



Carbon Emissions Report

2025-26

Prepared by: Sharon Gardham (Climate and Nature Officer)

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1. Introduction, Scope and Summary

Thornbury Town Council (TTC) acknowledges the critical importance of addressing the climate and nature challenges that affect biodiversity and community wellbeing. One of the four headline priorities of the TTC Strategy for 2023 to 2028 is to implement Thornbury's Local Climate and Nature Action Plan to deliver the council's commitment to tackling the Climate Emergency. As such, TTC have been recording and calculating their emissions since 2022.

The primary aim of this carbon accounting exercise is to identify and quantify carbon emissions across TTC's assets. Data on carbon emissions for this report was collected and analysed for the period from 1 April 2025 to 31 March 2026. The data from this report is compared to emissions from the previous year to better understand the impact of increased usage and/or energy efficiency initiatives. The data from this year's report will form the baseline data for the TTC Decarbonisation Road Map that is currently in development. The Decarbonisation Road Map takes the data produced by this carbon accounting exercise and translates it into practical measures to achieving net zero in TTC's operations.

This year's report differs from previous years in several areas:

- In line with the agreed scope of the Decarbonisation Road Map, scope 3 emissions generated in TTC's supply chain have been excluded. Reduction of emissions in the supply chain will be achieved by more conscious and sustainable purchasing decisions (as detailed in the Sustainable Purchasing Guidelines), but they will no longer be calculated or included in the carbon emissions report.
- Electricity usage for the Mundy Playing Fields has been divided up to reflect the consumption of the football club, particularly in their hospitality area. The addition of a bar resulted in an approximate 50% increase in electricity consumption at the pavilion between 2023-24 and 2024-25, prompting this division in the calculations to more accurately reflect TTC's usage.
- Calculations have been updated to reflect TTC's use of renewable electricity (see section 2).
- There are minor changes in the ways the calculation of waste tCO₂e is carried out.

During the 2025-26 reporting period, TTC's carbon emissions totalled 25.2 tCO₂e, reflecting a 22.51% decrease compared to the previous year (if electricity is included), or a 20.92 tCO₂e or 35.67% decrease if electricity is excluded from calculations. A breakdown of emissions by scope is presented in Figure 1.1.

Scope	April 2024 – March 2025	April 2025 – March 2026 (tCO ₂ e) (incl. renewable electricity)	April 2025 – March 2026 (tCO ₂ e) (excl. renewable electricity)	% increase/ decrease year on year (incl. electricity)	% increase/ decrease year on year (excl. electricity)
Scope 1	21.73	19.56	19.56	-9.99%	-9.99%
Scope 2	8.22	4.28	0.00	-47.93%	-100%
Scope 3	2.57	1.36	1.36	-47.08%	-47.08%
Total emissions	32.52	25.2	20.92	-22.51%	-35.67%

Figure 1.1: Summary Emissions for 2024-25 and 2025-26

2. Methodology

The methodology employed in this report for quantifying carbon emissions is based on the GHG Accounting Tool produced by Local Partnerships to help local authorities establish their baseline greenhouse gas (GHG) emissions over a single reporting year. This tool calculates and reports on the seven greenhouse gases covered by the Kyoto Protocol, namely; carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PCFs), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃).

As TTC's Town Hall shares its building with the Police Station, consumption data for electricity, water supply and treatment, and gas have been proportionally allocated between the two entities. This approach has been partially extended for the first time in this report, to the Mundy Playing Field pavilion, with electricity consumption on this site being proportioned equally between TTC and Thornbury Football Club.

The calculation process used for this report involves gathering all relevant data to quantify carbon emissions within the defined geographic and operational scope during the reporting period 1 April 2025 to 31 March 2026. Emissions are calculated by applying conversion factors provided by the Department for Business, Energy & Industrial Strategy (BEIS) to TTC's consumption data. Emissions are reported as tCO₂e (tonnes of carbon dioxide equivalent).

For this report, our Scope 2 emissions have been updated to reflect the renewable energy tariff that we have with Octopus energy. As our electricity consumption is supplied by Octopus Energy under a renewable energy tariff, we are reporting 0 g CO₂e/kWh for Scope 2 emissions, in line with the market-based method. This approach reflects the renewable nature of our electricity supply, as confirmed by our energy provider. The embodied carbon generated by our on-site electricity generation (via solar) has not been accounted for in this report, as the average carbon payback time of the manufacture and supply of the panels (estimated 4 years on average) has been reached.¹

¹ J. Richardson, Solar Photovoltaics - Cradle-to-Grave Analysis and Environmental Cost 2026, *The Renewable Energy Hub*, <https://www.renewableenergyhub.co.uk/main/solar-panels/solar-panels-carbon-analysis>

3. Geographic Scope

Thornbury is located in the southwest of England within the administrative county of South Gloucestershire, which in turn comes under the West of England Combined Authority. TTC has responsibilities for several local parks, green spaces and Thornbury cemetery within the boundaries of the town.



