



Tonbridge and Malling Borough Council

Carbon Audit:

2022 /2023

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1. Summary

Annually, Tonbridge and Malling Borough Council (TMBC) produce a carbon audit. This audit details the carbon dioxide equivalent emissions (CO₂e) from TMBCs operations for the previous fiscal year. This allows for consistent monitoring of emissions over time, highlighting how TMBC is progressing towards meeting its 2030 net zero target.

Carbon audits are developed by TMBC in accordance with the Greenhouse Gas Protocol 'Corporate Accounting and Reporting Standard' and the 'Environmental Reporting Guidelines' developed by the Department of Business, Energy, and Industrial Strategy (BEIS). All emissions were calculated using official greenhouse gas conversion factors, set by BEIS.

In 2022/23 TMBC emitted **3,296.17** tonnes of carbon dioxide equivalent¹ (tCO₂e).

2. Scope emissions

The following section provides an overview of TMBCs emissions scopes:

Scope 1: Gas consumption, oil consumption, TMBC vehicle fleet.

Scope 2: Electricity consumption.

Scope 3: Leisure Trust sites, Refuse contract, grounds maintenance contract, TMBC business travel and staff commuting, transmission and distribution losses, water supply and water treatment.

Renewable generation: Renewable Energy Guarantee of Origin (REGO) electricity tariff.

3. Emissions overview

<i>TMBC Emissions (tCO₂e)</i>				
Emissions Year	2019/2020	2020/2021	2021/2022	2022/2023
Scope 1	139.0	148.7	143.6	127.8
Scope 2	198.0	145.6	131.0	99.9
Scope 3	3,042.4	2,084.0	3,049.0	3,169.3
Total Gross Emissions	3,379.4	2,378.3	3,323.6	3,3397.0
Renewable Generation	0.0	0.0	133.5	100.9
Total Net Emissions	3,379.4	2,378.3	3,190.1	3,269.2

¹ Carbon Dioxide Equivalent (CO₂e) = Carbon Dioxide, Methane and Nitrous Oxide represented as one equivalent unit, to measure the climate change impact of multiple gasses under one metric.

4. Emissions breakdown

<i>Emissions Sources</i>	<i>Consumption</i>		<i>Emissions Data</i>
Scope 1	Activity	Unit	t CO₂e
Gas Consumption	648,972	<i>kWh</i>	118.5
LPG Consumption		<i>tonnes</i>	
Oil Consumption		<i>litres</i>	
Council Vehicle Fleet			
Diesel Vehicle	2,117	<i>litres</i>	5.4
Petrol Vehicle	1,824	<i>litres</i>	3.9
Gas Oil		<i>litres</i>	
Total Scope 1			127.8

Scope 2	Activity Data	Unit	t CO₂e
Electricity Consumption	516,616	<i>kWh</i>	99.9
Total Scope 2	516,616		99.9

Scope 3	Activity Data	Unit	t CO₂e
Transmission & Distribution Losses	516,616	<i>kWh</i>	9.1
Water Supply	1,302	<i>m³</i>	0.2
Water Treatment	1,237	<i>m³</i>	0.3
Business Travel			
Small car	29,425	<i>miles</i>	6.8
Medium car	46,525	<i>miles</i>	13.2
Large car	2,305	<i>miles</i>	0.8
Bus		<i>passenger km</i>	
Taxi		<i>passenger km</i>	
Rail		<i>passenger km</i>	
Ferry		<i>passenger km</i>	
Plane		<i>passenger km</i>	
Commuting			
Diesel Car	150,209	<i>miles</i>	41.3
Petrol Car	344,465	<i>miles</i>	94.5
Hybrid Car	10,637	<i>miles</i>	2.1
Electric Car	13,794	<i>miles</i>	0.9
Diesel Van	63,123	<i>miles</i>	23.5
Motorbike		<i>miles</i>	
Train		<i>passenger km</i>	
Bus	282	<i>passenger km</i>	0.03
Contractor Travel			
Refuse Collection Vehicles	436,886	<i>litres</i>	1,117.4
Leisure Centres			
Electricity	3,101,794	<i>kWh</i>	599.8
Gas	6,505,796	<i>kWh</i>	1,187.6
Kerosene	13,449	<i>litres</i>	3.3

Diesel	5,900	litres	15.1
Water Supply	54,229	m ³	8.1
Water Treatment	51,518	m ³	14.0
Grey Fleet	9,102	miles	2.5
Waste DMR	Data issues	tonnes	
Waste Municipal	Data issues	tonnes	
Grounds Maintenance			
Electricity	5,005	kWh	1.0
Diesel	9,328	litres	23.9
Petrol	1,151	litres	2.5
Gas Oil		litres	
Water Supply	1,160	m ³	0.2
Water Treatment	1,102	m ³	0.3
Waste Composting / Anaerobic Digestion	31.0	tonnes	0.3
Municipal Waste / Combustion	30.0	tonnes	0.6
Total Scope 3			3,169.3

TMBC Gross Emissions Total			3,397.0
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Renewable Generation	Activity Data	Unit	t CO₂e
Renewable Electricity Tariff	521,621.4	kWh	100.9
Total			100.9

TMBC Net Emissions Total			3,296.2
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5. Company Information

The Tonbridge and Malling Borough Council is a local authority located in Kent, within the Southeast of England.

