



Carbon Footprint Appraisal
for
Winchester City Council

Assessment Period:
1st April 2021 – 31st March 2022

Executive Summary

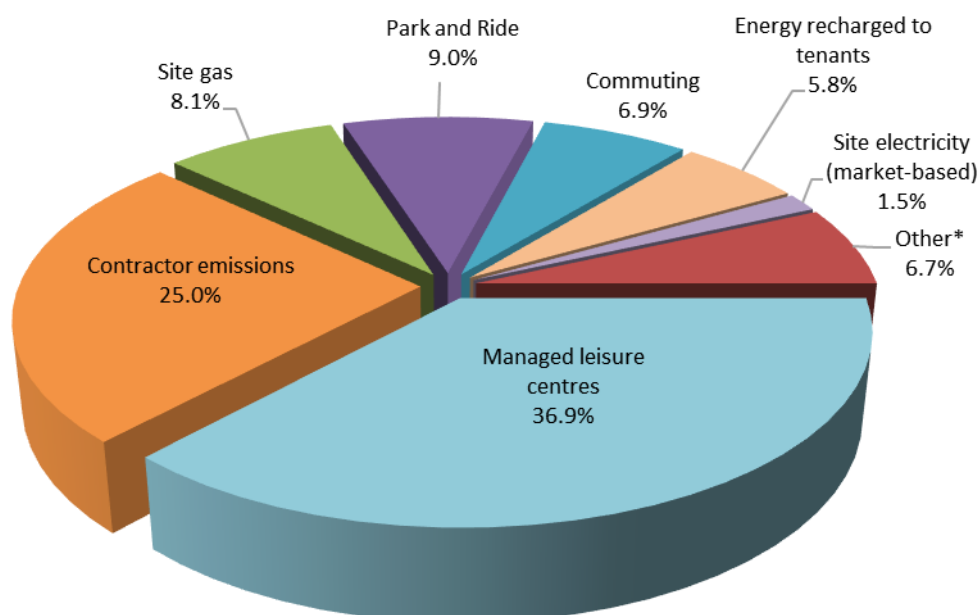
Current Performance

- WCC's total emissions for the period 1st April 2021 – 31st March 2022 are 4,383.23 tCO₂e (market-based are 4,147.12 tCO₂e).
- The most significant emission source are the managed leisure centres, accounting for 36.9% of total market-based emissions.
- Total emissions have increased by 55.6%¹ since the previous year but is 3% lower than the 2019/20 assessment period (the last period not significantly affected by Covid-19 restrictions).
- The growth in emissions is mainly due to increased employee commuting and site energy use post-Covid and the introduction of the new Winchester Sports and Leisure Park.

Recommendations

- Investigate opportunities to reduce site energy consumption and improve efficiency across all sites through implementing regular energy monitoring and energy audits.
- Carry out a feasibility assessment to identify further opportunities to install on-site renewable energy generation.
- Transition all remaining sites on standard tariffs to 100% renewable energy tariffs.
- When leasing/purchasing new vehicles, consider transitioning to electric vehicles (EV) and installing charging points on-site to encourage staff to switch too.
- **Review the relevance of other scope 3 categories that are not currently assessed and expand the scope of your assessment to include where necessary.**

Breakdown of market-based carbon footprint



*Other includes Waste, Council-owned cars and vans, Grey Fleet, Refrigerants, Homeworking, Kerosene, Water (and wastewater), Rail travel, Taxi travel, & Bus travel

¹ Market-based

Metric	2017/18	2020/21	2021/22	% Change from baseline year	% Change from previous year
Total Tonnes CO₂e (Scope 1 and 2)²	1,660.73	874.65	903.50	-45.6%	+3.30%
Total Tonnes CO₂e (Location-based)	4,186.84	3,226.84	4,383.23	+4.69%	+35.84%
Total Tonnes CO₂e (Market-based)	-	2,665.27	4,147.12	n/a	+55.60%
Tonnes of CO₂e per employee²	8.59	7.92	11.24	+30.84%	+41.91%
Tonnes of CO₂e per district capita²	0.03	0.02	0.03	-1.11%	+71.89%

² Location-based

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Quality Control

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1. Introduction

1.1. Company Overview

The district of Winchester City Council (WCC) is in the south of England and covers 250 square miles. The Council began assessing its carbon footprint in 2008, (re-baselined in 2017/18) and continues to do so on an annual basis to monitor emissions and identify areas where reductions may be possible.

1.2. Goals & objectives

WCC has a target in place for becoming a carbon neutral authority by 2024 and the wider district by 2030. Carbon management is an area of importance for the council, as detailed in the *Council Plan 2020-2025*.

We recommend WCC considers also setting reduction targets based on emissions per employee and/or per district capita, which will account for growth. Many organisations are now setting targets based on the Science Based Target initiative and aim for at least a 50% reduction in emissions by 2030, and over 90% by 2050.

1.3. Data supplied for the carbon footprint appraisal

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

1.4. Methodology for the Carbon Footprint Appraisal

The methodology document can be downloaded using this link:

https://www.carbonfootprint.com/docs/carbon_footprint_appraisal_methodology_document.pdf

1.5. 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
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
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 April 2021 to 31st March 2022 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 2017/18 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 operational control. This assessment covers the reporting boundaries shown in Table 1, in line with the GHG Protocol Corporate and Corporate Value Chain (Scope 3) standard.

