



**Tonbridge and Malling Borough Council**

**Carbon Audit:**

**2021/2022**

## Table of Contents

1. Summary.....	3
2. Scope emissions .....	3
3. Emissions overview .....	3
4. Emissions breakdown.....	4
5. Company Information .....	6
6. Reporting period .....	6
7. Emissions overview .....	6
8. Measuring and reporting .....	8
9. Scope Explanation .....	8
10. Organisational boundary .....	9
11. Geographical breakdown.....	9
12. Base year .....	9
13. Base year recalculation policy .....	9
14. Emissions target .....	9
15. Intensity measurement.....	9
16. External assurance statement .....	10
17. Carbon offsetting.....	10
18. Renewable / green tariffs .....	10
19. Background documents .....	10
20. References .....	10
21. Annex 1: Detailed emissions statement.....	10
22. Version control .....	14

## 1. Summary

Annually, Tonbridge and Malling Borough Council (TMBC) produce a carbon audit. This audit details the carbon dioxide equivalent emissions (CO<sub>2</sub>e) 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 2021/2022 TMBC emitted **3,190.1** tonnes of carbon dioxide equivalent<sup>1</sup> (tCO<sub>2</sub>e).

## 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 (tCO<sub>2</sub>e)</i>		
Emissions Year	2019/2020 (baseline)	2020/2021	2021/2022
Scope 1	139.0	148.7	143.6
Scope 2	198.0	145.6	131.0
Scope 3	3,042.4	2,084.0	3,049.0
Total Gross Emissions	3,379.4	2,378.3	3,323.6
Renewable energy tariffs	0.0	0.0	133.5
<b>Total Net Emissions</b>	<b>3,379.4</b>	<b>2,378.3</b>	<b>3,190.1</b>

<sup>1</sup> Carbon Dioxide Equivalent (CO<sub>2</sub>e) = 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>
<b>Scope 1</b>	<b>Activity</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>
Gas Consumption	682,895.6	<i>kWh</i>	125.08
LPG Consumption	0.0	<i>tonnes</i>	0.0
Oil Consumption	0.0	<i>litres</i>	0.0
<b>Council Vehicle Fleet</b>	-	-	-
Diesel Vehicle	4,401.9	<i>litres</i>	11.1
Petrol Vehicle	3,401.2	<i>litres</i>	7.5
Gas Oil	0.0	<i>litres</i>	0.0
<b>Total Scope 1</b>	-	-	<b>143.6</b>

<b>Scope 2</b>	<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>
Electricity Consumption	617,038.5	<i>kWh</i>	131.0
<b>Total Scope 2</b>	-	-	<b>131.0</b>

<b>Scope 3</b>	<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>
Transmission & Distribution Losses	617,038.5	<i>kWh</i>	11.6
Water Supply	No data	<i>m<sup>3</sup></i>	0.0
Water Treatment	No data	<i>m<sup>3</sup></i>	0.0
<b>Business Travel</b>	-	-	-
Small Car	35,505	<i>miles</i>	8.3
Medium Car	36,250	<i>miles</i>	10.2
Large Car	5,669	<i>miles</i>	2.1
Bus	0.0	<i>passenger km</i>	0.0
Taxi	0.0	<i>passenger km</i>	0.0
Rail	0.0	<i>passenger km</i>	0.0
Ferry	0.0	<i>passenger km</i>	0.0
Plane	0.0	<i>passenger km</i>	0.0
<b>Commuting</b>	-	-	-
Diesel Car	260,343	<i>miles</i>	70.6
Petrol Car	321,408	<i>miles</i>	90.2
Hybrid Car	3,312	<i>miles</i>	0.6
Electric Car	23,290	<i>miles</i>	2.1
Motorbike	0.0	<i>miles</i>	0.0
Train	4,032	<i>passenger km</i>	0.1
<b>Contractor Travel</b>			
Refuse Collection Vehicles	397,539	<i>litres</i>	998.7
<b>Leisure Centres</b>			
Electricity	2,891,031	<i>kWh</i>	613.9
Gas	6,162,861	<i>kWh</i>	1,128.8
Kerosene	15,652	<i>litres</i>	39.8
Diesel	7,637	<i>litres</i>	19.2
Water Supply	52,842	<i>m<sup>3</sup></i>	7.9
Water Treatment	50,200	<i>m<sup>3</sup></i>	13.7
Grey Fleet	6,917	<i>miles</i>	1.9

