Cannock Chase District Council

Carbon Footprint Report

2024/25

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Corporate Climate Change Officer

August 2025

Contents

Cannock Chase District Council's Carbon Footprint 2024-2025

Executive Summary

The carbon audit conducted by Cannock Chase District Council for the period 1 April 2024 to 31 March 2025 marks a major step forward in the accuracy and completeness of the Council's emissions reporting. Following updated Local Government Association (LGA) guidance, the Council has, for the first time, included emissions from its housing stock. These have been estimated using annual emissions data from Energy Performance Certificate (EPC) ratings provided by Housing Services. Housing stock emissions total 12,463.8 tCO_2e, representing 94% of the overall footprint.

When housing stock is excluded, the Council's operational footprint for 2024/25 is 817.5 tCO_2e — a reduction from last year's 1,060.8 tCO_2e. This decrease is largely due to:

- Reduced gas consumption across Council buildings.
- Lower electricity usage within corporate assets.
- Continued efficiency improvements in fleet operations.

The inclusion of housing stock provides a completer and more transparent picture of the Council's overall environmental impact, allowing future carbon reduction planning to address both operational assets and residential properties.

The total gross carbon footprint for 2024/25 is 13,250.1 tCO_2e, with housing stock contributing 12,463.8 tCO_2e (94% of the total). Excluding housing stock, the operational footprint is 817.5 tCO_2e — a decrease from the previous year, reflecting ongoing reductions in gas and electricity consumption across Council operations.

Key Highlights

1. Change in Reporting Boundaries
    - Housing stock emissions included for the first time using EPC-derived estimates by property type.
    - Inclusion of Petroleum emissions for the internal fleet for both Scope 1 and Scope 3
2. Scope 1 Emissions
    - Reduced from 395.4 tCO_2e to 340.0 tCO_2e (down 55.4 tCO_2e), mainly due to lower gas use and improved fleet efficiency.
3. Scope 2 Emissions
    - Fell from 196.2 tCO_2e to 88.0 tCO_2e (a 55.1% reduction) due to reduced electricity consumption in corporate buildings.

4. Scope 3 Emissions (excluding housing stock)
    - Totalled 389.4 tCO_2e, with waste transportation (139.3 tCO_2e) the largest contributor, followed by WTT diesel (waste fleet) at 51.0 tCO_2e and grey fleet at 40.5 tCO_2e.
    - Petroleum (Well-to-Tank) emissions recorded for the first time.
5. Housing Stock Emissions
    - Houses: 5,580.9 tCO_2e
    - Bungalows: 4,186.6 tCO_2e
    - Flats: 2,648.7 tCO_2e
    - Maisonettes: 47.6 tCO_2e

Figures based on EPC estimates and to be refined in future reporting once full consumption data is available.

Conclusion:

The 2024/25 carbon audit provides the most comprehensive assessment of Cannock Chase District Council's emissions to date. The inclusion of housing stock emissions, calculated from EPC-based estimates for over 5,000 properties, accounts for 94% of the total footprint at 12,463.8 tCO_2e. This change, made in line with LGA guidance, delivers a fuller and more transparent baseline from which to plan future carbon reduction work.

Excluding housing stock, the Council's operational footprint is 817.5 tCO_2e — a reduction from last year, driven by lower gas and electricity use and continued fleet efficiency improvements. Scope 3 (excluding housing) remains dominated by waste transportation, WTT fuel emissions, and grey fleet travel. Petroleum (Well-to-Tank) emissions were recorded for the first time this year, and IHL facility emissions have been acknowledged separately to provide a complete view of the borough's impact.

This broader reporting approach ensures that future strategies can address both operational assets and residential properties, supporting targeted, evidence-led interventions. By combining operational efficiency gains with longer-term housing-related action, the Council is better positioned to make sustained progress towards its 2040 net zero target.

Introduction

In our rapidly evolving world, the pursuit of environmental sustainability has never been more critical. Communities, organisations, and governments worldwide are coming to realise the profound importance of assessing and reducing their carbon emissions. Cannock Chase Council has conducted its annual comprehensive carbon audit.

The 2024/25 carbon audit provides an in-depth analysis of Cannock Chase Council's carbon footprint, measured across Scopes 1, 2, and 3 emissions, in line with DEFRA 2024 carbon conversion factors and Local Government Association (LGA) guidelines. This report reflects the Council's continued commitment to reducing its environmental impact and working toward its Net Zero Carbon goal by 2040.

This year's audit adopts a gross carbon footprint approach, providing a more accurate and transparent representation of the Council's emissions. Unlike previous audits, which included carbon offsets from tree planting to calculate a net carbon footprint, this year's audit reports gross emissions without offsets.

The total gross carbon footprint for 2024/25 is 13,281.3 tCO_2e, with housing stock contributing 12,463.8 tCO_2e (94% of the total). Excluding housing stock, the operational footprint is 817.5 tCO_2e — a decrease from the previous year, reflecting ongoing reductions in gas and electricity consumption across Council operations. These Changes were made in line with LGA guidance and underscores the Council's focus on reporting emissions under its operational control.

This carbon audit report will serve as an instrument in the Council's sustainability roadmap, shedding light on opportunities for improvement and shaping a more sustainable future for Cannock Chase and its inhabitants.

Emissions from Inspiring Healthy Lifestyles found in Appendix 1, are not included in the carbon audit, as per LGA guidance, since they are classified as Scope 3 emissions and the Council has no financial or operational control over them. This aligns with best practice in carbon reporting. Therefore, despite the Council having no control over their activities, the inclusion within the Appendix reflects the Council's commitment to understanding the broader scope of its environmental impact. By accounting for these emissions, the Council can identify areas for collaboration with IHL to implement effective reduction measures.

Methodology

All reporting data has been collected and collated by Cannock Chase Council for the agreed period of 1st April 2024 - 31st March 2025. Where data was not available for this period, agreed work arounds have been utilised and are documented within the assumptions section of this report. For reference, the unit of measurement that has been used is metric tonnes of carbon equivalent (tCO_2e).

To calculate the associated carbon emissions, the DEFRA 2024 carbon conversion factors have been applied and can be seen on each of the 'Scope' pages in the attached excel spreadsheet. The current carbon calculation methods employed in this audit reflect Cannock Chase Council's best intentions and available industry standards; however, it is important to note that these methodologies may evolve in the future as advancements are made in carbon footprint calculations.

The audit also adheres to LGA guidelines to ensure consistency, transparency, and accuracy in measuring carbon emissions.

Key Methodological Updates:

- Boundary Adjustments: Following updated Local Government Association (LGA) guidance, the Council has, for the first time, included emissions from its housing stock. These have been estimated using annual emissions data from Energy Performance Certificate (EPC) ratings provided by Housing Services. Housing stock emissions total 12,463.8 tCO_2e, representing 94% of the overall footprint.
- The Council has also included emissions from Petroleum usage in its internal fleet, in both Scope 1 and Scope 3 emissions.

Emission Metrics:

- Carbon emissions are reported in metric tonnes of carbon dioxide equivalent (tCO_2e).

The report includes:

- Carbon Footprint Reporting Boundary
- Avoided Emissions / Mitigations
- Overall Carbon Emissions 2024/25
- Carbon Footprint Summary 2019/20 - 2024/25
- Housing Stock Emissions
- Annual Carbon Reductions
- Detail of CCDC Carbon Footprint - Reduction Trail
- Summary of Key Assumptions
- Inspiring Healthy Lifestyles Emissions (Appendix 1)

Carbon Footprint Reporting Boundary

Scope 1 Carbon Emissions

- Gas Consumption from all owned buildings
- Fuel usage associated with CCDC fleet vehicles.
- Fuel Usage - Red Diesel
- Fuel Usage - White Diesel
- Fuel Usage - Petrol

Scope 2 Carbon Emissions

- Purchased electricity consumption from all owned buildings, excluding buildings within the IHL contract.

Scope 3 Carbon Emissions

- Business mileage associated with staff travel (grey fleet) and member's mileage (private vehicles)
- Water consumption (supply and treatment) from all owned buildings, excluding buildings within the IHL contract
- Waste operation (transportation).
- Transmission and Distribution of Electricity
- WTT - Red Diesel
- WTT - Diesel (Waste Fleet)
- WTT - White Diesel
- WTT - Natural Gas
- WTT - Petrol
- Housing Stock

Note: As the Council gets closer to reaching the Net Zero Carbon target, more data will be included within its reporting boundary.

