report reviewed by:</b>	Georgina Whitlock
<b>Director approval:</b>	Dr. Wendy Buckley

# 1. Introduction

## 1.1. Company Overview

WCC district is located in the south of England and covers 250 square miles. The Council began assessing its carbon footprint since 2008 and continues to do so on an annual basis to monitor emissions and identify areas where reductions may be possible. Carbon management plays a key role in the *Council Plan 2020-2025* with 'Tackling the climate emergency and creating a greener district' considered a priority outcome.

## 1.2. Winchester City Council's carbon management journey

Carbon Footprint provides a simple six step annual journey to enhance sustainability credentials whilst complying to best practice and differentiating the council's brand. WCC has completed the first step of its annual carbon management journey.



Measure



Aim



Reduce



Offset



Communicate



Comply

The purpose of this report is to:

- Summarise the results of the carbon footprint assessment.
- Provide practical recommendations to enhance the Council's sustainability programme and reduce 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 (CO<sub>2</sub>e). A carbon footprint is made up of two parts, direct 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 scope 1 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
	Production of any of the six GHGs (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs and SF <sub>6</sub> )	1

## 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 scopes 2 and 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	Consumption of purchased electricity, heat steam and cooling	2
	Employee business travel (using transport not owned by the company)	3
	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?

**Climate change is a global threat which will impact the lives of everyone on the planet.**

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 are already evident and will continue to worsen unless significant action is taken and quickly. **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. This can lead to homelessness, famine and conflict as resources become scarcer.**

Environmental pollution and climate change affect human health, accelerate species extinction, and disrupt vital ecosystems. **Ambient (outdoor) air pollution is responsible for at least 4 million human**

**deaths each year**<sup>2</sup>. In addition to this, poor air quality and issues of clean water availability leave us more susceptible to diseases such as COVID-19. Combined with rises in temperature and deforestation (from direct human action and climate change related events), resulting in the displacement of animals from their native habitats, the frequency of disease occurrence will increase, as disease will transfer from animals to other geographical areas and larger human populations.

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 WCC to continue doing its bit by monitoring, reducing and offsetting its emissions.

## 1.5. Assessment Methodology

This GHG report has been prepared in accordance with Part 1 of 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.

The GHG calculation and report has also been prepared in accordance with The Greenhouse Gas Protocol Corporate Standard. The GHG inventory, report, or assertion has not been separately verified.

**Location-based approach** – reflects the 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.

## 1.6. Calculation methodology

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 WCC'S footprint using the 2020 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.

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<sup>2</sup> World Health Organisation. <https://www.who.int/health-topics/air-pollution>

## 1.7. Data supplied for the carbon footprint appraisal

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

## 1.8. Abbreviations

BEIS	Department for Business Energy & Industrial Strategy
BIK	Benefit In Kind
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
EV	Electric Vehicle
FTE	Full-time employee
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
ISO	International Standards Organisation
km	Kilometres
kWh	Kilowatt Hours
NIC	National Insurance Contribution
ONS	Office for National Statistics
PAYE	Pay As You Earn
PR	Public Relations
UN	United Nations
CH <sub>4</sub>	Methane
N <sub>2</sub> O	Nitrous Oxide
HFCs	Hydrofluorocarbons
PFCs	Perfluorocarbon
SF <sub>6</sub>	Sulfur Hexafluoride



## 2. Calculation Scope and Accuracy

### 2.1. Scope of this work

Carbon Footprint has assessed the GHG emissions from 1<sup>st</sup> April 2020 to 31<sup>st</sup> March 2021 resulting from the energy consumption at WCC’S facilities and its business transport activities. WCC’S baseline year data and emissions can be found in the 2009/10 report

### 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:

**Figure 1: Assessment boundary**

Scope 1 Direct Emissions	Scope 2 Energy Indirect	Scope 3 Other Indirect
<u>Fuel combustion</u> <b>Natural gas, kerosene, LPG, petrol.</b>	<u>Consumption of purchased electricity, heat steam and cooling</u> <b>Electricity</b>	<u>Purchased materials</u> <b>Water (other purchased goods are not currently assessed)</b>
<u>Owned Transport</u> <b>Council-owned car and van travel</b>		<u>Transmission and distribution of energy</u> <b>Electricity</b>
<u>Process emissions</u> <b>None</b>		<u>Leased assets, outsourcing and franchising</u> <b>Contractor emissions<sup>3</sup>, park and ride buses, leased site energy<sup>4</sup>.</b>
<u>Fugitive emissions</u> <b>Refrigerants</b>		<u>Transport related activities</u> <b>Grey fleet, taxi and rail travel, home working and employee commuting</b>
		<u>Use of sold goods &amp; services</u> <b>None</b>
		<u>Waste Disposal</u> <b>Residual &amp; Recyclable</b>

Key:

Within the assessment boundary	Not included within assessment boundary
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<sup>3</sup> Including car and van travel and other fuel use.

<sup>4</sup> Brooks carpark, River Park Leisure Centre and Meadowside Leisure Centre.

The following assumptions or exclusions have been made in accordance with the operational reporting boundary:

- Any energy consumption metered directly to tenants has been excluded.
- Where third party tenants are recharged by WCC and operational control is not perceived (i.e. tenants have individual boilers), energy has been included in scope 3.
- Where tenants have individual boilers (and therefore operational control), though the property only has one meter and is all recharged to tenants, the energy use/boiler that the Council has operational control over (i.e. communal space) has been reported in scope 3 due to inability to separate out the data.
- Where there is a central plant serving the whole property (flats and communal spaces), it has been agreed between WCC and Carbon Footprint that this is to be included under the Council's operational control.
- Waste data has been excluded for this assessment period. This is due to the majority of employees working from home and therefore waste data for these employees was difficult to obtain. Additionally, the waste directly generated by the council was expected to be negligible compared to previous years. However, the Council should ensure waste data is included in future assessments going forward.

### 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 WCC (Table 3). Based on the accuracy of the data provided, a simple error analysis has been used to estimate the error margin for the appraisal results.

**Table 3: Assessment accuracy, materiality and simple error analysis**

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO <sub>2</sub> e)
Depot Lorry travel	Data provided in two periods as a new contract was started in February 2021 so two separate fleets were used across the assessment period. Odometer readings were taken from logbooks, service sheets and defect reports. Fuel was taken from the fuel delivery system which provides individual vehicle usage.	Very Good	High (20-40%)	5%	36.2
Site electricity	Annual kWh consumption provided for all sites, with details of meter numbers and costs provided. Sites on 100% renewable energy tariffs were confirmed by the Council's energy broker.	Very Good	High (20-40%)	5%	26.8
Site gas	Annual kWh consumption provided for all sites. Internal records spreadsheet with meter number, kWh consumption and cost provided.	Very Good	High (20-40%)	5%	16.4
Non-controlled site energy <sup>6</sup> <b>River Park Leisure Centre</b>	Monthly energy consumption (kWh) provided for October 2020 to March 2021. The remaining months were estimated based on an average energy consumption for the months of November 2020 and January, February and March 2021 as these were aligned with periods where the leisure centre was closed, as was also the case for April – March 2020.	Good	Medium (5-20%)	10%	49.7
Park and ride	Annual mileage and fuel consumption has been estimated based on the previous year's data. Despite some minor reductions in services from April to June 2020 due to Covid-19 this was not significantly less and has therefore not been accounted for.	Good	Medium (5-20%)	10%	39.7
Housing energy recharged to tenants <sup>5</sup>	Annual kWh consumption provided for all sites, with details of meter numbers and costs provided. Sites on 100% renewable energy tariffs were confirmed by the Council's energy broker.	Very Good	Medium (5-20%)	5%	13.5
Home-workers	Data based on the results of an employee survey. Home working data provided per employee, including occupancy type, and total hours, days and weeks worked from home. Survey results were uplifted to account for response rate.	Average	Low (1-5%)	50%	26.2
Contractor van travel	Annual litres of fuel and vehicle information including fuel type and engine size provided.	Very Good	Low (1-5%)	5%	5.0

