

Greenhouse Gas (GHG) Emissions Report 2023/2024



Summary & Carbon Management Targets

Baseline Year

Our baseline year is 2008/9. In 2012/13 we re-calculated our baseline using the new conversion factors as instructed by DEFRA.

2024 Intensity Measurement and Targets for the Future

We have chosen 'tonnes of CO₂e per full time equivalent' as this is the most appropriate measurement for local authorities. Only scope 1 and scope 2 emissions are used to calculate the intensity measurement as per DEFRA Guidance. (Please note, our intensity measurements have been re-calculated for all previous years to reflect this guidance).

Our carbon intensity measurement is **2.9**, which has decreased from 3.1

Historically targets were set through the Local Area Agreement for Lincolnshire (2008/9 to 2010/11) for NI 185 CO₂ emissions and through the Carbon Measurement Plan (2008/09 to 2013/14).

The council has approved a new Carbon Management Plan in July 2021 which has set a target of reducing the Council's Carbon Emissions to net-zero by 2050. More information on the plan and how we plan to achieve this target can be found here: [Carbon Management | West Lindsey District Council \(west-lindsey.gov.uk\)](https://www.west-lindsey.gov.uk/carbon-management)

This year, we have seen our CO₂e emissions decreased from **1396.4t** to **1350t**.

We have seen another decrease in our carbon output for the year and this is predominantly down to a decrease in electricity usage mostly across the portfolio and a decrease in fuel usage at our waste depot.

We are now seeing the benefit of the green energy tariff that we opted into 2 years ago in the form of carbon reduction. 70.26 Tonnes of Co₂/e reduction is down to the green energy tariff. This works by our energy supplier buying an equivalent amount of energy used from sustainable sources such as wind/solar farms and hydroelectric.

Definitions

Carbon Dioxide Equivalent – *Carbon Dioxide Equivalent (CO₂e) is a universal measurement that allows the climate impact of different Greenhouse Gases to be compared on a like-for-like basis. All Greenhouse Gas emissions at WLDC are reported using this metric.*

Intensity Measurement - *Tonnes of CO₂e per full-time equivalent member of staff. This is calculated, as per DEFRA guidance by using Scope 1 and Scope 2 emissions only.*

Conversion Factor – *The number by which the metric of activity is multiplied in order to determine CO₂e emissions.*

Scope 1 Emissions – *Emissions that are produced by sources owned, operated or controlled by the organisation.*

Scope 2 Emissions – *Emissions from the consumption of purchased electricity, steam, or other sources of energy (e.g. chilled water) generated upstream from the organisation.*

Scope 3 Emissions - *Emissions that are consequence of the operations of an organisation, but are not directly owned or controlled by the organisation.*

For WLDC purposes, the activities measured by each scope are contained in Table 1.

