

# Worcestershire County Council Annual Greenhouse Gas (GHG) Emissions Report 2009/10 to 2023/24

## Contents

Executive Summary .....	2
Introduction .....	3
Baseline Year.....	4
Reporting Period .....	4
Target .....	4
Conversion factors .....	4
Organisational Boundary.....	5
WCC Percentage of Absolute GHG Emissions by Scope.....	6
Absolute GHG emissions data from baseline to 2023/24.....	7
WCC Absolute GHG Emissions by Source 2023/24.....	8
Net GHG Emissions data from baseline to 2023/24 .....	10

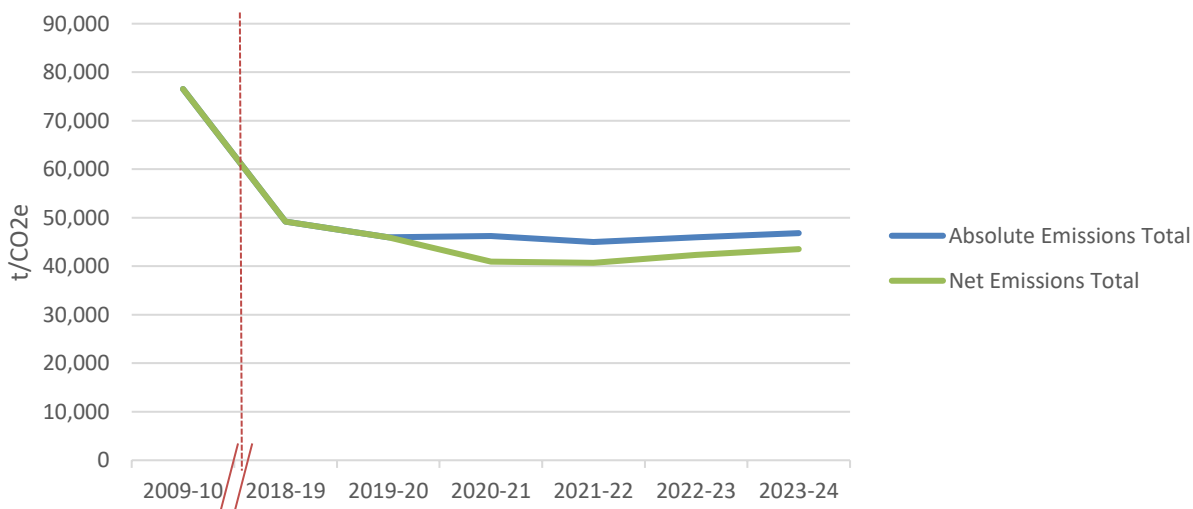
*Please Note:* This report supersedes previous GHG reports published by Worcestershire County Council. This report includes minor data amendments from previous years where more accurate data has become available and reflects WCC's aims for continual improvement in this area.

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# Executive Summary

This report provides an update on Worcestershire County Council's (WCC) Greenhouse Gas (GHG) emissions. This supersedes previous reports published for 2010/11 through to 2022/23.

WCC measure both **absolute** and **net** GHG emissions.



**Fig 1: WCC GHG Emissions Reductions from Baseline Year<sup>1</sup>**

WCC's absolute annual emissions have decreased by **39%** when comparing with the baseline year of 2009/10, reducing from 76,535 tCO<sub>2</sub><sup>e</sup> to 46,805 tCO<sub>2</sub><sup>e</sup>.

WCC's net emissions have decreased by **43%** from 76,535 tCO<sub>2</sub><sup>e</sup> to 43,501 tCO<sub>2</sub><sup>e</sup>.

For the period 2023/24, emissions from scope 1 & 2 account for just **12%** of total emissions for this period. For these emissions, the Council has achieved a net emissions reduction of **90%** since 2009/10.

<sup>1</sup> For the period from 2010 to 2018 it is not possible to accurately extract gas and electricity data for schools from corporate property data; for this reason, the years 2010 to 2018 have been omitted from this report (as delineated in red in Figure 1.).

## Introduction

Worcestershire County Council (WCC) has a [Net Zero Carbon Plan](#) which sets out how the Council will aim to reach net zero emissions by 2050 from its own operations and activities. Progress towards this target is reported on an annual basis through this, the Council's Greenhouse Gas (GHG) Emissions Report.