6. Reporting period

This reporting period is from 01/04/2022 to 31/03/2023.

7. Emissions overview

7.1. Scope 1

Scope 1 emissions totalled 127.8 tCO₂e in 2022/23, a fall of 8% from the 2019/2020 baseline. Scope 1 was the second largest contributor to TMBCs gross emissions but contributed 3.8% to TMBCs total gross emissions for 2022/23. In other words, emissions from heat and transport (TMBC's own vehicles) were greater than emissions from electricity use.

Gas consumption accounts for the majority of scope 1 emissions, with emissions from this source 4% lower in 2022/23 compared to the baseline year. The fall in Scope 1 emissions compared to baseline is due to the increased use of an electric vehicle in the TMBC vehicle fleet. TMBC vehicles produced 9.4 tCO₂e in 2022/23, a fall of 42% compared to baseline. Emissions for electricity use, including for vehicles, are reported in Scope 2.

7.2. Scope 2

Scope 2 emissions totalled at 99.9 tCO₂e in 2021/2022, a fall of 50% from the 2019/2020 baseline year. See section 7.5 for a detailed discussion of significant emissions changes.

Scope 2 contributed only 2.9% of TMBCs total gross emissions, making it the smallest contributor across the three scopes. However, these emissions only come from one source: electricity.

During 2022/23 the Council's Civil Enforcement Officers made use of the Council's one electric vehicle (EV), as noted under Scope 1 (TMBC vehicles). Emissions from charging this vehicle at TMBC sites are included in the total for Scope 2.

7.3. Scope 3

Scope 3 emissions totalled 3,169.3 tCO₂e in 2022/23, which is 4% above the 2019/2020 baseline. Scope 3 was the largest contributor to TMBC emissions, accounting for 93.3% of gross emissions in 2021/2022.

Leisure centres remain the most significant contributor to Scope 3 emissions, emitting 1,830.4 tCO₂e, or 58% of Scope 3 emissions. Refuse collection vehicles were the second largest source of Scope 3 emissions at 1,117.4 tCO₂e, or 35% of Scope 3 emissions.

Other sources in Scope 3 accounted for much smaller proportions. Staff commuting by car or van was the third largest Scope 3 source of emissions, producing 162.3 tCO₂e, or 5% of emissions. Grounds maintenance was the next highest emitter, producing 28.7 tCO₂e, followed by business travel, which accounted for 20.9 tCO₂e. Transmission and distribution

losses, water supply and water treatment emitted 9.7 tCO₂e. The remaining emissions were from staff commuting by bus, at only 0.03 tCO₂e.

7.4. Renewable electricity generation

TMBC continued its renewable electricity tariff for the 2022/2023 fiscal year. Therefore, emissions associated from electricity consumption are 0 tCO₂e for reporting purposes.

However, for clarity, and to highlight the emissions impact of energy consumption, we report on gross emissions (without the renewable tariff) and net emissions, which considers the tariff. This approach is highlighted in the emissions breakdown section on page 4.

TMBCs net emissions are reported as the final net emissions figure for the corresponding fiscal year. Therefore, for 2022/2023, TMBCs emissions are reported as **3,296.2tCO₂e**.

7.5. Significant emissions and consumption changes

Significant progress on emissions reductions this year has occurred in Scopes 1 and 2, as emissions from gas consumption, the TMBC fleet and electricity consumption have all decreased relative to baseline and against the previous year (2021/22). Overall, gross emissions from Scope 1 and 2 are 32% lower than gross emissions from these Scopes in the baseline. If emissions from electricity are accounted as zero, due to the REGO tariff, then there is a 62% fall in Scopes 1 and 2 emissions from baseline.

The reduction in energy use from Scopes 1 and 2 can be attributed to various measures, including:

- rationalised office use,
- improved energy efficiency through changing devices and switching to LEDs, less printing and more digital services,
- increased home-working
- switching from conventional-fuel to electric vehicle by Civil Enforcement Officers.

In addition to reduced consumption, the decarbonisation of the grid mix will also reduce emissions in the gross Scope 2 accounting.

While home-working has reduced energy use at TMBC sites, some of this will be off-set by increased energy use in homes. Emissions from home-working in 2022/23 have not yet been calculated.