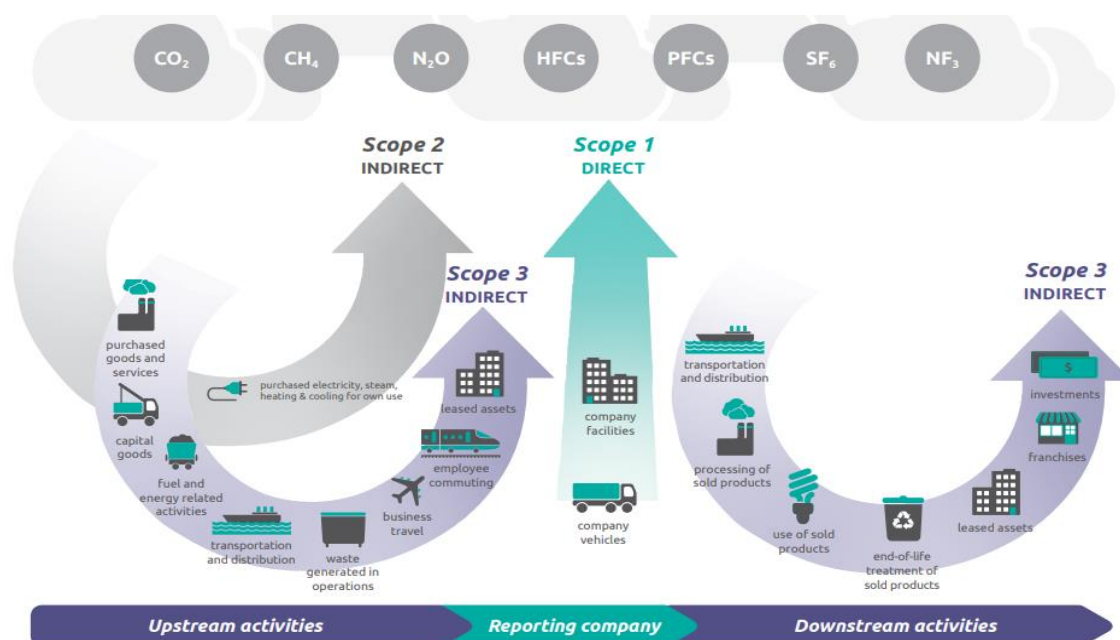


Figure 1: Overview of emissions scopes (GHG Protocol - Scope 3 Calculation Guidance v1.0 - 2013)

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

- Any energy consumption metered directly to tenants under their own energy contracts with suppliers 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 (i.e., scope 1).

Table 1: WCC's GHG Assessment boundary

(All green rows have been included in this assessment; all grey rows are not applicable; orange rows have been excluded)

Footprint	Scope	Activity	Calculation Type	Completion Status	Justification
Direct	1	Electricity, heat, or steam generated on-site		Excluded	
	1	Natural gas, gas oil, LPG, or coal use attributable to company-owned facilities	Activity Data	Complete	
	1	Fugitive emissions	Activity Data	Complete	
	1	Company owned vehicle travel	Activity Data	Complete	
Indirect	2	On-site consumption of purchased electricity, heat steam and cooling	Activity Data	Complete	
Indirect	3	1. Purchased goods and services		Partially complete	Only water consumption and wastewater treatment are included within the scope. No other purchased goods and services currently assessed.
	3	2. Capital goods		Excluded	Data not measured/available
	3	3. Fuel- and energy related activities (not included in scope 1 or scope 2)	Activity Data	Complete	Well-To-Tank emissions measured but out of scope of total emissions ³
	3	4. Upstream transportation and distribution	Activity Data	Complete	
	3	5. Waste generated in operation	Activity Data	Complete	
	3	6. Business travel (not included in scope 1 or scope 2)	Activity Data	Complete	
	3	7. Employee commuting and home working	Activity Data	Complete	
	3	8. Upstream leased assets	Activity Data	Complete	
	3	9. Downstream transportation and distribution		Not relevant	
	3	10. Processing of sold products		Not relevant	
	3	11. Use of sold products		Not relevant	
	3	12. End-of-life treatment of sold products		Not relevant	
	3	13. Downstream leased assets	Activity Data	Partially complete	Excludes sites where tenants are metered directly under their own energy contracts.
	3	14. Franchises		Not relevant	
	3	15. Investments		Not relevant	

³ Emissions from WTT can be found in Appendix 1.

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

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO ₂ e)
Non-Controlled Site gas	Data provided for most sites, based on annual consumption (kWh) data per MPRN. Data for consumption at Winchester Sports and Leisure Park and Meadowside Leisure Centre was provided by Everyone Active. River Park Leisure Centre was obtained from Engie monthly consumption records. A supporting consumption spreadsheet showing monthly consumption was provided as evidence	Very Good	High (20-40%)	5%	57.6
Contractor lorry travel	Data provided by IDVerde and Biffa for lorry type including fuel type, average cargo weight and an estimate for litres of fuel consumed. Biffa also provided annual distance travelled (miles).	Average	Medium (5-20%)	50%	416.2
Commuting	Data provided based on the results of an employee survey. The survey results included detail on main mode of transport, distance travelled one-way per day and the number of days on average that an individual commutes to the office. Results were apportioned based on response rate and total employee numbers to estimate any gaps in data.	Good	Medium (5-20%)	10%	28.7
Site electricity	Data provided for most sites, based on annual consumption (kWh) data per MPAN provided by WCC energy broker. All site data provided by the broker was under one supply contract which was confirmed to be 100% renewable electricity for the data period. A number of sites had incomplete datasets or no data available. These were estimated either by extrapolating from the partial dataset or using the previous year data as proxy. Energy tariff details were unavailable for these sites, therefore market-based emissions were estimated using the Association of Issuing Bodies (AIB) residual fuel mix for the UK (351 gCO ₂ e/kWh).	Very Good	Medium (5-20%)	5%	25.2
Non-Controlled Site electricity	Data provided for most sites, based on annual consumption (kWh) data per MPAN. Data for consumption at Winchester Sports and Leisure Park and Meadowside Leisure Centre was provided by Everyone Active.	Very Good	Medium (5-20%)	5%	20.8