Abbreviations

CO₂e – Carbon Dioxide Equivalent

DEFRA – Department for Environment, Food & Rural Affairs

WLDC – West Lindsey District Council

GHG – Greenhouse Gas

T&D – Transmission & Distribution Losses

NEF – National Energy Foundation

FTE – Full Time Equivalent

APSE – Association for Public Service Excellence

REGO – Renewable Energy Guarantee of Origin

Summary of WLDC Greenhouse Gas Emissions 2008/9 – 2023/24

Table 1: WLDC GHG Emissions Data 2008/9 – 2023/24

GHG Emissions data for 01/04/08 - 31/03/24																
Tonnes of CO₂e¹																
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Scope 1	708	448	747	708	804	741	765	732	714	710.90	717.20	751.90	793.90	864.48	846.3	767.98
Scope 2	615	583	522	388	326	256	269	318	265	230.00	180.09	177.54	150.40	154.25	141.58	158.67
Scope 3	713	659	613	516	615	622	622	592	598	511.75	450.57	385.69	372.17	501.53	418.5	454.8
Outside of scopes	-	-	-	-	-	15	15	20	15	15.00	8.00	8.21	44.56	47.72	41.55	38.58
Total gross emissions	2036³ (2111)²	1691³ (1746)²	1881⁴ (1658)²	1612⁴ (1474)²	1745⁴	1634	1671	1662	1592	1468	1356	1323	1361	1567.98	1447.93	1420.03
Carbon offsets	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Green tariff	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51.6	70.26
Total annual net emissions	2036	1691	1881	1612	1745	1634	1671	1662	1592	1473	1356	1323	1361	1567.98	1396.33	1349.77
Intensity Measurement tonnes of CO₂e per full time equivalent⁵	4.1	3.4	4.2	3.9	4	3.5	3.7	3.75	3.62	3.33	2.97	3.8	3.9	3.4	3.1	2.9
Number of full time equivalents plus councillors	288.54 + 37 = 325.54	265.82 + 37 = 302.82	263.71 + 37 = 300.71	246 + 37 = 283	243.28 + 37 = 280.28	245.77 + 37 = 282.77	241.4 + 37 = 278.4	243.36 + 37 = 280.36	234.53 + 36 = 270.53	245.01 + 37 = 282.01	278.05 + 24 = 302.05	240.98 + 36 = 276.48	245.07 + 49 = 294.07	247.07 + 49 = 296.07	267.2 + 51 = 318.2	266.3 + 50 = 316.3

¹ Tonnes of carbon dioxide equivalent (CO₂e). CO₂e is a universal unit of measurement that allows the global warming potential of different GHGs to be compared.

² Original total gross CO₂e emissions as published in previous GHG reports.

³ New CO₂e total gross emissions re-calculated in 2013 using new conversion factors.

⁴ New CO₂e total gross emissions re-calculated in 2013 using new conversion factors and using litres of fuel for fleet.

⁵ Calculated using scope 1 and 2 only as per Defra Guidance.

Our carbon footprint was restated in 2013 for all years (from the baseline year of 2008/9 onwards) in order to account for material changes to the conversion factors provided by DEFRA for company reporting purposes. For further information on the re-baselining of Greenhouse Gas (GHG) emissions, please refer to DEFRA's 'Environment Reporting Guidelines', found at:

<https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance>

We also took the opportunity to re-calculate fleet emissions based on liters of fuel as it is recommended that this more accurate measurement is used, rather than mileage: however, we only have data on liters of fuel used for 10/11, 11/12, 12/13, 13/14 and 14/15 which means that comparing figures with 08/09 and 09/10 is not advisable.

Local Authority operations are most suited to the 'Operational Control' methodology for reporting greenhouse emissions. This approach is used across the whole of the operations undertaken by the local authority.

Fig 1. WLDC Combined CO2e Emissions over Time (2008/9 – 2023/24)

