Stafford Borough Council Carbon Footprint Report 2024/25

Prepared by: Corporate Climate Change Officer

November 2024

Stafford
BOROUGH COUNCIL

Contents

Executive Summary

The 2024-2025 carbon audit for Stafford Borough Council presents a more accurate and comprehensive assessment of the Council's organisational emissions. This year's report reflects enhanced data quality, improved alignment with Local Government Association (LGA) guidance, and a continued commitment to transparency in carbon accounting. It captures the emissions associated with buildings, fleet, waste, and supply chain activities, alongside avoided emissions from renewable electricity procurement.

The Council's gross carbon footprint for the reporting year was 1,435.5 tCO_2e, a slight increase from 1,343.3 tCO_2e in 2023–2024. However, this increase is attributed not to worsening performance, but to more complete reporting - particularly the inclusion of white diesel fuel data and expanded Well-to-Tank (WTT) emissions across all fuel types.

Key Findings

Scope 1 Emissions: Increased to 699.7 tCO_2e (from 613.6 tCO_2e), now representing 49% of total emissions. The rise is mainly due to the inclusion of previously unreported white diesel use (105.9 tCO_2e). Gas use also increased slightly, while emissions from the Mayoral Car and Streetscene fleet both decreased.

Scope 2 Emissions: Reduced to zero for a second consecutive year, reflecting the Council's continued procurement of 100% REGO-certified green electricity across all metered sites.

Scope 3 Emissions: Increased marginally to 735.8 tCO_2e (up from 729.7 tCO_2e), representing 51% of the total footprint. The rise is driven by improved inclusion of WTT emissions and white diesel. The largest contributors remain waste transportation (333.7 tCO_2e) and WTT emissions (315.6 tCO_2e).

Avoided Emissions: The Council avoided 225.1 tCO_2e through green electricity purchases. This is an improvement on last year's avoided emissions (117.5 tCO_2e), further supporting the Council's progress toward Net Zero Carbon.

Building Energy Use: Increased by 2.1% due to a rise in gas usage (412.1 tCO_2e vs. 403.6 tCO_2e), likely the result of a colder heating season. Electricity emissions remain at zero due to green procurement.

Transport-Related Emissions: Scope 1 transport sources showed mixed trends:

- Streetscene fleet emissions fell by 21% due to operational optimisation.
- Mayoral car emissions fell to zero following full electrification.

- Red diesel and petrol use both saw reductions.
- White diesel was included for the first time, significantly improving reporting accuracy.

Grey Fleet and Business Travel: Grey fleet emissions dropped by 18% to 20.1 tCO_2e, with no recorded emissions from rail travel. This likely reflects evolving work patterns and a continued shift toward remote engagement.

Freedom Leisure Emissions: Data for third-party-operated sites is shown for transparency but excluded from the organisational footprint. The Council will continue working with Freedom Leisure to address these emissions collaboratively.

This year's audit marks a step forward in data quality, boundary clarity, and organisational accountability. While the gross footprint rose slightly, this is due to methodological improvements rather than increased emissions. Avoided emissions from green electricity and reductions in transport-related activities demonstrate clear progress.

Stafford Borough Council remains committed to achieving Net Zero Carbon, with this report laying the groundwork for ongoing improvement in operational efficiency, supply chain engagement, and data transparency.

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. Stafford Borough Council has conducted its annual comprehensive carbon audit.

The 2024/25 carbon audit provides an in-depth analysis of Stafford Borough Council's carbon footprint, measured across Scopes 1, 2, and 3 emissions, in line with DEFRA 2025 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 the reporting period is 1,435.5 tCO_2e, an increase from last year's figure of 1,343.3 tCO_2e. This rise is largely due to the inclusion of White Diesel from fuel cards. All of this has been done in line with LGA guidelines and DEFRA's recommended carbon emission factors.

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 Stafford borough and its inhabitants.

Emissions from Freedom Leisure 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 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 Freedom to implement effective reduction measures.

Methodology

All reporting data has been collected and collated by Stafford Borough Council for the agreed period of 31 March 2024 - 1 April 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 Stafford Borough 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

Expanded Emission Sources: The inclusion of WTT White Deisel emissions from the internal fleet shows the council's commitment to more detailed and accurate reporting.

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
- Annual Carbon Reductions
- Detail of SBC Carbon Footprint - Reduction Trail
- Summary of Key Assumptions
- Freedom Leisure Emissions (Appendix 1)

Carbon Footprint Reporting Boundary

Scope 1 Carbon Emissions

- Gas Consumption from all owned buildings
- LPG usage from owned buildings
- Fuel usage associated with SBC fleet vehicles and the Mayoral car.
- Fuel Usage - Red Diesel
- Fuel Usage - Petrol
- Fuel Usage - White Diesel

Scope 2 Carbon Emissions

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

Scope 3 Carbon Emissions

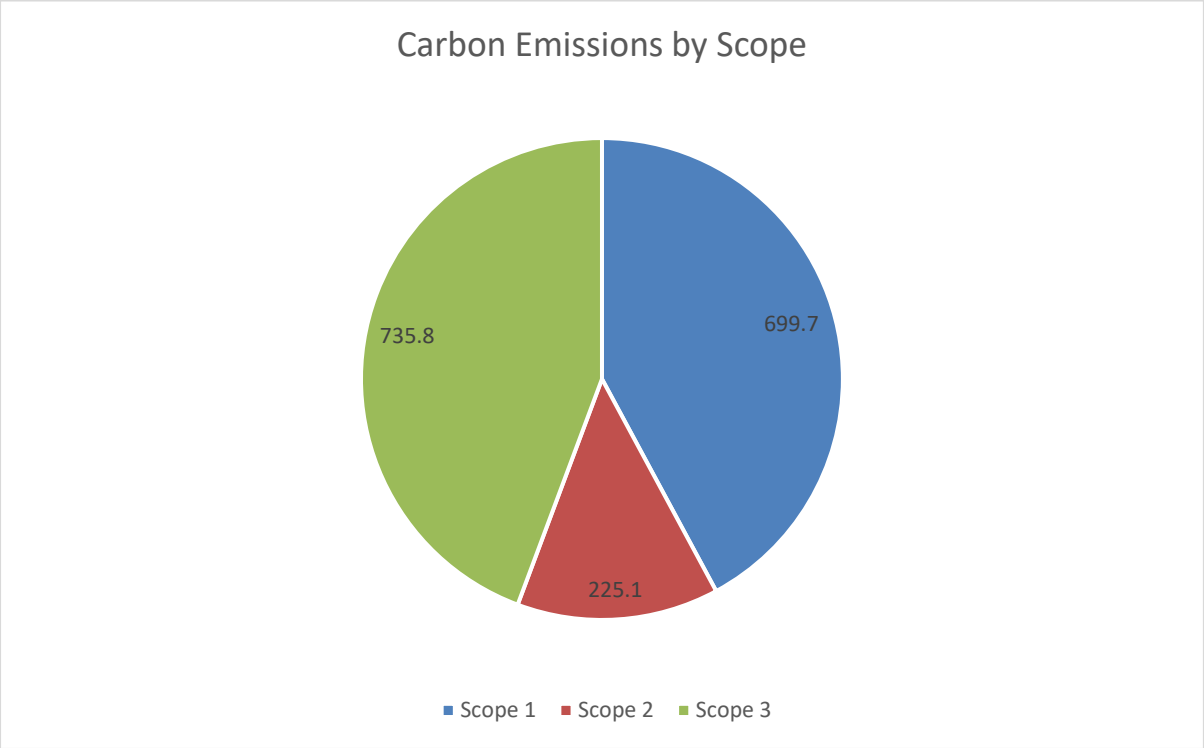
- Business mileage associated with staff travel (grey fleet) and member's mileage (private vehicles)
- Water consumption (supply and treatment) from all owned buildings, excluding buildings within the Freedom Leisure contract
- Waste operation (transportation).