Carbon Footprint Reporting by Scope

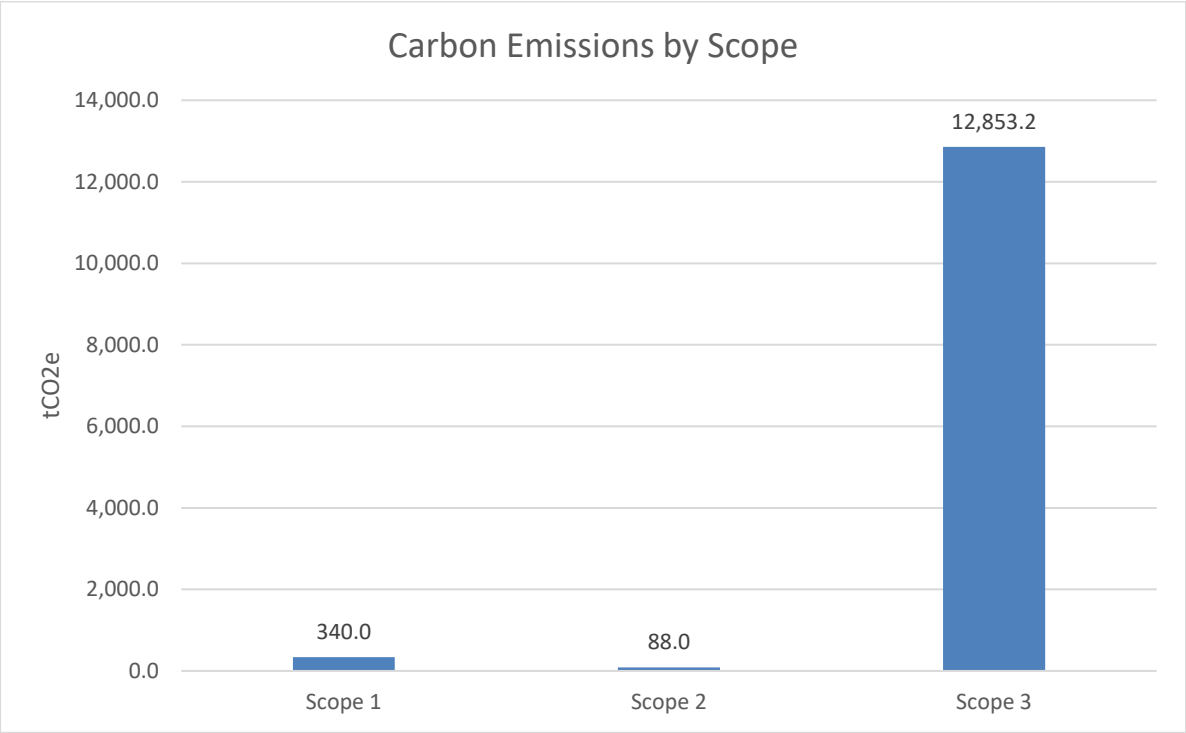

Figure 1. Carbon Emissions by Scope

In reviewing the breakdown of carbon emissions by scope for Cannock Chase Council, it's evident that the emissions are distributed across various scopes. Scope 1 emissions, standing at 340 tCO_2e, signify the direct greenhouse gas emissions from sources owned or controlled by the council. This figure highlights a significant but manageable level of emissions directly associated with council-owned activities.

Scope 2 emissions, reported at 88 tCO_2e, represent the indirect emissions stemming from purchased electricity, indicating a comparatively lower impact on the council's overall carbon footprint.

However, the most considerable emissions are attributed to Scope 3, reaching 12,853.3 tCO_2e. This category encapsulates indirect emissions linked to external activities beyond the council's immediate control, including procurement, well-to-tank, housing stock, and transportation emissions. The substantial contribution of Scope 3 emissions underscores the need for comprehensive strategies addressing external emission sources to effectively manage and reduce the council's total carbon footprint.

Year on Year Comparison

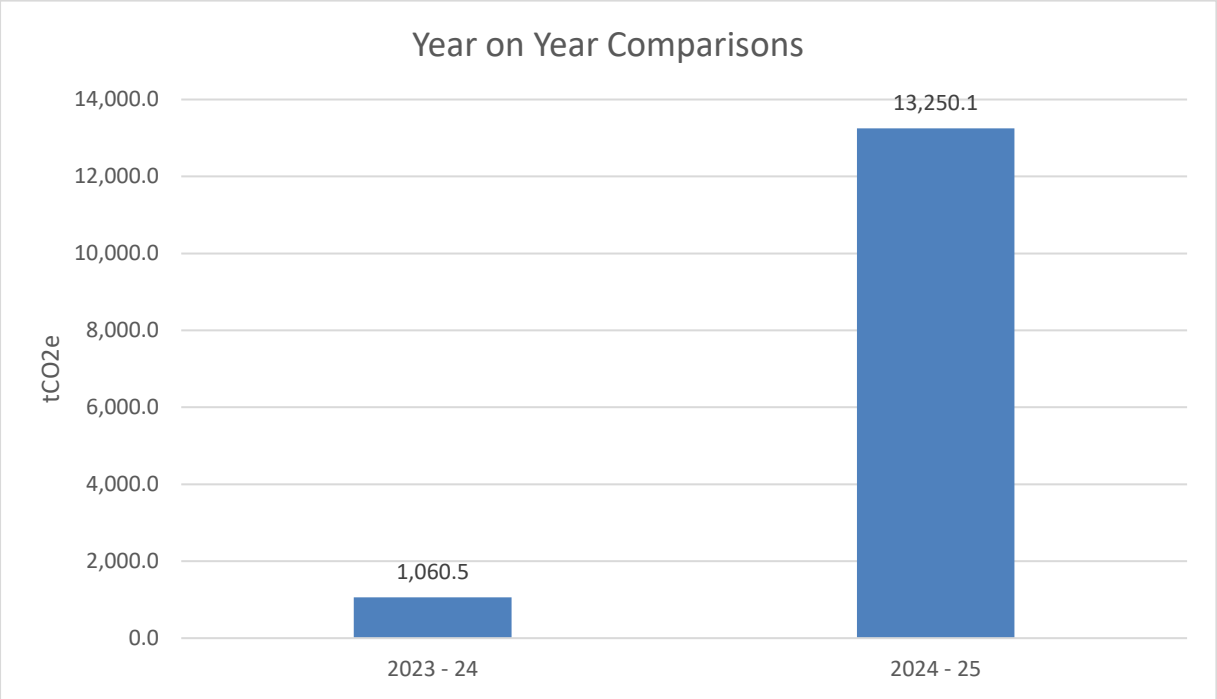

Figure 2. Year on Year Carbon Comparisons

The figure above compares the Council's carbon footprint for 2023/24 and 2024/25. While the Council's reported footprint has risen significantly — from 1,060.5 tCO_2e in 2023/24 to 13,250.1 tCO_2e in 2024/25 — this increase is not due to a sudden surge in emissions. Instead, it is the result of a change in reporting methodology, with the 2024/25 audit now including emissions from the Council's housing stock for the first time.

Including housing-related emissions provides a more complete and accurate representation of the Council's overall environmental impact. This broader scope will support better-informed decision-making and help target future actions to reduce emissions across both operational assets and the wider housing portfolio.

Carbon Footprint Summary

Scope 1

Gas, Red Diesel, Fleet, Processed Fuel

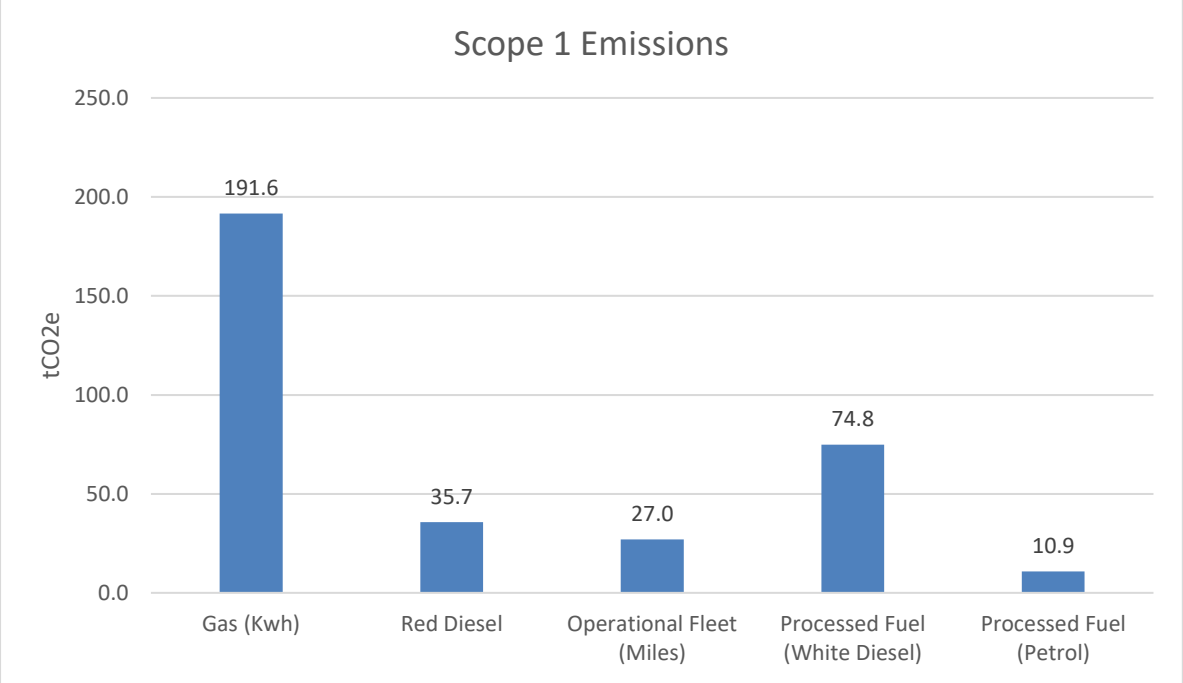

Figure 3. Scope 1 Carbon Emissions

Scope 1 emissions represent 2.6% of the Council's total carbon footprint. The primary contributor is gas consumption for space and water heating across the Council's built assets.

In the previous year, Cannock Chase Council's Scope 1 emissions totalled 395.4 tCO_2e. This year, the total has reduced to 340 tCO_2e, reflecting a decrease of 55.4 tCO_2e. This decrease is because of reduced gas usage and optimised route navigation in the internal fleet.