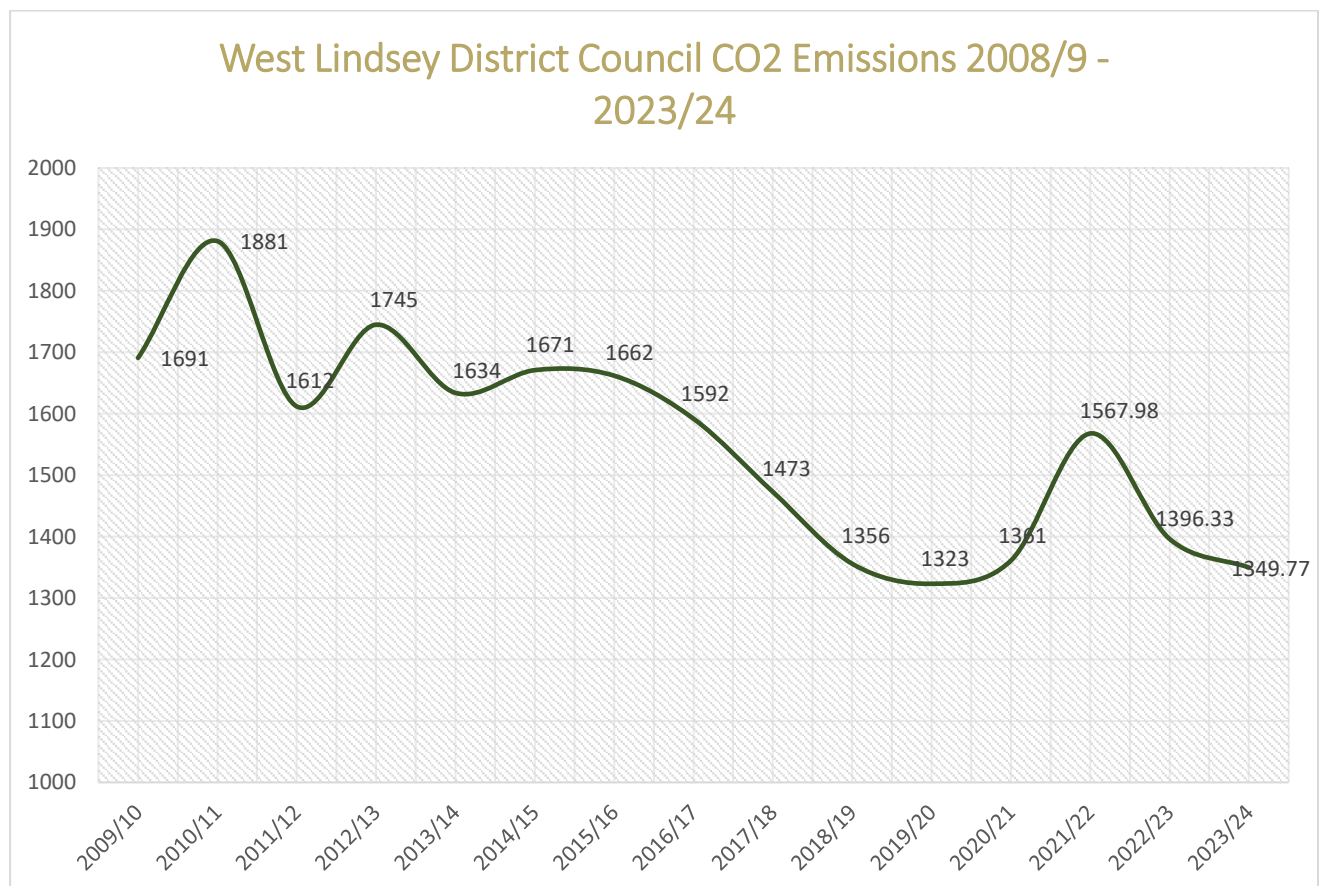


Table 1: Which activities are included in each scope?

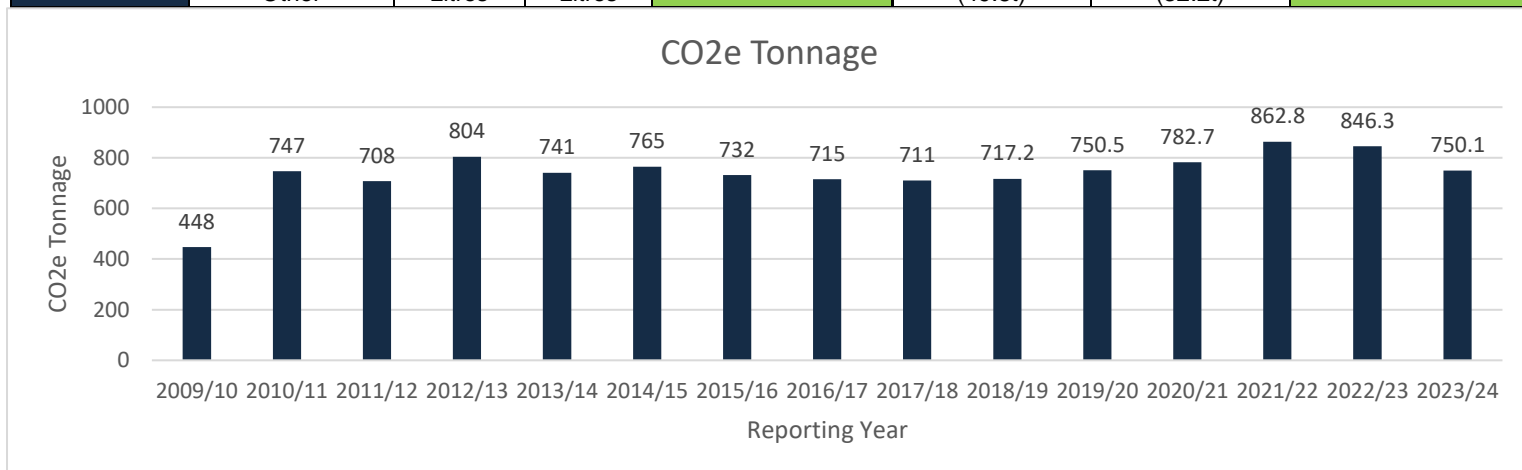
	Scope 1 - Direct	Scope 2 - Indirect	Scope 3 - Other Indirect	Outside of Scope
Building & Street Lighting	Natural Gas Emissions - used for heating WLDC buildings	Electricity - used in WLDC buildings for lighting, computers, printers, heating etc.	Natural Gas Emissions - used for heating at Gainsborough and Market Rasen Leisure Centres	
	Burning Oil - used for heating.	Electricity - used for our car parks, markets and lighting.	Electricity - used at Gainsborough and Market Rasen Leisure Centres	
	Lea Fields Crematorium - LPG used for cremating service	Electricity - used for Parish street lighting.		
Transport Fleet & Business Mileage	Fleet - HGV diesel		Staff Mileage - business mileage accrued in employees own vehicles.	Biofuel Component of Fleet fuel usage.
	Fleet - van/light commercial vehicle, diesel.		Councillor Mileage - business mileage accrued in councillors own vehicles.	
	Fleet - miscellaneous		Contractor Mileage - business mileage. (Not currently measured)	

