

Tunbridge Wells Borough Council

# **Emissions Report: 2021/2022**

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# 1. Summary

Tunbridge Wells Borough Council (TWBC) releases an annual emissions report that outlines the total carbon dioxide equivalent (tCO<sub>2</sub>e)<sup>1</sup> generated by its operations during the previous financial year. These reports compile consumption data from a range of activities and apply appropriate emissions factors, enabling the council to track its emissions consistently over time and assess progress toward its 2030 net zero goal.

All TWBC emissions reports adhere to the Greenhouse Gas Protocol's Corporate Accounting and Reporting Standard, utilizing official greenhouse gas conversion factors provided by the Department for Energy Security and Net Zero (DESNZ).

In the 2023/24 financial year, TWBC's emissions were **5,163.6 tCO<sub>2</sub>e**.

## 2. Scope emissions

The following section provides an overview of TWBCs emissions scopes:

**Scope 1 (Direct):** Gas consumption, stationary combustion fuels, and TWBC vehicle fleet.

**Scope 2 (Indirect):** Electricity consumption.

**Scope 3 (Indirect):** Transmission and distribution losses, water supply, water treatment, business travel, staff commuting, well to tank<sup>2</sup>, leisure centre contract, refuse and street cleaning contract and grounds maintenance contract.

## 3. Emissions overview (tCO<sub>2</sub>e)

Emissions Year	2018/19	2019/20	2020/21	2021/22
Scope 1	909.7	886.0	726.6	911.0
Scope 2	2,308.5	1,704.7	871.1	1,252.2
Scope 3	3,414.5	3,235.5	2,109.3	3,000.4
<b>Total Net Emissions</b>	<b>6,632.7</b>	<b>5,826.2</b>	<b>3,706.9</b>	<b>5,163.6</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.

<sup>2</sup> **Well to tank (WTT)** = The extraction, refinement and transportation of raw materials.

## 4. Emissions breakdown

Operation	Scope	Emissions Category	tCO <sub>2</sub> e
TWBC Own Operations	Scope 1	Gas	888.8
TWBC Own Operations	Scope 1	Biomass	0.5
TWBC Own Operations	Scope 1	Biodiesel	1.1
TWBC Own Operations	Scope 1	Propane	0.0
TWBC Own Operations	Scope 1	Vehicle Fleet Fuel	14.3
TWBC Own Operations	Scope 2	Electricity Consumption	1,252.2
TWBC Own Operations	Scope 3	Transmission & Distribution Losses	110.8
TWBC Own Operations	Scope 3	Water Supply	4.6
TWBC Own Operations	Scope 3	Water Treatment	7.6
TWBC Own Operations	Scope 3	Grey Fleet Mileage	37.4
TWBC Own Operations	Scope 3	Commuting	-
TWBC Own Operations	Scope 3	Well To Tank - Gas	152.1
TWBC Own Operations	Scope 3	Well To Tank - Electricity	354.9
TWBC Own Operations	Scope 3	Well To Tank - Biomass	0.3
TWBC Own Operations	Scope 3	Well To Tank - Biodiesel	6.8
TWBC Own Operations	Scope 3	Well To Tank - Fuel	0.0

Operation	Scope	Emissions Category	tCO <sub>2</sub> e
TWBC Own Operations	Scope 3	Well To Tank - Grey Fleet	10.0
TWBC Own Operations	Scope 3	Well To Tank - Commuting	0.0
TWBC Own Operations	Scope 3	Waste Disposal	1.8
TWBC Contract	Scope 3	Waste Collection & Street Cleaning	1,108.3
TWBC Contract	Scope 3	Grounds Maintenance	155.5
TWBC Contract	Scope 3	Leisure Centre	1,046.6
<b>Total Gross Emissions</b>	<b>N/A</b>	<b>N/A</b>	<b>5,163.6</b>

Operation	Scope	Emissions Category	tCO <sub>2</sub> e
TWBC Own Operations	Out of Scope	Biomass	3.0
TWBC Own Operations	Out of Scope	Biodiesel	77.1
TWBC Own Operations	Out of Scope	Vehicle Fleet	0.7
TWBC Own Operations	Out of Scope	Electricity	630.3
TWBC Contract	Out of Scope	Contractor Fuel Use	53.6
TWBC Contract	Out of Scope	Contractor Fuel Use	7.0
TWBC Contract	Out of Scope	Electricity	122.8
<b>Total Gross Emissions</b>	<b>N/A</b>	<b>N/A</b>	<b>894.5</b>

## 5. Company information

The Tunbridge Wells 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 came to a yearend total of **911.0 tCO<sub>2</sub>e**.