Scope 2

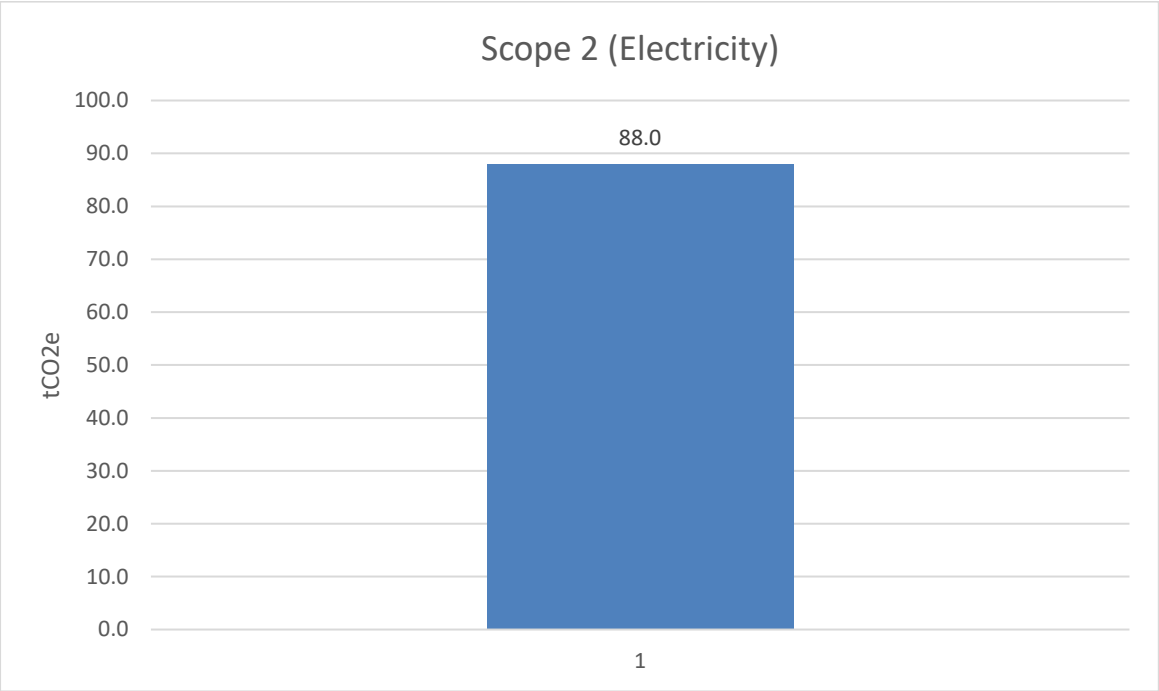

Figure 4 - Scope 2 Carbon Emissions

Scope 2 emissions total 88 tCO_2e and account for 0.7% of the overall carbon footprint. The main contributor to Scope 2 is the building electricity usage for the corporate buildings. However, these emissions are subject to change as the council looks to procure green electricity through a REGO certificate.

Furthermore, transmission and distribution emissions associated with this electricity are accounted for under the Scope 3 reporting boundary.

Scope 3

Water Supply, Water Treatment, Waste Transportation (KM), Grey Fleet (miles), Member Mileage, Rail Business Travel (KM), T&D- UK electricity, WTT- Natural Gas, WTT- Diesel (Fleet), WTT- Diesel (Waste), WTT - Red Diesel, WTT - Petrol

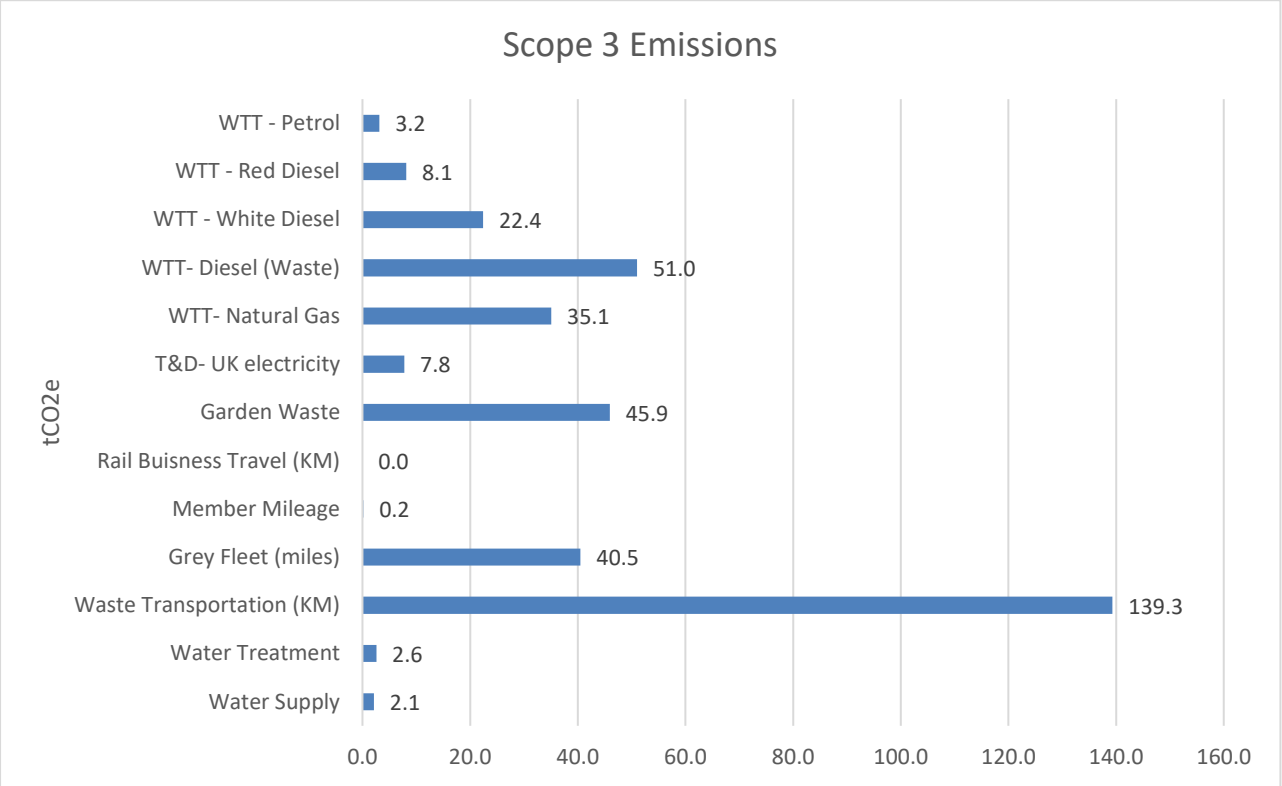

Figure 5. Scope 3 Carbon Emissions

The total Scope 3 emissions for the Council in 2024/25 are 389.4 tCO_2e. The largest single contributor is waste transportation at 139.3 tCO_2e, followed by well-to-tank (WTT) diesel for the waste fleet at 51.0 tCO_2e, and grey fleet mileage at 40.5 tCO_2e. Garden waste contributes 45.9 tCO_2e, while electricity transmission and distribution (T&D) accounts for 17.3 tCO_2e. Other notable sources include WTT white diesel (22.4 tCO_2e), WTT red diesel (8.1 tCO_2e), WTT petrol (3.2 tCO_2e), water treatment (2.6 tCO_2e), and water supply (2.1 tCO_2e). Member mileage contributes 0.2 tCO_2e, with no emissions recorded from rail business travel.

Scope 3 emissions currently account for 2.9% of the Council's total carbon footprint for 2024/25, with transportation and fuel-related WTT emissions making up the majority. This breakdown provides a clear view of the most significant sources, supporting more targeted carbon reduction measures going forward.