Waste DMR	No data	<i>tonnes</i>	0.0
Waste Municipal	No data	<i>tonnes</i>	0.0
<b>Grounds Maintenance</b>			
Electricity	11,643.0	<i>kWh</i>	2.5
Diesel	9,201	<i>litres</i>	23.1
Petrol	1,151.1	<i>litres</i>	2.5
Gas Oil		<i>litres</i>	
Water Supply	721.2	<i>m<sup>3</sup></i>	0.1
Water Treatment	685.2	<i>m<sup>3</sup></i>	0.2
Waste Composting / Anaerobic Digestion	33.1	<i>tonnes</i>	0.3
Municipal Waste / Combustion	35.6	<i>tonnes</i>	0.8
<b>Total Scope 3</b>			<b>3,049.0</b>

<b>TMBC Gross Emissions Total</b>			<b>3,323.6</b>
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<b>Renewable Generation</b>	<b>Activity Data</b>	<b>Unit</b>	<b>tCO<sub>2</sub>e</b>
Renewable Electricity Tariff	628,681.5	<i>kWh</i>	113.5
<b>Total</b>			<b>113.5</b>

<b>TMBC Net Emissions Total</b>			<b>3,190.1</b>
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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 01/04/2021 to 31/03/2022.

## 7. Emissions overview

### 7.1. Scope 1

Scope 1 emissions totalled 143.6 tCO<sub>2</sub>e in 2021/2022, an increase of 3% from the 2019/2020 baseline.

Gas consumption accounts for the majority of scope 1 emissions, with emissions from this source were 2% higher in 2021/22 compared to the baseline year. The TMBC vehicle fleet emitted 18.5 tCO<sub>2</sub>e, or 13% of scope 1 emissions. However, these emissions were 15% higher than vehicle fleet emissions in the baseline.

Scope 1 was the second largest contributor to TMBCs gross emissions but contributed 4.3% to TMBCs total gross emissions for 2021/2022. In other words, emissions from heat and transport (TMBC's own vehicles) were greater than emissions from electricity use.

### 7.2. Scope 2

Scope 2 emissions totalled at 131.0 tCO<sub>2</sub>e in 2021/2022, a reduction of 34% from the 2019/2020 baseline year. See section 7.5 for a detailed discussion of significant emissions changes.

Scope 2 contributed only 3.9% of TMBCs total gross emissions, making it the smallest contributor across the three scopes. However, these emissions only come from one source: electricity.

### 7.3. Scope 3

Scope 3 emissions totalled 3,049.0 tCO<sub>2</sub>e in 2021/2022, returning to the level of the 2019/2020 baseline (3,042.4 tCO<sub>2</sub>e).

Leisure centres contributed the most to Scope 3 emissions, emitting 1,825.0 tCO<sub>2</sub>e, or 60% of Scope 3 emissions. Refuse collection vehicles were the second largest source of Scope 3 emissions at 998.8 tCO<sub>2</sub>e, or 33% 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 163.4 tCO<sub>2</sub>e, or 5% of emissions. Grounds maintenance was the next highest emitter, producing 29.5 tCO<sub>2</sub>e, followed by business travel, which accounted for 20.6 tCO<sub>2</sub>e. Transmission and distribution losses emitted 11.6 tCO<sub>2</sub>e. The remaining emissions were from staff commuting by train, at only 0.14 tCO<sub>2</sub>e.

Unfortunately, we had issues obtaining water supply and treatment figures from our utilities company, therefore, we have no emissions to report from this source. However, as emissions

from water supply and treatment previously accounted for less than 0.0% of Scope 3 emissions, these data issues should not make a significant impact on overall accounting.

Scope 3 was the largest contributor to TMBC emissions, accounting for 91.7% of gross emissions in 2021/2022.

#### **7.4. Renewable energy**

TMBC was on a renewable electricity tariff from 1 April 2021, thus covering the 2021/2022 fiscal year. Therefore, emissions associated from electricity consumption from Council buildings are 0 tCO<sub>2</sub>e for reporting purposes.

However, to show trends in the Council's electricity use and to highlight the emissions impact of electricity demand, 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 taking account of the renewable tariff for the corresponding fiscal year. Therefore, for 2021/2022, TMBCs net emissions are reported as **3,190.1 tCO<sub>2</sub>e**.

#### **7.5. Significant emissions and consumption changes**

Significant changes in emissions and consumption in 2021/22 are assessed primarily in relation to the baseline. This is because the shifts in activity and emissions in the 2020/21 reporting year are non-representative as they were significantly shaped by temporary measures introduced in response to the Covid-19 pandemic.

In terms of increases in emissions, the source of the largest percentage increase (although relatively small in terms of total emissions) has been a 15% rise over baseline in emissions from TMBC's own fleet in 2021/22. This rise has taken place despite a shift from an all-diesel fleet in the baseline year to diesel, petrol and one electric vehicle (EV).

The electricity used for charging the EV is included within the Scope 2 electricity consumption total to avoid double-counting. EV charging activity had negligible impact on the overall rapid fall in electricity consumption, as it accounted for 0.1% of electricity used by the Council in 2021/22.