WLDC have measured Scope 1, Scope 2 and significant Scope 3 emissions. Natural gas and electricity usage in the Leisure Centers fall into the Scope 3 category as this facility is managed by a contractor on behalf of the council. Business mileage accrued by staff and Councilors are also classed as Scope 3 emissions because the council does not own these vehicles, while WLDC's fleet (mostly associated with the activity of refuse collection) is included in Scope 1 as the emissions from these are direct. Since 2015, WLDC has also been including its own stock of parish street lighting in calculations for Scope 2 emissions. In line with DEFRA guidelines, WLDC have also calculated the biofuel component of its diesel usage and these are listed as 'out of scope', yet counted in the final emissions calculation.

Scope 1 Emissions 2023/24

Fig 2. WLDC Scope 1 GHG Emissions over time (2008/9 – 2023/24)

Scope 1 Type	Description	Activity Metric (Unit) in 2022/23	Activity Metric (Unit) in 2023/24	% Increase/Decrease in Activity Metric since 2022/23	GHG Emissions 2022/23 in CO2e (kg(tonnage - rounded))	GHG Emissions 2023/24 in CO2e (kg(tonnage - rounded))	% Increase/Decrease in Carbon Tonnage since 2022/23
Natural Gas	Natural gas usage in WLDC operated buildings.	227,689 kWh	375,331 kWh	64.84%	41,562.38kg (41.6t)	46,294.67kg (46.3t)	11.39%
LPG Gas	LPG Gas used at the Crematorium	42,376 kWh	55,667 kWh	31.36%	9,089kg (9.1t)	10,183.16kg (10.2t)	12.04%
WLDC Fleet	Waste Collection	248,031 Litres	230,301 Litres	-7.15%	634,423.61kg (634.4t)	57,8529.1kg (578.5t)	-8.81%
	Managers Vans	1,789 Litres	749 Litres	-58.10%	4,574.88kg (4.6t)	1,882.6kg (1.9t)	-58.85%
	Street Cleansing	41,461 Litres	39,383 Litres	-5.01%	106,817.96kg (106.8t)	98,931.3kg (98.9t)	-7.38%
	Markets and Other	19,500 Litres	12,207 Litres	-37.40%	49,876.60kg (49.8t)	32,171.8kg (32.2t)	-35.49%



The majority of WLDC's Scope 1 emissions cover activities undertaken by the WLDC fleet. These mainly (though not exclusively) undertake activities related to refuse collection. WLDC's total scope 1 tonnage has decreased by 11.37% (8.7 tonnes of CO2e) from the 2022/23 figure. Over the year we have made sure that the buildings we are operating from have been monitored closer and we have made adjustments to this using the systems that we have in place. We are hoping next year to see a further reduction due to the uptake of EVs at the depot.