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO ₂ e)
	River Park Leisure Centre was obtained from Engie monthly consumption records. A supporting consumption spreadsheet showing monthly consumption was provided as evidence. Energy consumption was unavailable for two sites, which were estimated using the previous year's consumption data as a proxy. Tariff details were available for some sites. Where this information was unavailable the AIB residual fuel mix for the UK (351 gCO ₂ e/kWh) was used to calculate market-based emissions.				
Site gas	Data provided for most sites, based on annual consumption (kWh) data per MPRN provided by WCC energy broker. The energy consumption spreadsheet was provided as evidence of consumption for these sites. For a few sites where consumption data was unavailable these were estimated based on the previous year's data.	Very Good	Medium (5-20%)	5%	16.8
Park and Ride	Data provided by Stagecoach for fuel type (diesel) and total annual litres of fuel consumed for this service.	Excellent	Medium (5-20%)	1%	3.7
Waste	Records provided for quantity (kg) of general, recyclable and confidential waste generated at sites used for council operations and for sites where a public service is provided such as the public toilets. This excluded any waste not considered to be generated under the operational control of the council or its services (e.g., fly tipping, household waste etc.). The data provided for public services includes the net weight (kg) and waste type. All disposal routes were assumed based on waste type as no data was able to be provided for this.	Average	Low (1-5%)	50%	51.3
Contactors vans	Data provided by Biffa and ID Verde for information on van type including engine size and fuel type, as well as annual litres of fuel (ID Verde) or mileage (Biffa).	Excellent	Low (1-5%)	1%	1.8
Council-owned vans	Data provided for van details including fuel type, make and model. The annual mileage was provided for all vehicles and most data entries also included annual litres of fuel consumed. Emissions from electricity use in electric vans is included in site electricity consumption for the Guildhall/City Offices as charging primarily takes place at this site.	Excellent	Low (1-5%)	1%	0.6
Refrigerants	Refrigerant gas top ups were fully estimated for all sites other than Meadowside Leisure Centre, for which the maintenance records were provided. Estimation was based on the system size, refrigerant gas capacity, refrigerant gas type and an annual estimated leak rate as published by DEFRA.	Poor	Very Low (<1%)	90%	31.0
Home-workers	Data provided based on the results of an employee survey. The survey results included detail on average number of days worked from home per week and weeks per year, as well as home worker type (single or multi-occupancy) and whether the employee has a 100% renewable energy tariff in	Average	Very Low (<1%)	50%	11.6

Dataset	Data source / comments	Accuracy	Materiality	Uncertainty	Error Margin (tCO ₂ e)
	place. Results were apportioned based on response rate and total employee numbers to estimate any gaps in data.				
Contractor fuel usage	Data on fuel type and annual litres of fuel consumed was provided. For contractors (ID Verde) data provided is the same as the previous year as this was unavailable and similar work was completed using the same equipment.	Average	Very Low (<1%)	50%	6.1
Employee-owned car travel (grey fleet)	Data for fuel type and annual distance travelled provided for all vehicles. The emissions rating per vehicle was provided in most cases, and in some cases the vehicle make and model was also provided.	Very Good	Very Low (<1%)	5%	2.0
Contactor cars	Data provided for car details including fuel type, make and model and an estimate for both annual litres of fuel consumed and mileage for Biffa. IDVerde were able to provide actual annual litres of fuel consumed.	Good	Very Low (<1%)	10%	0.9
Kerosene (council fuel use)	Data provided for total litres of Kerosene consumed.	Good	Very Low (<1%)	10%	0.3
Council-owned car travel	Data provided for car details including fuel type, make and model, annual litres of fuel consumed and mileage. Emissions from electricity use in electric vehicles is included in site electricity consumption for the Guildhall/City Offices as charging typically takes place at this site.	Excellent	Very Low (<1%)	1%	0.1
Water (and wastewater)	Annual consumption (m ³) provided per site. It was assumed that 100% of the water used is returned as wastewater.	Excellent	Very Low (<1%)	1%	0.1
Bus travel	Data provided based on expense records. Bus type, departure and destination locations were provided.	Excellent	Very Low (<1%)	1%	<0.1
Taxi travel	Data provided based on expense records. Taxi type, departure and destination location and cost per journey were provided.	Excellent	Very Low (<1%)	1%	<0.1
Rail travel	Data provided based on expense records. Train type, departure and destination location and cost per journey were provided.	Excellent	Very Low (<1%)	1%	<0.1
Total				+/- 15%	+/- 674.7



3. Carbon Footprint Results

3.1. Summary of results

The total location-based carbon footprint for WCC for the period ending 31st March 2022 was 4,383.23 tonnes CO₂e (market-based is 4,147.12 tonnes CO₂e).