A 25.4% increase in emissions was seen since 2020/21 and a 0.14% increase since base-year.

For gas consumption (the biggest contributor to this scope) emissions were on a downwards trend until figures rebounded in 2021/22, increasing by 7%. The only other increases were seen in the fugitive fuels emissions, specifically from refrigerant gases, and biodiesel (HVO).

Scope 1 contribution to gross emissions reduced from 20% in 2020/21 to 18% in 2021/22.

### 7.2. Scope 2

Scope 2 emissions totalled **1,252.2 tCO<sub>2</sub>e**.

Electricity consumption increased by 43.8% since 2020/21, but decreased 45.8% since the base-year. This highlights that scope 2 emissions are following a general decreasing trend, in spite of the expected rebound that has occurred as a consequence of COVID-19 restrictions lifting.

Scope 2 only includes electricity as a source.

### 7.3. Scope 3

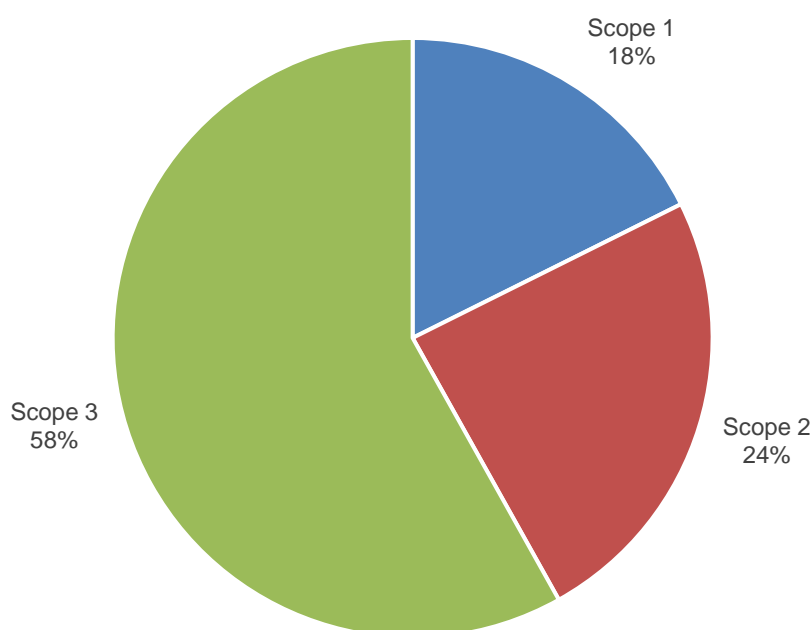
Scope 3 emissions came to a year-end total of **3,000.4 tCO<sub>2</sub>e**.

This figure is a 42.3% increase from 2020/21, but a 12.1% decrease since base-year totals.

Scope 3 is the largest contributor to TWBC gross emissions, accounting for 58% (figure 1). The biggest increase in emissions was seen in the leisure centres contract (141%), due to facilities reopening and events resuming. Similarly, both gas and electricity well to tank emissions increased, 65% and 171.9%, respectively. The next largest increase was seen in the transmission & distribution losses (48%), which would be driven by the rise in generated heat and power.

In relation to the other TWBC contracts, the emissions for the grounds maintenance and waste collection & street cleaning services have remained fairly consistent across the years.

Figure 1: TWBC Emissions Scope Contribution 2021/22



## 7.4. Out of scope

TWBC is now highlighting its out of scope emissions, given the use of biofuel across the estate. This is now included to ensure that we align with best practise reporting, as detailed by the Greenhouse Gas Protocol. The Department for Energy Security and Net Zero (DESNZ) define out of scope emissions as:

*“Outside of scopes includes biogenic CO<sub>2</sub> factors that should be used to account for the direct carbon dioxide (CO<sub>2</sub>) impact of burning biomass and biofuels, including when reporting emissions from electricity consumption. Biogenic CO<sub>2</sub> emissions are one of several activities labelled ‘outside of scopes’ by the GHG Protocol Corporate Accounting and Reporting Standard because the Scope 1 impact of these fuels has been determined to be a net ‘0’ (since the fuel source itself absorbs an equivalent amount of CO<sub>2</sub> during the growth phase as the amount of CO<sub>2</sub> released through combustion).”*

Out of scope emissions totalled at **894.5 tCO<sub>2</sub>e** in 2021/22. This is an increase of 1,752% from the previous year.