- Transmission and Distribution of Electricity
- WTT - Red Diesel
- WTT - Diesel
- WTT - Natural Gas
- WTT - Petrol
- WTT - White Diesel

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 Stafford Borough Council, it's evident that the emissions are distributed across various scopes. Scope 1 emissions, totalling 699.7 tCO_2e, represent the largest share of direct greenhouse gas emissions from council-owned or controlled sources, such as gas and fleet fuel. This highlights a significant, but manageable area for targeted carbon reduction.

Scope 2 emissions, reported at 225.1 tCO_2e, represent the indirect emissions stemming from purchased electricity, indicating a comparatively lower impact on the council's overall carbon footprint. Although, since the council purchase REGO certified green electricity, these emissions are now zero.

Scope 3 emissions, the highest at 735.8, include indirect emissions from external activities not directly controlled by the council - such as business travel, waste, and supply chain operations. Their substantial contribution underscores the need for collaborative strategies with partners and suppliers to reduce emissions across the wider system.

Avoided Emissions/Mitigation

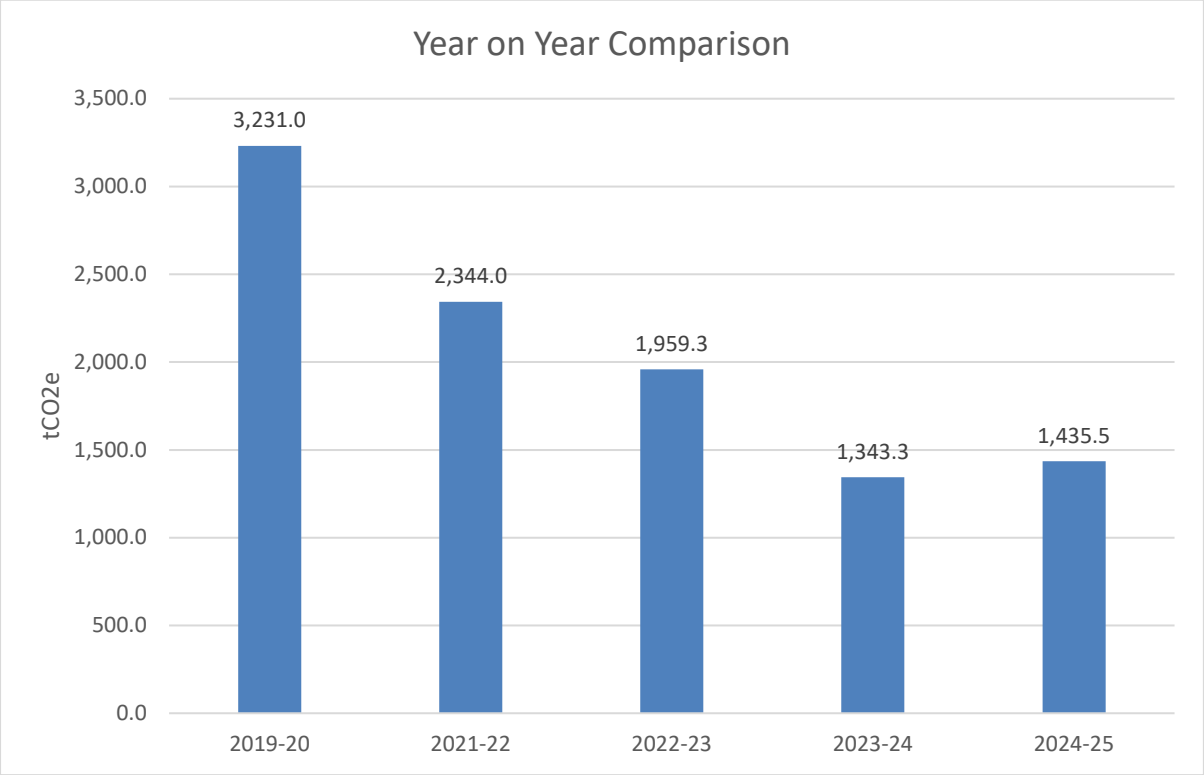
Avoided emissions included within this report are associated with the carbon emissions that have been ‘avoided’ by the production of electricity from renewable sources such as, solar photovoltaic (PV) on-site generation, and the purchase of certified green electricity.

The total avoided emissions for 2024/25 is 225.1 tCO_2e, these count towards Stafford Borough Councils Net Carbon Footprint.

Purchased Green Electricity - The council now purchases green electricity for all monitored sites, which equates to a reduction of 225.1 tCO_2e. This green electricity has a certificate of authenticity (REGO) to show that this electricity is generated from a renewable energy source.

Year on Year Comparison

Figure 2: Year on Year Carbon Comparisons



The figure above illustrates Stafford Borough Council's year-on-year gross carbon footprint emissions. In 2024/25, the council's total emissions rose slightly to 1,435.5 tCO_2e, compared to 1,343.3 tCO_2e the previous year. This modest increase of 92.2 tCO_2e is largely driven by the inclusion of additional emission sources, most notably the incorporation of white diesel usage recorded through fuel card data, which contributed approximately 130 tCO_2e.

In 2022/23, the reported net carbon footprint was 1,360.5 tCO_2e, which factored in carbon offsets from tree planting (a reduction of 651 tCO_2e). The gross footprint for that year, excluding offsets, was 1,959.3 tCO_2e. To ensure year-on-year consistency, the council has since removed offsets from its reporting. As a result, the revised gross figure for 2023/24 was 1,343.3 tCO_2e, providing a more transparent and comparable picture of actual emissions.