<sup>5</sup> Gas and Electricity



Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO <sub>2</sub> e)
Contractor fuel use	Fuel type and litres of fuel provided based on estimates from the previous year as no data was available for this assessment period. Used for strimmers, blowers and lawn mowers etc. and work is consistent to the previous year.	Very Good	Low (1-5%)	5%	3.1
Council-owned van travel	Annual litres of fuel and vehicle information including fuel type and engine size provided. Several diesel vans have been changed to 100% electric vehicles and mileage has been provided for these based on odometer readings.	Excellent	Low (1-5%)	1%	0.4
Employee-owned car travel (grey fleet)	Annual distance, fuel type and engine size provided for most cars from expenses. For any car where fuel type was unknown, this was checked using: <a href="https://www.gov.uk/get-vehicle-information-from-dvla">https://www.gov.uk/get-vehicle-information-from-dvla</a> .	Excellent	Low (1-5%)	1%	0.4
Non-controlled site energy <sup>6</sup> <b>Meadowside Leisure Centre, Brooks Car Park</b>	Estimated using the previous year's energy data as a proxy as no data was available.	Average	Low (1-5%)	50%	64.0
Contractor car	Estimate provided by WCC of 18,000-20,000 miles travelled annually in contractor cars. Emissions were calculated based on 19,000 miles annual travel.	Average	Very Low (<1%)	50%	3.4
Water (and wastewater)	Water consumption per site provided in cubic meters.	Good	Very Low (<1%)	10%	1.6
Commuting	Data based on the results of an employee survey. Vehicle details including fuel type and estimated distance travelled annually based on an average day worked in the office. Survey responses were extrapolated to account for all staff.	Very Good	Very Low (<1%)	5%	1.1
Taxi travel	Taxi type, departure and destination locations provided per journey from expenses/internal records.	Excellent	Very Low (<1%)	1%	<0.1
Rail travel	Train type, departure and destination locations provided per journey from expenses/internal records.	Excellent	Very Low (<1%)	1%	<0.1
Council owned car travel	Annual litres of fuel and vehicle information including fuel type and engine size provided.	Excellent	Very Low (<1%)	1%	0.1
Kerosene	Litres of kerosene purchased during the appraisal period obtained from invoices.	Excellent	Very Low (<1%)	5%	<0.1
Council fuel use	Used for tools and machinery. Fuel type and litres of fuel provided.	Excellent	Very low (<1%)	1%	<0.1
<b>Total</b>				<b>+/- 9%</b>	<b>+/- 287.3</b>

**To improve accuracy for future assessments, please see recommendations provided in Section 5.**

<sup>6</sup> Gas and Electricity



## 3. Carbon Footprint Results

### 3.1. Summary of results

The following table provides a summary of results of WCC's carbon footprint calculation by scope and source activity. Both the location-based and market-based emissions have been calculated and reported for the current reporting period, in line with the GHG Protocol (see section 1.5).

**The total location-based carbon footprint for WCC for the period ending 31<sup>st</sup> March 2021 is 3,226.83 tonnes CO<sub>2</sub>e. The total market-based carbon footprint emissions is 2,810.04 tonnes CO<sub>2</sub>e.**

The following Table 4 and Figure 2 provide a summary of results for WCC'S carbon footprint calculation by scope and source activity.

**Table 4: Results of Winchester City Council's carbon footprint assessment by scope and source activity**

Scope	Activity	Location-based Tonnes CO <sub>2</sub> e	Market based Tonnes CO <sub>2</sub> e
<b>Scope 1</b>	Natural gas	327.98	327.98
	Kerosene	3.82	3.82
	Council owned car and van travel	49.42	49.42
	Other fuel consumption	0.63	0.63
<b>Scope 1 Sub Total</b>		<b>381.85</b>	<b>381.85</b>
<b>Scope 2</b>	Electricity generation	492.80	101.61
<b>Scope 2 Sub Total</b>		<b>492.80</b>	<b>101.61</b>
<b>Scope 3</b>	Contractor emissions	892.59	892.59
	Managed leisure centres <sup>7</sup>	534.62	552.07
	Park and ride bus service	396.68	396.68
	Housing energy recharged to tenants <sup>7</sup>	360.47	353.35
	Home working	52.31	52.31
	Electricity transmission & distribution	42.38	6.45
	Grey fleet & cash opt out	38.45	38.45
	Employee commuting	19.16	19.16
	Water (and wastewater)	15.51	15.51
	Rail travel	0.01	0.01
Taxi travel	<0.1	<0.1	
<b>Scope 3 Sub Total</b>		<b>2,352.18</b>	<b>2,326.58</b>
<b>Total tonnes of CO<sub>2</sub>e</b>		<b>3,226.83</b>	<b>2,810.04</b>
<b>Tonnes of CO<sub>2</sub>e per employee</b>		<b>7.92</b>	<b>6.89</b>
<b>Tonnes of CO<sub>2</sub>e per capita</b>		<b>0.03</b>	<b>0.02</b>

The most significant contributor to total location-based GHG emissions is from contractors<sup>8</sup>, accounting for 27.7% as shown in Figure 2. The other most significant sources of emissions are from the Council's electricity consumption and the emissions associated with the Park and Ride service.

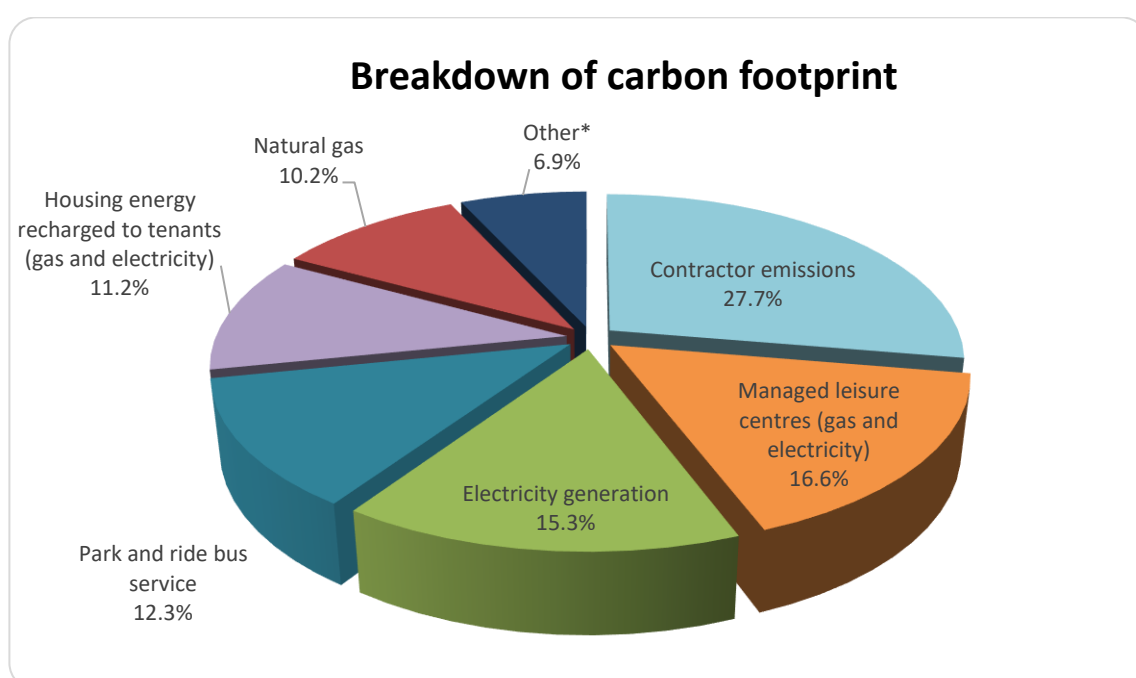
<sup>7</sup> Gas and electricity

<sup>8</sup> Including car, van and depo lorry travel, and fuel use.

Due to restrictions from Covid-19 being in place throughout the assessment period, there was a shift in employee and public behaviours and typical energy use across sites. Contractor work remained relatively consistent despite the pandemic, and therefore makes up a larger share of the Council's footprint this year.

**The market-based GHG emissions are significantly lower than the location-based GHG emissions due to 91% of sites now being on a 100% renewable energy tariff. The scope 2 emissions will reduce to zero once all sites are on 100% renewable tariffs.**

Energy consumption for several sites is included within scope 3, as per the organisational reporting boundary (see section 2). The GHG emissions for these sites accounted for 11.2% of the total footprint. The emissions per site can be seen in Table 7.



**Figure 2: Percentage contribution of each element of Winchester City Council's carbon footprint**

\*Other includes emissions from homeworking, water, kerosene, other council fuel use, electricity transmission and distribution, business travel (rail, taxi, grey fleet, council-owned cars and vans), and employee commuting.