Figure 3.1: Parish boundary of Thornbury

The locations included in this report are:

- Thornbury Town Hall
- Thornbury Cemetery
- The Pavilion at Mundy Playing Fields
- The Bakery Annexe at 67 High Street

Play areas and green spaces that are not a centre of operations are not explicitly listed. However, their general maintenance (for example, grass cutting) is included in calculations, primarily in respect of fuel usage. Figure 3.2 shows the breakdown of emissions by operational area.

Figure 3.2: Breakdown of Emissions by Operational Area 2025-2026

Operation	Scope	Emissions (tCO ₂ e)
Town Hall	1	11.85
Town Hall	2	0
Town Hall	3	1
Sub-total		12.85
Mundy Playing Fields	1	2.6
Mundy Playing Fields	2	0
Mundy Playing Fields	3	0.3
Sub-total		2.9
Cemetery	3	0.07
Bakery Annexe	3	0
Ancillary Operations	1	5.1
Total		20.92

4. Operational Scope

In line with the Local Government Partnership's GHG accounting tool, TTC reports on all sources of carbon emissions over which it has operational control. TTC has operational control over a service if it has full authority to introduce and implement its operating policies. Carbon emissions within the physical boundaries managed by TTC are reported in scope 1, 2 and 3 for the following operations:

Scope	Activity/Operation	Location/Equipment Sources
1	Heating	Gas purchased from Ecotricity for the Mundy Playing Fields pavilion and the Town Hall
1	Fleet and fuel use	Vehicles and equipment for open spaces maintenance
2	Electricity consumption	Electricity purchased from Octopus for the Bakery Annexe, Cemetery, Mundy Playing Fields and the Town Hall. As above, electricity consumption will be calculated but will result in zero carbon emissions.
3	Transmission & Distribution Losses – Electricity*	Bakery Annexe, Cemetery, Mundy Playing Fields pavilion and the Town Hall
3	Water	Water supply for the Bakery Annexe, Cemetery, Mundy Playing Fields and the Town Hall
3	Water treatment	Sewage from the Bakery Annexe and the Town Hall. Sewage from the Mundy Playing Fields and Cemetery is processed via an off-grid tank which is periodically emptied. This is out of scope of the report.
3	Waste generated from own operations	Bakery Annexe, Cemetery, Mundy Playing Fields and the Town Hall's waste generation [mixed recycling (paper, plastic, cans, etc.), shredded paper, general waste]

Figure 4.1: Scope of emissions calculated by operation

* Relates to the emissions that are generated during the transportation and distribution of electricity between the grid and the end user.

5. Carbon Emissions

The breakdown of Thornbury Town Council's (TTC) carbon emissions for the period from April 2025 to March 2026, along with the percentage change from the previous year, is detailed below.

Scope	Emission Type	Total Emissions tCO ₂ e		Volume +/- tCO ₂ e	% +/-
		2024-25	2025-26		
1	Heating	15.17	14.46	0.71	4.68
	TTC's Fleet	6.36	5.10	-1.26	-19.81
	TTC's Fuel Use	0.20	0.00	-0.20	-100.00
		21.73	19.56	-2.17	-9.99
2	Electricity – Bakery Annexe	0.40	0.20	-0.20	-50.00
	Electricity – Cemetery	0.31	0.35	0.04	+12.90
	Electricity – Mundy Playing Field	3.83	1.46	-2.37	-61.88
	Electricity – Town Hall	3.68	2.27	-1.41	-38.32
	Total	8.22	4.28	-3.94	-47.93
	Reduction for use of renewables		-2.27	0.00	-100%
		3.68	0.00		
3	Transmission & Distribution Losses	0.73	0.45	-0.28	-38.36
	Water Supply	0.25	0.13	-0.12	-48.00
	Water Treatment	0.05	0.02	-0.03	-60.00
	Material Use	1.12	-	-	-
	Waste generated from own operations	0.42	0.76	0.34	80.95
		2.57	1.36	-1.21	-47.08