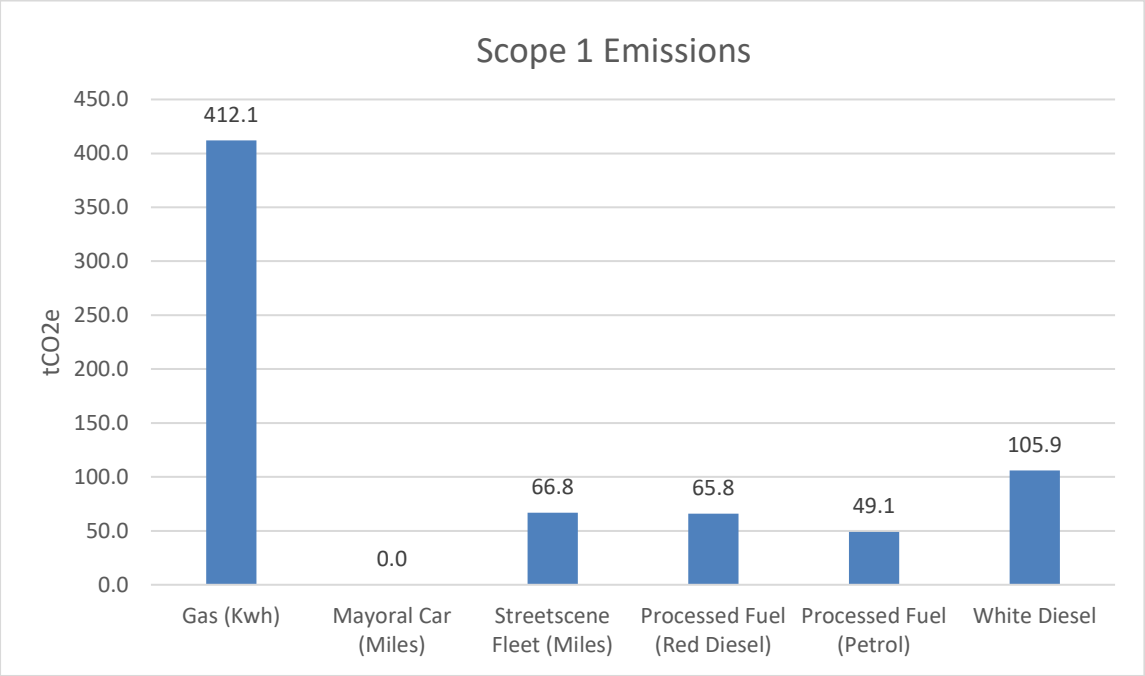
This evolution in reporting practice reflects the council's commitment to improved carbon accounting and more robust monitoring of emissions within its operational control.

Carbon Footprint Summary

Scope 1

Gas and LPG usage, Streetscene fleet and Mayoral Car

Figure 3: Scope 1 Carbon Emissions



Scope 1 emissions represent 48.8% 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, Stafford Borough Council's Scope 1 emissions totalled 613 tCO_2e. This year, the total has increased to 699.7 tCO_2e, representing a rise of 86.5 tCO_2e. Gas consumption remains the largest contributor at 412.1 tCO_2e. The most notable change is the continued inclusion of red diesel and petrol, which together account for over 16% of the total Scope 1 emissions. This increase highlights a more complete and transparent capture of fuel use within the council's operations.

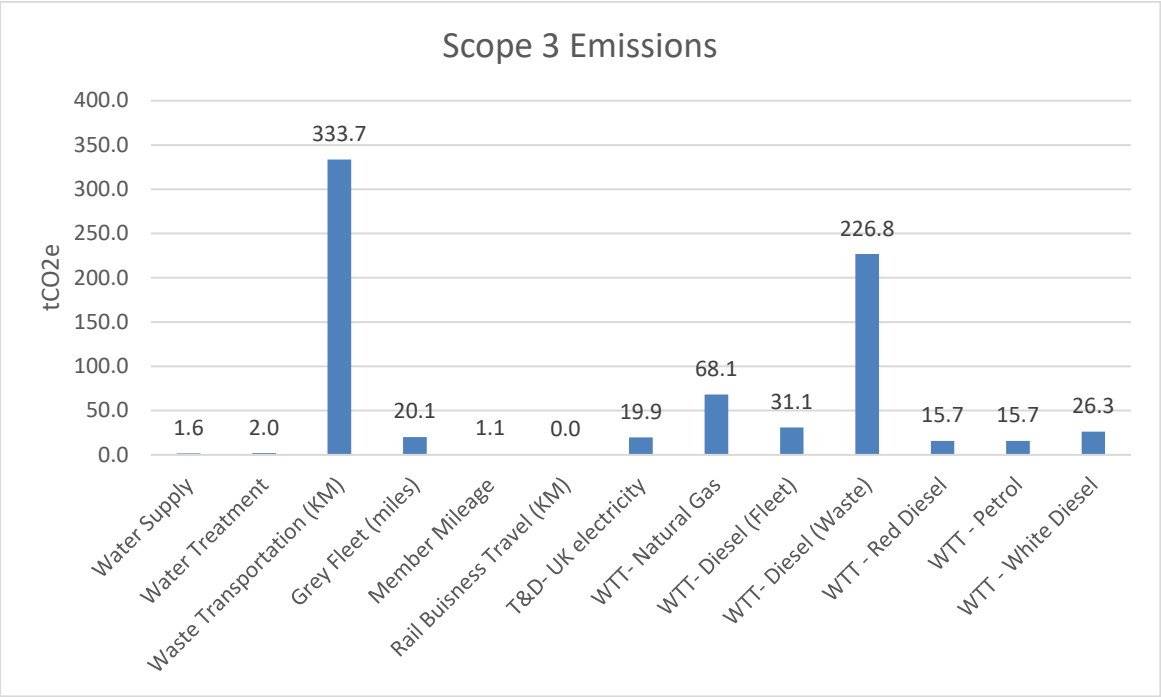
Scope 2

The sole contributor to Scope 2 emissions is electricity usage in the council's owned buildings. Stafford Borough Council now procures 100% green electricity certified through the Renewable Energy Guarantees of Origin (REGO) scheme. As a result, emissions from electricity usage are effectively zero. However, transmission and distribution emissions associated with this electricity are accounted for under the Scope 3 reporting boundary. The REGO certificate will be found attached with the report.

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 4: Scope 3 Carbon Emissions



The total Scope 3 emissions for the council in 2024/25 are 735.8 tCO_2e, reflecting a slight increase of 6.1 tCO_2e compared to the previous year (729.7 tCO_2e). This marginal rise is due to improved data coverage, particularly the inclusion of white diesel (26.3 tCO_2e), which was not previously captured in full.

Scope 3 emissions account for approximately 51% of the council's total carbon footprint, with the largest contributors being:

- Waste Transportation - 333.7 tCO_2e
- Well-to-tank (WTT) emissions from red/white diesel, petrol, and gas usage (totalling 315.6 tCO_2e)