Scope 3 - Housing Stock

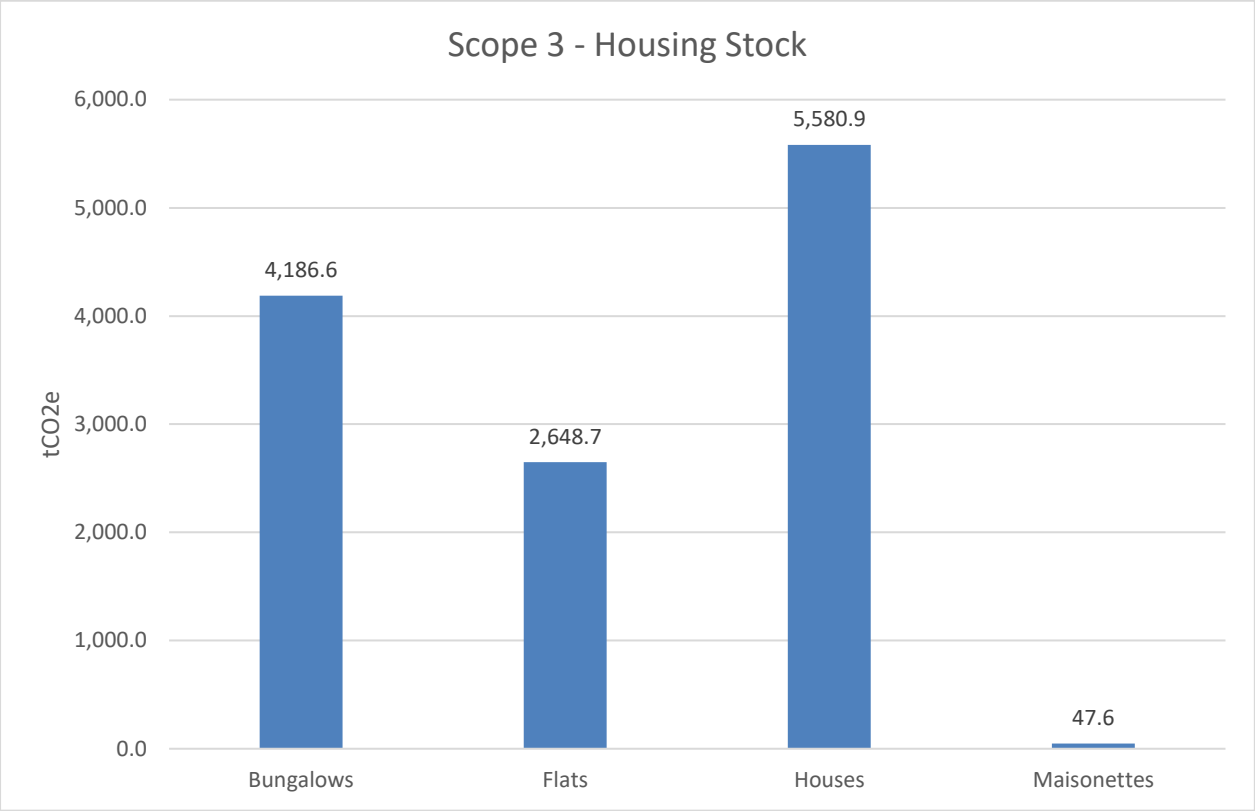

Figure 6 - Housing Stock - Scope 3

This chart illustrates the estimated carbon footprint associated with the borough's housing stock, broken down by property type. Houses account for the largest share of emissions (5,580.9 tCO_2e), followed by bungalows (4,186.6 tCO_2e) and flats (2,648.7 tCO_2e), with maisonettes contributing a comparatively small amount (47.6 tCO_2e). These emissions now account for 94% of the Council's total carbon emissions.

This is the first year that housing stock emissions have been included in the Scope 3 assessment, resulting in a notable increase in the overall reported carbon footprint compared to previous years. Including these emissions provides a more complete picture of the borough's environmental impact and helps to identify opportunities for targeted action to improve energy efficiency and reduce carbon emissions within residential properties.

Annual Carbon Reductions

This section provides a detailed comparison of carbon emissions for the Council between the 2023/24 and 2024/25 reporting periods. Changes in data collection methodology, scope and reporting boundaries are also highlighted to ensure transparency. Specific exclusions and inclusions are documented in line with LGA guidance.

CCDC Buildings - Scope 1 (Gas) Scope 2 (Electricity)

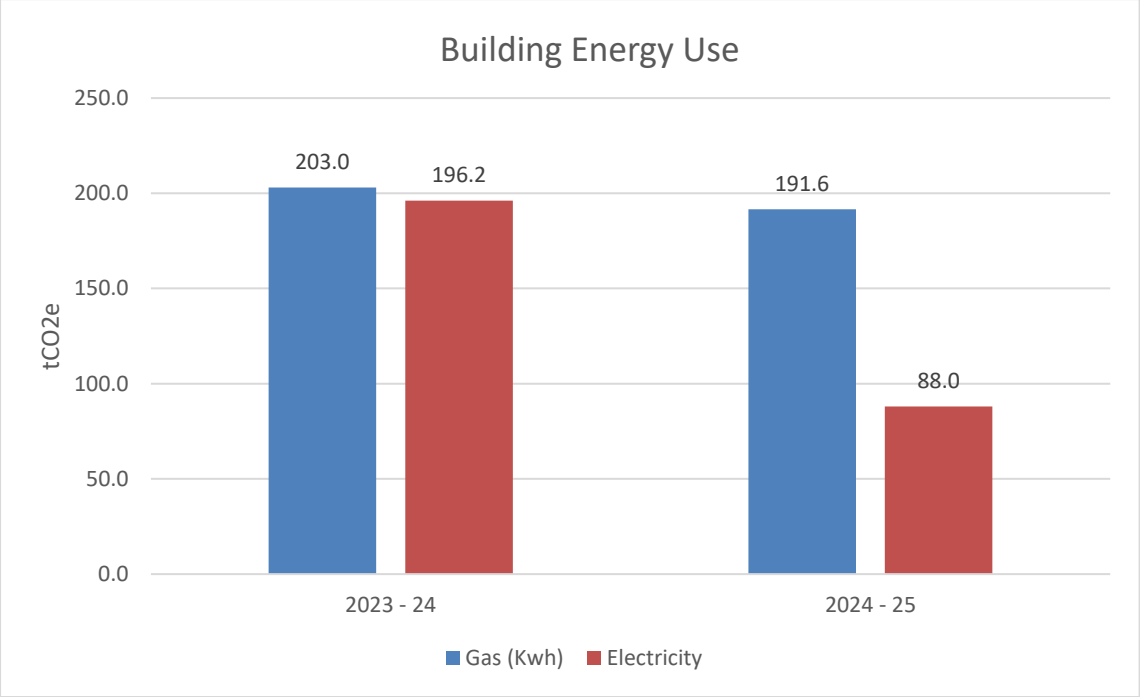

Figure 7. Year on Year Carbon Comparisons - Annual Building Energy Emissions

The chart above compares the year-on-year carbon emissions from building energy use, covering both gas (Scope 1) and electricity (Scope 2). The data shows a reduction in emissions for both fuel types between 2023/24 and 2024/25.

Gas usage emissions decreased from 203.0 tCO_2e in 2023/24 to 191.6 tCO_2e in 2024/25 — a 5.6% reduction. This improvement may be attributed to continued energy efficiency measures, optimisation of heating systems, and operational changes reducing overall gas demand.

Electricity usage emissions also fell significantly, from 196.2 tCO_2e in 2023/24 to 88.0 tCO_2e in 2024/25 — a 55.1% reduction. This substantial decrease may reflect improved energy management practices, greater use of energy-efficient equipment, or changes in building usage patterns.

Red Diesel, Fleet, Processed Fuel - Scope 1

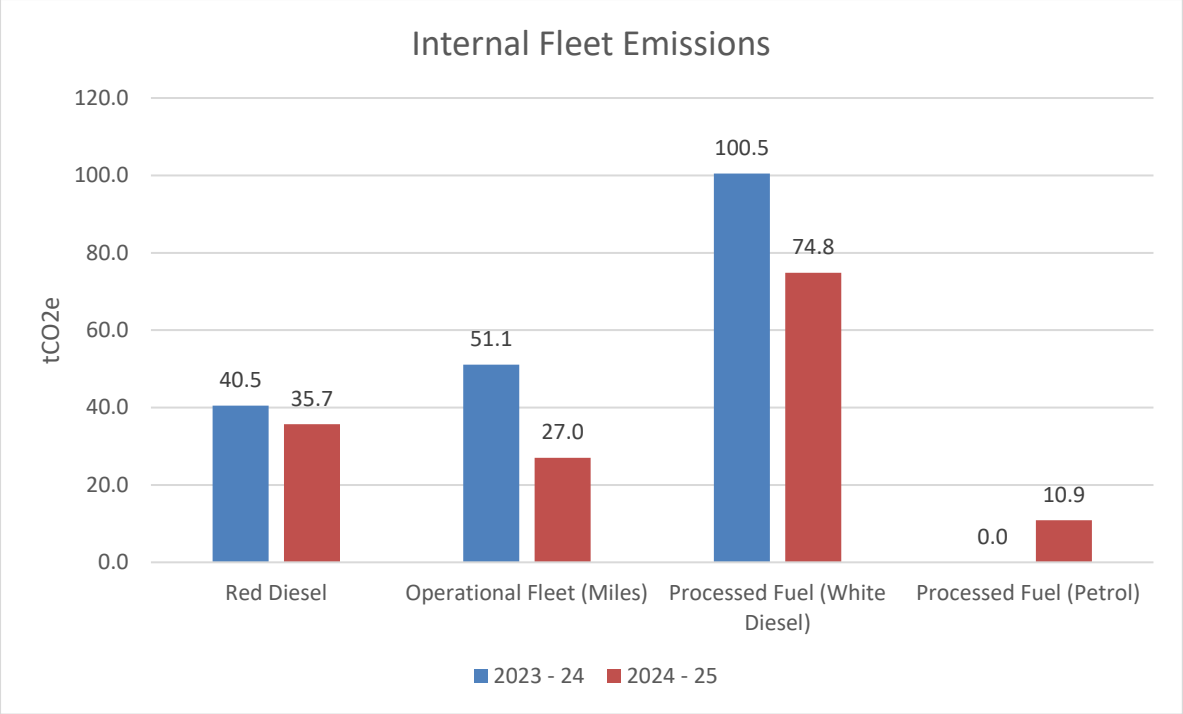

Figure 8. Year on Year Carbon Comparisons - Operational Fleet, Fleet, white and Red Diesel

The chart above compares year-on-year carbon emissions from internal fleet operations, including red diesel, operational mileage, processed fuel (white diesel), and petrol. The data shows a reduction across most categories between 2023/24 and 2024/25, with the exception of petrol, which has been recorded for the first time this year.

Red diesel emissions decreased from 40.5 tCO_2e in 2023/24 to 35.7 tCO_2e in 2024/25 — a 11.9% reduction. Operational fleet mileage emissions also fell significantly, from 51.1 tCO_2e to 27.0 tCO_2e, representing a 47.2% decrease. Processed fuel (white diesel) emissions reduced from 100.5 tCO_2e to 74.8 tCO_2e, a 25.6% drop. Petrol usage, not recorded in 2023/24, accounted for 10.9 tCO_2e in 2024/25, reflecting either changes in vehicle types or improved reporting coverage.

The inclusion of petrol emissions, alongside refined tracking of diesel usage, provides a more comprehensive picture of fleet-related emissions and supports more targeted emission reduction strategies going forward.