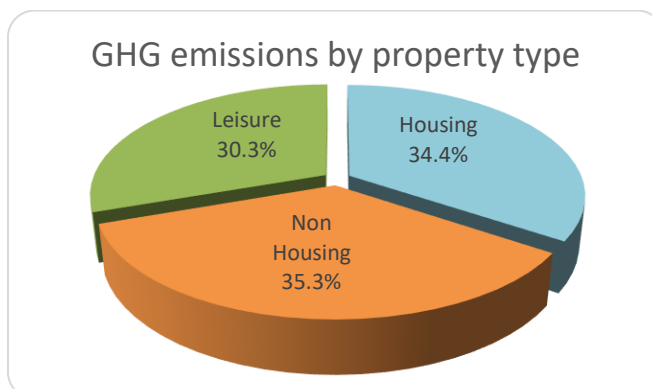
### 3.2. Emissions from energy usage at site facilities

As shown in Figure 3, the most significant source of site emissions is from non-housing sites (35.3%), but only marginally compared to energy consumption at housing sites (34.4%).

The energy consumption from leisure centres this year accounted for 30.3% of total site GHG emissions. Both River Park and Meadowside Leisure Centres were closed for periods of time throughout the assessment period due to Covid-19 restrictions. Historically, leisure centres account for a significant proportion of total GHG emissions for WCC. However, River Park Leisure Centre closed permanently on 24<sup>th</sup> December 2020 and will not be re-opened. Individually this site was the most significant contributor to total GHG emissions across all the Council's domestic and non-domestic sites. Periods of closure has therefore had a significant contribution to a reduction in overall GHG emissions.

However, due to only being open to the public for 3 months of the assessment period (September, October and December 2020) the energy reductions were expected to have been more significant. **Please note: the emissions associated with the construction of the new leisure centre has not been included within this assessment.**

The energy saving opportunities available during the closure of River Park Leisure Centre were not identified and therefore energy consumption remained high. I therefore recommend the council aims to monitor energy consumption more closely across its estate, particularly in buildings with high energy consumption. WCC should develop a programme of energy audits to be conducted at its most energy intense sites for both the housing and non-housing sites.



**Figure 3: CO<sub>2</sub>e emissions by property type**

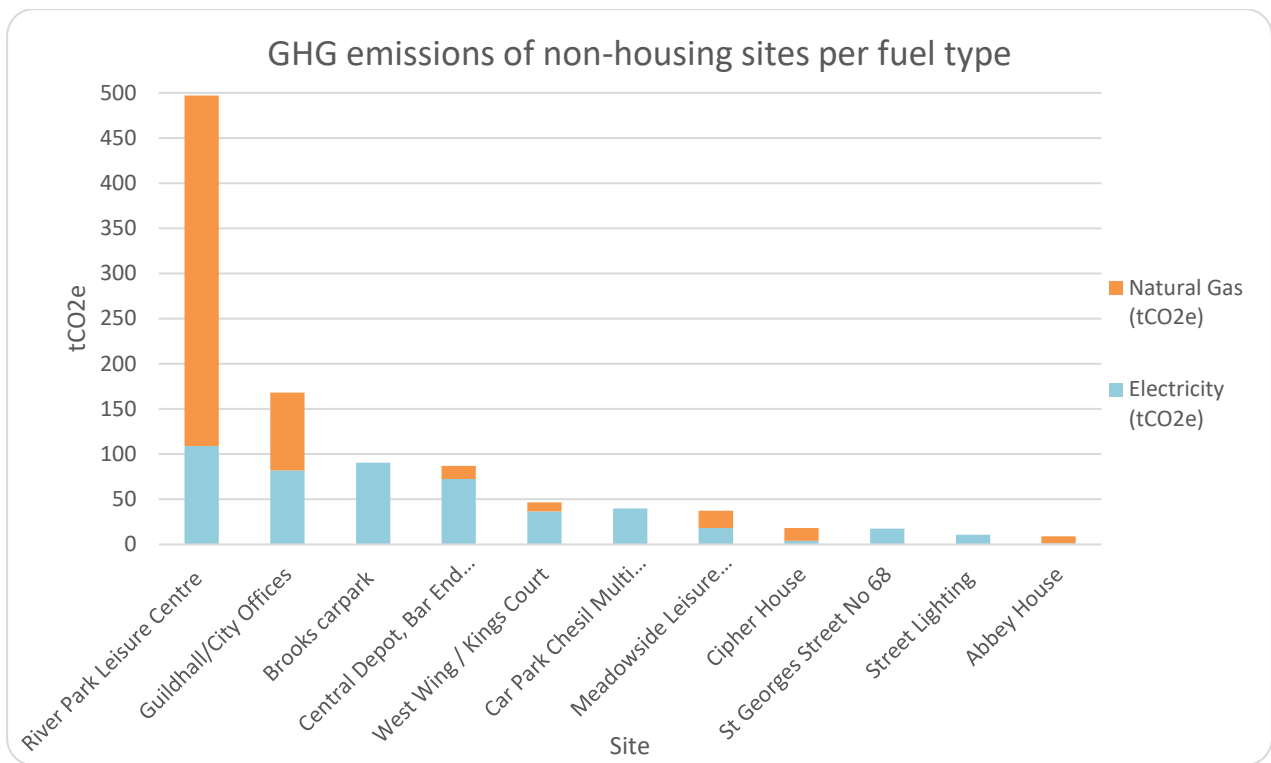
### 3.1. Emissions from non-housing sites

Table 5 and Figure 4 show the emissions for the 10 most significant sites contributing to WCC's non-housing site GHG emissions. These sites account for 79% of total non-housing location based GHG emissions, with the largest contributor being the River Park Leisure Centre, accounting for 18% of total location-based emissions.

The GHG emissions for Brooks Car Park and Meadowside Leisure Centre have been calculated based on estimated energy consumption from the previous year. Both sites are leased out and actual energy consumption data was not provided this year.

**Table 5: CO<sub>2</sub>e emissions from energy consumption (excluding housing sites)**

Site	Electricity	Natural Gas	Location-based total	Market-based total
River Park Leisure Centre	109.07	388.15	497.22	532.92
Guildhall/City Offices	81.95	86.27	168.22	86.27
Brooks carpark	90.54	0.00	90.54	120.16
Central Depot, Bar End Road	72.56	14.32	86.88	14.32
West Wing / Kings Court	36.59	10.13	46.72	10.13
Car Park Chesil Multi Storey	39.99	0.00	39.99	0.00
Meadowside Leisure Centre	18.25	19.15	37.40	19.15
Cipher House	3.86	14.37	18.24	19.50
St Georges Street No 68	17.50	0.00	17.50	0.00
Street Lighting	10.60	0.00	10.60	14.06
<b>Top 10 total (non-housing)</b>	<b>480.91</b>	<b>532.40</b>	<b>1,013.31</b>	<b>816.51</b>
<b>Total (non-housing)</b>	<b>606.64</b>	<b>545.88</b>	<b>1,156.34</b>	<b>867.35</b>



**Figure 4: location-based CO<sub>2</sub>e emissions from energy consumption for Winchester City Council's top 10 sites (excluding housing sites)**

Several sites showed an increase in energy consumption:

- **Central Depot, Bar End** – a notable increase in electricity consumption of 154,879 kWh, which the Council suggested is likely a result of increased use of the offices here, including for contractors who are building the new leisure centre and Vaultex car park. Additionally, some space has now been leased out to Biffa. The energy consumption for this property has not been split out based on leased space. I recommend this should be done in future assessments to allow for energy consumption from tenants to be accounted for in scope 3.
- **Cipher House** – an increase of 51,923 kWh of natural gas. This is due to the Special Maintenance team moving from their previous base at Bar End to Cipher House.
- **West Wing / Kings Court** – a decrease of 61,424 kWh in electricity consumption. Due to being closed since the start of the pandemic, with staff working either from home or using the city offices instead.
- **City offices** – despite the closure of several offices, requiring employees to work from the city offices when not working remotely, the energy consumption in the city offices showed a reduction of 185,420 kWh (-36%) compared with the previous year. This is due to the fact that office-based working was still reduced due to Covid-19 and most employees did work from home throughout the majority of the assessment period.