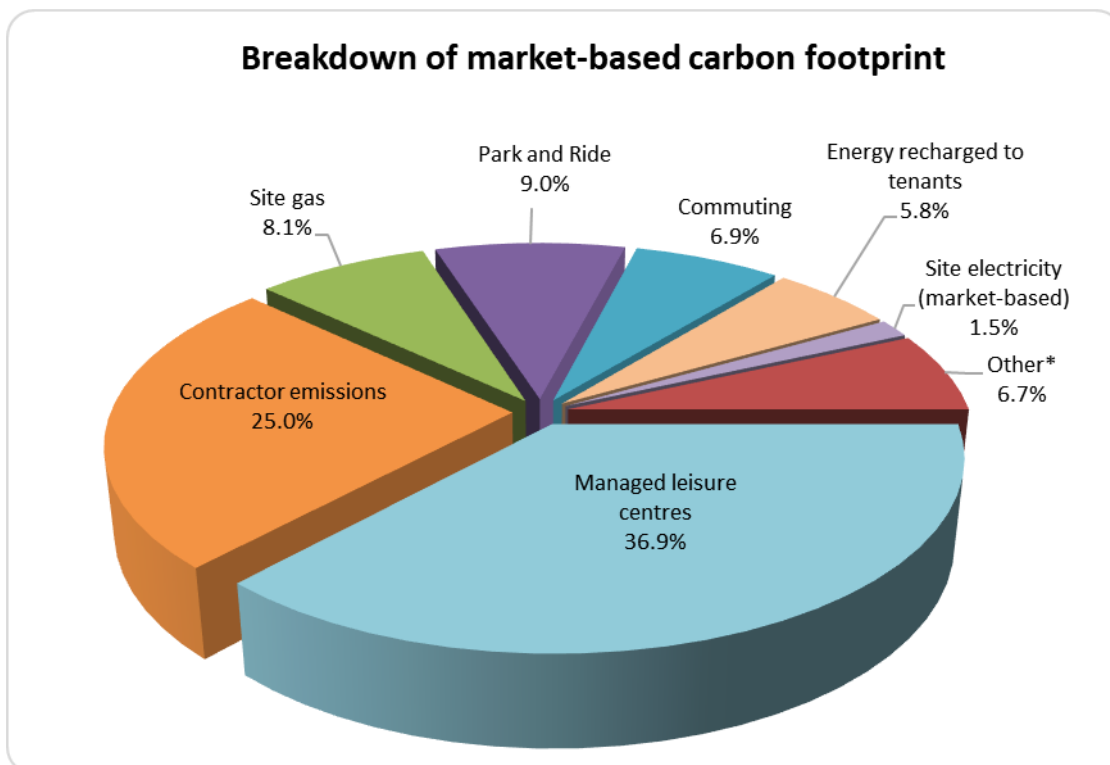
Table 3: Results of WCC's carbon footprint assessment by scope and source activity

Scope	Activity	Location-Based tCO ₂ e	Market-Based tCO ₂ e
Scope 1	Natural Gas	335.80	335.80
	Council owned car and van travel	66.92	66.92
	Refrigerants	34.49	34.49
	Kerosene	2.54	2.54
Scope 1 Sub Total		439.76	439.76
Scope 2	Electricity generation	463.74	60.59
Scope 2 Sub Total		463.74	60.59
	Managed Leisure Centres*	1310.72	1532.25
	Contractor emissions**	1037.27	1037.27
	Park and Ride bus service	371.36	371.36
	Commuting	286.51	286.51
	Energy recharged to tenants***	256.20	240.60
	Waste	102.62	102.62
	Electricity transmission & distribution	41.04	3.24
	Business Travel - Grey Fleet	39.26	39.26
	Home-working	23.16	22.06
	Water (and wastewater)	11.02	11.02
	Rail travel	0.56	0.56
	Taxi travel	0.01	0.01
Scope 3 Sub Total		3479.74	3646.76
Total tonnes of CO₂e		4383.23	4147.12
Tonnes of CO₂e per employee		11.24	10.90
Tonnes of CO₂e per capita		0.03	0.03

*Includes natural gas and electricity (incl. transmission and distribution) for Winchester Sports and Leisure Park, Meadowside Leisure Centre and River Park Leisure Centre.

**Includes Contractor car, van, lorry and other fuel use.

***Excluding the managed leisure centres. Please refer to section 2.2 for information on the boundary for inclusion of sites in scope 3.



*Other includes Waste, Council-owned cars and vans, Grey Fleet, Refrigerants, Homeworking, Kerosene, Water (and wastewater), Rail travel, Taxi travel, & Bus travel

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

3.2. Emissions from energy usage at site facilities

The emissions from site energy use account collectively for 55% of the total location-based GHG emissions and 52% of the total market-based GHG emissions. Over 70% of the energy use emissions is associated with leisure centres (Figure 3).