Since 2020/21 the largest increase in out of scope emissions was seen in electricity usage in our own operations, due to there now being emissions factors associated with this source. This was the biggest contributor to overall emissions, with consumption also increasing by 2.2million kWh. For the same reason, the emissions from electricity within our leisure centre contract increased, alongside the 619,742 kWh increase in consumption from the previous year.

This was the first year that TWBC began using HVO fuel, and therefore emissions are now included and a 31,745 litre rise in quantity was displayed.

It should be noted that there were additional increases in emissions factors which contributed to the subsequent rise in associated emissions. For example diesel fuel, HVO fuel, and gas oil.

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

There has been an overall 39.3% increase in gross emissions since 2020/21, but emissions remain 22.2% lower than the base-year totals. This increase is primarily due to the reopening of offices and operations following COVID-19 lockdowns, which led to a rebound in emissions as activities returned to normal.

The largest increase in emissions was driven by a sharp rise in electricity consumption (figure 2), which increased by 2,152,976 kWh, leading to a 43.8% rise in Scope 2 emissions (emissions from purchased electricity). This was accompanied by a 171.9% rise in electricity-related well-to-tank (WTT) emissions (Scope 3), which capture upstream emissions from the production and transport of electricity. Much of this increase can be attributed to the resumption of operations, particularly in leisure centres, which had reduced activity levels during lockdowns. While leisure centres experienced a 141% rise in emissions as operations resumed, emissions in this category remain 18.2% lower than the base year, reflecting long-term progress despite temporary fluctuations caused by the pandemic.

Similarly, gas consumption increased during this period (figure 2), contributing further to Scope 1 and Scope 3 emissions. These increases were expected due to the return to normal operations but underscore the need for sustained energy efficiency improvements to offset such rebounds.

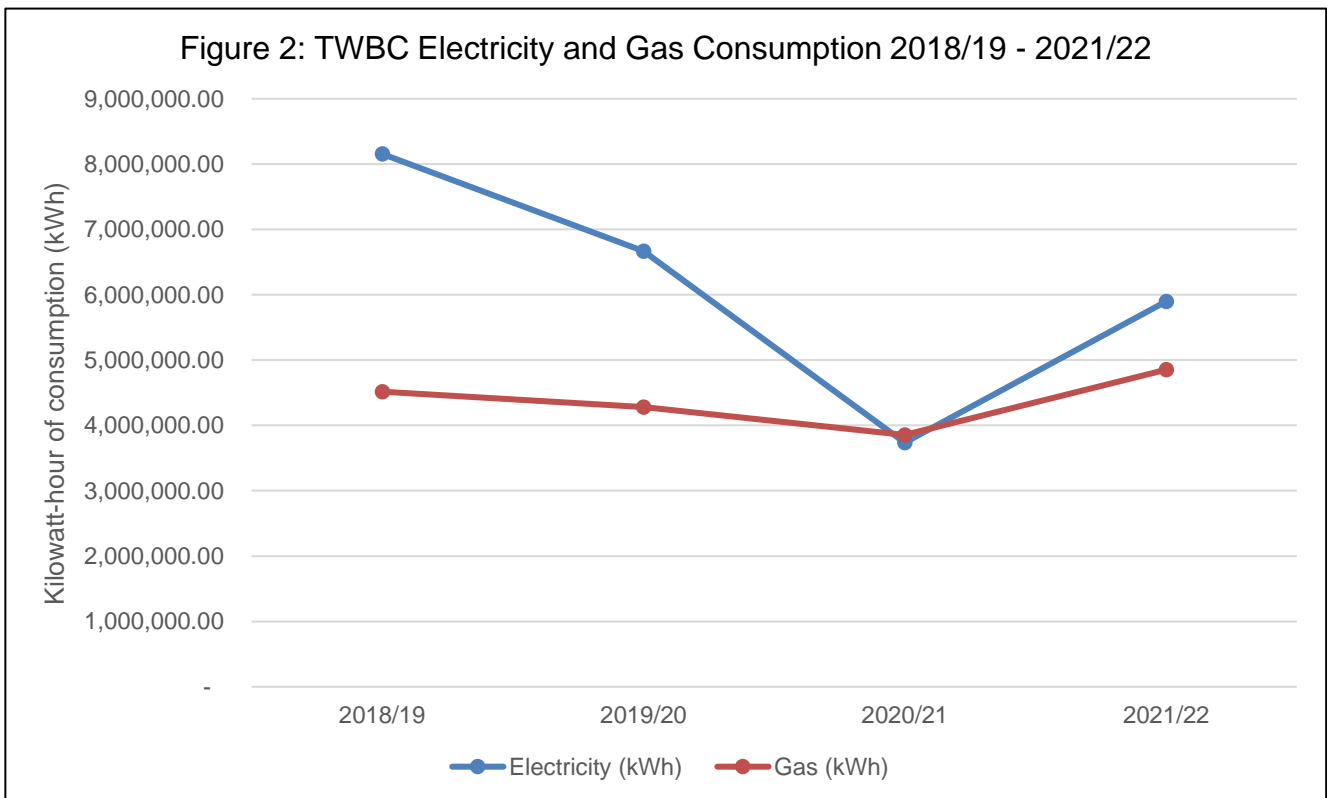
The next biggest jump came from well-to-tank emissions related to electricity consumption (scope 3). These emissions rose by 171.9%, driven by a sharp increase in electricity use. The increase in Scope 2 emissions (emissions from purchased electricity) by 43.8% is directly related to the 2,152,976 kWh rise in electricity consumption. Scope 2 measures emissions from the actual electricity used, while Scope 3 captures the upstream emissions from generating and transporting that electricity.