Scope 2 Emissions 2023/24

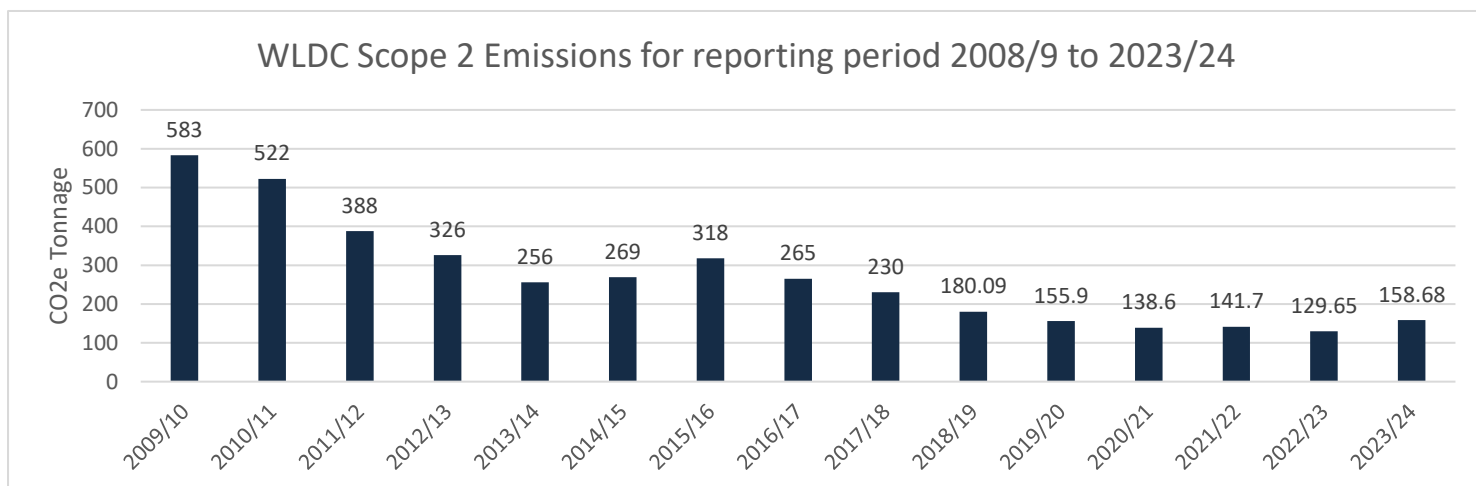


Table 3: Scope 2 Greenhouse Gas Emissions

Scope 2 Type	Activity Metric (Unit) in 2022/23	Activity Metric (Unit) in 2023/24	% Increase/Decrease in kWh since 2022/2023	GHG Emissions 2022/23 in CO2e (kg(tonnage - rounded))	GHG Emissions 2023/24 in CO2e (kg(tonnage - rounded))	% Increase/Decrease in Carbon Tonnage since 2022/23
Electricity used in WLDC Buildings	326,029 kWh	390,738 kWh	19.85%	63,047.51kg (63.05t)	64,201.15kg (64.20t)	1.83%
Electricity used in car parks, markets & lighting	40,193 kWh	29,179 kWh	-27.4%	7,772.56kg (7.7t)	5,980.51kg (5.98t)	-23.11%
Electricity used in parish street lighting	304,558 kWh	426,973 kWh	40.19%	58,895.42kg (58.9t)	88,413.34kg (88.41t)	50.12%

WLDC's Scope 2 emissions mainly relate to the usage of electricity in WLDC's buildings and operations, as well as parish street lighting (first included in GHG reporting in 2014). The total CO2e emissions for Scope 2 has increased by 29.03 tonnes of CO2e compared to the 2022/23 financial period, meaning there has been a total savings of 456.32 tonnes of Co2e since the established baseline year of 2008/9. This represents a substantial reduction in the council's energy consumption even though there has been an increase in the 2023-24 financial year.