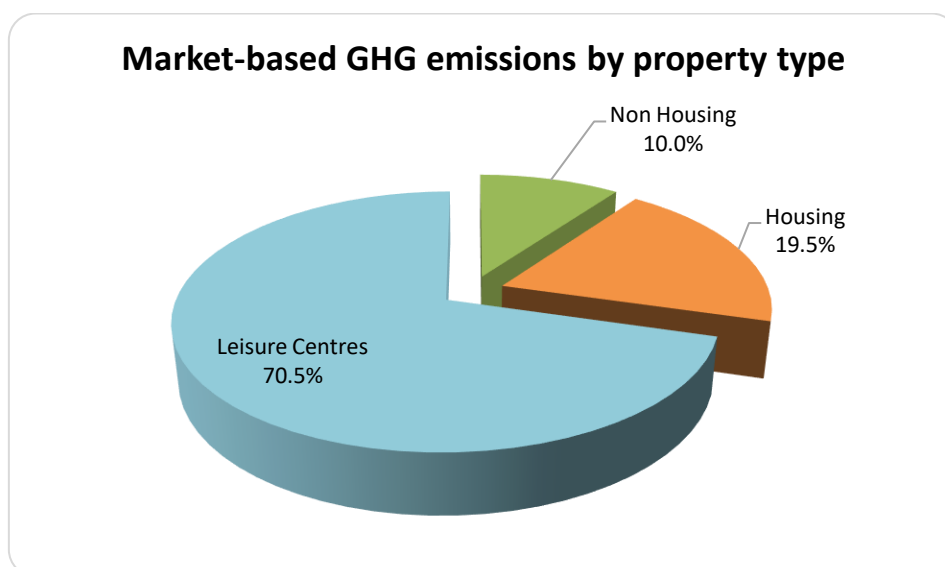


Figure 3: CO₂e emissions per property type

Tables 4 and 5 shows the breakdown of emissions for the top 10 most energy intensive housing and non-housing sites, respectively. Note: electricity consumption emissions include generation and transmission & distribution.

Table 4: CO₂e emissions as a result of site energy consumption at housing sites

Site	Natural Gas tCO ₂ e	Electricity (Location based) tCO ₂ e	Electricity (Market based) tCO ₂ e	Location-based total tCO ₂ e	Market-based total tCO ₂ e
Chesil Lodge	108.86	34.17	0.00	143.03	108.86
Danemark Court	57.53	6.16	0.00	63.69	57.53
White Wings House	44.66	15.16	0.00	59.82	44.66
Milford House	52.18	7.20	11.53	59.39	63.71
Makins Court Landlords Supply 2*	21.01	24.49	0.00	45.50	21.01
Matilda Place	34.40	6.57	0.00	40.97	34.40
Eastacre	23.55	6.62	0.00	30.16	23.55
Barnes House*	16.85	3.22	5.16	20.08	22.01
Richard Moss House	-	13.24	0.00	13.24	0.00
Hyde Lodge Offices	7.58	1.86	0.00	9.44	7.58
Total (top 10)	366.63	118.70	16.69	485.32	383.32
Total (all housing sites)	392.04	209.54	31.08	601.58	423.12

*Data estimated using previous year's consumption.

The emissions from non-housing sites have increased during this reporting period due to the opening of Winchester Sports and Leisure Park. The emissions from River Park Leisure Centre have reduced due to permanent closure of this centre during the assessment period.

The emissions from Brooks car park have significantly decreased this year compared to previous years. For several years the energy consumption at this site was estimated due to a lack of available data. This year actual consumption data was able to be obtained, and consumption was much lower than had previously been estimated.

Table 5: CO₂e emissions as a result of site energy consumption at non-housing sites

Site	Natural Gas tCO ₂ e	Electricity (Location based) tCO ₂ e	Electricity (Market based) tCO ₂ e	Location-based total tCO ₂ e	Market-based total tCO ₂ e
Winchester Sport & Leisure Park	903.86	312.42	500.10	1216.28	1403.96
Guildhall/City Offices	81.77	48.45	0.00	130.22	81.77
River Park Leisure Centre	21.16	38.24	61.21	59.40	82.37
Meadowside Leisure Centre	16.94	18.10	28.98	35.04	45.92
West Wing / Kings Court	8.48	25.90	0.00	34.38	8.48
Car Park Chesil Multi Storey	0.00	28.94	0.00	28.94	0.00
Central Depot, Bar End Road	13.72	12.58	0.00	26.30	13.72
Guildhall Lease (courts)	-	25.82	0.00	25.82	0.00
Cipher House	16.28	5.50	0.00	21.79	16.28
Abbey House	16.33	1.20	0.00	17.54	16.33
Total (top 10)	1078.55	517.15	590.28	1595.70	1668.84
Total (all non-housing sites)	1095.52	710.41	653.85	1805.93	1749.37

N.B WCC leases out parts of the Guildhall, with one area being used as a Court of Law, and another area is externally run as a restaurant. It is assumed that the courts use approximately 25% of the total building energy use, and the emissions from this are included within scope 3 emissions.

The energy use associated with the restaurant is not included within the assessment to align with the scope of previous reporting periods. We recommend that this energy is included in future assessments under scope 3 emissions for “downstream leased assets”.

3.1. Contractor emissions

The emissions associated with contractor activities accounts for 25% of total market-based emissions. This includes emissions from contractor can, van and lorry travel as well as any other fuel use (Table 6). The most significant contributor to contractor emissions is lorry travel (Figure 4).

