

Tunbridge Wells Borough Council

Emissions Report: 2022/2023

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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
7.1. Scope 1	6
7.2. Scope 2	6
7.3. Scope 3	6
7.4. Out of scope	8
7.5. Renewable energy.....	8
7.6. Significant emissions & consumption changes	8
7.7. Largest emitting sources	10
7.8. Top ten sites by emissions of carbon dioxide equivalent (tCO _{2e}).....	11
7.9. Top ten sites by electricity consumption (kWh).....	11
7.10. Top ten sites by gas consumption (kWh)	12
8. Measuring and reporting	13
9. Scope explanation.....	13
10. Organisational boundary	14
11. Geographical breakdown	14
12. Base year.....	14
13. Base year recalculation policy	15
14. Emissions target	16
15. Intensity measurement.....	16
16. External assurance statement	16
17. Carbon offsetting	16
18. Renewable tariffs	16
19. Background documents	16
20. Annex 1: Emissions trend from base year	17
21. Annex 2: Version control.....	19

1. Summary

Tunbridge Wells Borough Council (TWBC) conducts an annual emissions report to detail the total amount of carbon dioxide equivalent¹ (tCO_{2e}) emitted from its operations in the previous financial year. These reports gather data on consumption levels for each activity and applies the relevant emissions factors. It allows for consistent monitoring of emissions over time, showcasing TWBC's progress towards its goal of achieving net zero emissions by 2030.

All TWBC emissions reports are prepared in accordance with the Greenhouse Gas Protocol's Corporate Accounting and Reporting Standard and use official greenhouse gas conversion factors set by the Department of Energy Security and Net Zero (DESNZ).

In the 2022/23 financial year, TWBC emitted **5,148.2 tCO_{2e}**.

2. Scope emissions

The following section provides an overview of TWBC's 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, and water treatment, business travel, staff commuting, well to tank², leisure centre contract, refuse and street cleaning contract and grounds maintenance contract.

3. Emissions overview (tCO_{2e})

Emissions Year	2018/19	2019/20	2020/21	2021/22	2022/23
Scope 1	909.7	886.0	726.6	911.0	730.6
Scope 2	2,308.5	1,704.7	871.1	1,252.2	1,072.7
Scope 3	3,414.5	3,235.5	2,109.3	3,000.4	3,344.9
Total Net Emissions	6,632.7	5,826.2	3,706.9	5,163.6	5,148.2

¹ **Carbon Dioxide Equivalent (CO_{2e})** = Carbon Dioxide, Methane and Nitrous Oxide represented as one equivalent unit, to measure the climate change impact of multiple gasses under one metric.

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

4. Emissions breakdown

Operation	Scope	Emissions Category	tCO ₂ e
TWBC Own Operations	Scope 1	Gas	718.1
TWBC Own Operations	Scope 1	Biomass	0.1
TWBC Own Operations	Scope 1	Biodiesel	2.4
TWBC Own Operations	Scope 1	Vehicle Fleet Fuel	10.0
TWBC Own Operations	Scope 2	Electricity Consumption	1,072.7
TWBC Own Operations	Scope 3	Transmission & Distribution Losses	98.2
TWBC Own Operations	Scope 3	Water Supply	16.4
TWBC Own Operations	Scope 3	Water Treatment	28.5
TWBC Own Operations	Scope 3	Grey Fleet Mileage	40.0
TWBC Own Operations	Scope 3	Commuting	217.4
TWBC Own Operations	Scope 3	Well To Tank - Gas	122.3
TWBC Own Operations	Scope 3	Well To Tank - Electricity	280.2
TWBC Own Operations	Scope 3	Well To Tank - Biomass	0.3
TWBC Own Operations	Scope 3	Well To Tank - Biodiesel	24.2
TWBC Own Operations	Scope 3	Well To Tank - Fuel	0.6
TWBC Own Operations	Scope 3	Well To Tank - Grey Fleet	10.8

Operation	Scope	Emissions Category	tCO ₂ e
TWBC Own Operations	Scope 3	Well To Tank - Commuting	57.4
TWBC Own Operations	Scope 3	Waste Disposal	1.6
TWBC Contract	Scope 3	Waste Collection & Street Cleaning	1,207.2
TWBC Contract	Scope 3	Grounds Maintenance	88.0
TWBC Contract	Scope 3	Leisure Centre	1,151.8
Total Gross Emissions	N/A	N/A	5,148.2

Operation	Scope	Emissions Category	tCO ₂ e
TWBC Own Operations	Out of Scope	Biomass	3.2
TWBC Own Operations	Out of Scope	Biodiesel	169.7
TWBC Own Operations	Out of Scope	Vehicle Fleet	0.7
TWBC Own Operations	Out of Scope	Electricity	638.3
TWBC Contract	Out of Scope	Contractor Fuel Use	42.0
TWBC Contract	Out of Scope	Contractor Fuel Use	3.0
TWBC Contract	Out of Scope	Electricity	142.0
Total Gross Emissions	N/A	N/A	998.9

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 01/04/2022 to 31/03/2023.