### 3.1. Emissions from housing sites

Table 6 and Figure 5 show the emissions for the 10 most significant sites contributing to WCC'S housing site GHG emissions. The top 10 sites account for 79% of the total location-based GHG emissions from housing sites.



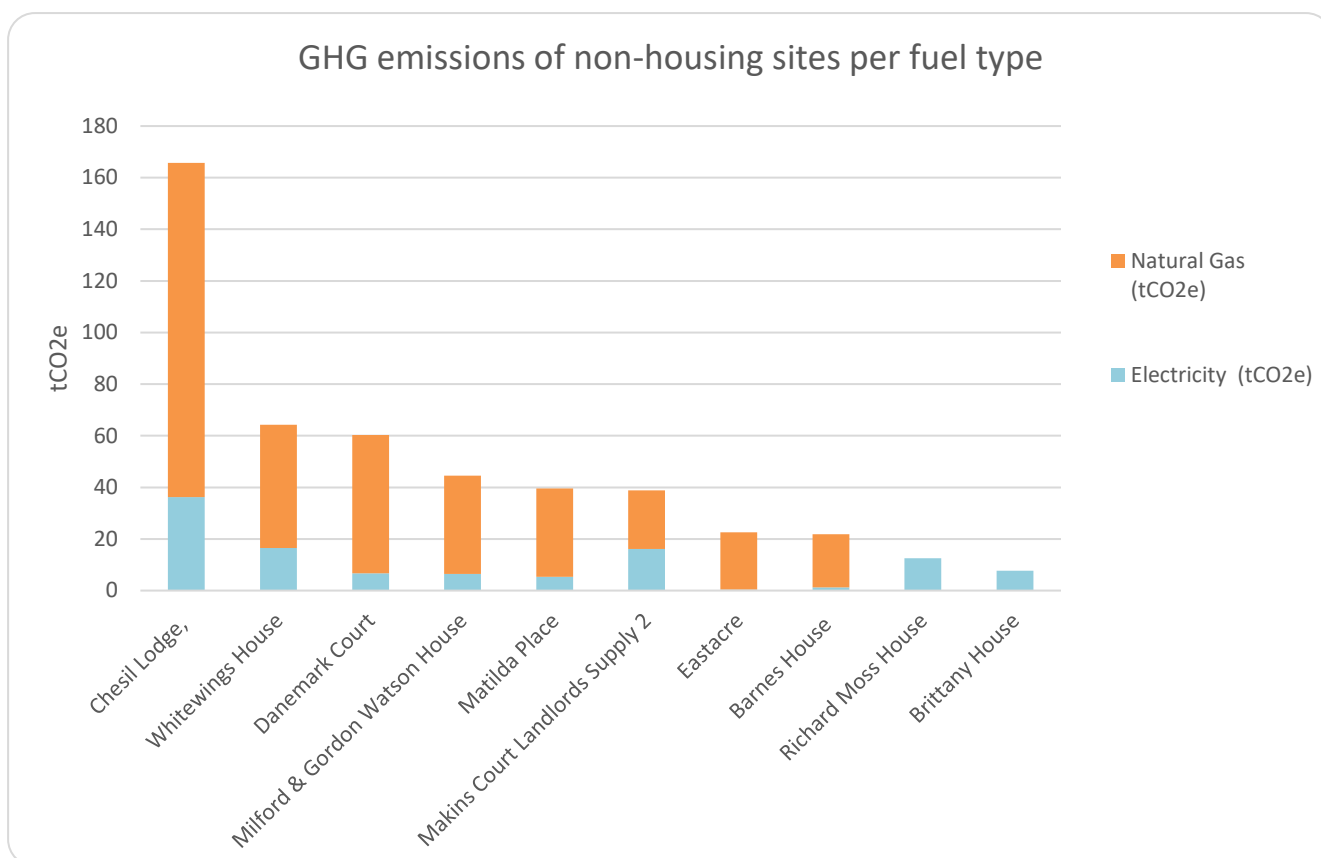
**Chesil Lodge** is the most significant contributor of these, accounting for 27% of the total location-based housing site emissions. This is consistent with the previous year, and energy consumption has remained relatively consistent.

**Milford & Gordon Watson House** was identified as having a 54% increase in gas consumption since the previous year. WCC confirmed this was due to temporary accommodation for the homeless being set up at this site in order to provide shelter to them during the pandemic, in line with the government directive.

**I recommend WCC carries out energy audits at its most energy intensive housing sites to identify any issues or options for improvement in energy efficiency.**

*Table 6: CO<sub>2</sub>e emissions from energy consumption (excluding non-housing sites)*

Site	Electricity (tCO <sub>2</sub> e)	Natural Gas (tCO <sub>2</sub> e)	Location-based total (tCO <sub>2</sub> e)
Chesil Lodge,	36.23	129.47	165.70
Whitewings House	16.48	47.83	64.31
Danemark Court	6.65	53.65	60.30
Milford & Gordon Watson House	6.48	38.09	44.57
Matilda Place	5.38	34.13	39.52
Makins Court Landlords Supply 2	16.06	22.73	38.79
Eastacre	0.41	22.11	22.52
Barnes House aka 94 St Cross Road	1.22	20.61	21.83
Richard Moss House	12.57	-	12.57
Brittany House	7.68	-	7.68
<b>Top 10 total (housing)</b>	<b>109.16</b>	<b>368.62</b>	<b>477.79</b>
<b>Total (housing)</b>	<b>194.62</b>	<b>410.86</b>	<b>605.48</b>



**Figure 5: CO<sub>2</sub>e emissions from energy consumption for Winchester City Council's top 10 sites (excluding housing sites)**

### 3.2. Home Working

Due to the COVID-19 pandemic enforcing strict social distancing regulations, many of the Council's employees were required to work from home. WCC has therefore chosen to include an estimate for home working emissions this year. All home-workers are based within the UK. Home working accounts for 1.6% of total location-based GHG emissions.

For staff that have indicated they are the only occupant of their household during working hours, it is presumed that heating is therefore additional and gas emissions have been included. Whereas for homeworkers with multiple occupants during working hours, gas emissions are excluded as it is assumed gas usage would have occurred regardless of them working from home.

Table 7 shows the home working emissions based on the results of the homeworking survey carried out by WCC. The survey response rate was 39%. This was therefore extrapolated to estimate homeworking emissions for the remaining staff, based on the total number of employees.

**Table 7: CO<sub>2</sub>e emissions as a result of site homeworking emissions**

Home-worker type	No. of employees	Total annual hours worked from home	Electricity (tCO <sub>2</sub> e)	Natural Gas (tCO <sub>2</sub> e)	Total Emissions (tCO <sub>2</sub> e)
Multi-occupancy	130	2,779,238,475	4.71	0.00	4.71
Single occupancy	49	138,184,410	1.69	16.57	18.26
<b>Total (survey responses)</b>	<b>179</b>	<b>2,917,422,885</b>	<b>6.40</b>	<b>16.57</b>	<b>22.97</b>
<b>Total (FTE employees estimate)</b>	<b>407.65</b>	-	-	-	<b>52.31</b>

### 3.1. Emissions from employee commuting

The emissions from commuting accounted for 0.6% of total location based GHG emissions. An internal survey was conducted to collate data for employee commuting and the response rate was 43.9% of the workforce. The results were extrapolated to cover the total number of employees for 2020/21.

There was a significant (97.1%) reduction in employee commuting emissions compared with the previous year, due to many employees working from home during the assessment period. Employees that did commute to work travelled either by personal car, on foot or by cycling. For the previous assessment period (2019/20), a large proportion of staff commuted by car rather than public transport.

Whilst some level of flexible working may continue post-pandemic, **I recommend that WCC promotes the use of public transport going forward and evaluates the survey responses to identify concerns or reasons why employees choose an alternative transport method.** Identifying the barriers for change will enable the Council to work on finding solutions and supporting staff on what they need to make changes (e.g. support in finding resources for funding at-home EV chargepoints, or information on how to request local councils to install on-street EV chargepoints<sup>9</sup>).

### 3.2. Emissions from refrigerants

It was confirmed by WCC that there were no recorded refrigerant gas top ups to any systems during this assessment period.

### 3.3. Emissions from travel and logistics

The most significant source of travel emissions is from contractor travel and the park and ride service (12.3% of total location-based emissions) (Figure 6 and Table 8).