Table 6: Winchester City Council's contractor CO₂e emissions

Source	Total tCO ₂ e
Lorry travel	832.35
Van travel	183.32
Fuel use	12.12
Car travel	9.48
Total	1,037.27

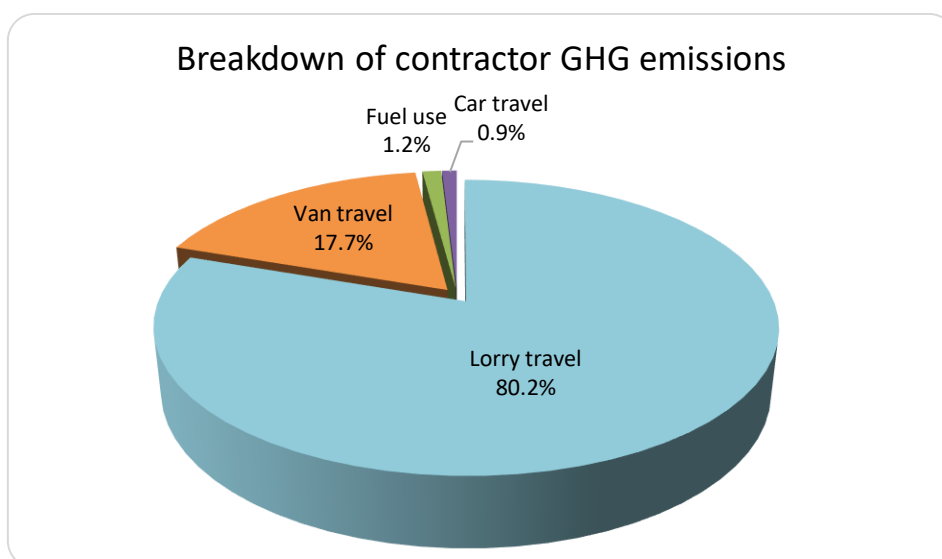


Figure 4: Contractor CO₂e emissions



4. Comparison and Benchmarking

4.1. Comparison to base year emissions

WCC has chosen to re-baseline, using the 2017/18 reporting period due to the scope of this reporting year assessment and data quality.

Table 7: WCC's Scope 1 and 2 carbon footprint comparison and percentage change

Scope	2017/18	2020/21	2021/22	% Change baseline	% Change previous year
Scope 1	569.44	381.8	439.76	-22.77%	15.18%
Scope 2	1,091.29	492.8	60.59	-94.45%	-87.70%
Total tCO₂e	1660.73	874.60	500.35	-69.87%	-42.79%

The 2021/22 assessment has been expanded to include waste again this year. Emissions from commuting and site energy consumption are the main drivers of an increase in total footprint since the previous year. This is expected as a transition away from Covid-19 restrictions has been observed and sites have opened up including the new Winchester Sports and Leisure Park.

Table 8: WCC's carbon footprint comparison and percentage change

Element	2017/18	2018/19	2019/20	2020/21	2021/22	% Change on baseline year	% Change on previous year
Contractor Lorry travel	824.39	903.91	747.1	723.09	832.35	41.88%	15.11%
Site electricity	1,651.97	1,300.65	1,107.24	801.53	919.95	-44.31%	14.77%
Site gas	1,003.59	1,107.08	1,009.30	956.74	1,487.56	48.22%	55.48%
Park and ride	386.42	409.29	404.04	396.68	371.36	-3.90%	-6.38%
Contractor car and van travel	152.93	112.14	117.06	107.16	192.80	-26.07%	79.92%
Contractor fuel use	0	17.99	63.51	62.97	12.12	n/a	-80.76%
Home-workers	*	*	*	52.31	23.16	n/a	-55.73%
Council-owned van travel	43.4	53.62	52.41	42.9	59.75	37.67%	39.27%
Employee-owned car travel (grey fleet)	56.33	60.61	54.66	38.45	39.26	-30.31%	2.11%
Waste	*	*	*	*	102.62	n/a	n/a
Commuting	*	*	656.55	19.16	286.51	n/a	1395.38%
Water (and wastewater)	4.59	3.91	21.73	15.51	11.02	140.08%	-28.95%
Other**	67.8	39.9	149.43	10.34	44.76	-33.98%	332.93%
Total Tonnes of CO₂e (location-based)	4,186.84	4,005.19	4,383.02	3,226.84	4,383.23	4.69%	35.84%
Total Tonnes of CO₂e (market-based)	-	-	4,276.71	2,665.27	4,147.12	n/a	55.60%
Tonnes of CO₂e per employee	8.59	8.21	9.39	7.92	11.24	30.84%	41.91%
Tonnes of CO₂e per capita	0.034	0.032	0.034	0.02	0.034	1.11%	71.89%

*Not assessed.