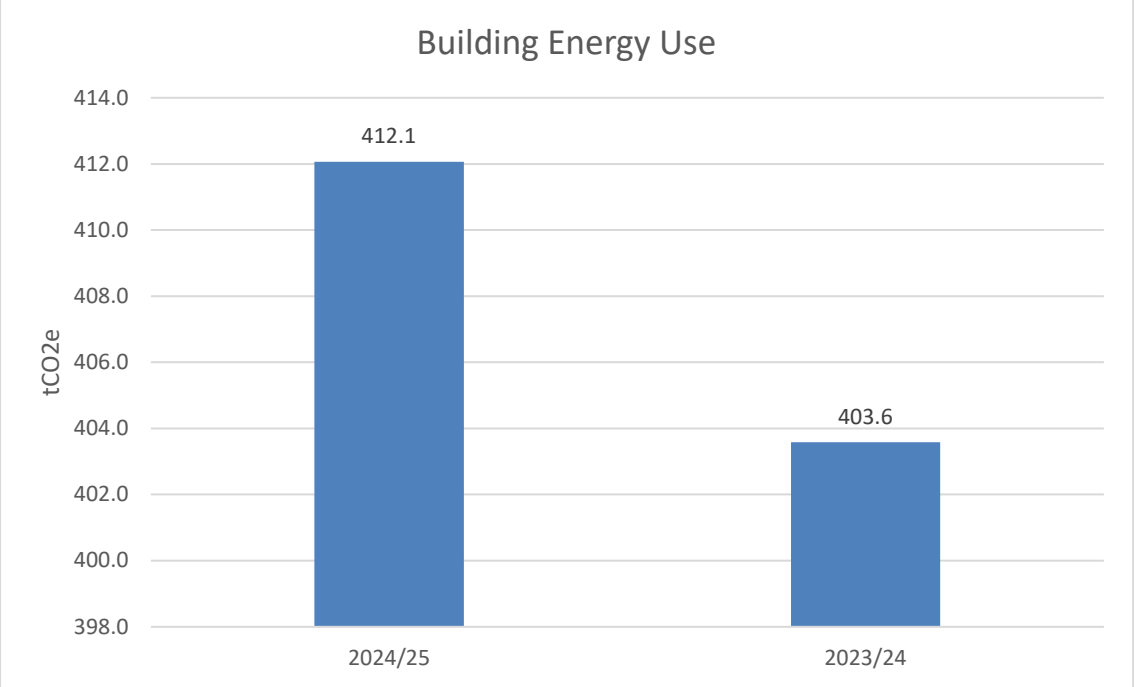
These fuel related emissions reflect upstream energy usage and extraction processes associated with fuel consumed by the council’s fleet and operations.

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.

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

Figure 5: Year on Year Carbon Comparisons - Annual Building Energy Emissions



The information provided above shows a year-on-year comparison of the carbon emissions associated with building energy usage.

This year, building gas carbon emissions have increased from 403.6 tCO_2e in 2023/24 to 412.1 tCO_2e in 2024/25 - a 2.1% rise. The primary contributor remains space and water heating across the council's built assets.

Electricity emissions are no longer included in this section due to the council's switch to a green electricity tariff, which no accounts for zero emissions under Scope 2.

The slight increase in gas usage may be attributed to a colder heating season during the last financial year, resulting in higher energy demand for maintaining indoor temperatures.

Fleet, Mayoral Car, and LPG Usage - Scope 1

Figure 6: Year on Year Carbon Comparisons - Streetscene Fleet, Mayoral Car Fleet, Petrol, and Red and White Diesel

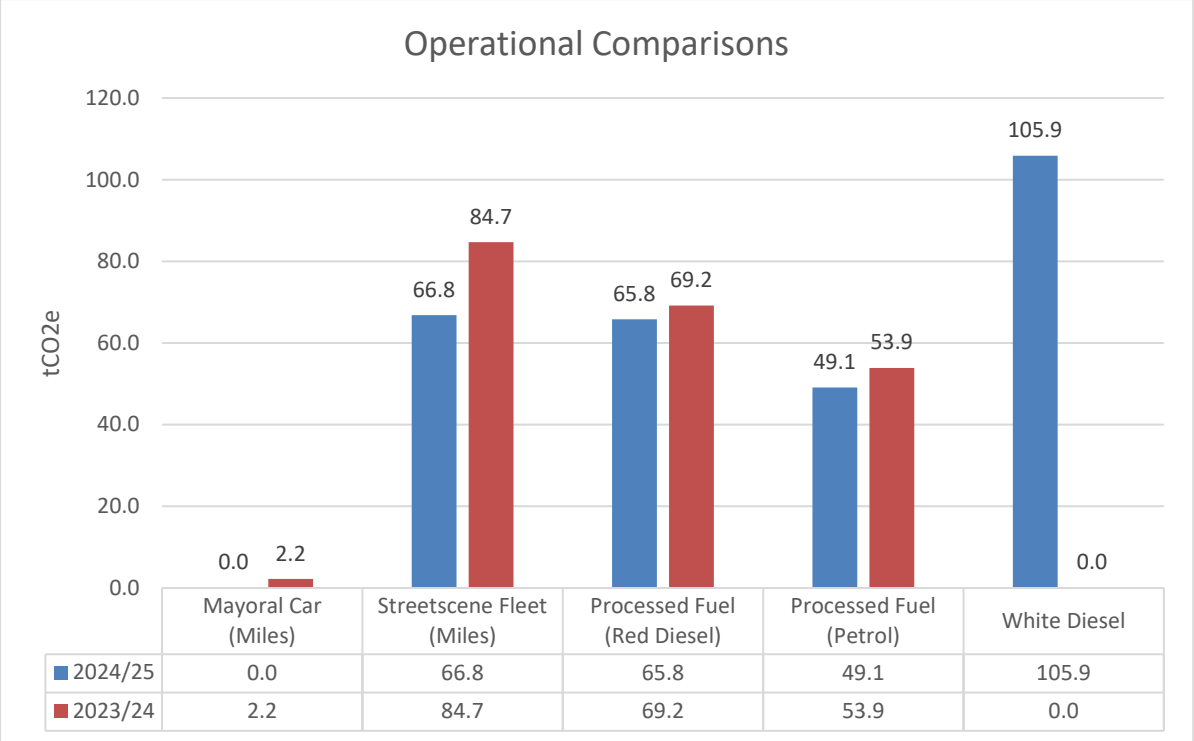


Figure 6 provides a year-on-year comparison of Scope 1 emissions from the Streetscene fleet, Mayoral Car, and processed fuel usage.

The Mayoral Car has now fully transitioned to an electric vehicle, reducing emissions from 2.2 tCO_2e in 2023/24 to 0 tCO_2e in 2024/25, representing a complete 100% reduction in carbon emissions.

The Streetscene fleet has achieved a notable reduction in emissions, decreasing from 84.7 tCO_2e to 66.8 tCO_2e - a 21% reduction, likely due to route optimisation or improved vehicle efficiency.

Processed fuel usage has also shown a decline. Red diesel emissions have dropped from 69.2 tCO_2e to 65.8 tCO_2e (a 5% reduction). While Petrol emissions fell from 53.9 tCO_2e to 49.1 tCO_2e (a 9% reduction).

White diesel from fuel cards has been included in the audit for the first time, contributing 105.9 tCO_2e. This addition significantly increases the completeness and accuracy of the council's Scope 1 reporting, in line with LGA guidance and best practice for fleet emission tracking.