This is WCC's annual GHG report for April 2009 to March 2024 inclusive. This report addresses the emissions that relate to the organisation and its services in this reporting period. It does not report on the emissions relating to the county of Worcestershire as a whole.

WCC has been reporting its own carbon emissions since 2010, and this report supersedes previous GHG reports. Adjustments have been made to reflect the availability of more accurate data. This report is published for transparency on the journey towards net zero and to acknowledge the work being done to reduce our emissions.

Carbon emissions are sometimes referred to as a carbon footprint, which incorporates a number of gases that have a negative impact on our climate; collectively they are referred to as greenhouse gases (GHG's).

Carbon dioxide (CO<sub>2</sub>) is the most abundant GHG but there are others including methane (CH<sub>4</sub>), and Nitrous Oxide (N<sub>2</sub>O). Tonnes of carbon dioxide equivalent (tCO<sub>2</sub><sup>e</sup>) is the universal unit to signify the amount of CO<sub>2</sub> that would have the equivalent global warming potential.

Emissions for the reporting year are given as tCO<sub>2</sub><sup>e</sup> as well as the percentage movement from the baseline year<sup>2</sup>.

WCC measure both **absolute** and **net** GHG emissions. Absolute emissions are the total aggregate of all WCC GHG emissions currently accounted for. Net emissions are the balance between the amount of GHG's produced and the amount of GHG's that have been removed from the atmosphere or offset by other WCC activities.

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<sup>2</sup> All figures have been rounded up accordingly

## Baseline Year

The baseline year for the Council's GHG reporting is from 1<sup>st</sup> April 2009 to 31<sup>st</sup> March 2010

## Reporting Period

This report includes GHG data for 2009/10 baseline year to 2023/24 (financial year from 1<sup>st</sup> April to 31<sup>st</sup> March).

This is a dual GHG report to include absolute emissions reduction, and also net emissions reduction.

## Target

The Council's target is to achieve net zero GHG emissions by 2050 from 2009/10 baseline year.

## Conversion factors

WCC uses the UK Government's conversion factors for the relevant years from: <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

# Organisational Boundary

This report includes GHG emissions from the following sources:

Category	Sphere of Influence	Emissions Source
<b>Scope 1</b>	Direct emissions <i>WCC are directly responsible for burning the fossil fuels that give rise to these emissions</i>	<ul style="list-style-type: none"> <li>- Natural gas use in WCC buildings*</li> <li>- Fuel use in WCC vehicle fleet</li> <li>- Residual fuel use (e.g., burning oil, LPG etc.) consumed at WCC sites</li> </ul>
<b>Scope 2</b>	Indirect emissions <i>WCC have responsibility for where we buy electricity from and how much we buy</i>	<ul style="list-style-type: none"> <li>- Electricity use in WCC buildings* and street lighting (grid generation)</li> </ul>
<b>Scope 3</b>	Indirect emissions <i>WCC can influence these emissions in how we procure and manage our services.</i>	<ul style="list-style-type: none"> <li>- WCC staff business mileage and air travel</li> <li>- Electricity/gas use in buildings operated by Council's main outsourced contractors for waste management and highways</li> <li>- Fleet/staff mileage undertaken by main outsourced contractors for waste management and highways</li> <li>- Contracted fleet vehicle fuel use</li> <li>- Emissions from county-wide household waste disposal</li> <li>- Electricity (grid transmission and distribution)</li> </ul>

**Table 1: Scope of Emissions and Data Included in this Report**

\* Data is for WCC corporate sites only and does not include outputs from school buildings due to issues in recording accurate data from these sites

## WCC Percentage of Absolute GHG Emissions by Scope

	2009/10	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
<b>SCOPE 1</b>	6%	5%	5%	5%	5%	4%	5%
<b>SCOPE 2</b>	22%	15%	14%	11%	10%	8%	7%
<b>SCOPE 3</b>	72%	80%	81%	83%	85%	88%	88%

**Table 2: Percentage of Annual Absolute Emissions by Scope**

- Scope 1 emissions are under WCC direct control and can be controlled by reducing the use of fossil fuels to heat WCC building stock or to power WCC fleet vehicles.
- Scope 2 emissions arise indirectly from purchased grid electricity. This can be controlled by reducing demand of grid electricity and the percentage of these have shown a significant reduction from the baseline year.
- Scope 3 emissions are not directly under WCC control, but WCC do have an influence, for example through purchasing decisions.