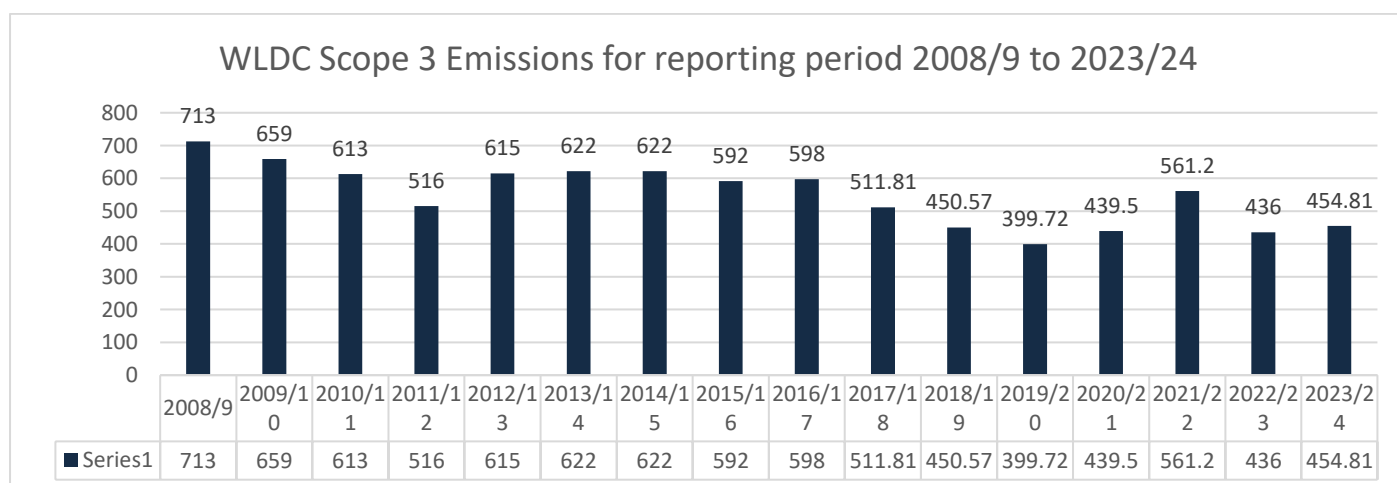
Scope 3 Emissions 2023/24

Table 4: Scope 3 Greenhouse Gas Emissions

Scope 3 Type	Comments/Exclusions	Activity Metric (Unit) in 2022/23	Activity Metric (Unit) in 2023/24	% Increase/Decrease in kWh/km since 2022/23	GHG Emissions 2022/23 in CO2e (kg(tonnage - rounded))	GHG Emissions 2023/24 in CO2e (kg(tonnage - rounded))	% Increase/Decrease in Carbon Tonnage since 2022/23
Natural Gas used in Leisure Centres	Includes both Gainsborough and Market Rasen Leisure Centres	1,734,369 kWh	1,872,445 kWh	7.96%	316,591.75kg (316.6t)	342,526.28kg (342.53t)	8.19%
Electricity used in Leisure Centres	Includes both Gainsborough and Market Rasen Leisure Centres	455,590 kWh	338,245 kWh	-25.76%	88,102.05kg (88.1t)	79,574.79kg (79.57t)	-9.68%
Employee Mileage	This includes all mileage falling under the operational scope of WLDC (as determined through the number of miles paid for through expenses). We no longer collect data on staff car engine capacity, so the average conversion factor has been used.	145,857.07 KM**	151,611 KM	3.94%	24,998kg (25t)	25,264kg (25.3t)	1.06%
Councillor Mileage	No Comment	33,990.96 KM**	44,651 KM	31.36%	5,826kg (5.8t)	7,441kg (7.4t)	27.72%
Total Business Mileage	Employee and councillor mileage combined.	33,497 KM	196,262 KM	9.13%	30,824kg (30.8t)	32,705kg (32.7t)	6.10%
Transmission & Distribution losses for scope 2 electricity	No Comment	670,780 kWh	847,288 kWh	26.31%	11866.1kg (11.9t)	15,174.93kg (15.17t)	27.89%
Transmission & Distribution losses for scope 3 electricity	No Comment	455,590 kWh	388,245 kWh	-14.78%	8059.39kg (8.1t)	6,953.48kg (6.95t)	-13.71%

** mileage amended for 22/23 as incorrect figure had been provided

Fig 3. WLDC Scope 3 GHG Emissions over time (2008/9 – 2023/24)