Annual Waste Transport (Collection) - Scope 3

Figure 7: Year on Year Carbon Comparisons - Annual Waste Transportation Emissions

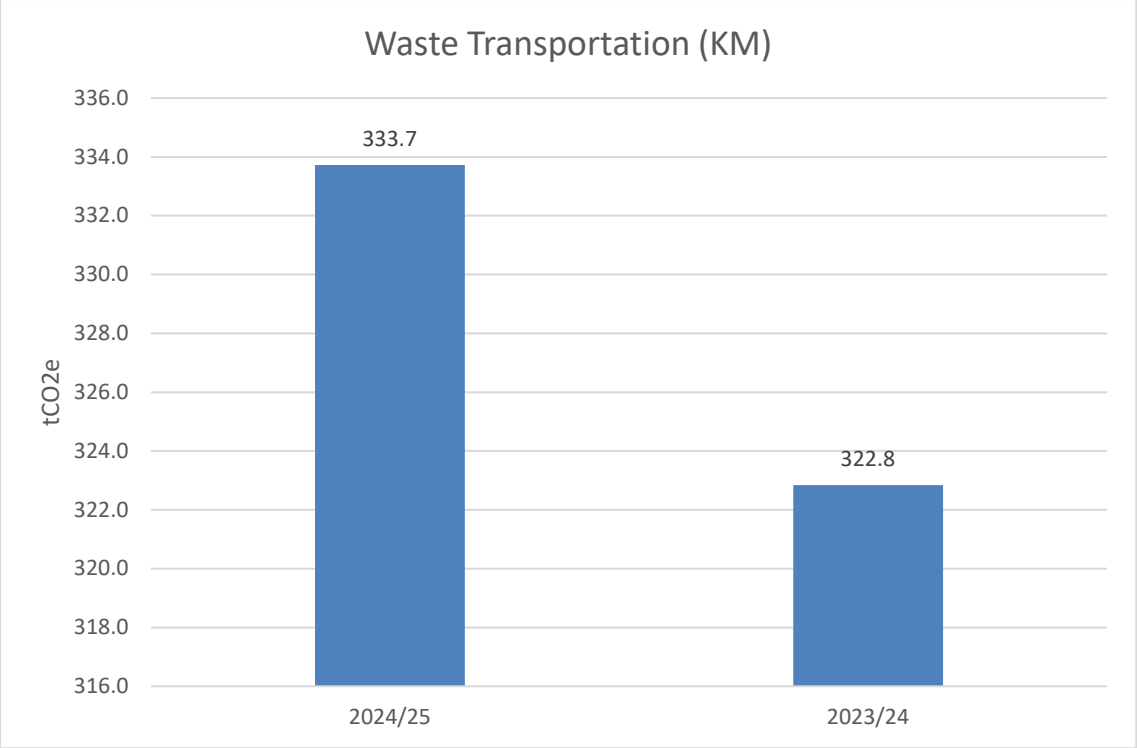


Figure 7 provides a year-on-year comparison of emissions associated with waste transportation.

This year, carbon emissions have increased from 322.8 tCO_2e in 2023/24 to 333.7 tCO_2e in 2024/25, representing a 3.4% rise. This slight increase may be attributed to fluctuations in waste tonnage collected, operational routing, or vehicle payload efficiency. The council continues to use updated conversion factors and a maximum Refuse Collection Vehicle (RCV) payload of 11 tonnes to ensure accurate and consistent tCO_2e measurement.

WTT emissions- Scope 3

Figure 8: Year on Year Carbon Comparisons - Annual WTT emissions

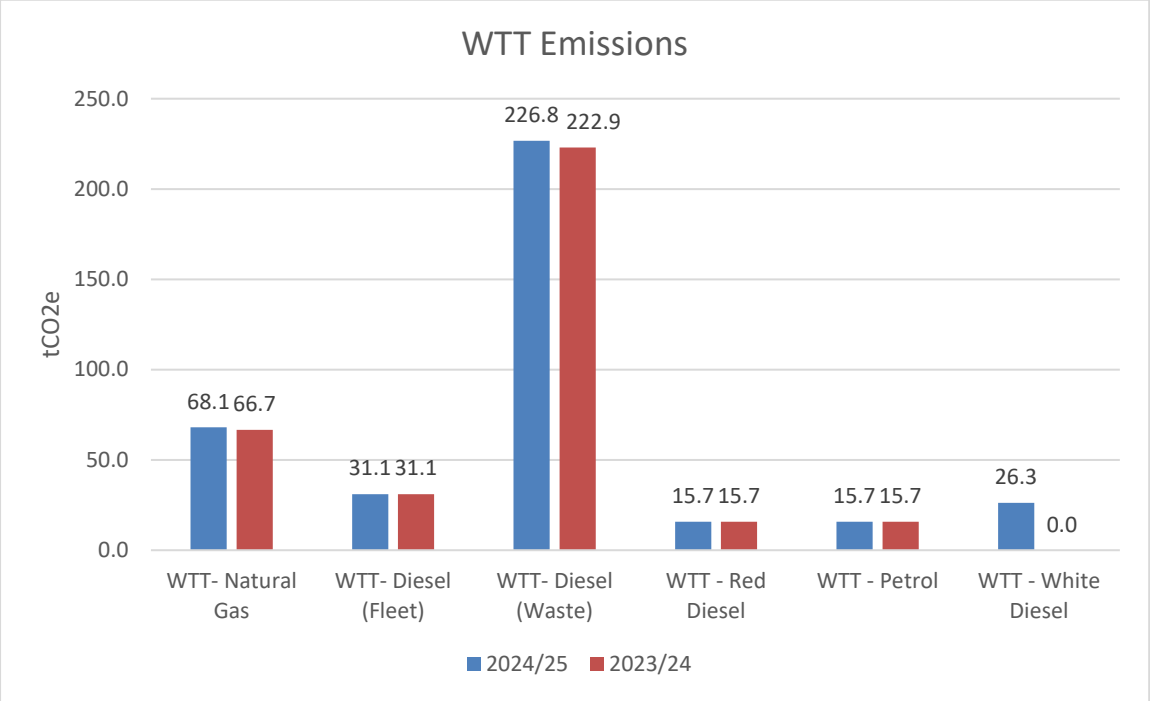


Figure 8 illustrates the year-on-year comparison of emissions associated with Well-to-Tank (WTT) fuel usage. Over the past year, the reporting boundaries have been updated to align with Local Government Association (LGA) guidance. This ensures that all relevant emissions are reported accurately and transparently.

The data shows a slight increase in WTT emissions for natural gas, rising from 66.7 tCO_2e to 68.1 tCO_2e, and a marginal increase for diesel used in the council fleet, from 222.9 tCO_2e to 226.8 tCO_2e. Emissions related to diesel used in the internal fleet remain constant at 31.1 tCO_2e.

Emissions for red diesel and petrol are also unchanged at 15.7 tCO_2e each.

White diesel has been included for the first time in this years WTT analysis, contributing 26.3 tCO_2e. Its inclusion reflects a more complete accounting of upstream fuel emissions, improving the overall robustness of the carbon footprint report.

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

Figure 9: Year on Year Carbon Comparisons - Annual Water Supply, Treatment Emissions, Transmission and Distribution of Electricity