# Absolute GHG emissions data from baseline to 2023/24

The data table below highlights the absolute GHG emissions data for WCC in tonnes of CO<sub>2</sub><sup>e</sup>, broken down by year and scope<sup>3</sup>. Figures have been rounded up accordingly.

**WCC has realised a 39% reduction in absolute GHG emissions since 2009/10**

Scope	Absolute Emissions t/CO <sub>2</sub> <sup>e</sup>						
	2009/10 BASELINE	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
1	4,598	2,669	2,467	2,480	2,300	2,008	2,248
2	16,672	7,304	6,459	5,273	4,286	3,619	3,305
3	55,267	39,256	37,017	38,497	38,405	40,357	41,252
<b>Absolute Emissions Total t/CO<sub>2</sub>e</b>	<b>76,536</b>	<b>49,228</b>	<b>45,943</b>	<b>46,250</b>	<b>44,992</b>	<b>45,984</b>	<b>46,805</b>
Scope	Percentage change from Baseline Year						
1	-	-42	-46	-46	-50	-56	-51
2	-	-56	-61	-68	-74	-78	-80
3	-	-29	-33	-30	-31	-27	-25
<b>Percentage change from baseline</b>	<b>-</b>	<b>-36</b>	<b>-40</b>	<b>-40</b>	<b>-41</b>	<b>-40</b>	<b>-39</b>

Table 3: Absolute Annual GHG Emissions by Scope Including Percentage Movement from Baseline Year

WCC is working to improve data quality and availability across all scopes, and in particular looking to progress and widen Scope 3 emissions reporting where possible.

In 2023/24 WCC was responsible for absolute emissions of 46,805 tonnes/CO<sub>2</sub><sup>e</sup>.

<sup>3</sup> Please note the data includes preliminary calculations on GHG emissions from household waste disposal in 2023/24 which are yet to be verified by the Environment Agency. For this reason, these figures may be subject to change. If there is an amendment the GHG report will be updated and re-issued.