However, emissions from business travel and commuting by car or van are similar in 2022/23 compared to the previous year, and both are significantly lower than in the baseline. This suggests that changes following the pandemic in reduced work travel and increased home-working have now been consolidated as 'business as usual'.

Emissions from Leisure Centres and Refuse Collection Vehicles remain high, with little change year-on-year.

7.6. Largest emitting sources

1. Leisure Centre Gas Consumption (1,187.6 tCO₂e).

2. Refuse Collection Vehicles (1,117.4 tCO₂e).
3. Leisure Centre Electricity Consumption (599.8 tCO₂e).
4. Commuting by car (162.3 tCO₂e).
5. TMBC Gas Consumption (118.5 tCO₂e).
6. TMBC Electricity Consumption (99.9 tCO₂e).

8. Measuring and reporting

Reporting on TMBC emissions will take place annually, following the greenhouse gas protocol and BEIS reporting guidelines.

This carbon audit will be reported to management team, and consequently taken through any relevant scrutiny process.

9. Scope Explanation

<i>Scope</i>	<i>Activity</i>	<i>Description</i>	<i>Data Source</i>
Scope 1	Gas Consumption	Used to heat our buildings.	Data obtained from council utility bills.
Scope 1	Oil Consumption	Used to heat our buildings.	Data obtained from council utility bills.
Scope 1	Vehicle Fleet	The council's vehicle fleet.	Data obtained from council fuel invoices.
Scope 2	Purchased electricity	Electricity purchased from the national grid to power the council's buildings.	Data obtained from council utility bills.
Scope 3	Transmission and Distribution Losses	Indirect emissions from the transmission and distribution of our purchased electricity.	Data obtained from council utility bills.
Scope 3	Water Supply	The supply of water to our buildings.	Data obtained from council utility bills.
Scope 3	Water Treatment	The water we return to the system (90% return to sewer rate).	Data obtained from council utility bills.
Scope 3	Business Travel	Staff and member travel in their own vehicles on business grounds.	Obtained using employee mileage claims.
Scope 3	Commuting	Staff travel to and from work premises.	Obtained using staff survey.
Scope 3	Contractor Travel	Travel by contractors to conduct work commissioned by the council, e.g., waste collection.	Obtained through contractor fuel records.
Scope 3	Leisure Centres	Emissions from leisure centre use of electricity, gas, fuel, water, vehicles, and disposal of waste.	Data obtained from council bills, and mileage claims.
Scope 3	Grounds Maintenance	Emissions from Grounds Maintenance use of electricity,	Data obtained from council bills, and mileage claims.

		gas, fuel, water, vehicles, and disposal of waste.	
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10. Organisational boundary

Our organisation boundary is (as defined by BEIS) activities in which the organisation has financial and operational control. Therefore, the boundary covers everything that TMBC has the above control over. This follows guidance from the previous National Indicator 185:

“The indicator is to include all CO₂ emissions from the delivery of local authority functions. In terms of the meaning of the word in legislation “function” covers both the duties and powers of an authority. It covers all an authority’s own operations and outsourced services” (DEFRA, 2008, p.3).

11. Geographical breakdown

All TMBC activities occur within the Tonbridge and Malling District, except for some staff and member business travel and commuting activities.

12. Base year

TMBCs base year is: 01/04/2019 to 31/03/2020.

13. Base year recalculation policy

This base year will be recalculated following any significant structural or methodological changes. If lack of data prevents the base year from being recalculated, then the following year will be recalculated instead.

As of September 2022, the base year has already been recalculated to include commuting emissions data.

Base year emissions are 3,379.4tCO₂e

14. Emissions target

TMBC has a 2030 carbon neutral target.

15. Intensity measurement

No intensity measurement has been conducted.

16. External assurance statement

No external assurance has been conducted. However, the initial base year calculation was produced externally and then recalculated internally.

17. Carbon offsetting

No carbon offsetting has been conducted for 2022/2023.

18. Renewable generation / green tariffs

TMBC has been on a renewable tariff (Renewable Electricity Guarantee of Origin) since 2021/22.

19. Background documents

- Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard.
- HM Government: Environmental Reporting Guidelines.

20. References

- Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy, 2022. *UK Government GHG Conversion Factors for Company Reporting*. Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022> Last accessed 26/06/2023.
- Department for Environment, Food and Rural Affairs (DEFRA)., 2008. *Guidance to local authorities and Government Offices on National Indicator 185*. London, UK: DEFRA. pp. 3.

21. Annex 1: Detailed emissions statement

Please see pages 10 - 12 for our complete emissions statement. This details the following gasses, in addition to carbon dioxide equivalent (CO₂e): carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O).