The council should explore the option to switch to an alternative fuel source for the park and ride buses to reduce GHG emissions. This could be achieved by an increase in biofuel use. For example, Hydrotreated Vegetable Oil (HVO) may be a viable option, which is a low-carbon alternative to diesel.

In September 2019 the Council discontinued its company car scheme. This has resulted in an increase in grey-fleet and cash-opt-out car travel, and reduction in council-owned car travel compared to the previous year. In addition, many employees attended meetings remotely due to Covid-19 restrictions, further reducing the need for staff business travel.

The Council currently has 3 electric vehicles within its fleet, accounting for 16% of the vehicles. Collectively, these travelled 8,399 miles (9.2% of the total mileage). The Council should continue to transition its fleet to 100% electric vehicles where feasible and utilise the EV's as often as possible.

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<sup>9</sup> <https://www.gov.uk/government/publications/grants-for-local-authorities-to-provide-residential-on-street-chargepoints/grants-to-provide-residential-on-street-chargepoints-for-plug-in-electric-vehicles-guidance-for-local-authorities>

Details on current incentives for businesses and individuals considering switching to electric vehicles can be found in 5.2.2 *Funding Incentives*.

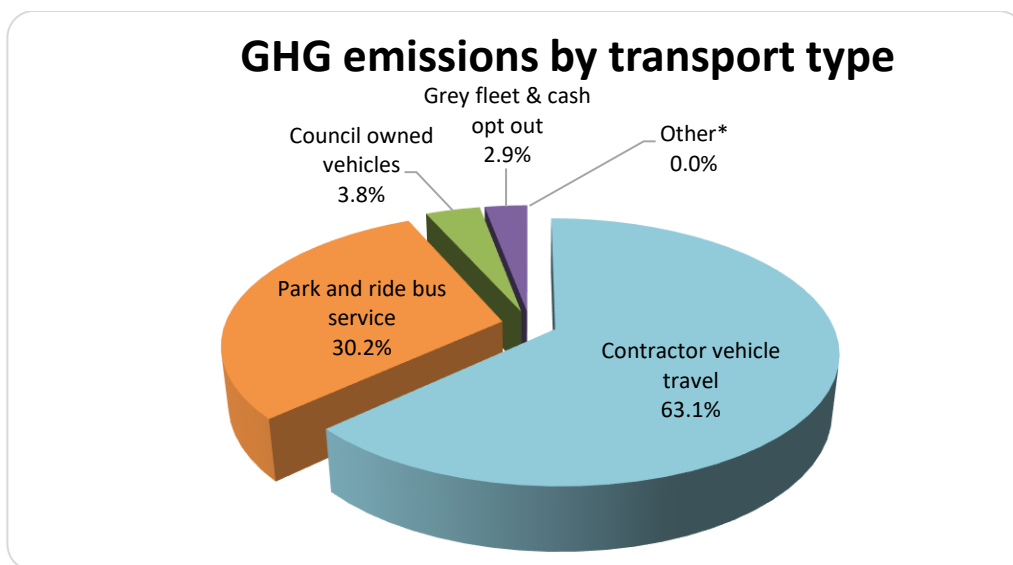


Figure 6: Percentage contribution of each element to transportation emissions

\*Other includes emissions from taxi and rail travel.

Table 8: CO<sub>2</sub>e emissions due to transportation

Type of Travel / Transport	Tonnes of CO <sub>2</sub> e
Depot contract vehicle travel <sup>10</sup>	830.25
Park and ride bus service	396.68
Council owned vehicles	49.42
Grey fleet & cash opt out	38.45
Rail travel	0.01
Taxi travel	<0.01
<b>Total</b>	<b>1,314.80</b>

### 3.4. Emissions from contractors

The emissions associated with contractors accounted for 27.7% of total location based GHG emissions. This included contractor car, van and lorry travel and fuel use. The emissions associated with contractor travel can be seen in Table 8.

Additionally, diesel is used by contractors for ride on mowers, road sweepers and tractors and petrol is used for strimmers, push lawnmowers and blowers. Since the grounds maintenance continued throughout the pandemic and the work was consistent with the previous year the same fuel consumption data has been used as an estimate. This is due to a lack of actual data for the current assessment period. WCC should ensure this data is continually monitored and actual fuel consumption provided in future assessments.

<sup>10</sup> Not including contractor other fuel use.

### 3.5. Emissions from Water

Water consumption and wastewater treatment accounts for 0.5% of total location based GHG emissions for this period and is therefore immaterial to the total carbon footprint. Table 9 shows the total water consumed across all sites and the associated emissions.

**Table 9: Water Emissions Table**

Water supply (m <sup>3</sup> )	Water Supply (tCO <sub>2</sub> e)	Estimated wastewater %	Wastewater treatment (tCO <sub>2</sub> e)	Total emissions (tCO <sub>2</sub> e)
14,741	5.07	100%	10.44	15.51

Water consumption is considerably lower than the previous year. The partial closure of River Park Leisure Centre has had a significant impact, as the site accounted for 46% of the previous year's total water consumption, compared to 10% of consumption for this assessment period.

### 3.6. Emissions from other fuel use

Other fuel use accounted for 0.02% of total location based GHG emissions. Fuel is used by the council's special maintenance team to power the forklift. During the assessment period, there was limited work that required the forklift due to Covid. Additionally, there was less used than the previous year as there was no flooding in the local area. This meant the forklift was not required for moving sandbags.



## 4. Comparison and Benchmarking

### 4.1. Comparison to base year emissions

WCC's baseline year data and emissions can be found in the 2009/10 report<sup>11</sup>. The base year does not include employee commuting emissions.

Table 10 shows the comparison for scope 1 and 2 emissions, compared to the previous year and the baseline year. There have been significant reductions in total GHG emissions for 2020/21, with the Covid-19 pandemic being a significant contributor to the reduction in emissions.

**Table 10: Winchester City Council's carbon footprint comparison and percentage change**

Scope	2009/10	2019/20	2020/2021	% Change baseline	% Change previous year
<b>Scope 1</b>	1,211.30	384.7	381.8	<b>-68.5%</b>	<b>-0.7%</b>
<b>Scope 2</b>	2,225.0	778.8	492.8	<b>-77.9%</b>	<b>-36.7%</b>
<b>Total tCO<sub>2</sub>e</b>	<b>3,436.3</b>	<b>1,163.5</b>	<b>874.6</b>	<b>-74.5%</b>	<b>-24.8%</b>

As shown in Table 11, WCC has decreased its total location-based carbon footprint by 40.6% between this period and the baseline year and 25.8% from the previous year. The significant reductions are primarily due to the impacts Covid-19 has had on typical working conditions and business travel. For example, many employees worked from home during the assessment period, and energy consumption in the council offices was generally reduced or some closed temporarily. Overall, the total GHG emissions from electricity (domestic and non-domestic) therefore showed a reduction of 27.6% since the previous year and natural gas by 5.2%.

Council-owned cars and vans showed a reduction in GHG emissions by 49.3% and 18.1% respectively. Much of this will reflect the shift to working remotely and attending meetings virtually, reducing the requirement to travel as often. Plus, the phasing out of the company car scheme.

Contractor emissions (car travel, van travel and other fuel use) remained relatively consistent to the previous year due to the nature of the work such as maintenance and waste collections.

Benchmarked against employee numbers and per capita (population) the carbon emissions statistics show a reduction compared to the previous year of 15.0% and 25.7% respectively. The full breakdown can be seen in the following table and graphical representation.

<sup>11</sup> N.B. A revised calculation for the baseline year (2009/10) can be found in the 2015/16 report.