Leisure centres, which had lower activity levels during lockdown, saw a significant rise in emissions as operations resumed. This 141% rise is significant but was expected due to the reopening of these facilities. Despite the recent increase, emissions from this category are still



18.2% lower compared to the base year, indicating long-term progress in reducing emissions. The fluctuations seen here are mostly a result of the pandemic's impact on operations.

In 2021/22, TWBC introduced Hydrotreated Vegetable Oil (HVO) as a replacement for diesel fuel. This led to a 253.3% rise in emissions from the biofuels category (scope 1). While emissions from HVO are included in the biofuels category, its adoption represents a significant step towards decarbonisation. HVO is a cleaner alternative to diesel, with a substantially lower carbon intensity. For context, the carbon conversion factor for HVO is 0.04 kgCO<sub>2e</sub>/litre, compared to diesel's 2.6 kgCO<sub>2e</sub>/litre, which demonstrates the net carbon benefit of this switch. For example, if all diesel consumption from 2019-20 (the last year of significant stationary combustion diesel use) had been replaced by HVO, emissions would have been more than 70 tCO<sub>2e</sub> lower. While HVO still generates some emissions during production and usage, it contributes to a long-term reduction in overall stationary combustion fuel emissions, supporting TWBC's 2030 net zero target.



## 7.6. Largest emitting sources

Emissions Category	Emissions Scope	tCO <sub>2e</sub>	Total Contribution	Change from 2020/21
Electricity consumption	Scope 2	1,252.2	24.3%	-45.8%

Emissions Category	Emissions Scope	tCO <sub>2</sub> e	Total Contribution	Change from 2020/21
Waste collection & street cleaning contract	Scope 3	1,108.3	21.5%	-7.9%
Leisure centre contract	Scope 3	1,046.6	20.3%	-18.2%
Gas consumption	Scope 1	888.8	17.2%	+7%
Electricity well to tank	Scope 3	354.9	6.9%	-4.5%

TWBC emissions from the above top 5 direct sources contributed 90.2% to all total emissions in 2021/22.

## 8. Measuring and reporting

Reporting on TWBC emissions take place annually, following the [Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard](#).

This emissions report will be reported to Management Board, and subsequently taken through any appropriate Advisory Panel, Cabinet Advisory Board and Cabinet.