Annual Waste Transport (Collection & Disposal) - Scope 3

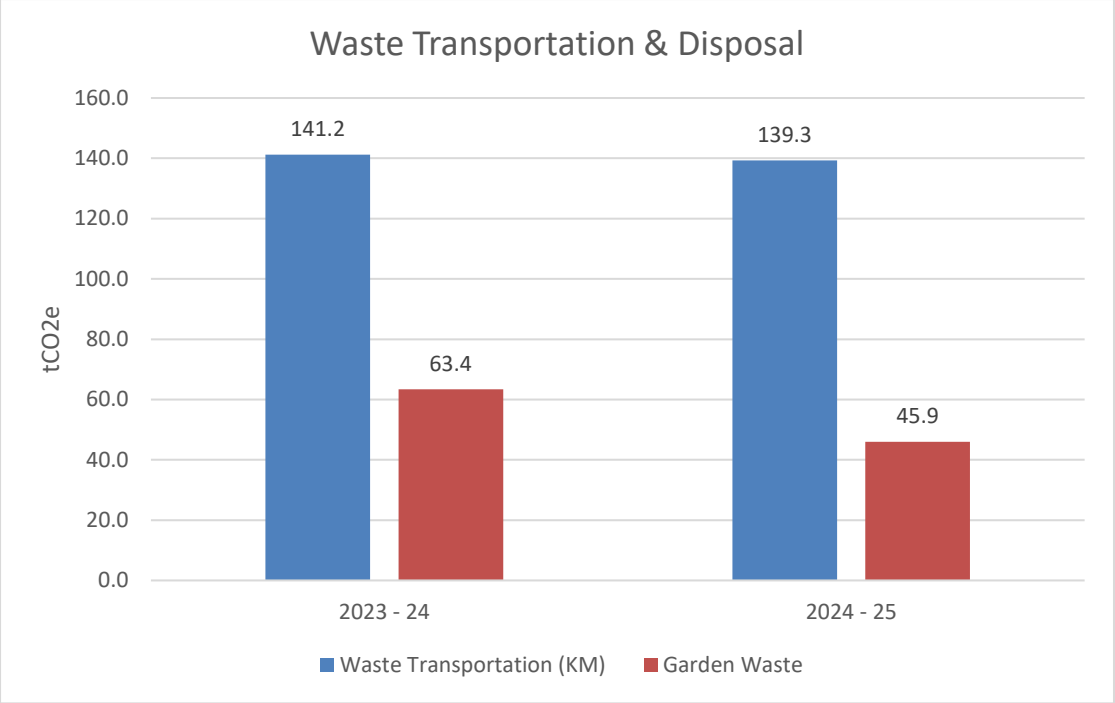

Figure 9. Year on Year Carbon Comparisons - Annual Waste Transportation Emissions

The chart above compares carbon emissions from waste transportation (Scope 3) and the disposal of garden waste. Between 2023/24 and 2024/25, waste transportation emissions reduced slightly from 141.2 tCO_2e to 139.3 tCO_2e — a 1.3% decrease. This small reduction may be linked to improved route optimisation, efficient vehicle use, or operational changes in the waste collection process.

In contrast, emissions from garden waste disposal decreased more significantly, from 63.4 tCO_2e in 2023/24 to 45.9 tCO_2e in 2024/25 — a 27.6% reduction. The inclusion of garden waste in Scope 3 reporting reflects the council's role as the disposal authority for this waste stream and ensures a more accurate, comprehensive, and transparent picture of overall emissions.

Annual WTT Emissions- Scope 3

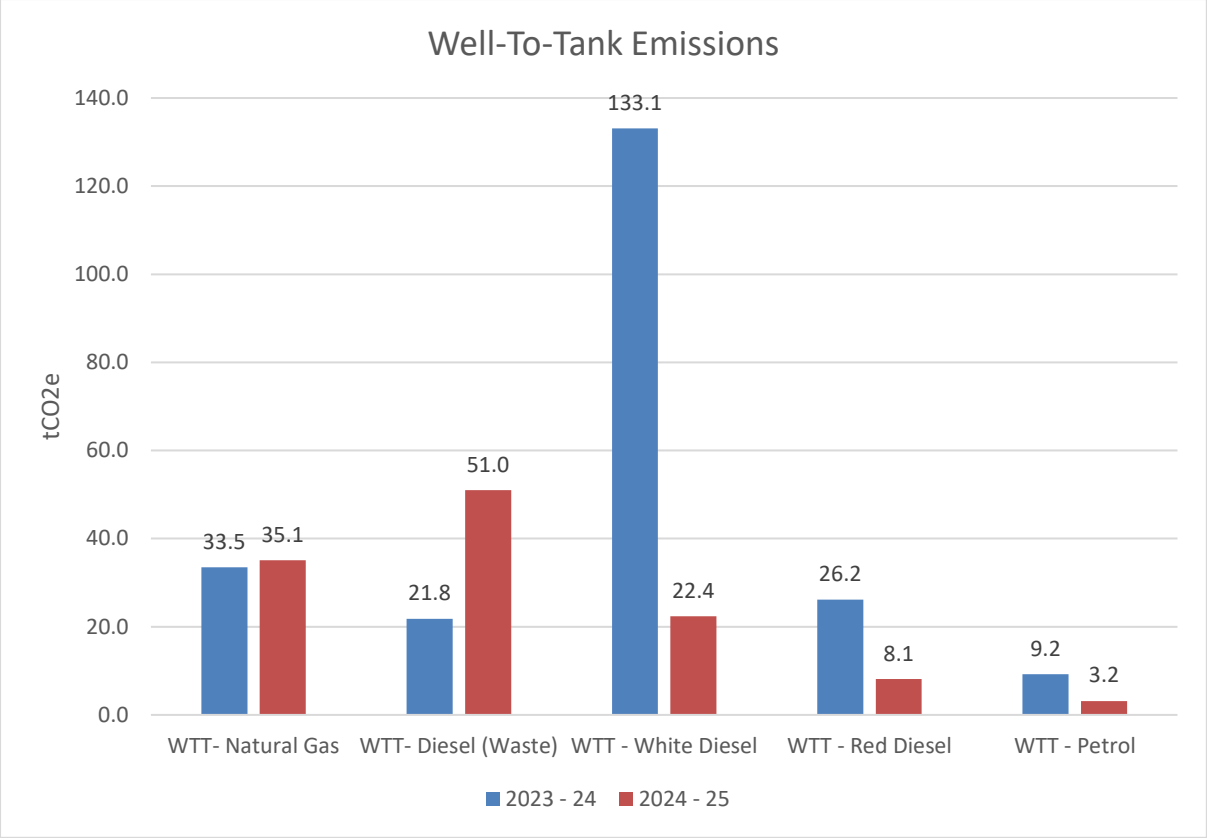

Figure 10. Year on Year Carbon Comparisons - Annual WTT emissions

The chart above compares year-on-year Well-to-Tank (WTT) emissions, which represent the upstream carbon impact of fuel production and supply prior to use. Between 2023/24 and 2024/25, notable changes are observed across all fuel types.

WTT emissions from natural gas increased from 33.5 tCO_2e to 35.1 tCO_2e (a 4.8% rise), while diesel (waste) more than doubled, increasing from 21.8 tCO_2e to 51.0 tCO_2e. In contrast, WTT emissions from white diesel dropped significantly from 133.1 tCO_2e to 22.4 tCO_2e (an 83.2% reduction), and red diesel also decreased from 26.2 tCO_2e to 8.1 tCO_2e (a 69.1% reduction). Petrol was recorded for the first time this year, contributing 3.2 tCO_2e.

These changes reflect revised reporting boundaries in line with Local Government Association (LGA) guidance, ensuring that all relevant upstream emissions are included where the council has operational control, and that reporting is both accurate and transparent.

Annual Water Supply, Treatment Emissions, Transmission and Distribution of Electricity - Scope 3