## WCC Absolute GHG Emissions by Source 2023/24

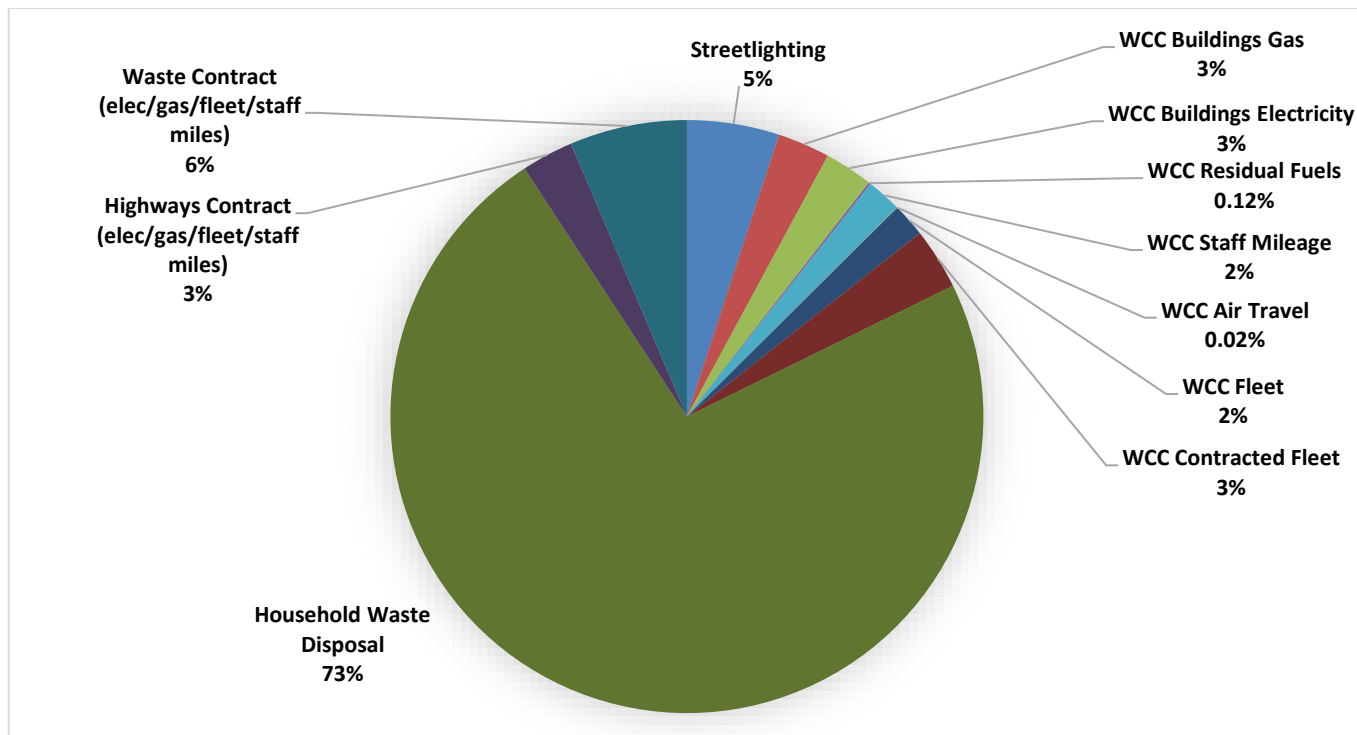


Figure 2: WCC Percentage Breakdown of Absolute Emissions by Source

### GHG Emissions Reductions

- Since 2019/20, WCC has been able to offset Scope 2 GHG emissions through purchasing REGO<sup>4</sup> accredited electricity for street lighting and for corporate buildings.
- Streetlighting has seen a decrease in absolute emissions of 15% from the previous year that is attributed to upgrades in lighting schemes.
- Continued reduction in use of residual fuels (gas oil, burning oil and wood chips) led to a 34% reduction in emissions from the previous year, although emissions from these fuels account for only a very small proportion of the total.
- WCC staff mileage emissions reduced by 13% from the previous year due to a reduction in staff mileage claims, and an increase in the number of miles claimed for use of electric vehicles for business travel.

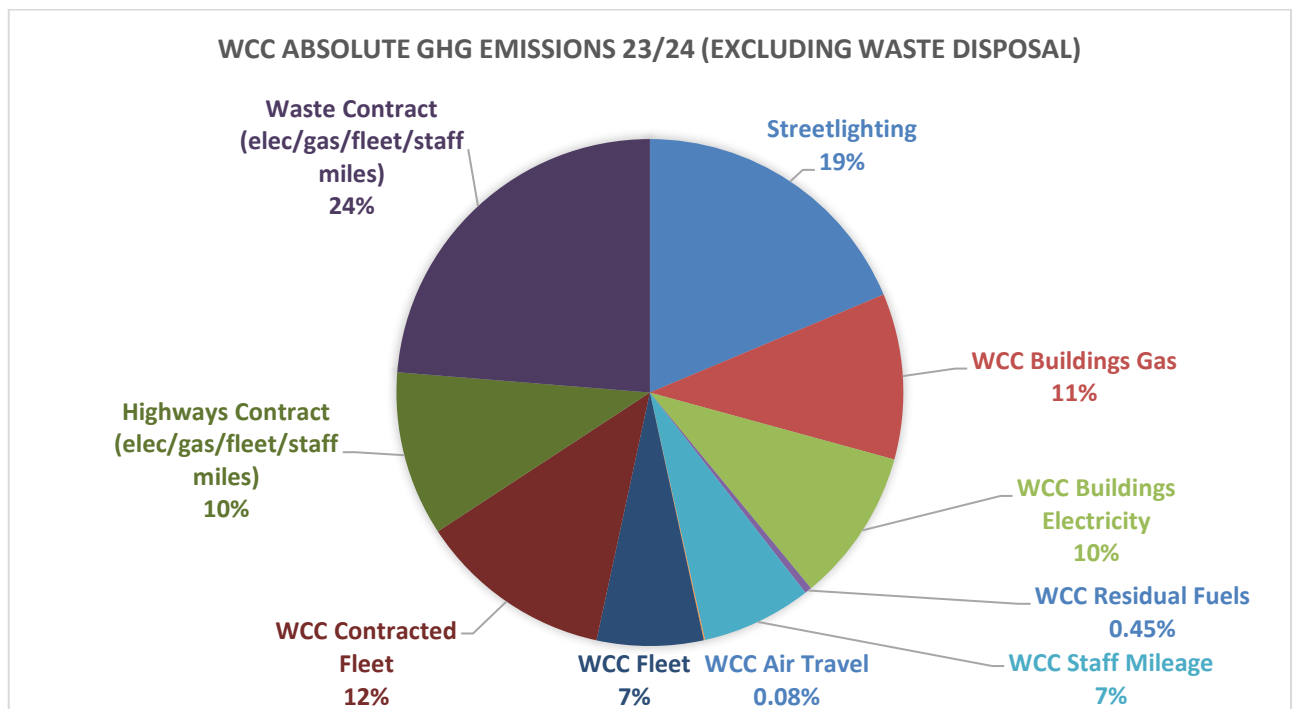
<sup>4</sup> Renewable Energy Guarantees of Origin