Figure 5.1: TTC Annual Emissions Comparison, 2024-25 – 2025-26

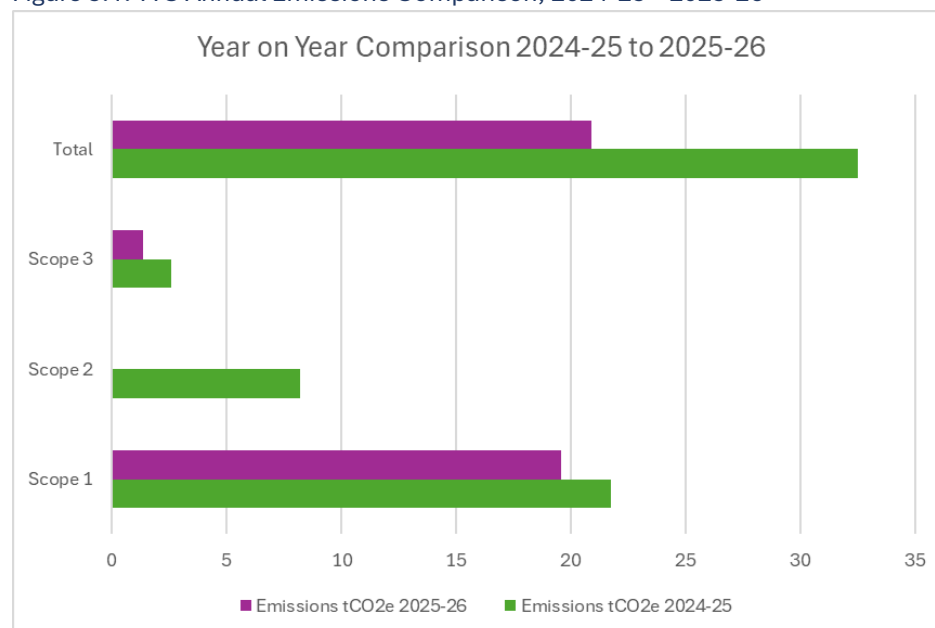


Figure 5.2: TTC Annual Emissions Comparison (without electricity), 2024-25 – 2025-26 Chart

Figure 5.3 details TTC's carbon emissions by type, breaking down their respective contribution to the 2025-26 total emissions. As Figure 5.3 shows, the major contributors to TTC's emissions are found in Scope 1, namely heating (69.12%) and fleet fuel use (24.38%).

Scope	Emission Types	Emissions (tCO ₂ e)	% Contributions to the Total Carbon Emissions
1	Heating	14.46	69.12%
	Fleet Fuel Use	5.10	24.38%
	<i>Scope 1</i>	<i>19.56</i>	<i>93.50%</i>
2	Electricity - Bakery Annex	0.20	0.96%
	Electricity - Cemetery	0.35	
	Electricity - Mundy Playing Field	1.46	
	Electricity - Town Hall	2.27	
	Sub-total	4.28	
	Reduction for use of renewables	-4.28	0%
	<i>Scope 2</i>	<i>0.00</i>	<i>0.00%</i>
3	T & D Losses	0.45	2.15%
	Water Supply	0.13	0.62%
	Water Treatment	0.02	0.10%
	Material Use	-	-
	Waste generated from own operations	0.76	3.63%
	<i>Scope 3</i>	<i>1.36</i>	<i>6.50%</i>
Total Emissions		20.92	