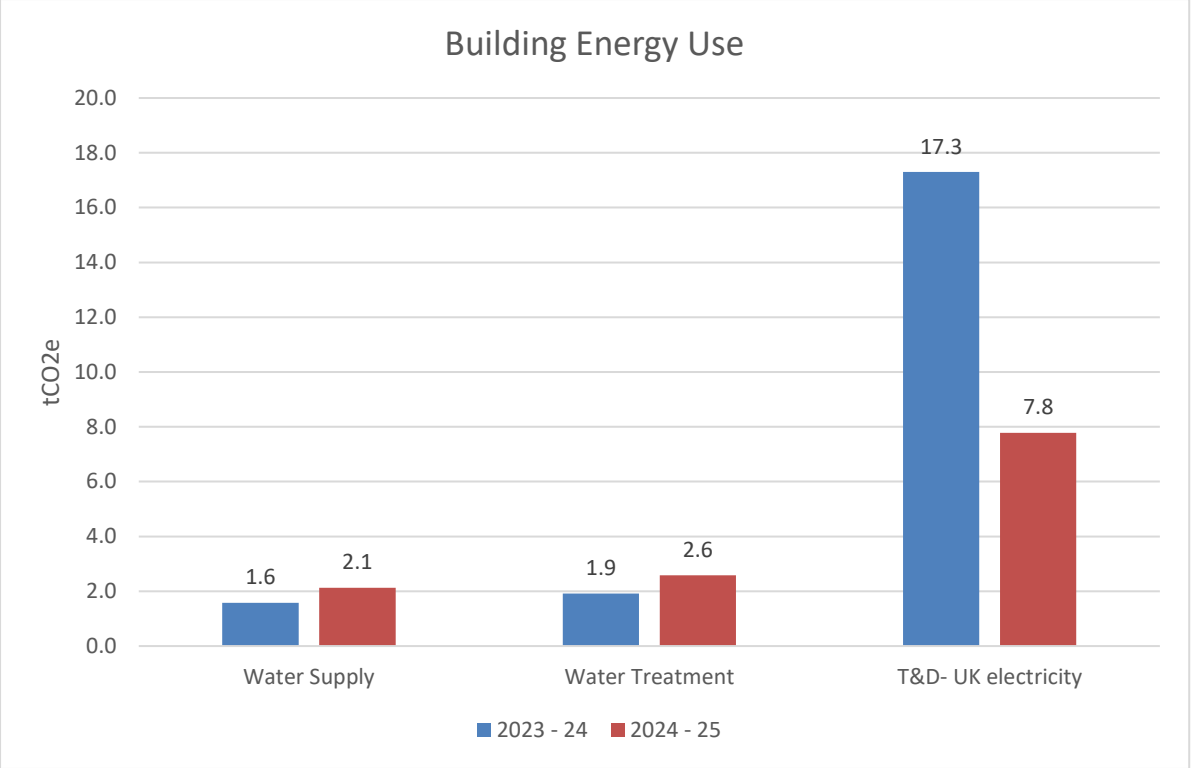

Figure 11. Year on Year Carbon Comparisons - Annual Water Supply, Treatment Emissions, Transmission and Distribution of Electricity

The chart above compares carbon emissions from water supply, water treatment, and the transmission and distribution (T&D) of UK electricity between 2023/24 and 2024/25.

Water supply emissions increased from 1.6 tCO_2e in 2023/24 to 2.1 tCO_2e in 2024/25 — a 31.3% rise. Water treatment emissions also grew from 1.9 tCO_2e to 2.6 tCO_2e, representing a 36.8% increase. The most significant change is in T&D UK electricity emissions, which rose from 17.3 tCO_2e in 2023/24 to 7.8 tCO_2e in 2024/25 — a 54.9% reduction.

Annual Grey Fleet and Business Travel - Scope 3

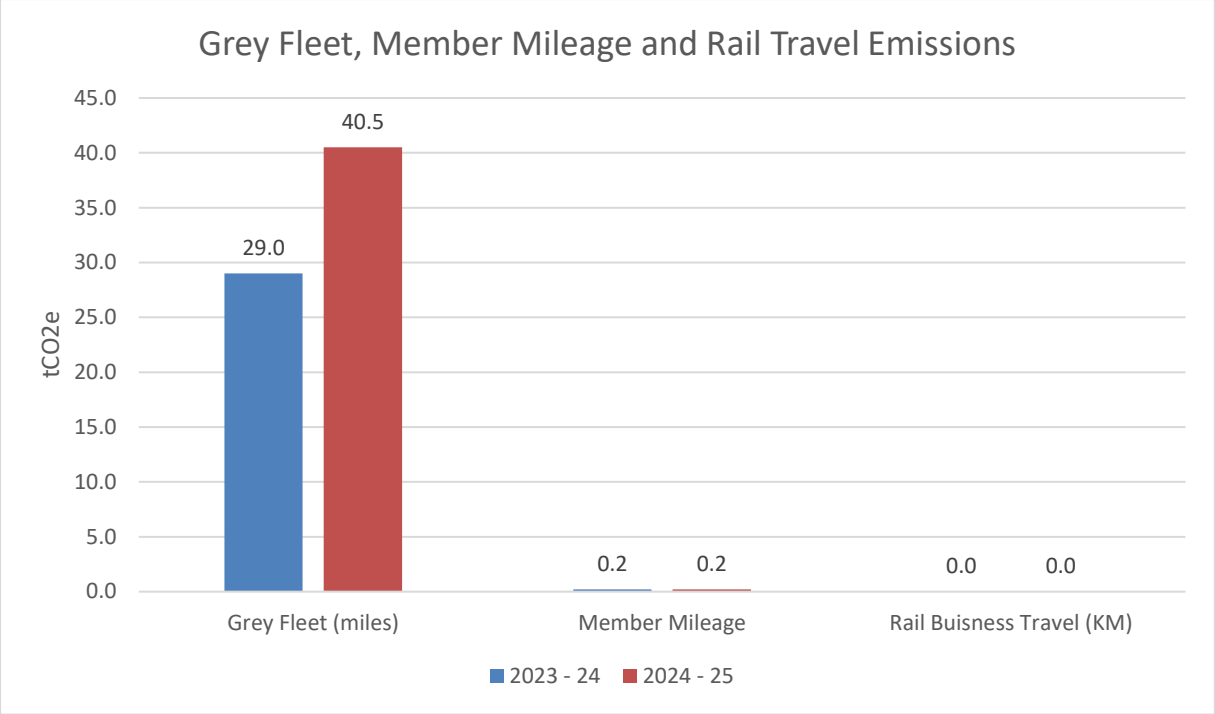

Figure 12. Year on Year Carbon Comparisons - Grey Fleet, Member Mileage, Rail Business Travel Emissions

The chart above compares carbon emissions from grey fleet usage, member mileage, and rail business travel between 2023/24 and 2024/25.

Grey fleet emissions increased from 29.0 tCO_2e in 2023/24 to 40.5 tCO_2e in 2024/25 — a 39.7% rise. Member mileage emissions remained the same at 0.2 tCO_2e, showing no year-on-year change. Rail business travel emissions also remained at 0.0 tCO_2e, indicating continued minimal usage for business purposes.

The increase in grey fleet emissions may be linked to a rise in in-person meetings and site visits, with more business travel being undertaken by staff and members. These findings highlight the importance of promoting lower-carbon travel options, such as public transport, carpooling, or virtual meetings, to help reduce emissions from work-related travel.

Detail Of CCDC Carbon Footprint -

Scope 1

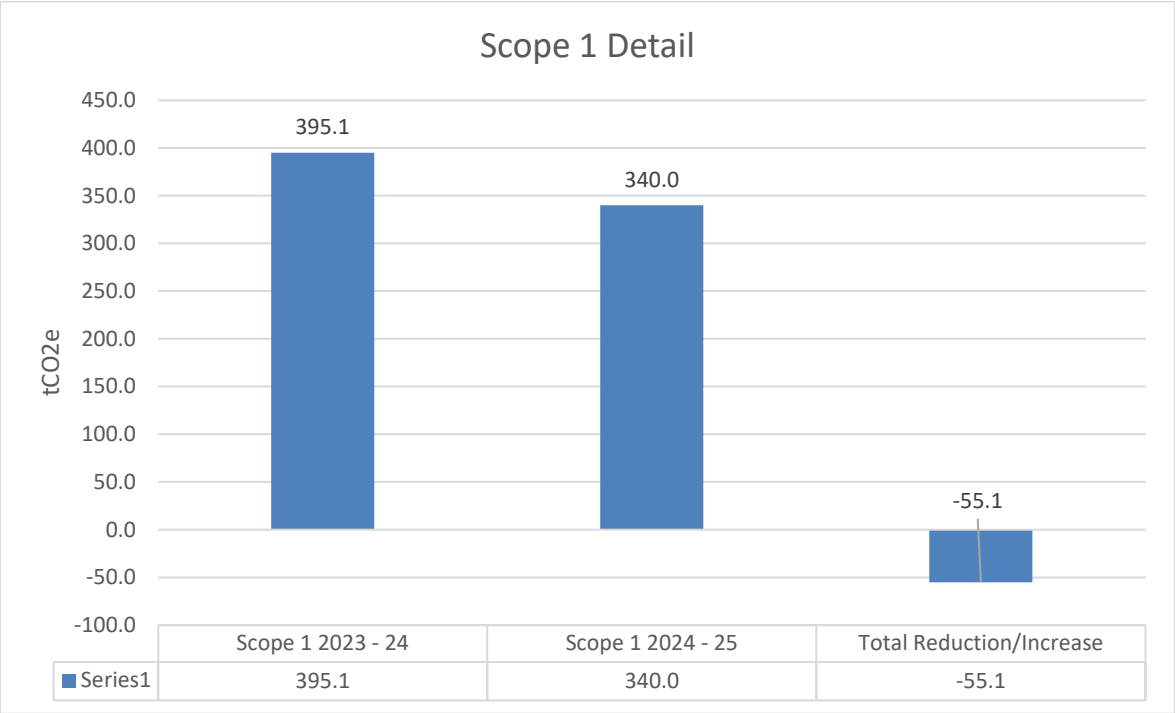

Figure 13 - Scope 1 Summary

The chart above compares Scope 1 carbon emissions for 2023/24 and 2024/25, highlighting total reductions over the period.

Overall Scope 1 emissions fell from 395.1 tCO_2e in 2023/24 to 340.0 tCO_2e in 2024/25 — a reduction of 55.1 tCO_2e (13.9%). This decrease is primarily driven by lower gas consumption in CCDC-owned buildings, with gas usage emissions showing a notable reduction. Emissions from the operational fleet and red diesel have also reduced compared to the previous year, contributing to the overall decline in Scope 1 emissions.

This aligns with LGA reporting guidance, ensuring transparency and a comprehensive representation of all relevant Scope 1 emissions under the council's operational control.