**Other includes emissions from kerosene, council-owned car, taxi and rail travel, water and refrigerants

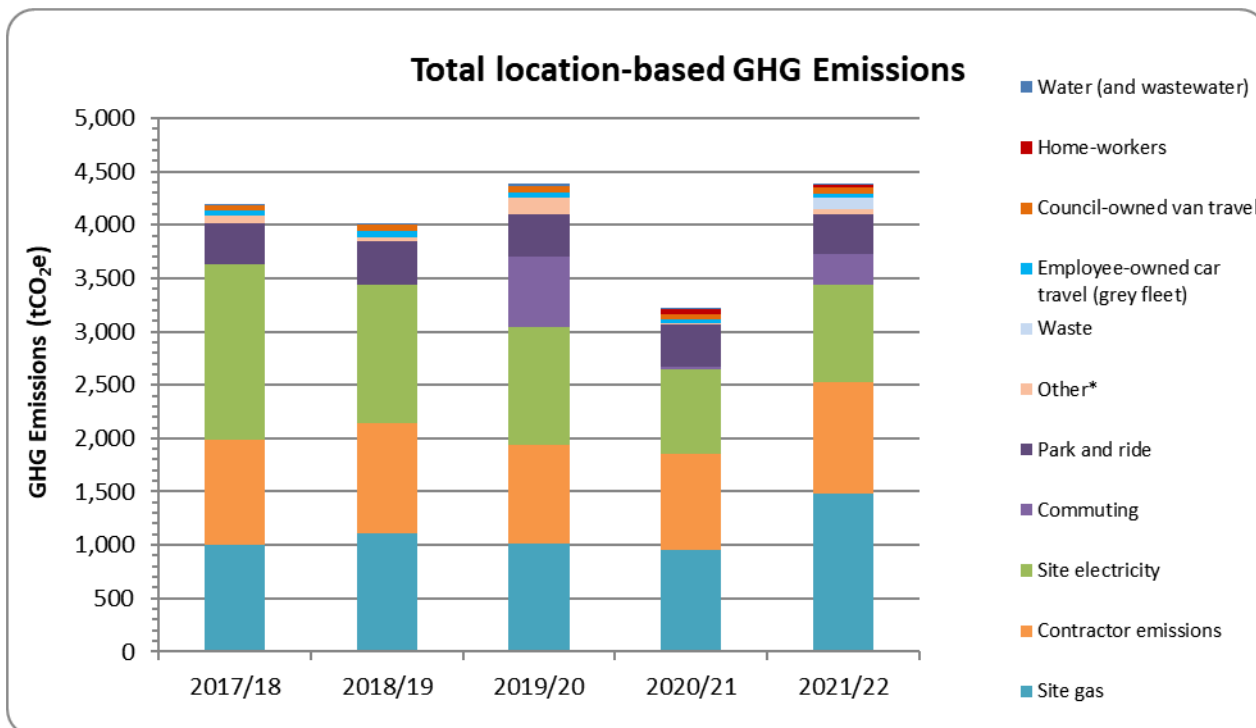


Figure 5: Detailed emissions comparison for the various aspects of WCC's emissions

Benchmarked against employee numbers and company turnover (adjusted for inflation) the carbon emissions statistics show an increase in both intensity metrics since 2017/18.

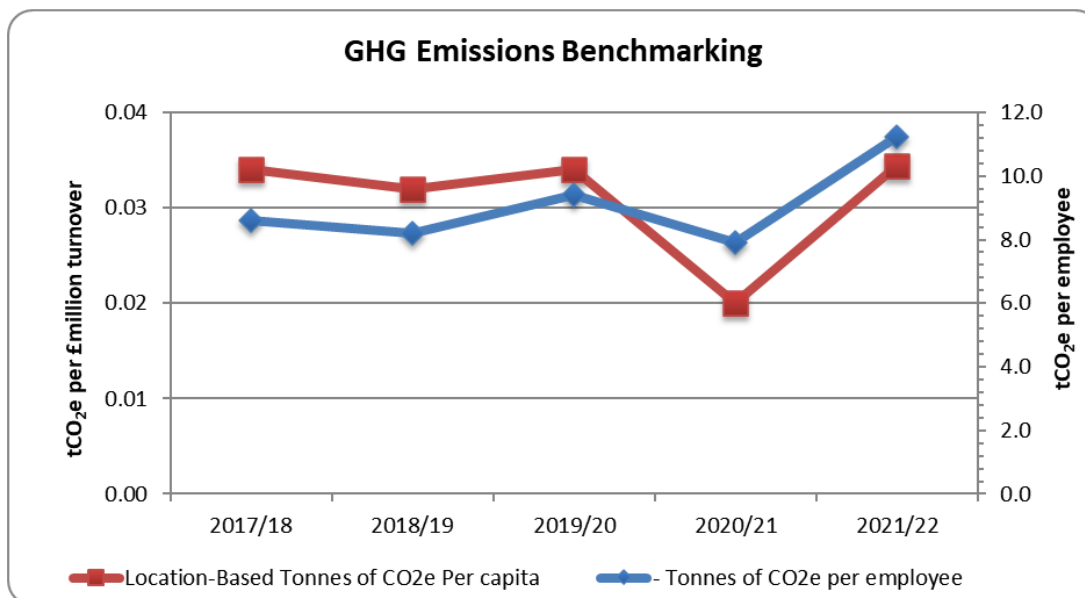


Figure 6: Carbon footprint of WCC for internal benchmarks

4.2. External benchmarking

Companies often like to benchmark themselves against similar organisation in their sector. Carbon Footprint Ltd has an online tool you can use to find publicly available information on other organisations that have reported their emission.

The Carbon Benchmarking Tool is free to use and can be found online at:

https://www.carbonfootprint.com/carbon_benchmark.html

Many companies report Scope 1 & 2 emissions for comparison against others as elements included in Scope 3 can vary greatly. Table 9 summarises the emissions across these Scopes, along with metrics showing emissions per unit turnover and per employee, to help your benchmarking.