Figure 5.3: TTC Carbon Emissions by Operation 2025-26

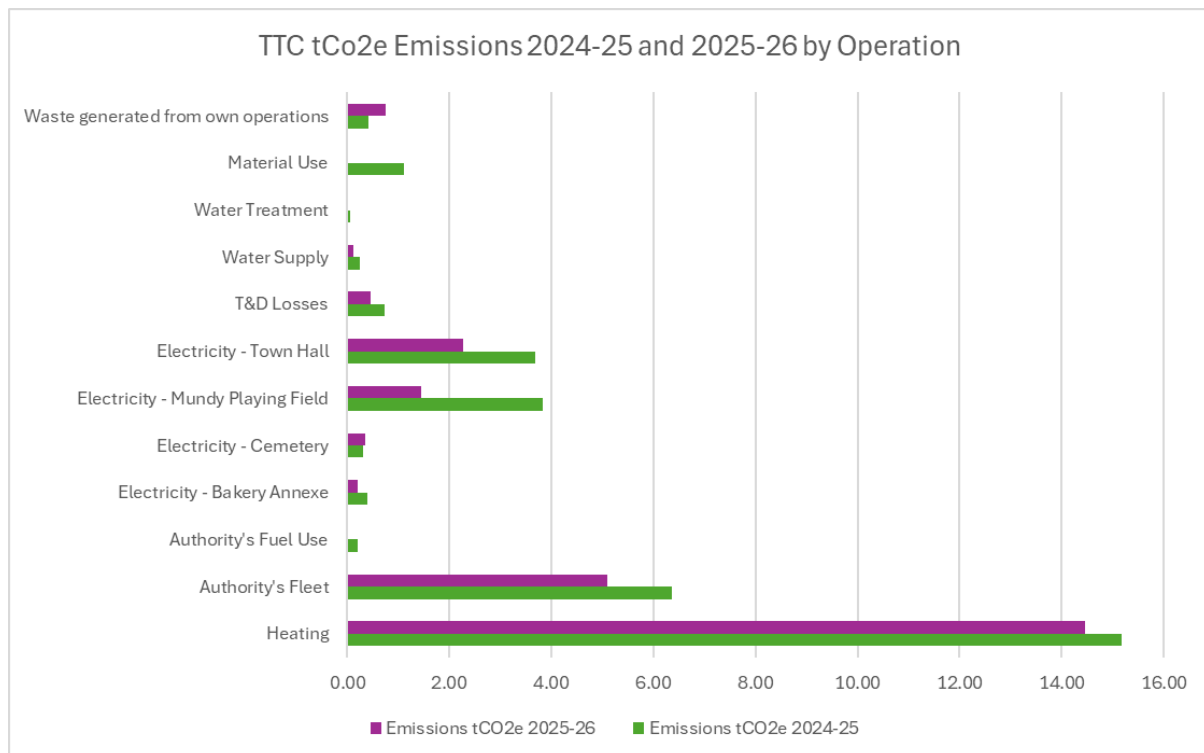


Figure 5.4: TTC Carbon Emissions by Operation 2025-26 Chart

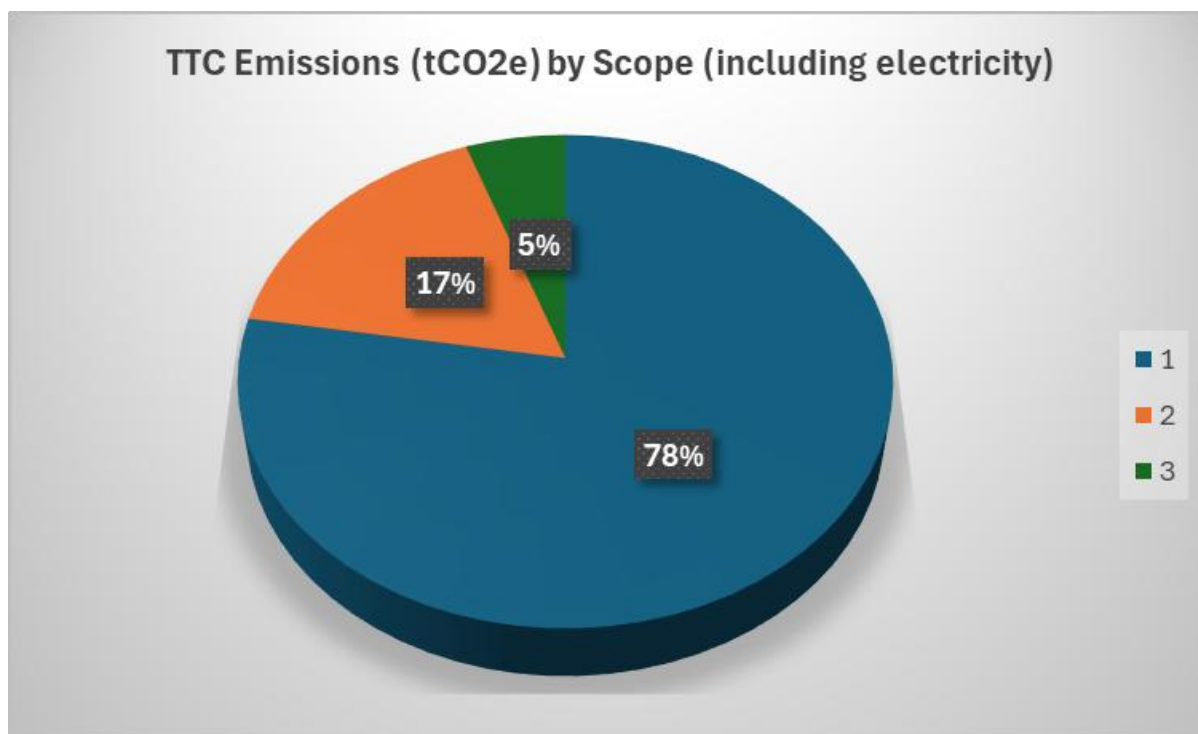


Figure 5.5: TTC Distribution of Carbon Emissions by Scope 2025-26 (including electricity)