**Table 11: Winchester City Council's location-based carbon footprint comparison and percentage change**

Element	2009/10	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	% change on baseline year	% change on previous year
Depot Lorry travel	803.95	625.55	586.66	824.39	903.91	747.10	723.09	-10.1%	-3.2%
Site electricity	2,795.32	2,264.36	1,950.26	1,651.97	1,300.65	1,107.24	801.53	-71.3%	-27.6%
Site gas	1,290.79	1,208.10	1,227.42	1,003.59	1,107.08	1,009.30	956.74	-25.9%	-5.2%
Park and ride	101.74	325.43	388.13	386.42	409.29	404.04	396.68	289.9%	-1.8%
Contractor car	0.00	255.63	249.19	152.93	112.14	117.06	107.16	n/a	-8.5%
Contractor fuel use	0.00	0.00	0.00	0.00	17.99	63.51	62.97	n/a	-0.9%
Home-workers	-	-	-	-	-	-	52.31	n/a	n/a
Council-owned van travel	344.14	56.78	43.31	43.40	53.62	52.41	42.90	-87.5%	-18.1%
Employee-owned car travel (grey fleet)	97.10	47.72	56.29	60.57	60.33	65.55	38.45	-60.4%	-41.3%
Commuting	-	-	-	-	-	656.55	19.16	n/a	-97.1%
Water (and wastewater)	-	3.94	4.00	4.59	3.91	21.73	15.51	n/a	-28.6%
Other*	43.85	151.58	52.78	67.80	39.90	171.16	10.34	-76.4%	-94.0%
<b>Total Tonnes of CO<sub>2</sub>e (location-based)</b>	<b>5,476.89</b>	<b>4,933.57</b>	<b>4,549.19</b>	<b>4,186.84</b>	<b>4,005.19</b>	<b>4,383.02</b>	<b>3,226.84</b>	<b>-41.1%</b>	<b>-26.4%</b>
<b>Total Tonnes of CO<sub>2</sub>e (market-based)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4,276.71</b>	<b>2,665.27</b>	<b>n/a</b>	<b>-37.5%</b>
<b>Tonnes of CO<sub>2</sub>e per employee<sup>12</sup></b>	<b>9.61</b>	<b>10.17</b>	<b>9.34</b>	<b>8.59</b>	<b>8.21</b>	<b>9.39</b>	<b>7.92</b>	<b>-17.6%</b>	<b>-15.7%</b>
<b>Tonnes of CO<sub>2</sub>e per capita<sup>14</sup></b>	<b>0.048</b>	<b>0.041</b>	<b>0.038</b>	<b>0.034</b>	<b>0.032</b>	<b>0.034</b>	<b>0.02</b>	<b>-54.8%</b>	<b>-37.1%</b>

\*Other includes emissions from kerosene, other fuel use, refrigerants, waste, and travel from council owned car, motorbike, taxi, rail and flights.

<sup>12</sup> Location-based

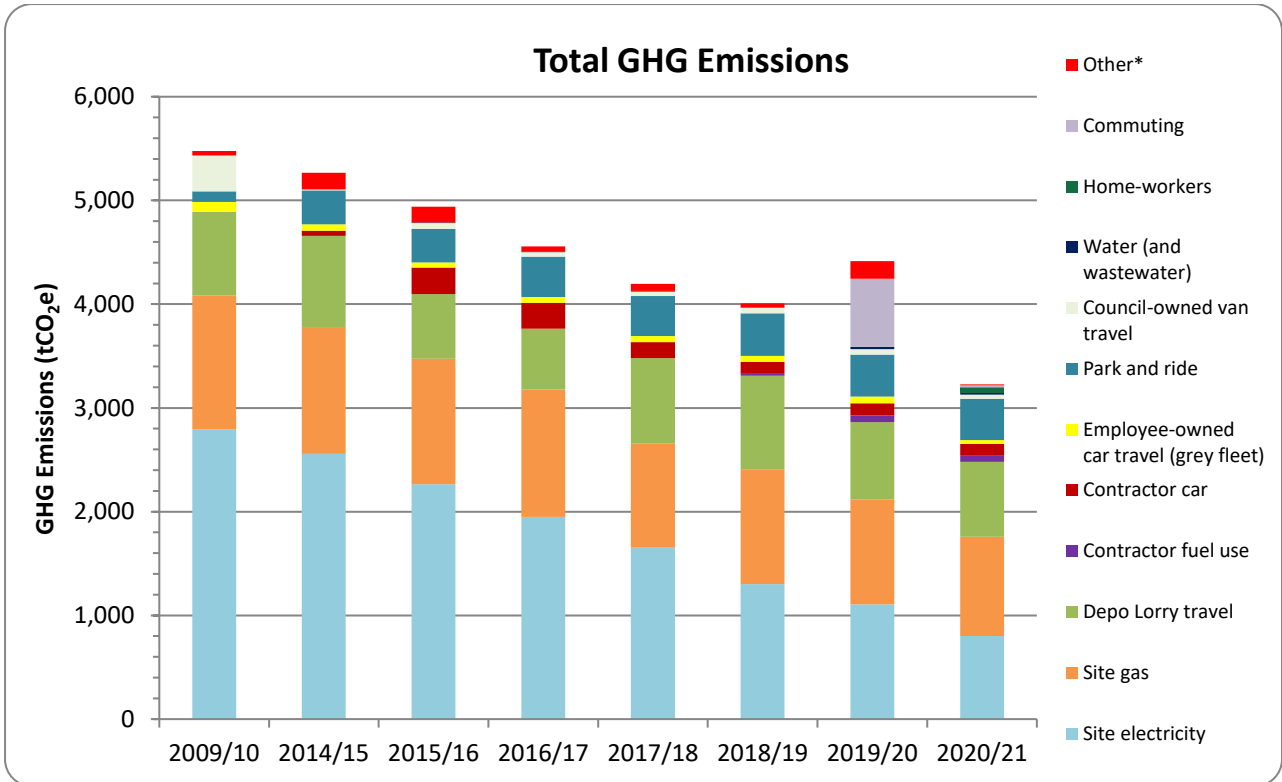


Figure 7: Detailed emissions comparison for the various aspects of Winchester City Council’s location-based emissions

\*Other includes emissions form kerosene, other fuel use, refrigerants, waste and travel from council owned car, motorbike, taxi, rail and flights.

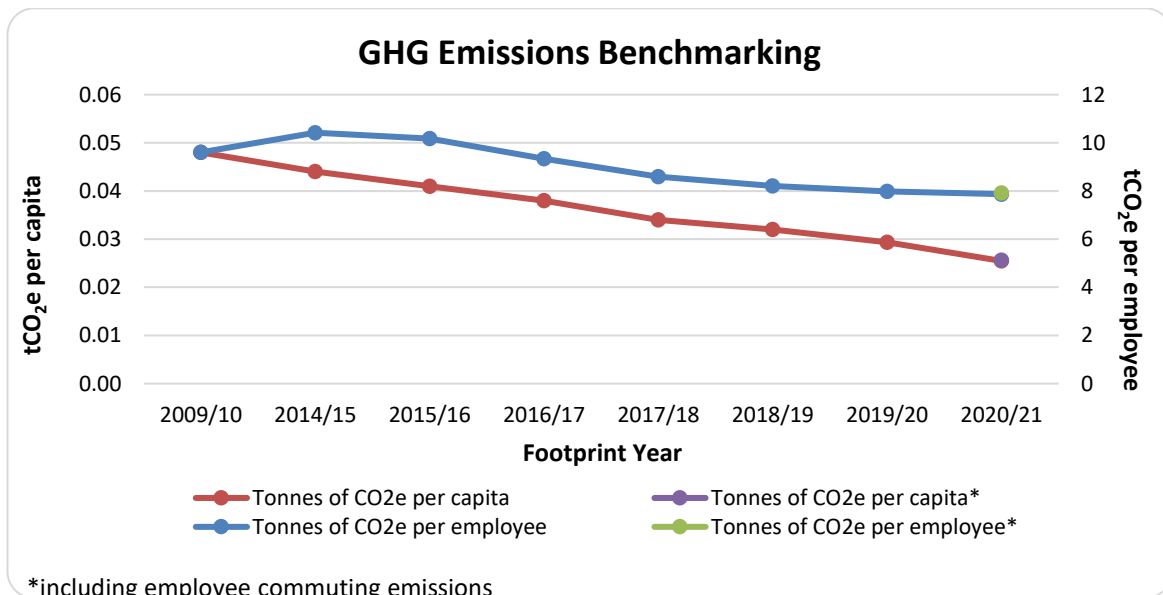


Figure 8: Carbon footprint of Winchester City Council for internal benchmarks

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 the council's commitment towards helping fight climate change.