TMBC Detailed Emissions Statement 2022/23

<i>Emissions Sources</i>	<i>Consumption</i>		<i>Emissions (tonnes)</i>			
Scope 1	Activity Data	Unit	t CO₂e	t CO₂	t CH₄	t N₂O
Gas Consumption	648,972	<i>kWh</i>	118.5	118.2	0.16	0.0
LPG Consumption		<i>tonnes</i>				
Oil Consumption		<i>litres</i>				
Council Vehicle Fleet	-	-	-	-	-	-
Diesel Vehicle	2,117	<i>litres</i>	5.4	5.3	0.0	0.07
Petrol Vehicle	1,824	<i>litres</i>	3.9	3.9	0.01	0.01
Gas Oil		<i>litres</i>				
Total Scope 1			127.8	127.5	0.18	0.16

Scope 2	Activity Data	Unit	t CO₂e	t CO₂	t CH₄	t N₂O
Electricity Consumption	516,616	<i>kWh</i>	99.9	98.8	0.4	0.7
Total Scope 2			99.9	98.8	0.4	0.7

Scope 3	Activity Data	Unit	t CO₂e	t CO₂	t CH₄	t N₂O
Transmission & Distribution Losses	516,616	<i>kWh</i>	9.1	9.0	0.04	0.1
Water Supply	1,302	<i>m³</i>	0.2			
Water Treatment	1,237	<i>m³</i>	0.3			
Business Travel						
Small Car	29,425	<i>miles</i>	6.8	6.8	0.0	0.0
Medium Car	46,525	<i>miles</i>	13.2	13.1	0.0	0.1
Large Car	2,305	<i>miles</i>	0.8	0.8	0.0	0.0
Bus		<i>passenger km</i>				
Taxi		<i>passenger km</i>				
Rail		<i>passenger km</i>				

Ferry		<i>passenger km</i>				
Plane		<i>passenger km</i>				
Commuting	-	-	-	-	-	-
Diesel Car	150,209	<i>miles</i>	41.3	40.8	0.0	0.5
Petrol Car	344,465	<i>miles</i>	94.5	94.1	0.2	0.2
Hybrid Car	10,637	<i>miles</i>	2.1	2.0	0.0	0.0
Electric Car	13,794	<i>miles</i>	0.9	0.9	0.0	0.0
Diesel Van	63,123	<i>miles</i>	23.5	23.3	0.0	0.2
Motorbike		<i>miles</i>				
Train		<i>passenger km</i>				
Bus	282	<i>passenger km</i>	0.03	0.03	0.0	0.0
Contractor Travel						
Refuse Collection Vehicles	436,866	<i>litres</i>	1,117.4	1,101.2	0.01	16.2
Leisure Centres						
Electricity	3,101,794	<i>kWh</i>	599.8	593.1	2.5	4.2
Gas	6,505,796	<i>kWh</i>	1,187.6	1,185.3	1.6	0.6
Kerosene	13,449	<i>litres</i>	3.3	3.3	0.01	0.0
Diesel	5,900	<i>litres</i>	15.1	14.9	0.0	0.2
Water Supply	54,229	<i>m³</i>	8.1			
Water Treatment	51,518	<i>m³</i>	14.0			
Grey Fleet	9,102	<i>miles</i>	2.5	0.0	0.02	1.4
Waste DMR	<i>Data issues</i>	<i>tonnes</i>				
Waste Municipal	<i>Data issues</i>	<i>tonnes</i>				
Grounds Maintenance						
Electricity	5,005	<i>kWh</i>	1.0	1.0	0.0	0.0
Diesel	9,328	<i>litres</i>	23.9	23.5	0.0	0.3
Petrol	1,151	<i>litres</i>	2.5	2.5	0.01	0.0
Gas Oil		<i>litres</i>				
Water Supply	1,160	<i>m³</i>	0.2			
Water Treatment	1,102	<i>m³</i>	0.3			
Waste Composting / Anaerobic Digestion	31.1	<i>tonnes</i>	0.3	0.0	0.0	0.0

Municipal Waste / Combustion	30.0	<i>tonnes</i>	0.6	0.0	0.0	0.0
Total Scope 3			3,169.3	3,089.4	4.5	23.9

TMBC Gross Emissions Total			3,397.0	3,341.9	5.1	24.9
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Renewable Generation	Activity Data	Unit	t CO₂e	t CO₂	t CH₄	t N₂O
Renewable Electricity Tariff	521,621	<i>kWh</i>	100.9	99.7	0.4	0.7
Total			100.9	99.7	0.4	0.7

			t CO₂e	t CO₂	t CH₄	t N₂O
TMBC Net Emissions Total			3,296.2	3,242.2	4.7	24.2

22. Version control

Document name	Tonbridge and Malling Borough Council Carbon Audit 2022/2023		
Document description	This carbon audit details emissions from TMBC for the 2022/2023 fiscal year.		
Responsible officer	Gill Fox, Policy, Scrutiny & Communities Manager		
Version Number	Update reason	Author	Review date
1	First version	Carrie Spencer, Climate Change Officer	20 June 2023