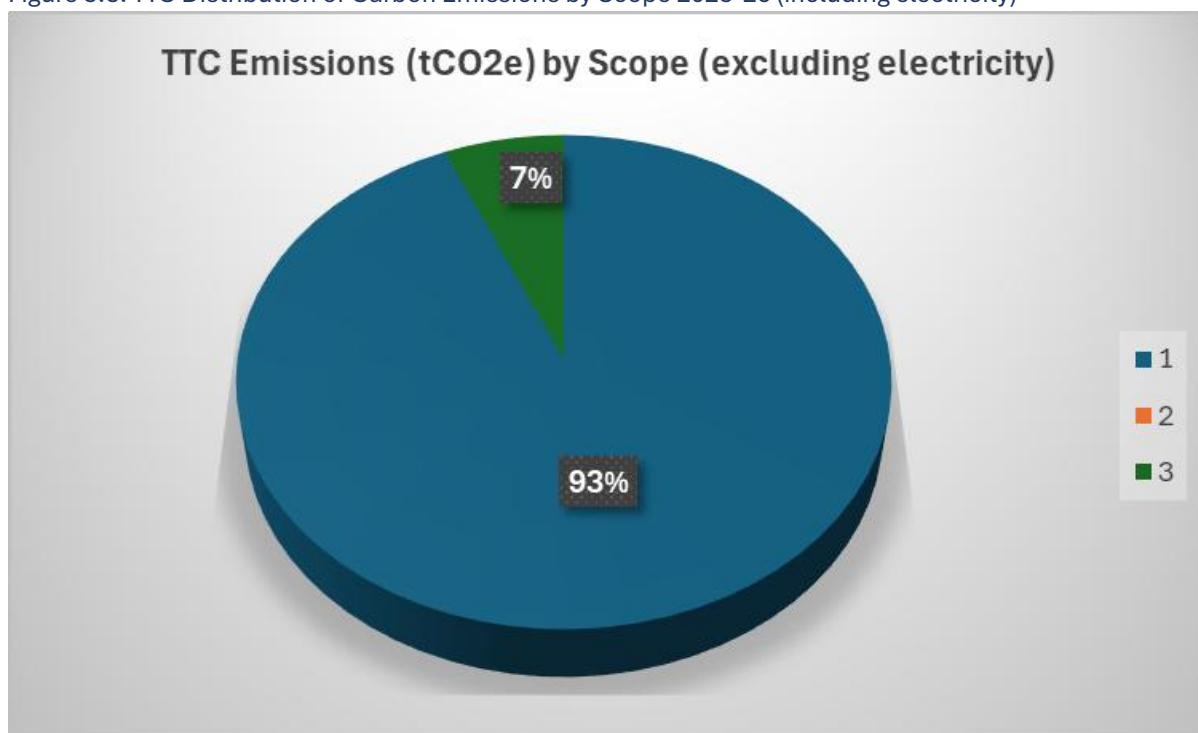


Figure 5.6: TTC Distribution of Carbon Emissions by Scope 2025-26 (excluding electricity)

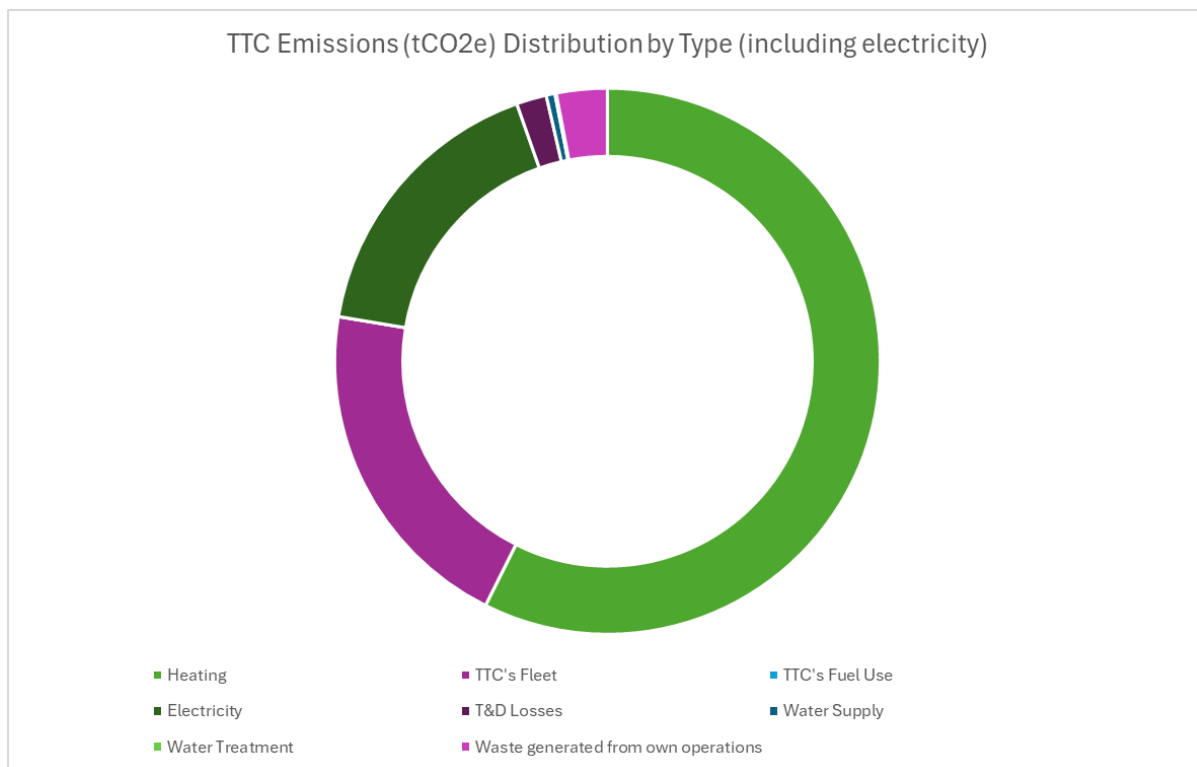


Figure 5.7: TTC Distribution of Carbon Emissions by Emission Type 2025-26 (including electricity)