## 9. Scope explanation

Scope	Activity	Description	Data Source
Scope 1	Gas Consumption	Utilised to heat TWBC buildings.	TWBC utility bills.
Scope 1	Stationary Combustion Fuels	Used as a form of energy, such as wood pellets or diesel for electricity generators.	TWBC invoices.
Scope 1	Vehicle Fleet Fuel	Vehicle fleet owned and operated by TWBC.	TWBC fuel invoices.
Scope 2	Electricity Consumption	Procured from the national grid to power TWBC buildings and assets	TWBC utility bills.

Scope	Activity	Description	Data Source
Scope 3	Transmission & Distribution Losses	Loss of electricity from the national grid to TWBC sites and assets.	TWBC utility bills.
Scope 3	Water Supply	Water consumed by TWBC.	TWBC utility bills.
Scope 3	Water Treatment	TWBC sewerage.	TWBC utility bills.
Scope 3	Grey Fleet Mileage	Mileage driven by TWBC employees using their own vehicles for work purposes.	TWBC employee mileage claims.
Scope 3	Commuting	Mileage from employees travelling to and from TWBC offices.	Staff commuting data from surveys.
Scope 3	Well To Tank (WTT)	Emissions and energy associated with the extraction, processing, and transportation fuel.	TWBC utility bills.
Scope 3	Waste	Generation of food, plastic, and recyclable waste by TWBC.	TWBC invoices.
Scope 3	Waste Collection & Street Cleaning Contract	Fuel consumption from TWBC's contract to provide public waste collection & street cleaning services.	Contract management.
Scope 3	Grounds Maintenance Contract	Fuel use and waste disposal from TWBC's contract to maintaining green spaces across the borough.	Contract management.
Scope 3	Leisure Centre Contract	Energy use during the operation of all TWBC owned, but independently managed leisure facilities.	Contract management.

## 10. Organisational boundary

TWBC's organisational boundary covers activities in which the organisation has financial and operational control, covering the duties and powers of the local authority. As such, the organisational boundary covers all operations and outsources activities.

# 11. Geographical breakdown

All TWBC activities occur within the Tunbridge Wells District, excluding some staff and member business travel and commuting activities.

# 12. Base year

TWBC's base year is 01/04/2018 – 31/03/2019.

# 13. Base year recalculation policy

The base year of 2018/19 is recalculated whenever significant structural changes occur within the council's operations. Additionally, if these changes lead to an increase in emissions of 10% or more compared to Tunbridge Wells Borough Council's (TWBC) base year emissions, a recalculation is triggered.

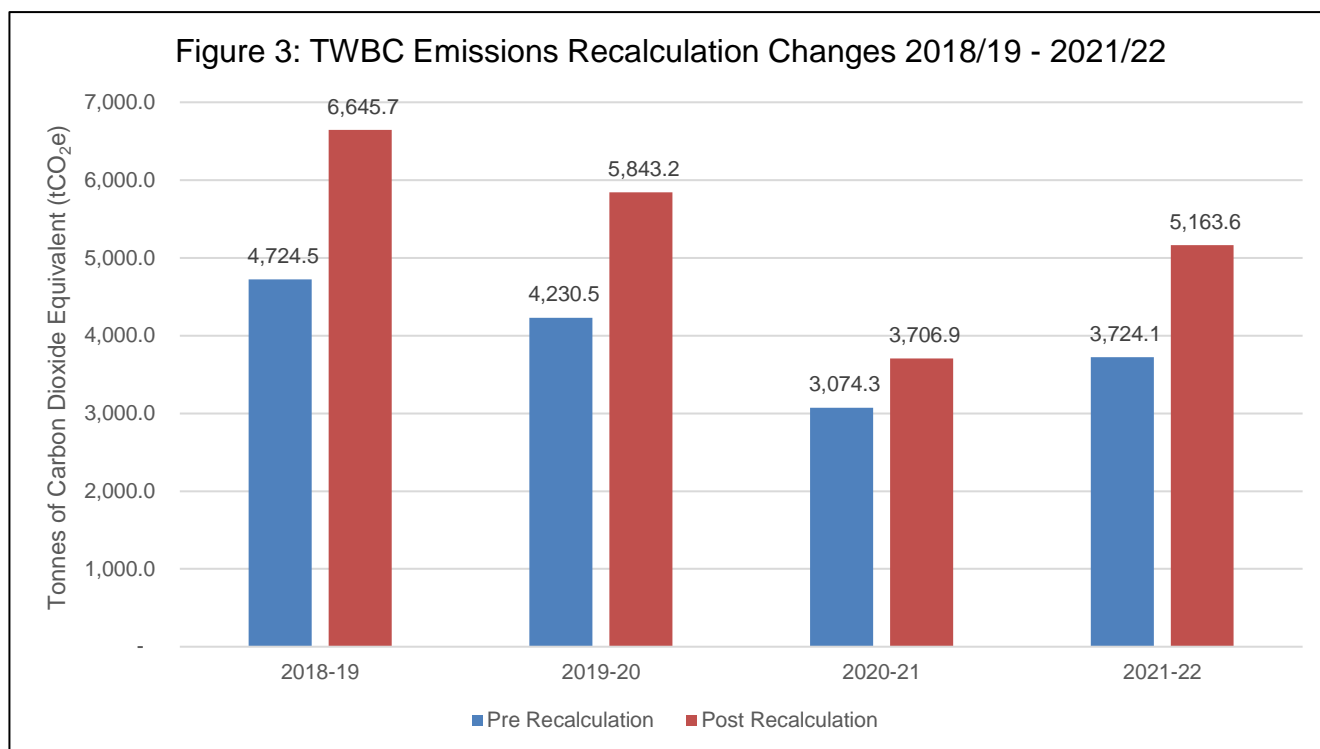
If there is insufficient data for a recalculation, the next most appropriate year will be selected. Following the council's acquisition of the Royal Victoria Place Shopping Centre and the renovation and acquisition of the Amelia Scott building in 2022, the base year emissions and all previous emissions reports have been recalculated.