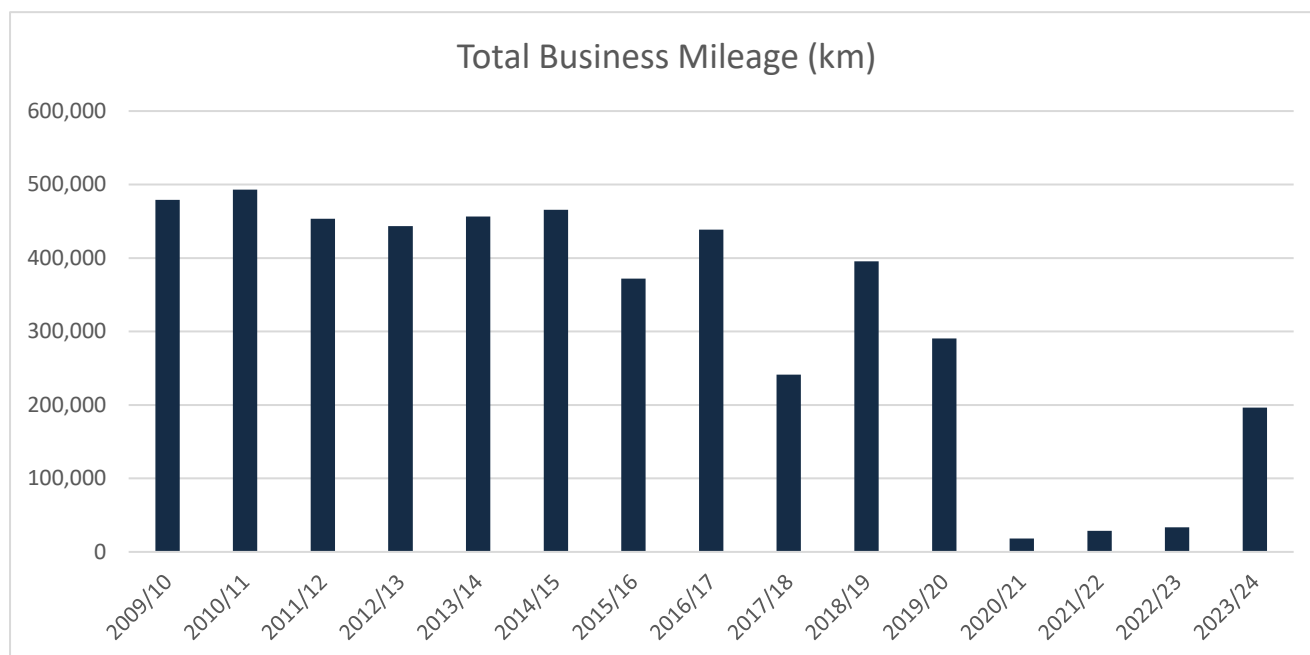
Scope 3 emissions: The Authority has seen an increase over the last financial years level of 4.3%

Appendix: Further Tables & Graphs Summarizing WLDC Emissions

Table 5: Reductions in CO2e at the Leisure Centre, Guildhall and Trinity Arts Centre

Energy compared to baseline year of 2008/09	2023/24 kWh	2008/9 kWh	Total % change in kWh 2008/9 - 2023/24	2023/24 tonnage	2008/9 tonnage	Total tonnage change in annual CO2e 2008/9 - 2023/24
Leisure Centre Electricity	388,245	703,610	-44.82%	79.57	368	-288.43
Leisure Centre Gas	1,872,445	1,424,442	31.45%	342.53	263	79.53
Guildhall Electricity	176,338	408,025	-56.78%	20.26	213	-192.74
Guildhall Gas	278,175	261,354	6.44%	28.52	48*	-19.48
Trinity Arts Centre Electricity	52,590	123,437	-57.39%	10.78	64	-53.22
Trinity Arts Centre Gas	97,156	303,338	-67.97%	17.77	21.15	-3.38

**It should be noted that the Guildhall CO2e tonnage appears to show an anomaly but this differential is due to apportionment of the building (areas let out to tenants) which falls outside of WLDC's operational scope. In the baseline year WLDC held 100% occupancy*



Please note that this may seem like a rather large jump in business milage, however due to a reporting issue last year, the figures for 2022/23 were incorrect so the jump in milage is not as dramatic as it seems.



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