## GHG Emissions Increases

- Increases in emissions have arisen from gas and electricity use in corporate buildings linked to increased use of council buildings.
- Air travel emissions increased from the previous year, due to a small increase in domestic flights taken, however emissions from air travel accounts for a very small proportion of the Council's total emissions (0.02%).
- The Council's own fleet vehicle emissions increased due to an increase in home to school transport provision utilising WCC's own minibus fleet.
- Significant increases in demand for school transport plus improved data capture and recording has seen an increase in emissions from contracted fleet from 2022/23.
- Emissions from household waste disposal increased due to an increase in the amount of household waste generated in the County.

Emissions from management and disposal of household waste are included in the Council's GHG footprint as WCC is responsible for its disposal. Figure 3 highlights WCC's GHG footprint with waste disposal excluded, to provide more insight into the areas of the Council's footprint which it can more easily influence and reduce:



**Figure 3: WCC Percentage Breakdown of Absolute Emissions by Source (Excluding Waste Disposal)**

# Net GHG Emissions data from baseline to 2023/24

The data table below highlights the net GHG emissions data for WCC in tonnes of CO<sub>2</sub><sup>e</sup> by year and scope. Figures have been rounded up accordingly.

## WCC has realised a 43% reduction in net GHG emissions since 2009/10

Since 2020 WCC has purchased REGO accredited green electricity for all corporate sites and street lighting. All scope 2 emissions associated with the generation of REGO accredited electricity can be classed as a net benefit, or carbon offset, for reportable purposes.

Scope	Net Emissions t/CO <sub>2</sub> <sup>e</sup>						
	2009/10	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
1	4,598	2,669	2,467	2,480	2,300	2,008	2,247
2	16,672	7,304	6,459	-	-	-	-
3	55,267	39,256	37,017	38,497	38,405	40,357	41,254
<b>Net Emissions Total t/CO<sub>2</sub><sup>e</sup></b>	<b>76,536</b>	<b>49,228</b>	<b>45,943</b>	<b>40,977</b>	<b>40,705</b>	<b>42,365</b>	<b>43,501</b>
Scope	Percentage change from Baseline Year						
1	-	-42	-46	-46	-50	-56	-51
2	-	-56	-61	-100	-100	-100	-100
3	-	-29	-33	-30	-31	-27	-25
<b>Percentage change from baseline</b>	<b>-</b>	<b>-36</b>	<b>-40</b>	<b>-46</b>	<b>-47</b>	<b>-45</b>	<b>-43</b>

Table 4: Net Annual Emissions by Scope Including Percentage Movement from Baseline Year

**When accounting for scopes 1 and 2 alone, the Council has achieved a net emissions reduction of 90% since 2009/10.**

Scope	Net GHG Emissions (tonnes/CO <sub>2</sub> <sup>e</sup> )	Reduction (tonnes/CO <sub>2</sub> <sup>e</sup> )	Reduction (tonnes/CO <sub>2</sub> <sup>e</sup> )	Percentage Change (non- Degree Day corrected)
	2009/10	2023/24		
1	4,598	2,248	2,350	51
2	16,672	0	16,672	100
<b>TOTAL</b>	<b>21,270</b>	<b>2,248</b>	<b>19,022</b>	<b>90</b>

Table 5: Movement from Baseline in Scope 1 & 2 emissions for 2023/24