Relative to the baseline there have been significant decreases in energy use, activity and emissions in scope 2 and some areas of scope 3.

Scope 2 emissions fell significantly relative to baseline, by 34%. The fall in electricity emissions was due to three factors: the increase in the proportion of renewables in the grid mix, which reduces the carbon intensity of electricity<sup>2</sup>; the increased shift in home-working; and a reduction in electricity use by the Council. Electricity use fell by 20% in 2020/21 compared to the baseline. Emissions from home-working in 2021-22 have not yet been calculated.

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<sup>2</sup> Department for Business Energy and Industrial Strategy (BEIS). *UK Government GHG Conversion Factors for Company Reporting*. See information regarding electricity emissions factors <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020> .

The largest percentage reduction in emissions from any one source was from staff commuting by car, which was 74% lower in 2021/22 than the baseline. Similarly, emissions from business travel halved between the baseline and 2021/22. This suggests that Council measures, such as steps to consolidate office space and new remote working policies, helped to lock-in some car travel reductions initiated by changes in movement and working patterns in 2020/21.

## 7.6. Largest emitting sources

1. Leisure Centre Gas Consumption (1,128.8 tCO<sub>2</sub>e).
2. Refuse Collection Vehicles (998.8 tCO<sub>2</sub>e).
3. Leisure Centre Electricity Consumption (613.9 tCO<sub>2</sub>e).
4. Commuting by car (163.4 tCO<sub>2</sub>e).
5. TMBC Gas Consumption (125.1 tCO<sub>2</sub>e).
6. TMBC Electricity Consumption (131.0 tCO<sub>2</sub>e).

## 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 surveys.



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 tmactive.
Scope 3	Grounds Maintenance	Emissions from Grounds Maintenance use of electricity, gas, fuel, water, vehicles, and disposal of waste.	Data obtained from council bills, and mileage claims.

## 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 CO<sub>2</sub> 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

The baseline 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. Following a data quality assurance exercise, the baseline was also updated in January 2023.

Baseline emissions (2019-2020) are 3,379.4 tCO<sub>2</sub>e.

### Emissions target

TMBC has a 2030 carbon neutral target.

## 14. Intensity measurement

No intensity measurement has been conducted.

## 15. External assurance statement

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

## 16. Carbon offsetting

No carbon offsetting has been conducted for 2021/2022.

## 17. Renewable / green tariffs

TMBC was on a renewable tariff from 1 April 2021.

## 18. Background documents

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

## 19. References

- Department for Business Energy and Industrial Strategy (BEIS)., 2021. *UK Government GHG Conversion Factors for Company Reporting*. Available at: <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021>.
- 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.

## 20. 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 (CO<sub>2</sub>e): carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

## TMBC Detailed Emissions Statement 2021/2022

<i>Emissions Sources</i>	<i>Consumption</i>		<i>Emissions (tonnes)</i>			
<b>Scope 1</b>	<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>
Gas Consumption	682,895.6	<i>kWh</i>	125.1	124.9	0.2	0.1
LPG Consumption	0.0	<i>tonnes</i>	0.0	0.0	0.0	0.0
Oil Consumption	0.0	<i>litres</i>	0.0	0.0	0.0	0.0
<b>Council Vehicle Fleet</b>						
Diesel Vehicle	4,401.9	<i>litres</i>	11.1	10.9	0.0	0.2
Petrol Vehicle	3,401.2	<i>litres</i>	7.5	7.4	0.0	0.0
Gas Oil	0.0	<i>litres</i>	0.0	0.0	0.0	0.0
<b>Total Scope 1</b>			<b>143.6</b>	<b>143.2</b>	<b>0.2</b>	<b>0.3</b>

<b>Scope 2</b>	<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>
Electricity Consumption	617,038.5	<i>kWh</i>	131.0	129.7	0.5	0.9
<b>Total Scope 2</b>			<b>131.0</b>	<b>129.7</b>	<b>0.5</b>	<b>0.9</b>

<b>Scope 3</b>	<b>Activity Data</b>	<b>Unit</b>	<b>t CO<sub>2</sub>e</b>	<b>t CO<sub>2</sub></b>	<b>t CH<sub>4</sub></b>	<b>t N<sub>2</sub>O</b>
Transmission & Distribution Losses	617,038.5	<i>kWh</i>	11.6	11.5	0.0	0.1
Water Supply	No data	<i>m<sup>3</sup></i>	0.0	0.0	0.0	0.0
Water Treatment	No data	<i>m<sup>3</sup></i>	0.0	0.0	0.0	0.0
<b>Business Travel</b>	-	-	-	-	-	-
Small Car	35,505	<i>miles</i>	8.3	8.3	0.0	0.0
Medium Car	36,250	<i>miles</i>	10.2	10.2	0.0	0.1
Large Car	5,669	<i>miles</i>	2.1	2.1	0.0	0.0
Bus	0.0	<i>passenger km</i>	0.0	0.0	0.0	0.0
Taxi	0.0	<i>passenger km</i>	0.0	0.0	0.0	0.0