The recalculated base year emissions for 2018/19 are now 6,632.7 tCO<sub>2e</sub>, up from the earlier figure of 4,724.5 tCO<sub>2e</sub>.

The observed increases from this recalculation are as follows:

- A 41% increase in 2018/19 emissions (1,921.2 tCO<sub>2e</sub>).
- A 38% increase in 2019/20 emissions (1,612.6 tCO<sub>2e</sub>).
- A 21% increase in 2020/21 emissions (632.6 tCO<sub>2e</sub>)

- A 39% increase in 2021/22 emissions (1,439.5 tCO<sub>2</sub>e)



## 14. Emissions target

TWBC's net zero target for its operations is **2030**.

## 15. Intensity measurement

TWBC's intensity measurement is **16.2 tCO<sub>2</sub>e** per employee.

## 16. External assurance statement

No external assurance has been carried out.

## 17. Carbon offsetting

TWBC has not engaged in any carbon offsetting schemes, including the direct purchase of carbon credits.

## 18. Renewable tariffs

TWBC is not on a renewable energy tariff for its owned and operated assets. Energy is purchased through Npower, who disclose that 42% of their energy comes from renewables (as of 20/06/2024). However, there is no guarantee that this translates to TWBC's energy consumption. TWBC is not on a renewable energy guarantee of origin (REGO) backed tariff.

Royal Victoria Place electricity is purchased through Total Energies renewable power tariff. This is a REGO backed tariff, whereby excess REGOs are purchased to essentially 'offset' the 47% of their energy that comes from coal and gas. These REGOs aren't reflected in our emissions reporting as there is limited, concrete evidence that the purchase of REGOs results in direct emissions reductions or increases in UK renewable generation.

For the above reasons TWBC uses the location-based approach to report on emissions associated with electricity consumption. This approach uses the UK average electricity factor to determine TWBC emissions from electricity consumption. We will continue to review this approach on an annual basis and will conduct recalculations where appropriate.