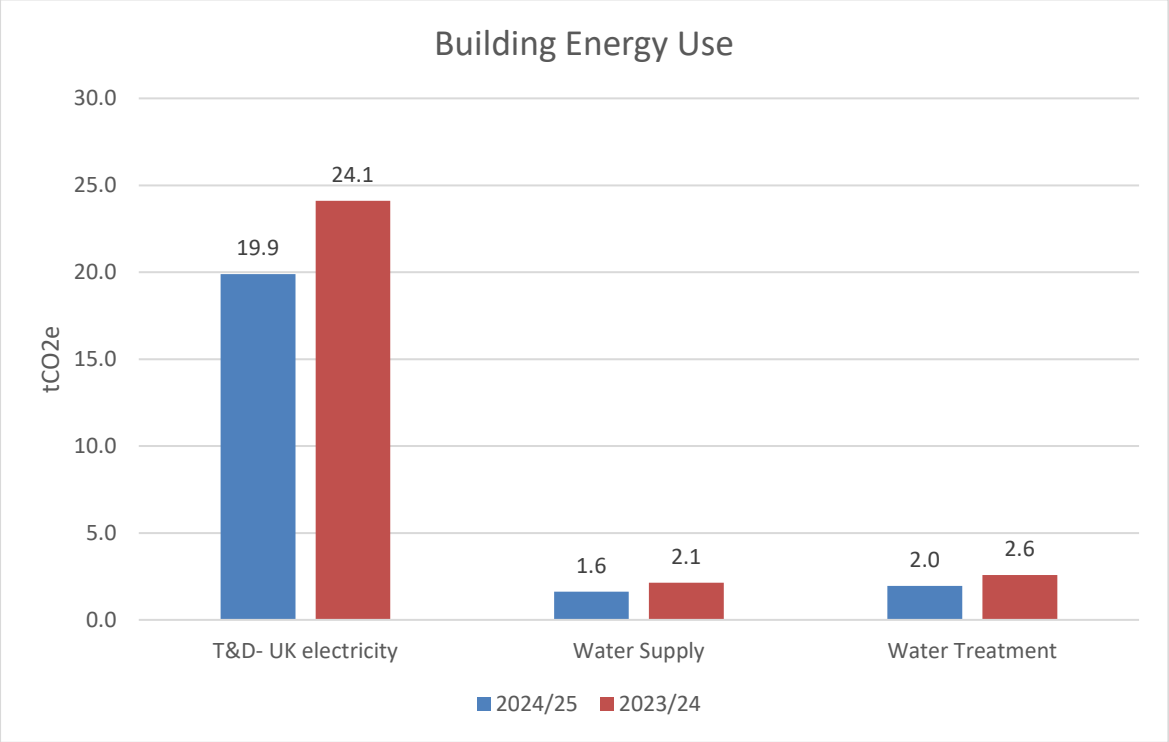


Figure 9 presents a year-on-year comparison of carbon emissions associated with water supply, water treatment, and the transmission and distribution of electricity.

Emissions from water supply have decreased from 2.1 tCO_2e in 2023/24 to 1.6 tCO_2e in 2024/25, and water treatment emissions have also fallen from 2.6 tCO_2e to 2.0 tCO_2e, representing reductions of 24% and 23% respectively.

Emissions from transmission and distribution of UK electricity have also declined, dropping from 24.1 tCO_2e to 19.9 tCO_2e - a 17% reduction, likely linked to lower grid usage due to improved energy efficiency and the continued transition to low-carbon electricity sources.

These values are reported in line with LGA guidance to ensure comprehensive and transparent accounting of the council's indirect Scope 3 emissions related to essential utility services.

Annual Grey Fleet and Business Travel - Scope 3

Figure 10: Year on Year Carbon Comparisons - Grey Fleet, Member Mileage, Rail Business Travel Emissions

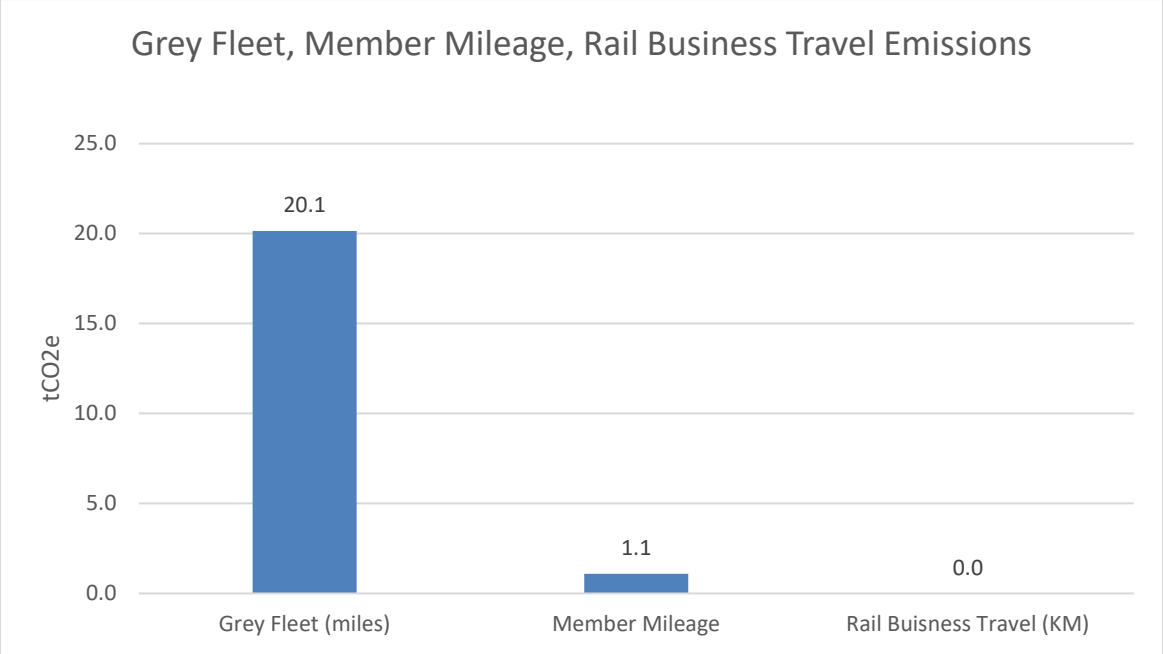


Figure 10 compares carbon emissions from grey fleet, member mileage, and rail business travel for 2023/24 and 2024/25.

Grey fleet emissions have decreased from 24.6 tCO_2e in 2023/24 to 20.1 tCO_2e in 2024/25, representing an 18% reduction. This suggests a modest shift away from private vehicle use for business purposes, though grey fleet remains a significant contributor to business travel emissions.

Member mileage emissions also saw a slight decrease, from 1.2 tCO_2e to 1.1 tCO_2e, likely reflecting stable but slightly reduced in-person commitments by elected members.

Rail business travel emissions dropped from 0.1 tCO_2e to 0.0 tCO_2e, indicating no rail travel claims were recorded in the current year.

These changes may reflect evolving work patterns, improved travel policies, or a gradual shift toward remote engagement. To build on this positive trend, the council could further explore opportunities to reduce grey fleet use - such as through car sharing, increased public transport uptake, or virtual alternatives to travel.