#### 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](https://www.carbonfootprint.com/carbon_benchmark.html)

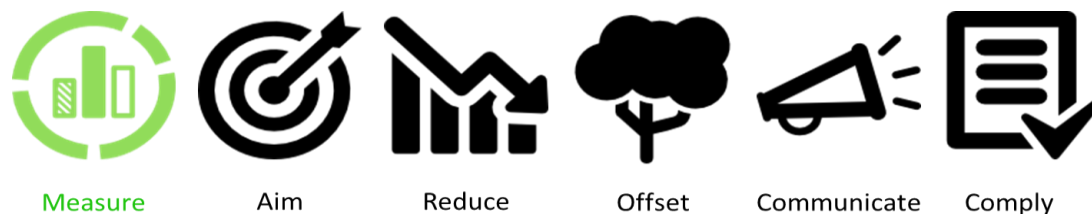
Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 12 shows a summary of the council's emissions across these scopes, along with metrics showing emissions per unit turnover and per employee, to help with external benchmarking.

**Table 12: Winchester City Council's benchmarked GHG emissions**

Year/Element	Location based	Market based
District population (per capita)	125,925	125,925
Total number of employees (average FTE)	407.65	407.65
Tonnes of CO <sub>2</sub> e	3,226.83	2,665.27
Tonnes of CO <sub>2</sub> e per capita	0.025	0.021
Scope 1 & 2 Emissions		
Scope 1 & 2 tonnes CO <sub>2</sub> e	874.65	483.46
Scope 1 & 2 tonnes CO <sub>2</sub> e per employee	2.15	1.19
Scope 1 & 2 tonnes of CO <sub>2</sub> e per capita	0.007	0.004

## 5. Key Recommendations

The following recommendations are designed to help you build upon the results of the appraisal and the council's carbon management over the coming year.



### 5.1. Carbon & sustainability targets

#### 5.1.1. Target setting

WCC has set an internal target to become Carbon Neutral by 2024<sup>13</sup>. The Council should its annual GHG emissions assessment, to track its progress of carbon reductions. All targets set should be reviewed and amended accordingly (i.e. target increased if it is met ahead of schedule).

In addition, I recommend the council sets long and short-term reduction targets based on intensity metrics (e.g., emissions per employee or per capita population), against the baseline year. Reduction targets can be set based on emissions (CO<sub>2</sub>e), as well as activity data such as kWh, car miles travelled, or based on CO<sub>2</sub>e emissions.

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

The estimated overall error margin is +/- 9%. To improve the accuracy of future assessments, we recommend the following:

- Ensure there are no system overlaps for logging expense claims, to make sure data entries are not duplicated.
- Continue to take meter readings for sites not on AMRs, and obtain this data for any sites that are leased out.
- Develop an internal GHG accounting schedule detailing when to request data and from who. Include information such as key contact details, secondary contact details, and any specific instructions relevant to certain emission sources/people. Engage with contractors to develop a reporting schedule with them (e.g. twice a year so data can be estimated on 6 months if there are delays at end of year) and build this into contracts.

<sup>13</sup> Winchester City Council – Carbon Neutrality Action Plan.



## 5.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Engage with those in the Council's supply chain (e.g., contractors) to investigate opportunities to reduce emissions associated with their services.

### Energy

- Continue to investigate opportunities to reduce site energy consumption across both the housing and non-housing sites. This can be achieved through implementing regular energy monitoring and conducting on-site energy audits for sites identified as having the highest energy consumption. Online surveys can be used as auditing tools for smaller or tenanted sites.
- Continue conducting feasibility assessments to identify opportunities to install on-site renewable energy generation across the Council's sites, particularly those with high energy consumption. This will reduce the location-based footprint due to a lower demand on energy supplied by the national grid. **However, improvement in energy efficiency should be first priority.**
- Continue transitioning all non-domestic sites to using only 100% renewable energy tariffs to reduce emissions associated with electricity use. The reduced GHG emissions associated with renewable energy will be reflected in the market-based GHG emissions, which are reported alongside the location based GHG emissions.
- Educate and promote incentives for those in domestic properties to improve home energy efficiency.

### Transport

- Evaluate the effectiveness of using remote meetings and limited travel during COVID-19, and re-define what is classified as "essential" travel going forwards, encouraging the use of sustainable alternatives.
- Explore the options for switching to alternative fuels/low carbon energy for all buses, for example electricity or biofuel.
- Continue to install and promote the locations for local electric vehicles (EV) charging points. This will encourage and enable employees and residents to switch to low carbon electric vehicles. Providing electric charging facility demonstrates to staff and stakeholders that the Council is serious about reducing emissions and will support other staff behavioural change initiatives.
- Evaluate the employee commuting survey responses and hold discussions with staff to identify barriers and potential solutions for decarbonising commuting.
- When leasing/purchasing new vehicles, transitioning to electric vehicles (EV) and instal charging points on-site to encourage staff to switch too.

### 5.2.1. Setting carbon reduction budgets based on emissions

Having an agreed and defined system for investing in future carbon reduction activities helps drive carbon reduction and cost savings in a business. Many leading organisations are doing this through setting an “Internal Carbon Tax” or an “Internal Carbon Price” within their organisation (see [http://www.carbonfootprint.com/internal\\_carbon\\_pricing.html](http://www.carbonfootprint.com/internal_carbon_pricing.html) for more information).

We suggest starting by setting a price of £40-50 per tonne of CO<sub>2</sub>e, in line with guidance provided by the Grantham Research Institute on Climate Change and the Environment<sup>14</sup>. You may wish to collect the “taxation” by each functional group (depending on their emissions), or simply account for this at the top-level company budgeting.

**Table 13: Carbon price compared to energy and travel costs**

Emissions Source	Electricity	Natural Gas	Car Miles	Flights
<b>1 tonne CO<sub>2</sub>e is equivalent to</b>	3,950 kWh	5,450 kWh	3,625 miles	5,446 km
<b>Cost to produce 1 tonne CO<sub>2</sub>e</b>	£511 <sup>15</sup>	£159 <sup>16</sup>	£1,631*	£524
<b>£40-£50 carbon price represents</b>	8-10%	25-31%	2-3%	8-10%

\*Assumes a rate of 45p per mile

We recommend allocating this defined budget to help both internal and external carbon reduction activities. For example, it could be split:

- 75% on internal carbon reduction measures
- 25% on external carbon offsetting activities

Investments in internal carbon reduction activities should be made based on the level of carbon savings and the associated cost savings. Good carbon reduction investments usually pay for themselves and give a return on investment to the business within 3 years. Carbon offsetting return on investment is primarily measured through access to tenders, brand enhancement and PR (use marketing return on investment techniques).

### 5.2.2. Funding opportunities

The following section provides details of current funding opportunities in the UK that may be applicable to WCC in order to increase the percentage of electric/hybrid vehicles within the fleet.

#### **Plug-in car & van grants & incentives:**

Sales of all new non-zero emission road vehicles will be phased out by 2040 UK Government (2021)

- Cars and vans (under 3.5t): all new cars and vans required to have significant zero emissions capability from 2030 and 100% zero emissions at the tailpipe from 2035.
- Heavy Goods Vehicles (above 3.5t): sales of all new medium sized trucks (up to and including 26t) to be zero emissions from 2035, with the heaviest (>above 26t) zero emission by 2040\*
- Powered two wheelers: all new motorcycle and scooters to be fully zero emissions at the tailpipe from 2035

<sup>14</sup> Grantham Research Institute on Climate Change and the Environment.

<sup>15</sup> BEIS Quarterly energy prices 2021

This funding is provided in the form of grants issued by the UK Government, which go towards the purchase of a plug-in electric vehicle. The levels of funding are as follows:

- 35% of the cost of a van, up to a maximum of £6,000 (for large vans)
- 35% of the cost of a car, up to a maximum of £2,500 (for cars with a list price below £35,000)

This will help to reduce the company's vehicle travel emissions. Further details on which vehicles are eligible are available through this website: <https://www.gov.uk/plug-in-car-van-grants>

The following schemes incentivise all types of vehicle acquisitions, including for employee-owned vehicles:

- Leasing - There are significant tax incentives if you lease an electric vehicle under a company 'salary sacrifice' programme. This type of programme is increasingly used instead of old-style company car programmes. Lease costs are taken off an employee's gross salary. This means that the employee's tax burden (PAYE and NIC) is then reduced (by the lease costs). For fossil-fuelled cars, employees would still be hit with high Benefit in Kind (BIK) taxes that (in 2021) can be as high as 37% of the P11D value of the vehicle compared with 1% for full EVs. This makes the EV an exceptionally good candidate as a salary sacrifice option. More so for higher tax bracket earners.
- Company car - If you get a company car, you will also benefit again from the very low BIK (tax year 2021, full EVs BIK at 1%, compared with >150g/km CO2 car BIK at 37%) – reducing tax burden. Full EVs also qualify for Enhanced Capital Allowances (EHA) – at time of writing permitting the business to 'write down' the full value of the vehicle within one year against profits and thus reduce corporate taxes.
- Buying an EV outright – Although, car leasing is increasingly popular, many people still wish to buy a car outright. For this, the UK incentivises purchase of EVs for cars with electric range of greater than 70 miles as April 2021 to up to £2500 for cars with a list price under £35,000.