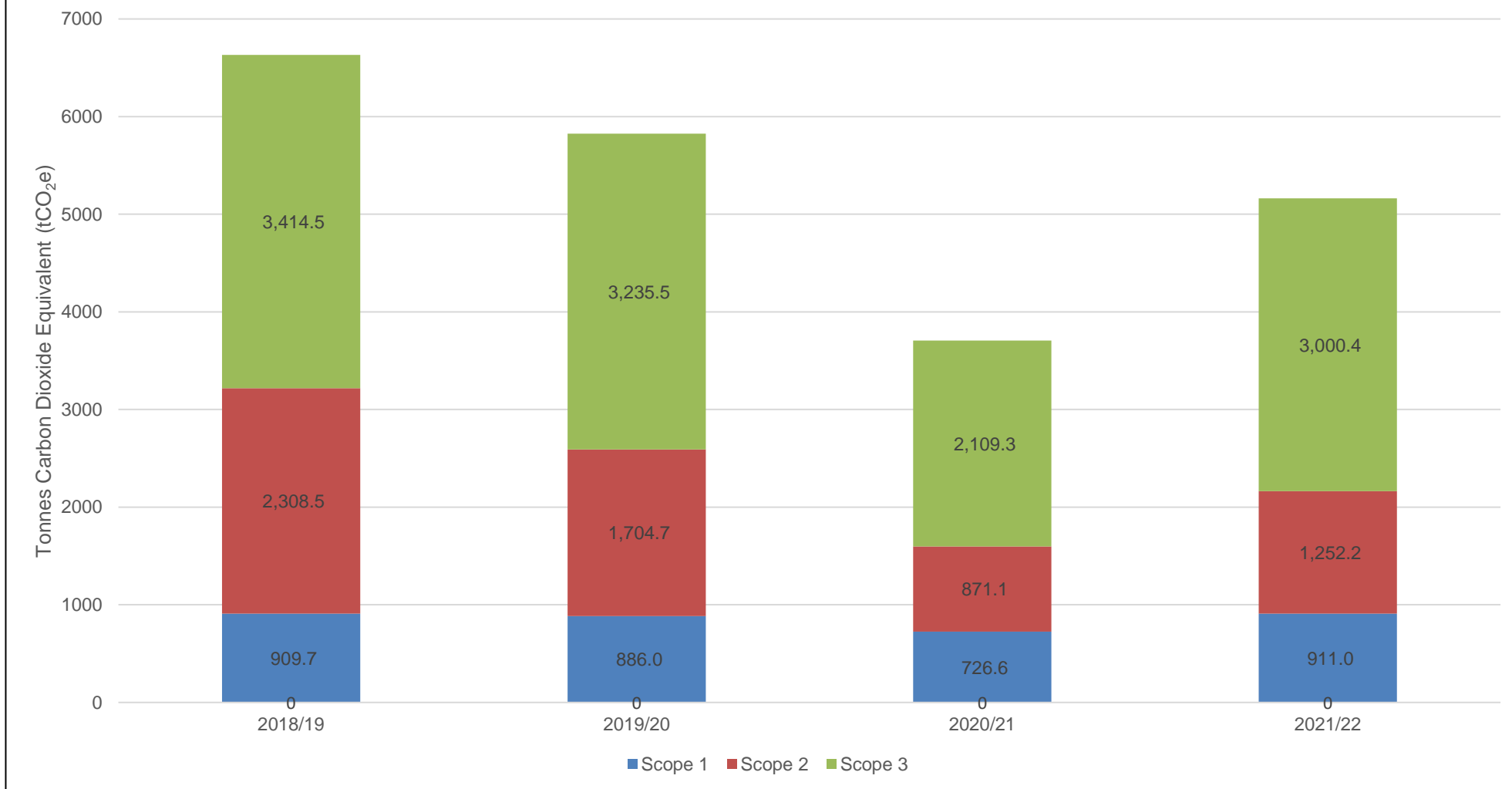
## 19. Background documents

- [Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard](#)
- [UK Government: Greenhouse Gas Reporting Conversion Factors 2021](#)

## 20. Annex 1: Emissions trend from base year

Figure 4 on page 15 provides an overview of how Tunbridge Wells Borough Council emissions have changed since the 2018/19 base year.

Figure 4: TWBC Emissions 2018/19 - 2021/22



## 21. Annex 2: Version control

<b>Document Name</b>	Emissions Report: 2020/2021
<b>Responsible Officer</b>	Henry Saunders, Sustainability Manager

<b>Version Number</b>	<b>Reason for Review</b>	<b>Author(s)</b>	<b>Date</b>
1.0	First Version.	H. Saunders, Sustainability Manager.	25.07.2024
2.0	Recalculation.	H. Saunders, Sustainability Manager. J. Berry, Graduate Climate Change Officer.	25.11.2024