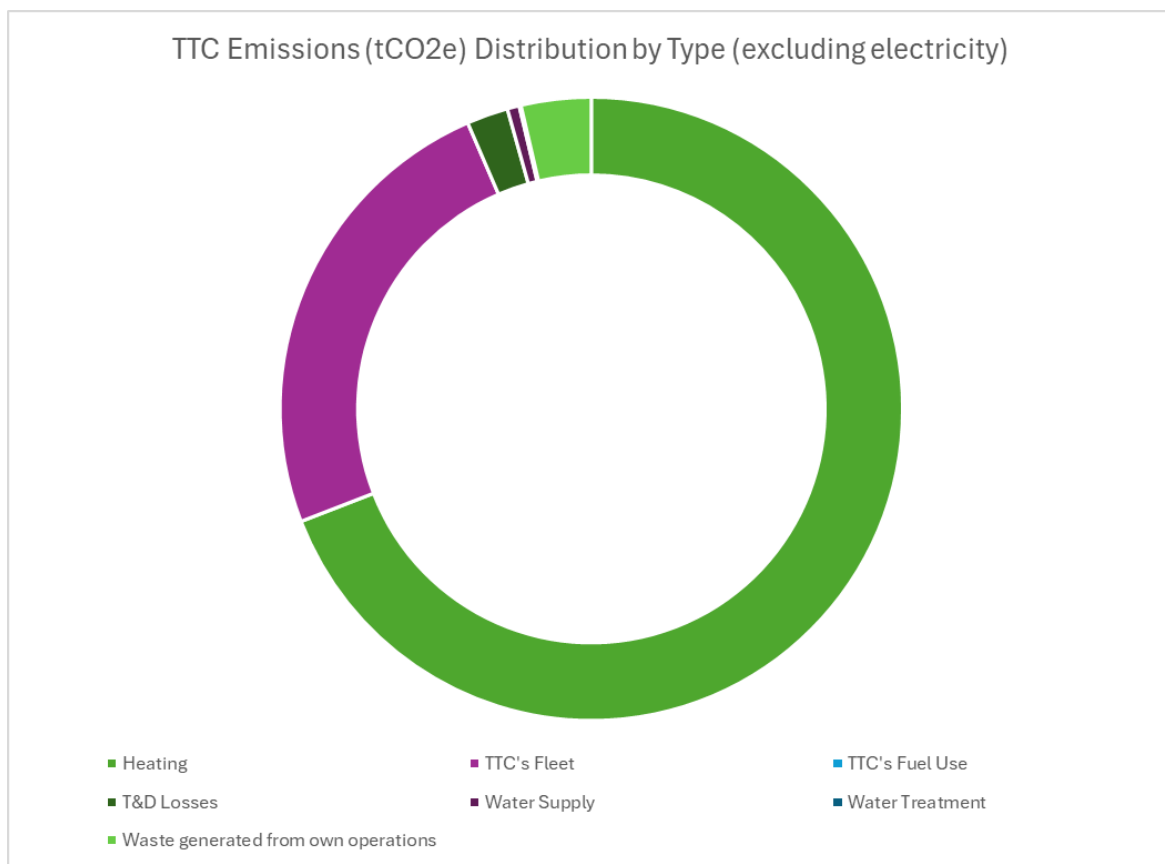


Figure 5.8: TTC Distribution of Carbon Emissions by Emission Type 2025-26 (excluding electricity)

6. Scope 1 Carbon Emissions Analysis

As shown above, Scope 1 emissions are by far the largest contributor to carbon emissions for TTC. If electricity is excluded from calculations by virtue of its renewable status, then Scope 1 emissions account for 93.50% of all TTC's emissions. Even if electricity is included, Scope 1 emissions still account for 77.62% of TTC's emissions.

Year on year, Scope 1 emissions have reduced by almost 10%. A small reduction in heating (4.68%) and a larger, reduction in the TTC fleet's fuel use (19.81%) accounted for this overall reduction. The former is likely driven by continuing energy efficiency measures at the Town Hall, as well as natural seasonal variations in temperature, with 2025 in particular experiencing high spring and summer temperatures. The latter is possibly driven in part by a reduced mowing regime (less mowing due to the warm, dry weather and an amended management regime) as well as incidental year on year differences in operational priorities.