Detail of SBC Carbon Footprint

Scope 1

Figure 11: Scope 1 Summary

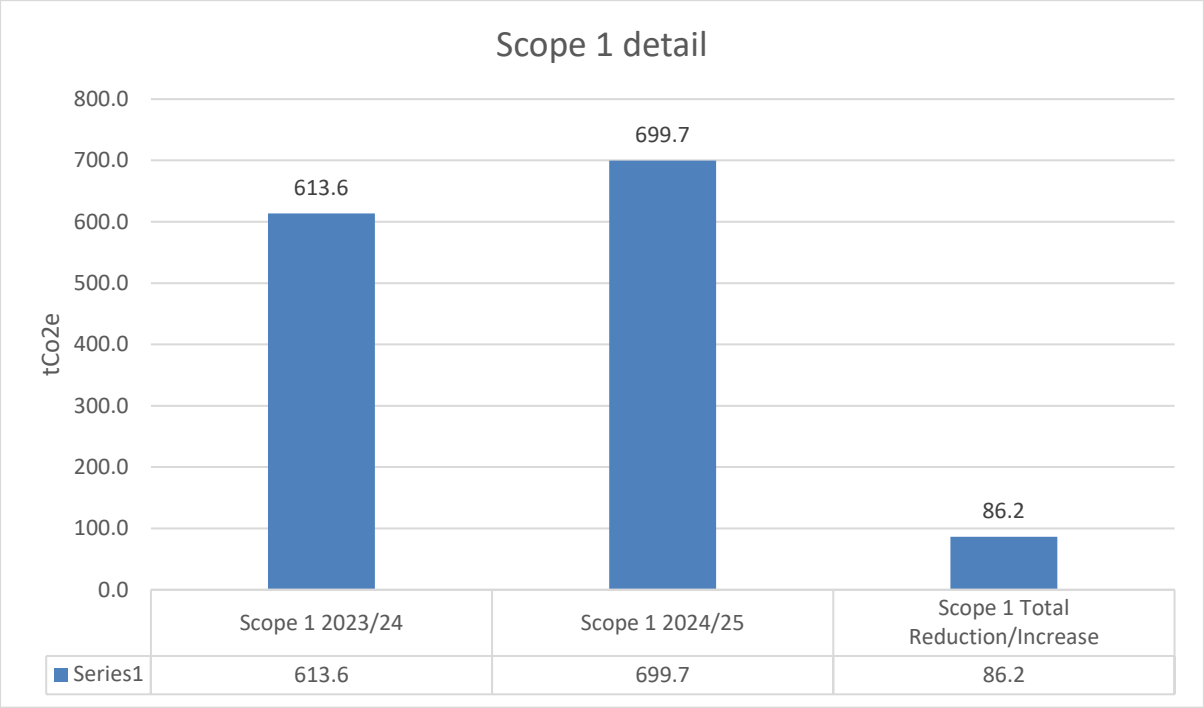


Figure 11 highlights the Scope 1 carbon footprint, comparing emissions from 2022/23 to 2023/24, along with the total reductions or increases observed during that period.

Gas usage: Emissions from gas usage have increased by 25.3 tCO_2e, primarily due to the UK experiencing a much colder year-round climate, leading to higher heating demand.

Streetscene Fleet Emissions: These have decreased by 5.4 tCO_2e because of targeted efforts to reduce vehicle idling and unnecessary travel. Additionally, the council no longer uses LPG for the operation of machinery, such as polytunnels, contributing to this reduction.

Mayoral Car Emissions: There has been a small increase of 0.2 tCO_2e due to additional usage. However, this figure is expected to decline significantly in the next reporting year.

Red Diesel and Petrol Emissions: The inclusion of emissions from red diesel and petrol has added 69.2 tCO_2e and 53.9 tCO_2e, respectively. This inclusion demonstrates the council's commitment to transparency and adherence to LGA guidelines for reporting all relevant emissions.

Scope 2

Electricity emissions have decreased to zero, a direct result of the council's transition to 100% green electricity across all its sites. This significant reduction has effectively brought Scope 2 emissions to net zero, showcasing the council's commitment to sustainability and its proactive approach to reducing carbon emissions through renewable energy sourcing.

This achievement reflects the council's alignment with best practices and its ongoing efforts to reduce its overall carbon impact.

Scope 3

Figure 12: Scope 3 Summary

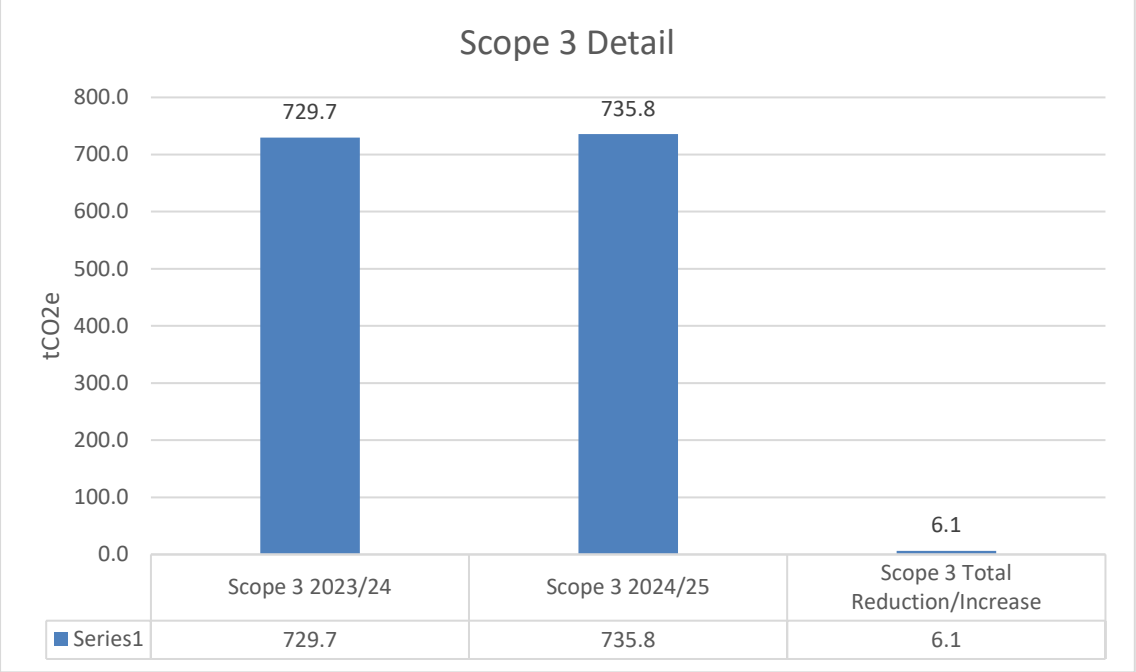


Figure 12 provides an overview of the Scope 3 carbon footprint, focusing on Well-to-Tank (WTT) emissions and other indirect sources. This year, as mentioned before the reporting boundaries have been updated to align with LGA guidelines.

In 2024/25, total Scope 3 emissions rose slightly to 735.8 tCO_2e, up from 729.7 tCO_2e in 2023/24 - an overall increase of 6.1 tCO_2e. This minor rise is attributed primarily to the inclusion of white diesel from our internal fleet's fuel cards.

Key contributors to the Scope 3 footprint this year include:

- Water Supply and Treatment - Emissions from water supply remained consistent at 2.1 tCO_2e, while water treatment emissions decreased by 16%, from 2.5 tCO_2e to 2.1 tCO_2e.
- Grey Fleet - Emissions from employee-owned vehicle use remained steady, reflecting ongoing efforts to encourage low-carbon travel options.
- Well-to-Tank (WTT) - WTT emissions, which account for the upstream production and delivery of fuels and electricity, continue to represent a notable share of Scope 3 emissions.
- Electricity Transmission and Distribution - A small increase in emissions from grid losses contributed to the overall rise in Scope 3 totals.
- Waste Fleet - This year, carbon emissions have increased from 322.8 tCO_2e in 2023/24 to 333.7 tCO_2e in 2024/25, representing a 3.4% rise. This slight increase may be attributed to fluctuations in waste tonnage collected, operational routing, or vehicle payload efficiency.