Rail	0.0	<i>passenger km</i>	0.0	0.0	0.0	0.0
Ferry	0.0	<i>passenger km</i>	0.0	0.0	0.0	0.0
Plane	0.0	<i>passenger km</i>	0.0	0.0	0.0	0.0
<b>Commuting</b>	-	-	-	-	-	-
Diesel Car	260,343	<i>miles</i>	70.6	69.8	0.0	0.8
Petrol Car	321,408	<i>miles</i>	90.2	89.8	0.2	0.2
Hybrid Car	3,312	<i>miles</i>	0.6	0.6	0.0	0.0
Electric Car	23,290	<i>miles</i>	2.1	2.0	0.0	0.0
Motorbike	0.0	<i>miles</i>	0.0	0.0	0.0	0.0
Train	4,032	<i>passenger km</i>	0.1	0.1	0.0	0.0
<b>Contractor Travel</b>						
Refuse Collection Vehicles	397,539	<i>litres</i>	998.8	983.9	.01	14.7
<b>Leisure Centres</b>						
Electricity	2,891,031	<i>kWh</i>	613.9	607.6	2.3	4.0
Gas	6,162,861	<i>kWh</i>	1,128.8	1,126.7	1.5	0.6
Kerosene	15,652	<i>litres</i>	39.8	39.6	0.1	0.1
Diesel	7,637	<i>litres</i>	19.2	18.9	0.0	0.3
Water Supply	52,842	<i>m<sup>3</sup></i>	7.9	0.0	0.0	0.0
Water Treatment	50,200	<i>m<sup>3</sup></i>	13.7	0.0	0.0	0.0
Grey Fleet	6,917	<i>miles</i>	1.9	1.9	0.0	0.0
Waste DMR	No data	<i>tonnes</i>	0.0	0.0	0.0	0.0
Waste Municipal	No data	<i>tonnes</i>	0.0	0.0	0.0	0.0
<b>Grounds Maintenance</b>						
Electricity	11,643.0	<i>kWh</i>	2.5	2.4	0.0	0.0
Diesel	9,201.2	<i>litres</i>	23.1	22.8	0.0	0.3
Petrol	1,151.1	<i>litres</i>	2.5	2.5	0.0	0.0
Gas Oil		<i>litres</i>	0.0	0.0	0.0	0.0
Water Supply	721.2	<i>m<sup>3</sup></i>	0.1	0.0	0.0	0.0
Water Treatment	685.2	<i>m<sup>3</sup></i>	0.2	0.0	0.0	0.0

Waste Composting / Anaerobic Digestion	33.1	tonnes	0.3	0.0	0.0	0.0
Municipal Waste / Combustion	35.6	tonnes	0.8	0.0	0.0	0.0
<b>Total Scope 3</b>			<b>3,049.0</b>	<b>2,997.8</b>	<b>4.3</b>	<b>21.2</b>

<b>TMBC Gross Emissions Total</b>			<b>3,323.6</b>	<b>3,273.5</b>	<b>5.0</b>	<b>22.3</b>
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Renewable generation	Activity Data	Unit	t CO <sub>2</sub> e	t CO <sub>2</sub>	t CH <sub>4</sub>	t N <sub>2</sub> O
Renewable Electricity Tariff	628,681.5	kWh	133.5	132.1	0.5	0.9
<b>Total</b>			<b>133.5</b>	<b>132.1</b>	<b>0.5</b>	<b>0.9</b>

			t CO <sub>2</sub> e	t CO <sub>2</sub>	t CH <sub>4</sub>	t N <sub>2</sub> O
<b>TMBC Net Emissions Total</b>			<b>3,190.1</b>	<b>3,141.4</b>	<b>4.5</b>	<b>21.5</b>

## 21. Version control

<b>Document name</b>	Tonbridge and Malling Borough Council Carbon Audit 2021/2022		
<b>Document description</b>	This carbon audit details emissions from TMBC for the 2021/2022 fiscal year.		
<b>Responsible officer</b>	Gill Fox, Policy, Scrutiny & Communities Manager		
<b>Version Number</b>	<b>Update reason</b>	<b>Author</b>	<b>Review date</b>
1	First version	H. Saunders, Climate Change Officer	TBC
2	Data quality assurance	C. Spencer, Climate Change Officer	February - May 2023
3	Data quality assurance	C. Spencer, Climate Change Officer	June 2023