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Welwyn Hatfield Council Corporate Emissions Report **2021/22**

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1 Document Control

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1.1 Revision History

Date	Version	Description	Author
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1.2 Contact Information

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2 Executive Summary

Local authorities are required to monitor annual energy consumption and other sources of greenhouse gas emissions. Welwyn Hatfield Council reports Scope 1, 2, and limited Scope 3 emissions using Carbon Dioxide Equivalent (CO₂e), covering a period matching its financial year (April – March). This report documents the 01/04/2021– 01/04/2022 financial year's emissions performance. Emissions have been calculated using activity data from multiple sources and applying appropriate emissions conversion factors published by the department for Business, Energy and Industrial Strategy (BEIS). The methodology for calculating emissions this financial year possibly differs slightly to those made in previous years due to:

- The correct emissions factors for the year have been applied based on the majority of emissions data falling in 2021
- Scope 3 rail and taxi emissions are estimated based on fares-to-mileage calculations
- Scope 1 and 2 building-related emissions have been automatically calculated by TEAM Sigma software

Headline emissions, recorded in tonnes of CO₂e, are displayed in Table 1 below. Emissions have decreased this financial year compared to the previous, which is possibly to be expected due to the lessening impacts of the COVID-19 pandemic. The proportion of emissions related to Scopes 1, 2, and 3 has changed quite significantly this year also, evident in Table 1 and Figure 1 below.

	19-20	20-21	21-22
Total Emissions (tCO₂e)	2,507	2,000	1,405
Emissions per Household (tCO₂e/house)	0.0578	0.0461	0.0304
Emissions per turnover (tCO₂e/£m)	17.9	14.3	NA

Table 1 - Welwyn Hatfield Council annual emissions and intensity measures

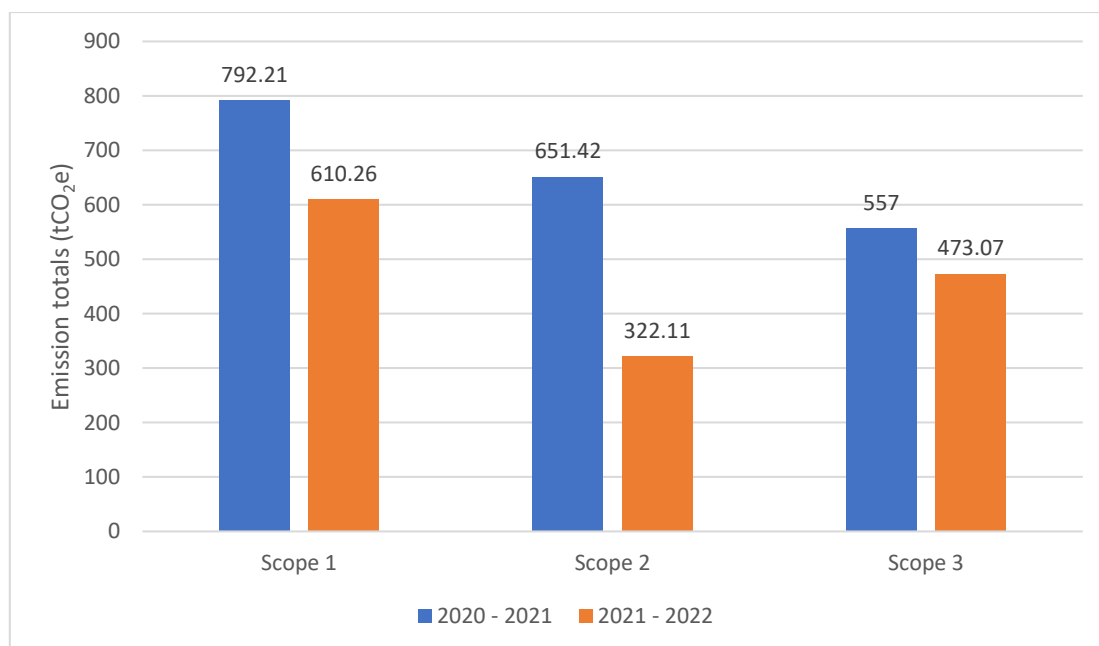


Figure 1 Scope breakdown comparing emissions levels 2020 - 2021 and 2021 - 2022 in the Welwyn Hatfield district

3 Scope of Corporate Emissions Report for Welwyn Hatfield Council

This emissions report will cover elements of the following emission categories:

1. Scope 1 – All Direct Emissions from the activities of Welwyn Hatfield Council or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.
2. Scope 2 – Indirect Emissions from electricity purchased and used by Welwyn Hatfield Council. Also included are the generation or consumption of heat or steam. Emissions are created during the production of the energy and eventually used by Welwyn Hatfield Council.
3. Scope 3 – Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities not covered in Scope 2, outsourced activities

We have analysed the following sources of emissions by Welwyn Hatfield Council:

Scope 1:

- Natural gas
- Company owned vehicles

Scope 2:

- Electricity

Scope 3:

- Business Travel – train and taxi travel
- Purchased Goods & Services - paper usage
- Fuel (Other Energy) - electricity transmission and distribution losses
- Leased Assets – subcategory leisure sites

4 Methodology

TEAM were able to source data covering 01/04/2021 – 01/04/2022 from:

- Billing/Invoice data obtained from Sigma on the 20/09/2022 – Billed cost and carbon emissions report
- Mileage data taken from Welwyn Hatfield's employee expenses
- Employees transport expense claims covering the period of the 01/04/2021 – 01/04/2022
- Amount of paper purchased throughout the 01/04/2021 – 01/04/2022 period
- Number of households within the Welwyn Hatfield district taken from the 2021 census

Using the most relevant conversion factors provided by The Department for Business, Energy and Industrial Strategy (BEIS) can be found in the 'Conversion factors 2021 (Full set advanced users)' document. TEAM were able to convert the usable data into Tonnes of Carbon Dioxide equivalent (tonnes of CO₂e).