Summary of Key Assumptions

Key Assumption	Source / Reference
All activity data included within this report has been provided directly by Stafford Borough 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. assets.publishing.service.gov.uk/media/6722567487df31a87d8c497e/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.	Stafford Borough Council

Key Assumption	Source / Reference
Process Fuel - Streetscene 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 - Streetscene To be able to calculate the carbon emissions from the fuel data provided, an assumption has been made that the fuel type is diesel.	Streetscene
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.	Veolia
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	www.local.gov.uk/guide-climate-change-reporting-guidance-local-authorities

Appendix 1

Freedom Leisure Contract 2024/25

Figure 13: Freedom Leisure Carbon Emissions

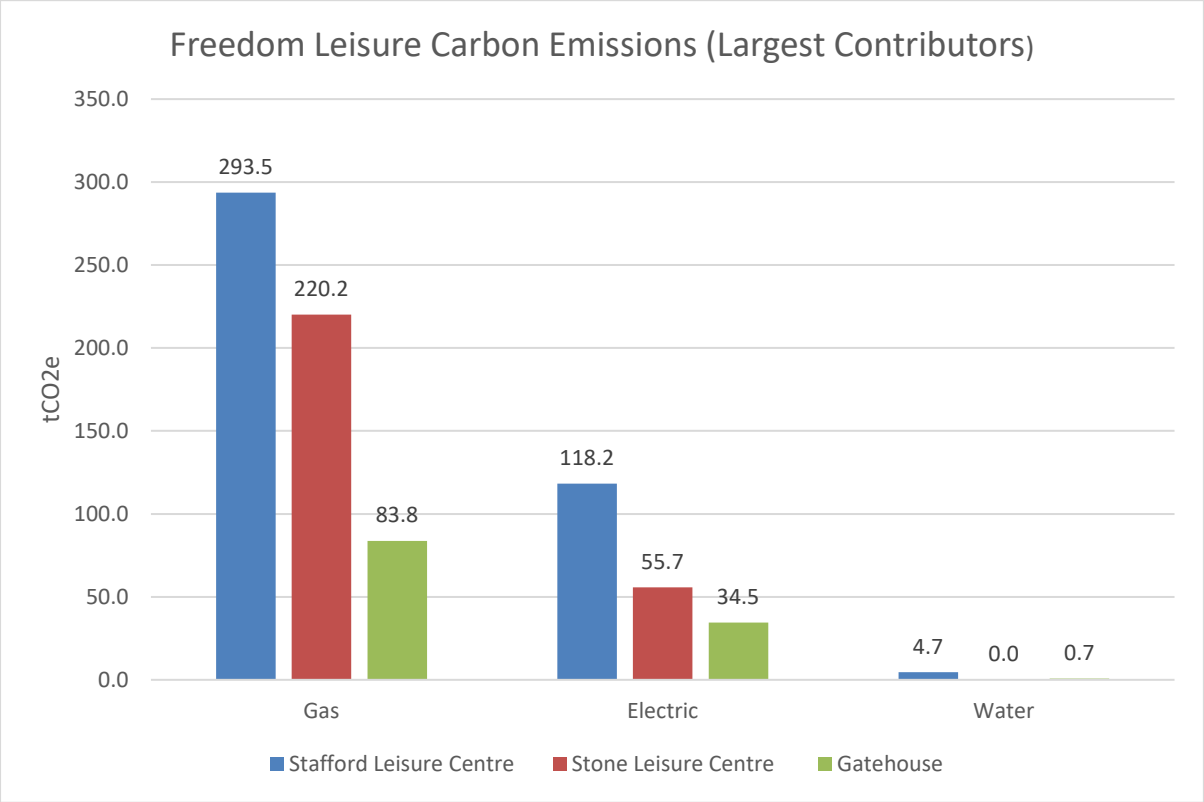
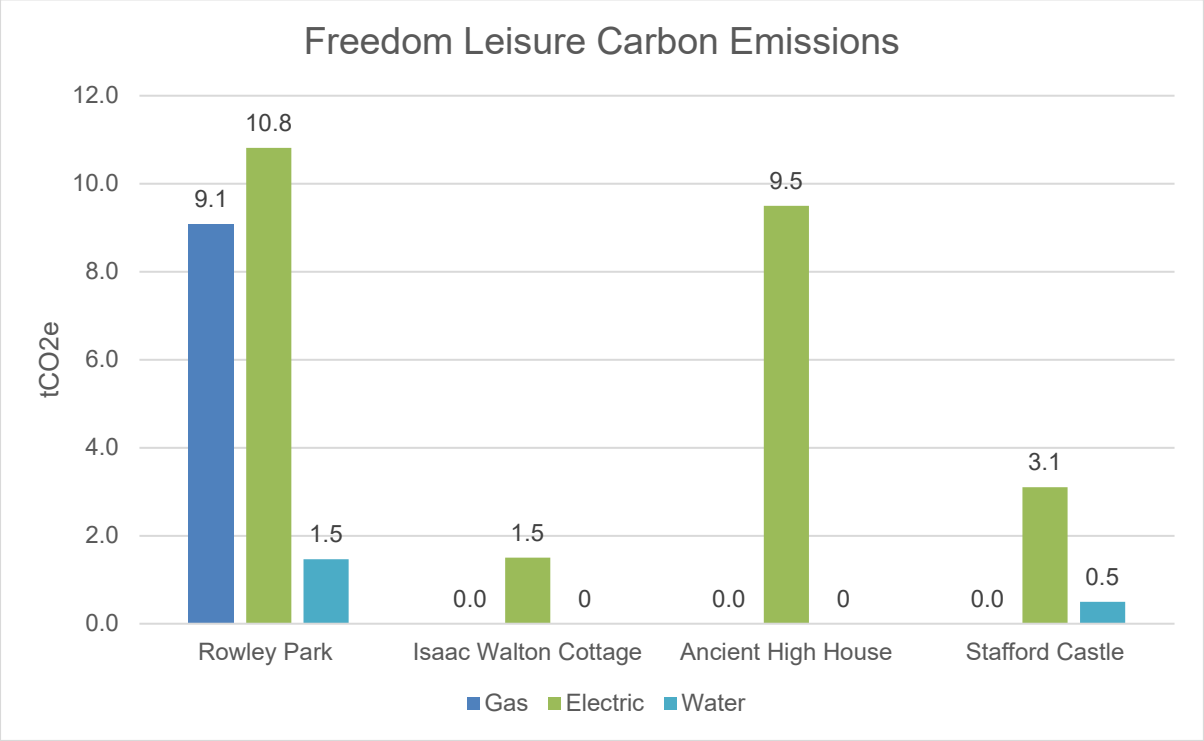


Figure 13 shows the buildings that are managed on the council's behalf by Freedom Leisure with the largest carbon emissions.

Figure 14: Freedom Leisure Carbon Emissions (other)



The above table shows the carbon emissions for the other buildings that are managed by Freedom Leisure on behalf of the council.

It is important to note that Stafford Borough Council does not directly control these buildings, and any carbon reduction measurements will be done in conjunction with Freedom Leisure.

Whilst this information has been shown in this carbon audit, it has again not been included in calculating the council's 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.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