### **Workplace Charging Scheme:**

This funding is provided in the form of vouchers issued by the UK Government, which go towards the purchase of electric vehicle charging points. The grant cap is set at a maximum of £350 (including VAT) per socket. Each company can apply for up to 40 sockets (across all sites).

For more information, refer to: <https://www.gov.uk/government/publications/workplace-charging-scheme-guidance-for-applicants-installers-and-manufacturers>



### 5.3. 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.**

Carbon offsetting allows WCC to be involved in funding solutions to the problems associated with climate change by accounting for the emissions the business has produced over this assessment period. Most importantly, supporting offsetting projects which reduce atmospheric carbon will buy us the time needed before we reach the critical 1.5°C global temperature increase threshold, allowing us to address reducing emissions at source.

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>.

*Example of Carbon Offsetting Projects:*



*Tree Planting in UK Schools*



*Avoided Deforestation in the Brazilian Amazon*



*Clean Water in Rwanda*



## 5.4. Carbon Footprint Standard

### 5.4.1. Brand endorsement

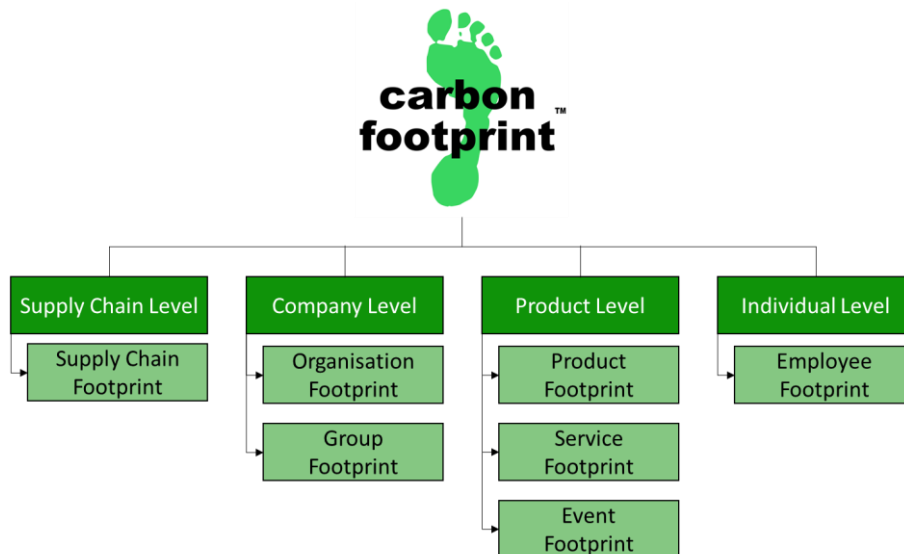
WCC, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint and shown a reduction of -26.4% from the previous year, based on its absolute emissions. By achieving this WCC has qualified to use the Carbon Footprint Standard branding. This can be used on all marketing materials, including website and customer tender documents, to demonstrate the council’s carbon management achievements.



The Carbon Footprint Standard is recognition of the council’s 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.

### 5.4.2. Scope

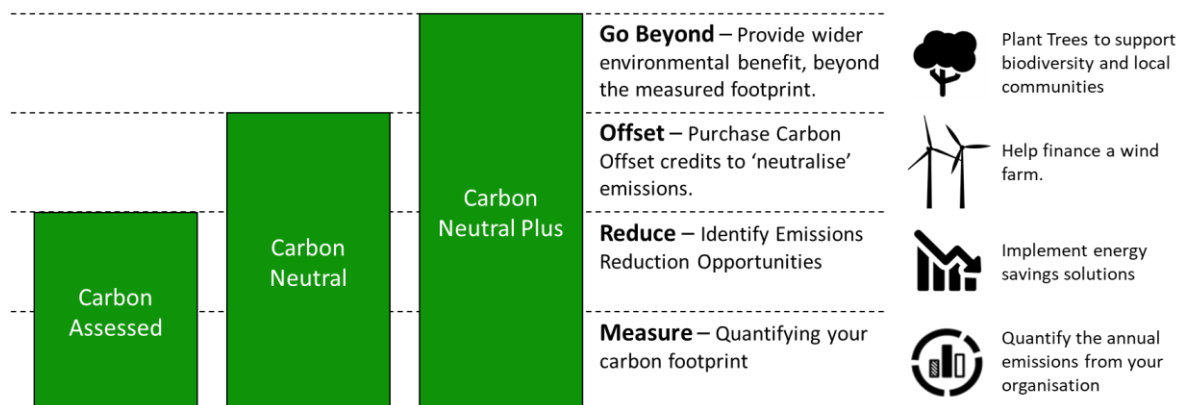
Over time, you can progress the council’s carbon footprinting to increase the scope and encompass, supply chain and the employees. By doing so you will be able to receive the Carbon Footprint Standard for these categories, thus standing out amongst competitors and truly driving the sustainability of the council.



Once the scope has been identified, the Carbon Footprint Standard will allow WCC to develop from a novice to an exemplar in the market. You can progress from a Carbon Assessed Organisation to a Carbon Neutral or a Carbon Neutral Plus Organisation by supporting a range of environmental projects that come with wider CSR and PR opportunities.



Alongside the sustainability rationale, this will allow you to leverage the Carbon Footprint Standard to truly stand out in the market. Progressing will resonate with like-minded customers and will help the organisation grow.



### 5.4.3. Communicate

Make sure you communicate the council’s actions and achievements effectively, both within the organisation, to help develop the council’s culture, and externally to help improve the council’s image.

When promoting the council’s actions, be sure to utilise all marketing channels available to you, such as website, newsletters, brochures, press releases, conferences/events and social media etc.

You should:

- Explain why climate change matters to you (for more information visit: [www.carbonfootprint.com/warming.html](http://www.carbonfootprint.com/warming.html))
- Tell the story of where you have come from, the progress you have made and what the council’s commitment is for the future (e.g. targets).
- Be clear and accurate about what you have achieved – take care not to exaggerate.
- Use the Carbon Footprint Standard branding, certificates, images of offset projects you are supporting and graphs of the council’s carbon performance to help communicate the point in a clear and enticing manner.



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10. UK Government (July 2021) UK Government's Decarbonising Transport Plan (July 2021).
11. Winchester City Council – Carbon Neutrality Action Plan.  
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## 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-CO<sub>2</sub> greenhouse gases to CO<sub>2</sub>e 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 tCO<sub>2</sub>e.

### A.2 Biomass

There are no CO<sub>2</sub> emissions from the combustion of biomass to be considered within this report.

### A.3 Greenhouse gas removals

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

## B. Annex B – Supplied Data and Emissions Breakdown

This Annex has been provided as a separate Excel file alongside the report.

This annex shows the data that WCC has supplied Carbon Footprint Ltd for the calculation of its emissions. At the end of each table one or several columns have been added that display the emissions and calculations associated for each item of data provided by WCC. It should be noted that the latter has been calculated by Carbon Footprint Ltd, and not provided by WCC.

### B.4 Scope 1 emissions breakdowns

The table below demonstrates the company's Scope 1 CO<sub>2</sub>e emissions in their respective greenhouse gases.

**Table 14: CO<sub>2</sub>e Emissions breakdown for Scope 1 emissions into their greenhouse gases.**

Activity	kg CO <sub>2</sub> e	kg CO <sub>2</sub> in CO <sub>2</sub> e	kg CH <sub>4</sub> in CO <sub>2</sub> e	kg N <sub>2</sub> O in CO <sub>2</sub> e
Site gas	327,981.93	327,376.18	430.96	175.18
Site gas oil	3,815.67	4.04	43.05	-
Council owned car travel	6,516.47	6,458.90	12.54	44.99
Van travel and distribution	42,900.94	42,358.82	16.75	525.30
<b>Total</b>	<b>381,215.00</b>	<b>376,197.94</b>	<b>503.30</b>	<b>745.48</b>