Scope 2

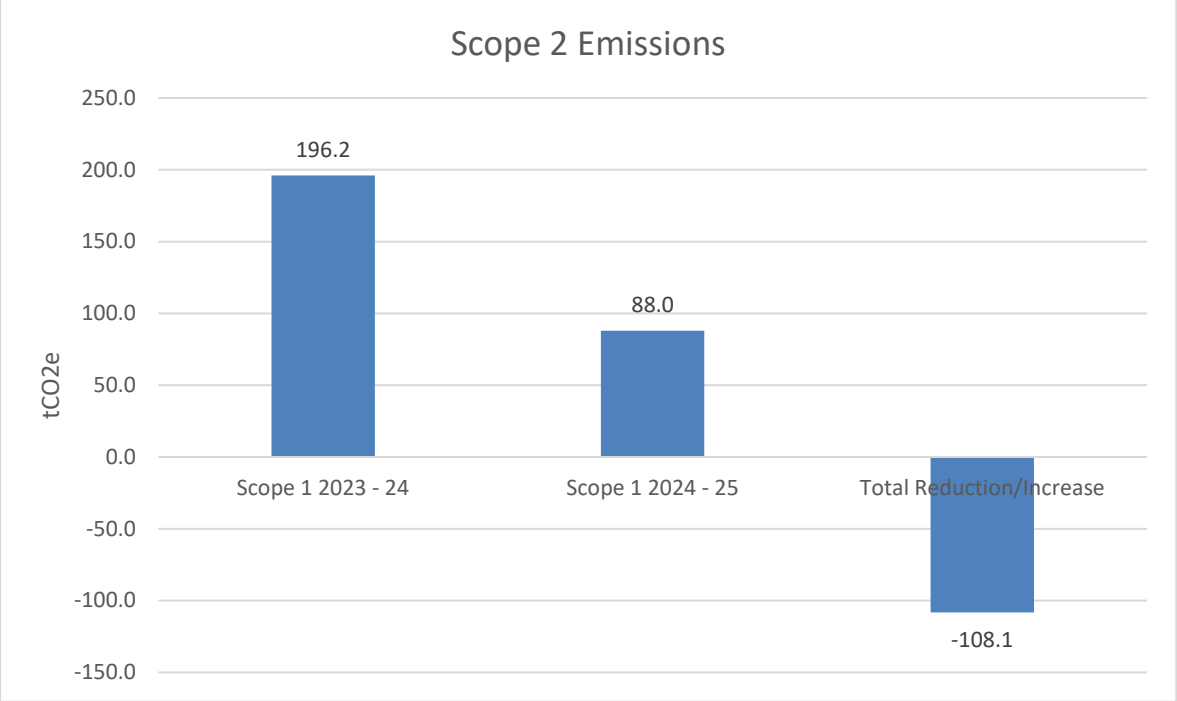

Figure 14 - Scope 2 Summary

The chart above compares Scope 2 carbon emissions for 2023/24 and 2024/25, highlighting total reductions over the period.

Overall, Scope 2 emissions fell from 196.2 tCO_2e in 2023/24 to 88.0 tCO_2e in 2024/25 — a reduction of 108.1 tCO_2e (55.1%). The main contributor to Scope 2 is electricity use within corporate buildings.

This substantial decrease may be linked to continued energy efficiency improvements, changes in building usage patterns, or lower overall electricity demand. These figures are subject to change as the council progresses with plans to procure green electricity through a REGO certificate, which will further reduce Scope 2 emissions in future reporting years.

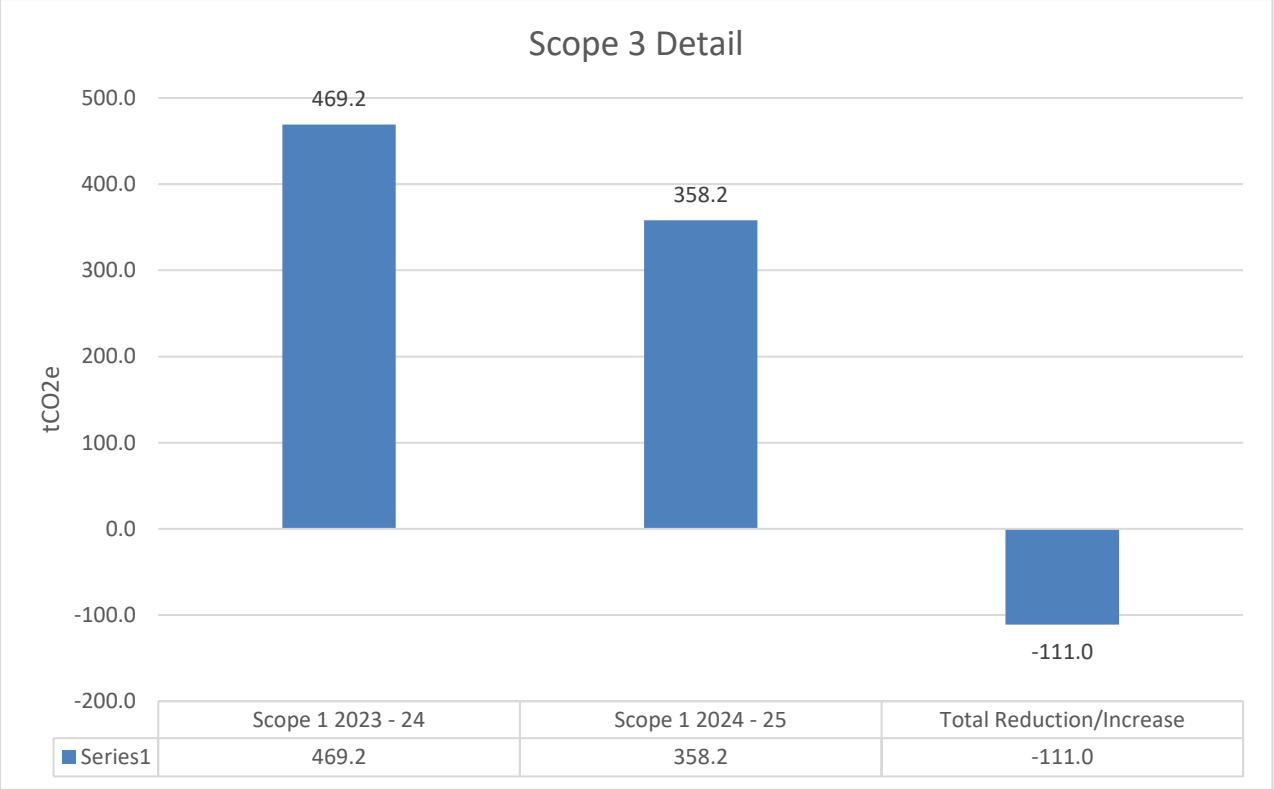

Figure 15 - Scope 3 Summary

Figure 15 provides an overview of the Scope 3 carbon footprint, focusing on Well-to-Tank (WTT) emissions and other indirect sources. This year, the reporting boundaries have been updated to align with LGA guidelines, with petroleum (WTT) emissions newly included to account for the upstream impact of fuel production and supply.

Following these updates, total Scope 3 emissions decreased from 469.2 tCO_2e in 2023/24 to 358.2 tCO_2e in 2024/25 — a reduction of 111.0 tCO_2e.

The largest contributor to Scope 3 emissions in 2024/25 was waste transportation at 139.3 tCO_2e, followed by WTT diesel (waste fleet) at 51.0 tCO_2e and grey fleet mileage at 40.5 tCO_2e. Other notable sources include garden waste (45.9 tCO_2e), WTT white diesel (22.4 tCO_2e), WTT natural gas (35.1 tCO_2e), WTT red diesel (8.1 tCO_2e), and WTT petrol (3.2 tCO_2e).

Additional contributors include water treatment (2.6 tCO_2e), water supply (2.1 tCO_2e), transmission and distribution of electricity (7.8 tCO_2e), member mileage (0.2 tCO_2e), and rail business travel (0 tCO_2e).

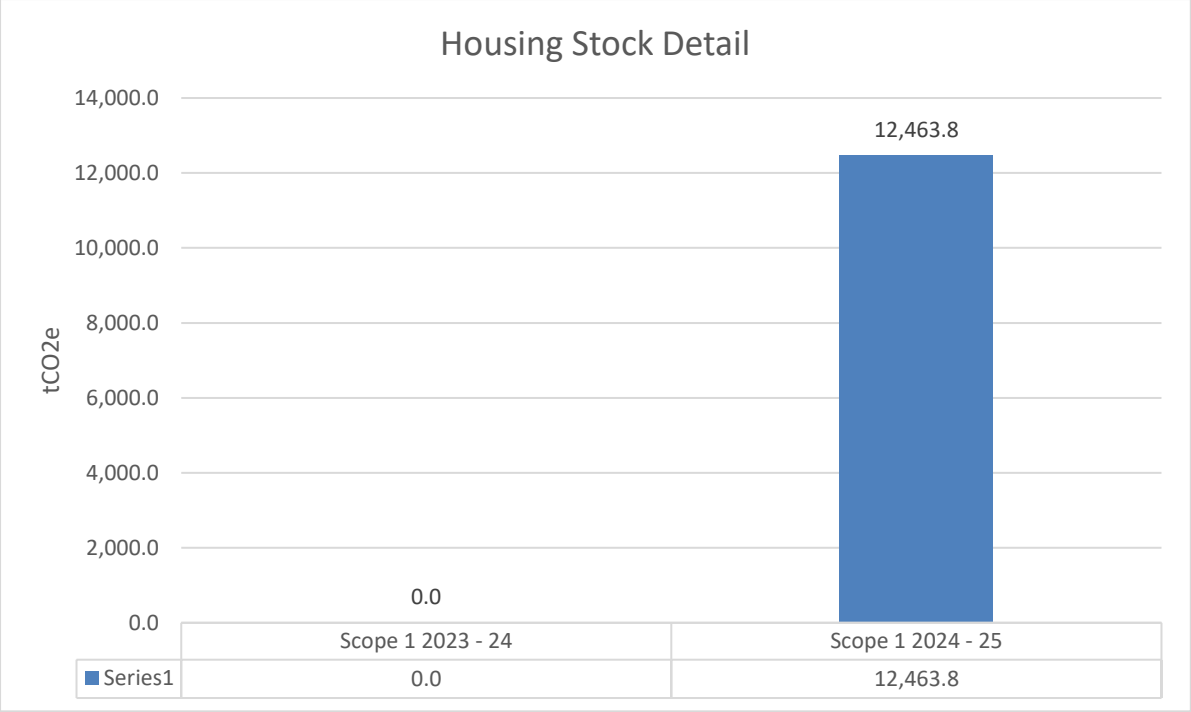

Figure 16 - Housing Stock Detail

Previously, housing stock emissions were not included within the Council's carbon footprint reporting. However, following updated LGA guidance, housing stock is now incorporated into the 2024/25 reporting boundaries.