Table 9: WCC's benchmarked GHG emissions

Year/Element	Location based	Market based
Total number of employees	390	
District capita	127,500	
Tonnes of CO ₂ e	4,383.23	4,147.12
Tonnes of CO ₂ e per employee	11.24	10.91
Location-Based Tonnes of CO ₂ e per capita	0.03	0.03
Scope 1 & 2 Emissions		
Scope 1 & 2 tonnes CO ₂ e	903.50	500.35
Scope 1 & 2 tonnes CO ₂ e per capita	0.03	0.03
Scope 1 & 2 tonnes CO ₂ e per employee	2.32	1.28

5. Conclusion

WCC, in conjunction with Carbon Footprint Ltd, has assessed its carbon footprint.

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 your carbon management achievements.



6. Recommendations

6.1. Carbon & sustainability targets

6.1.1. Target setting

WCC has set an internal target to become Carbon Neutral by 2024⁴. WCC should also aim to set targets for emission reductions, based on per employee and/or per district capita. Many organisations are now setting targets based on the Science Based Target initiative and aim for at least a 50% reduction in emissions by 2030, and over 90% by 2050.

Typical targets cover midterm and longer terms goals such as:

- A 50% reduction in emissions per employee by 2030.
- A 90% reduction in emissions per employee by 2045.

All targets set should be reviewed regularly and amended accordingly (i.e. target increased if it is met ahead of schedule). A clear roadmap for individual emissions sources should be in place. This will ensure the strategy for reducing CO₂e emissions and tracking toward a net zero target is appropriate for the business.

A hyperlink to Carbon Footprint Ltd's whitepaper on target setting can be found below:

https://www.carbonfootprint.com/docs/2021_12_cfp_practical_target_setting_-_white_paper_v10.pdf

6.1.2. Expand the Scope of the Assessment

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

- Scope 3 emissions from Purchased Goods and Services
- Capital goods
- Electricity, heat, or steam generated on-site

6.1.3. Improving the accuracy of future carbon footprint assessments

The estimated overall error margin is +/- 15%. To improve the accuracy of future assessments, we recommend the following:

- Keep internal records per site of energy tariff details and monthly or quarterly energy consumption, based on meter readings where possible. This should improve data quality and availability as well as identify any anomalies or gaps in data early on during the assessment period.
- 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

⁴ Winchester City Council – Carbon Neutrality Action Plan.

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.

- Obtain maintenance records for all A/C systems under WCC's control to identify any refrigerant gas top ups required during the assessment period.
- Request that where possible contractors keep records of their annual fuel use both in equipment and vehicles to provide accurate consumption data.
- Obtain disposal routes for all waste and collate data into total quantities by waste type/disposal route.

6.2. Reducing emissions

To reduce GHG emissions, we recommend the following:

- Investigate opportunities to reduce site energy consumption across your sites. This could be done through conducting onsite energy audits at your most energy intensive sites. Carbon Footprint Ltd can complete site energy audits for you and provide recommendations for saving energy.
 - An energy audit of the Winchester Sports and Leisure Park should be a priority to ensure controls are set to appropriate levels to optimise efficiency and reduce energy wastage.
- Consider conducting a feasibility assessment to identify opportunities to install more on-site renewable energy generation. An improvement in energy efficiency should be the priority, however.
- Continue switching sites to renewable energy tariffs to reduce your market-based emissions.
- Investigate transitioning Council-owned sites from gas-powered heating to sustainable alternatives such as electric, hydrogen, solar thermal, and air-source heat pumps.
- When leasing/purchasing new vehicles, consider transitioning to electric vehicles (EV) only and installing charging points at council-owned sites to encourage staff to switch too.
- Explore the options for switching to alternative fuels/low carbon energy for all buses, for example electricity or biofuel.
- Evaluate the employee commuting survey responses and hold discussions with staff to identify barriers and potential solutions for decarbonising commuting.
- Engage with all key suppliers/partners to ensure they have carbon reduction plans in place.

6.3. Carbon offsetting

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

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

Example of Carbon Offsetting Projects:



Tree Planting in UK Schools



Avoided Deforestation in the Brazilian Amazon



Clean Water in Rwanda

Annex A

Emissions from Well to Tank

The scope of the assessment has been expanded to include Well-to-tank emissions for this assessment period. This is reported separately to the results of the main assessment, in order to keep the scope consistent with that of previous years.

These emissions relate to the upstream emissions of fuel and energy; accounting for extraction, processing, and transport of fuels/energy. **WCC can reduce these emissions by reducing fuel and energy usage.**

Table 10: Well-To-Tank CO₂e Emissions breakdown

Element	Market-based tCO ₂ e	Location-based tCO ₂ e
Non-Controlled Site gas	197.14	197.14
Outsourced Logistics - Road	196.24	196.24
Site electricity	10.39	132.17
Non-Controlled Site electricity	101.03	108.10
Park and Ride	90.15	90.15
Commuting	76.26	76.26
Site gas	57.48	57.48
Contactoer Vans	44.50	44.50
Owned Vans	15.00	15.00
Employee-owned car travel (grey fleet)	10.53	10.53
Contractor fuel use	3.36	3.36
Contractor cars	2.30	2.30
Company car travel	2.00	2.00
Council Fuel Use	0.53	0.53
Rail travel	0.14	0.14
Taxi travel	<0.01	<0.01
Bus travel	<0.01	<0.01
Total	807.05	935.90