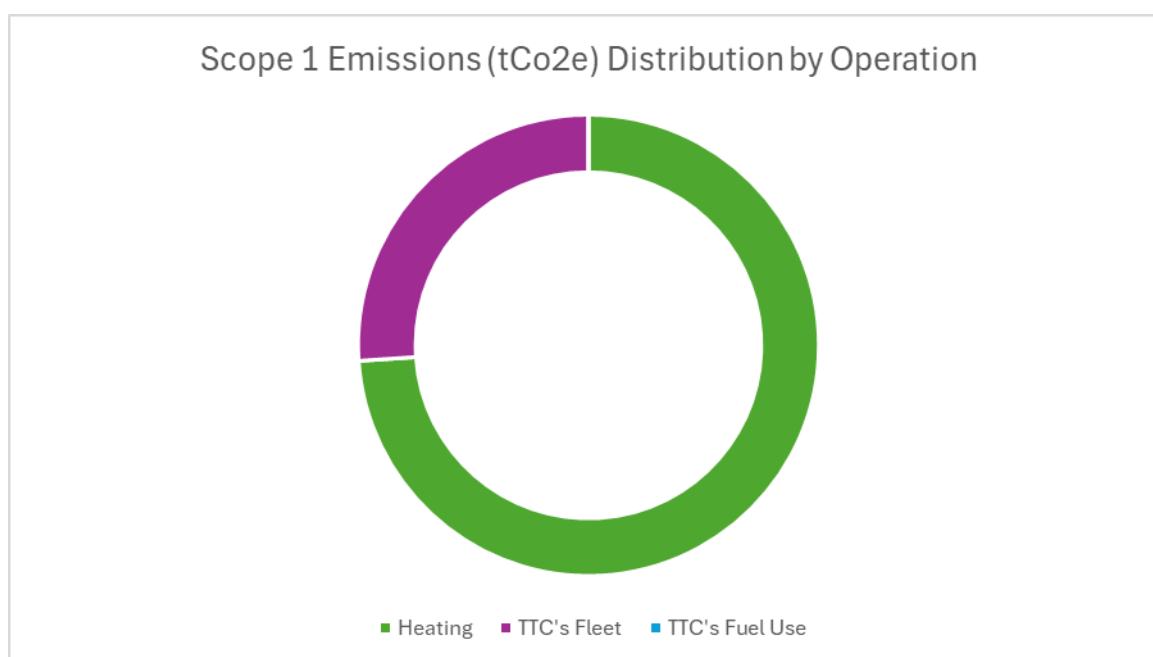


Figure 6.1: Distribution of Scope 1 Carbon Emissions by Operation

7. Scope 2 Carbon Emissions Analysis

Scope 2 emissions at TTC are solely derived from purchased electricity. If electricity is included in TTC's carbon calculations, it accounts for 20.46% of total emissions. Electricity consumption has reduced at the Town Hall by 38% year on year. This is possibly due to continued energy efficiency measures and the increased generation of solar energy at the Town Hall, driven by the particularly hot, sunny summer of 2025 and the cleaning of the solar panels that took place early in 2025.

Electricity consumption at Mundy Playing Fields has reduced by 61.88% in these calculations. This is largely due to the splitting of calculations so that the 50% of electricity consumed by Thornbury Football Club is excluded from TTC's calculations. Even without this split, however, electricity consumption reduced by 23.76% year on year at the pavilion in Mundy Playing Fields.

Removing electricity from TTC's carbon calculations, because it is entirely generated by renewables, results in Scope 2 emissions of zero, reducing TTC's overall emissions figure by 4.28 tCO₂e or 17%.

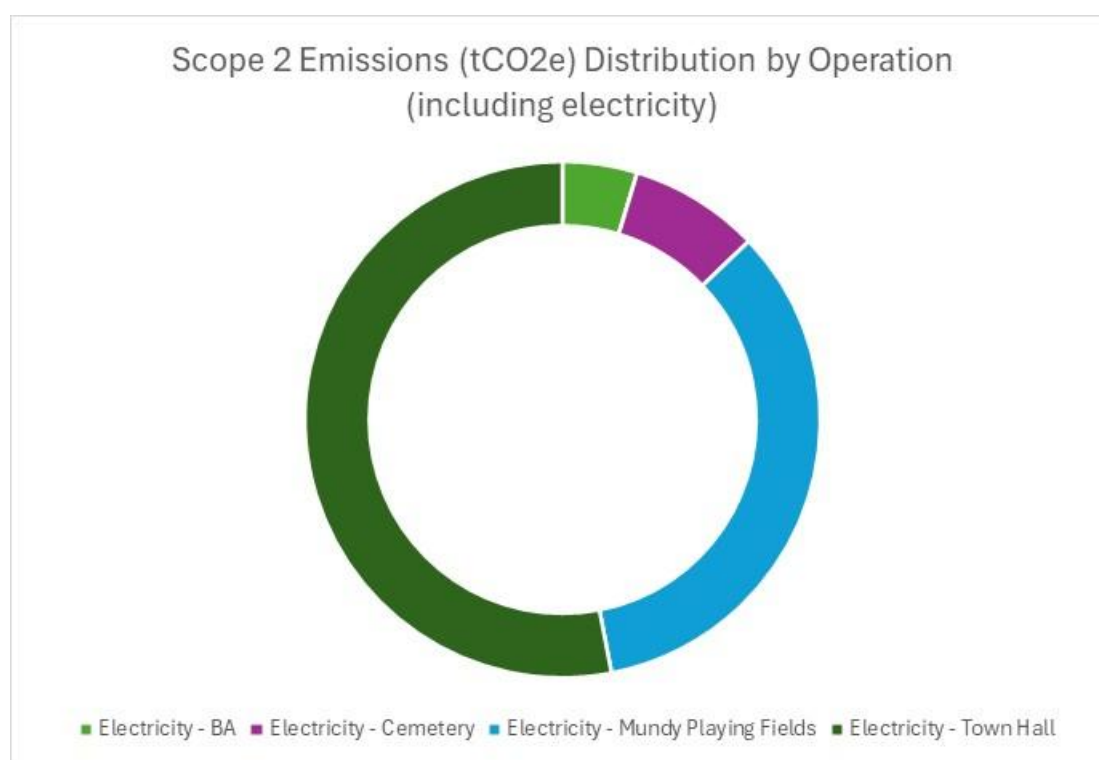


Figure 7.1: Distribution of Scope 2 Carbon Emissions by Operation

8. Scope 3 Carbon Emissions Analysis

Scope 3 emissions account for 5.40% of TTC's overall emissions if electricity is included, or 6.50% if electricity is excluded. There was an overall year on year decrease in Scope 3 emissions of 47%, or 1.21 tCO₂e. This, however, is largely accounted for by the removal of materials use from calculations. If materials use is added back in, assuming it is at a consistent volume to the prior year, there would be a 3.5% increase in emissions in Scope 3.

This small increase is solely due to an increase of 0.34 tCO₂e from waste generated from TTC's own operations; an 81% increase. The actual volume of waste did not, however, increase (29 tonnes in 2024-25 and 26 tonnes in 2025-26). The difference in carbon emissions reported are therefore due to alterations year on year in the accounting process. This is in part due to changes in the calculation tool and in part due to a change of personnel at TTC which has necessitated a different accounting approach.