For this year, the emissions figure of 12,463.8 tCO_2e is based solely on EPC-derived data provided by Housing Services. These calculations use estimated annual emissions per property type, multiplied by the number of properties owned by the Council. The estimates are not averages, as a full review of all EPCs has not yet been undertaken. Future reporting aims to refine this figure through bulk data access to provide a more accurate representation.

Summary of Key Assumptions

Key Assumption	Source / Reference
All activity data included within this report has been provided directly by Cannock Chase District Council.	Relevant Staff members
All carbon emissions have been calculated using the DEFRA 2024 carbon conversion factors. Emissions have been converted in to kgCO_2e and then into tCO_2e for inclusion within this report.	The DEFRA 2024 carbon conversion factors have been applied. ghg-conversion-factors-2024-full_set__for_advanced_users__v1_1.xlsx
Where 2024/25 activity was not available the methods used to calculate this data has been outlined below.	Cannock Chase District Council
Process Fuel - Operational Fleet To collate this data, all fuel/fleet emissions have been measured as a collective as opposed to separately as the data reads more clearly. Fleet - Operations To be able to calculate the carbon emissions from the fuel data provided, an assumption has been made that the fuel type is diesel.	Operational Fleet
Waste – Transportation In order to calculate these emissions an assumption has been made that the fuel used is Deisel and the max pay load of the RCV's is 11 tonnes.	Biffa

Key Assumption	Source / Reference
Staff Travel – Train	
Surface Water The annual carbon emissions associated with this data have been based upon water treatment carbon conversion factors only.	
LGA Guidance - Methodology	Guide: Climate change reporting guidance for local authorities | Local Government Association
Housing Stock Data	An estimation has been made based on the EPC ratings given by Housing.

Appendix 1

IHL Leisure Contract 2024/25

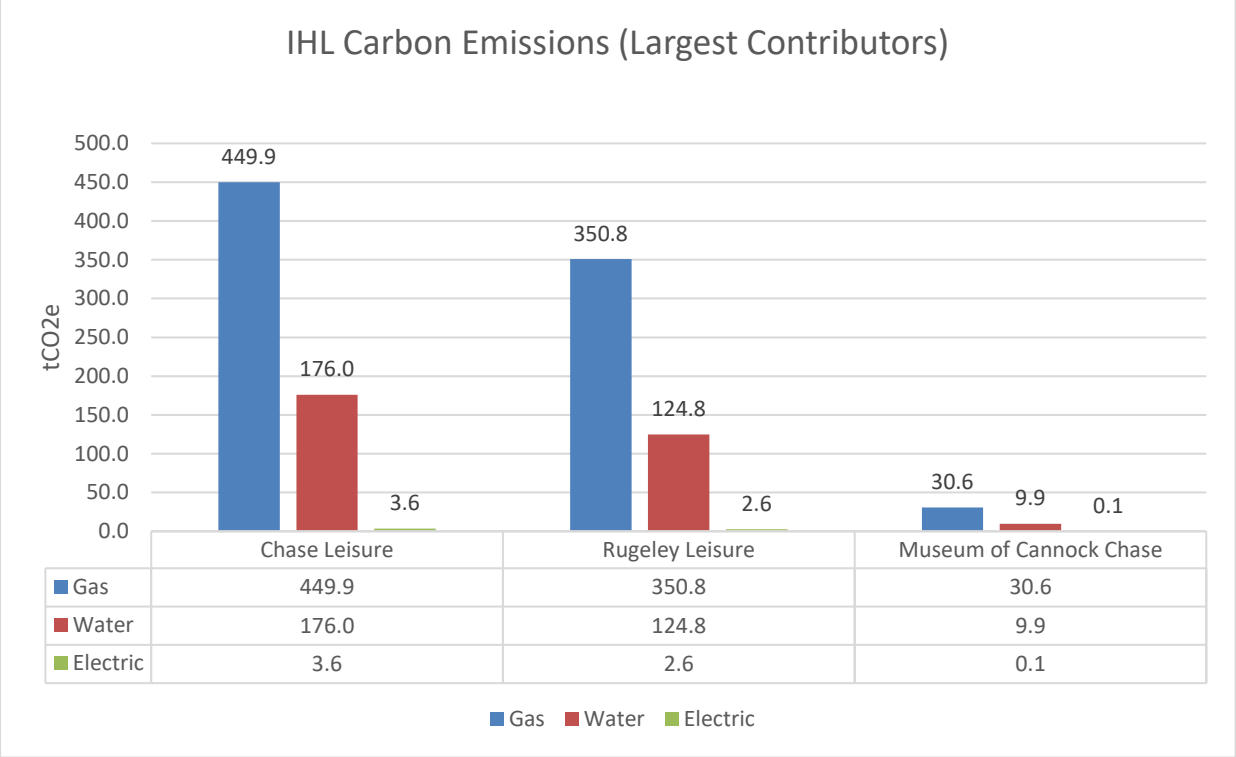

Figure 17 - Inspiring Healthy Lifestyles Carbon Emissions

Figure 17 shows the buildings that are managed on the Councils behalf by Inspiring Healthy Lifestyles with the largest carbon emissions.

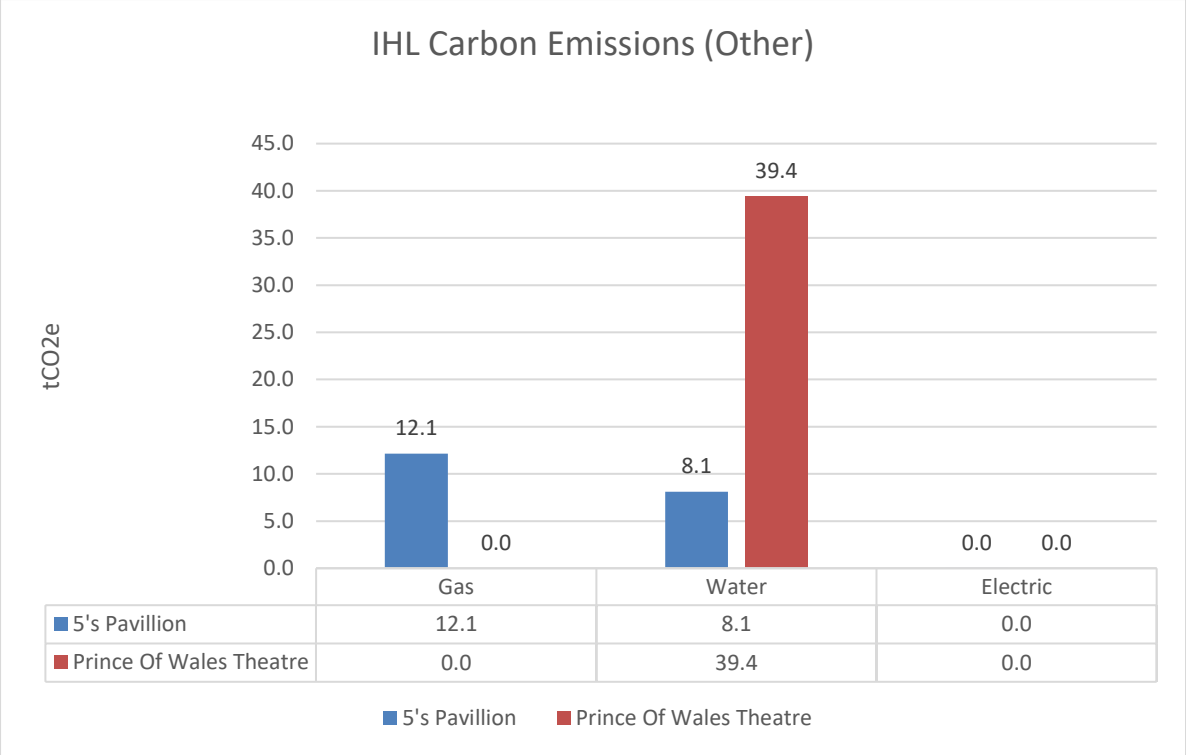

Figure 18 - Inspiring Healthy Lifestyles (other)

The above table shows the carbon emissions for the other buildings that are managed by IHL on behalf of the Council.

It is important to note that Cannock Chase District Council does not directly control these buildings, and any carbon reduction measurements will be done in conjunction with IHL.

Whilst this information has been shown in this carbon audit, it has again not been included in calculating the Councils total carbon footprint for the reporting period.

Based on Local Government Association (LGA) current guidance, leisure facilities owned by an authority but managed by a third party, should be included / acknowledged within a local authority's carbon audit.