In line with the aforementioned scope of the emissions report, the data from the sources listed above were categorised into Scope 1, Scope 2 and Scope 3 emissions.

5 Results

TEAM have identified that between 01/04/2021 – 01/04/2022 Welwyn Hatfield Council emitted 1,405.45 tonnes of CO₂e.

01/04/2021 – 01/04/2022 Results	Scope 1	Scope 2	Scope 3	Total
Tonnes of CO ₂ e	610.26	322.11	473.07	1,405.45
Percentage of total emissions	43.74%	23.09%	33.66%	100%

Table 2: Summary of results for reporting year

2020 – 2021 Results	Scope 1	Scope 2	Scope 3	Total
Tonnes of CO ₂ e	792.21	651.42	557.00	2,000.00
Percentage of total emissions	39.61%	32.57%	27.85%	100%

Table 3: Summary of results for previous year

This therefore shows that Welwyn Hatfield Council decreased their emissions by 594.55 tonnes of CO₂e between the previous reporting year and this reporting year. This is a decrease of 29.73%. The emissions per household this reporting year are 0.0304 tCO₂e per household. This is a decrease of 0.0157 tCO₂e per household on the previous reporting year.

6 Recommendations

- Look to provide a methodology breakdown of how the reports of previous years were produced – In most cases it's impossible to work out exactly how calculations were completed/where data was pulled from. In order to make these reports more comparable year on year it would be very beneficial to know exactly how calculations were completed and then an exact comparison can be made.
- Keep track of records - for example, when it comes to travel expenses track mileage as well as ticket price or fare. Having strong data in place allows for greater accuracy when it comes to calculating emissions produced as it eliminates the need to make assumptions.
- Further analysis comparing Welwyn Hatfield's impact compared to the rest of the country, potentially comparing data to a similar sized district. This could provide further insight into what's going well and what could be improved.
- Record a greater amount of Scope 3 emissions: commuting (including homeworking) and waste (including water) are common Scope 3 emissions reported by most organisations, with significant impact to emissions totals and significant ability for the organisation to influence. Emissions related to purchased goods & services, above paper usage included within scope so far, is another category which would be expected to have significant impact to Welwyn Hatfield Council's emission total.

7 Appendix

7.1 Backing data

Gas - Carbon Emissions excluding leisure (kgCO ₂ e)	Gas - Carbon Emissions excluding leisure (tCO ₂ e)	
589,049.00	589.05	
Company owned vehicles emissions produced (kgCO ₂ e)	Company owned vehicles emissions produced (tCO ₂ e)	Company owned vehicles (miles)
21,215.19	21.22	69,724.9
Total Scope 1 Emissions (kgCO ₂ e)	Total Scope 1 Emissions (tCO ₂ e)	
610,264.2	610.26	

Total Scope 2 Emissions (kgCO ₂ e)	Total Scope 2 Emissions (tCO ₂ e)	
322,110	322.11	

Total Scope 3 Emissions (kg CO ₂ e)	Total Scope 3 Emissions (tCO ₂ e)
473,073.16	473.07

Leased assets – Leisure subcategory (Gas) (kgCO ₂ e)	Leased assets – Leisure subcategory (Gas) (tCO ₂ e)
234,379	234.38
Leased assets – Leisure subcategory (Elec) (KgCO ₂ e)	Leased assets – Leisure subcategory (Elec) (tCO ₂ e)
207,131	207.13
T & D Losses (KgCO ₂ e)	T & D Losses (tCO ₂ e)
28,813.17	28.81
Purchased goods & Services - Paper usage (KgCO ₂ e)	Purchased goods & Services - Paper usage (tCO ₂ e)
2,643.26	2.64
Business travel - Train and taxi travel (KgCO ₂ e)	Business travel - Train and taxi travel (tCO ₂ e)
106.73	0.11

Total Emissions WHC 2022 (kg CO ₂ e)	Total Emissions WHC 2022 (tCO ₂ e)
1,405,447.35	1,405.45

7.2 Assumptions made

- Estimated emissions based on the travel data
- All properties which fall under the 'Leisure' category are leased and therefore consumption data falls under Scope 3
- Mileage data assumed any unknown/missing car/engine sizes were average petrol cars as the majority of fleet vehicles were petrol
- Assumed engine size of fleet vehicle: Below 1000cc = Small, Medium 1000cc – 1800cc, Large 1800+ cc
- Assumed that the average price per mile when it came to train travel was £0.54 per mile which is the figure published on an official report published by Vouchercloud <https://www.vouchercloud.com/resources/train-prices-across-europe>
- Assumed the distance travelled by taxi based on a comparable taxi fare into London