Irrespective, Scope 3 emissions, whilst still desirable to reduce, account for only a small overall percentage of TTC's carbon footprint.

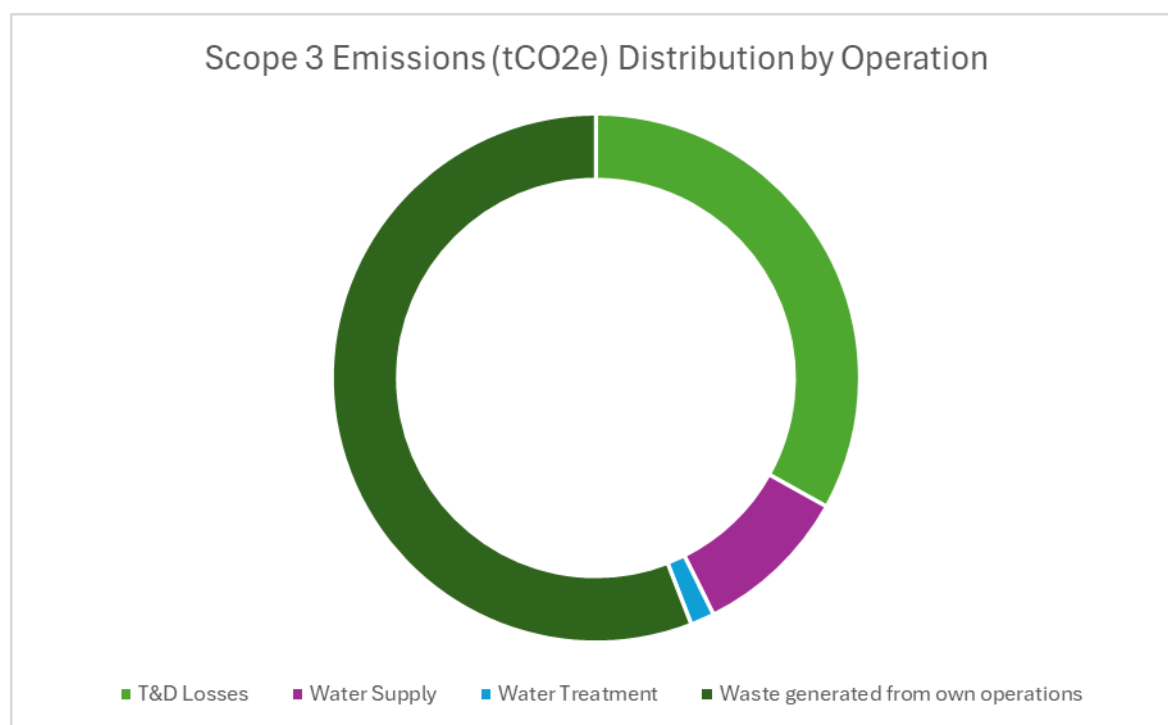


Figure 8.1: Distribution of Scope 3 Carbon Emissions by Operation

9. Conclusion and Additional Factors for Consideration

TTC has, overall, seen a steady decrease in its carbon emissions since the start of reporting in 2022-23. This has been driven by several factors, including energy efficiency measures, the purchase of an electric vehicle, and the decision to source electricity from renewable sources, either in house via the installation of solar panels, or from an external supplier.

TTC commissioned an energy efficiency report for the Town Hall in January 2024 and many of its recommendations have been implemented. There are, however, big ticket items remaining, which will compromise TTC's ability to significantly further reduce its carbon footprint.

These include the reliance on gas central heating at the Town Hall, which is by far the largest contributor to carbon emissions, and the need to continue to use diesel and petrol-powered vehicles and equipment until they reach the end of their useful life.

Options for addressing these, and the other remaining areas that are contributing to TTC's continuing carbon emissions, are included in the TTC Decarbonisation Road Map and Sustainable Purchasing Guidelines, which should be read in conjunction with this report.

There are, however, also new developments that have the potential to increase TTC's carbon emissions. For example, at the Cemetery, the chapel has been partly refurbished to bring it back into use. This will inevitably increase the energy consumption at the Cemetery (which is currently very low), although it is not thought this increase will be significant. Furthermore, development and refurbishment of the chapel are being carried out bearing in mind the need to ensure energy efficiency and minimise any impact on our carbon emissions.

The reinstatement of water play facilities at the Mundy Playing Fields, while largely based on natural water sources, will incorporate potable water, whose supply generates carbon emissions, thus potentially increasing TTC's carbon footprint. Plans to minimise the volume of potable water needed for the new play facilities are intrinsic to its design and build.

The pavilion is, at present, neither energy efficient nor fit for purpose. Plans to reconfigure the pavilion should, however, greatly improve the overall energy efficiency of TTC's operations there and remove the need for the estimated split between TTC's energy consumption and that of the Football Club (as they will be separately metered). The planned developments will also make the building more usable, logical and aesthetically pleasing.

Further details about the remaining challenges of achieving net zero, as well as potential solutions, are included in the Decarbonisation Road Map.