7. Emissions overview

7.1. Scope 1

Scope 1 emissions totalled **730.6 tCO₂e** in 2022/23.

As shown in figure 1, scope 1 continues to be the smallest annual contributor to TWBC's emissions, contributing 13.9% in 2022/23.

Scope 1 emissions decrease by 14% from the 2018/19 base year, with the largest impact coming from an 19% reduction in gas consumption.

Gas consumption has repeatedly contributed the most emissions from scope 1, emitting 718.1 tCO₂e in 2022/23 (98.3%). Overall, as highlighted in section 7.6 below, gas consumption is the fourth largest contributor to TWBC emissions, contributing 13.9% in 2022/23.

7.2. Scope 2

Scope 2 emissions totalled **1,072.7 tCO₂e** in 2022/23, a 14% drop from 2021/22 and a 54% decrease from the base year.

These emissions come from only one source: electricity, and is the third largest contributor to TWBC's emissions, contributing 20.8%.

Whilst a reduction in the electricity emissions factor has driven a significant reductions in electricity emissions, TWBC electricity consumption did decrease by 2% from 2021/22 to 2022/23 and 30% from the 2018/19 base year.

7.3. Scope 3

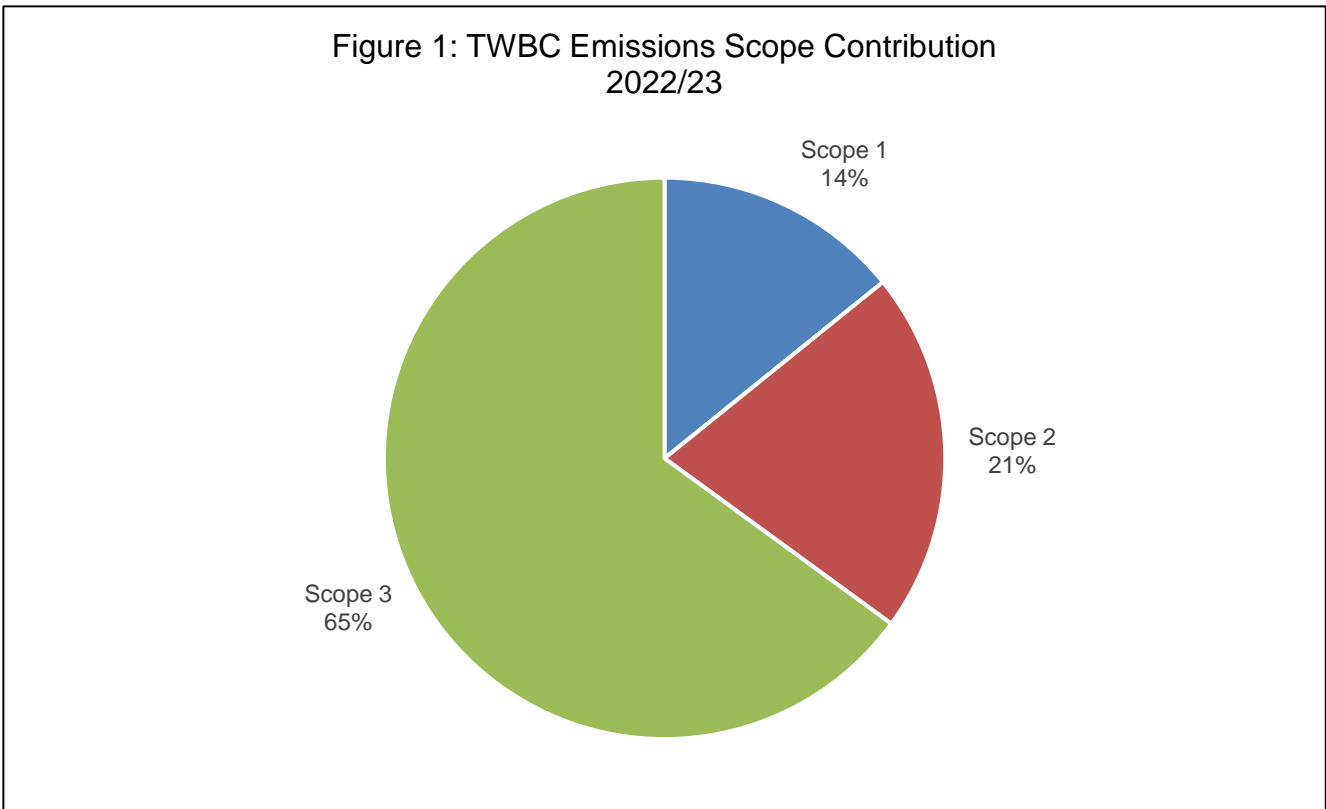
Scope 3 emissions totalled **3,344.9 tCO₂e** in 2022/23, a 2% decrease from the 2018/19 base year. However, emissions increased by 11% from 2021/22.

TWBC's two largest emitters fall under scope 3 and contribute a combined 70.5% of scope 3 and 45.8% TWBC's entire emissions portfolio. The largest source is the waste collection and street cleaning contract, emitting 1,207.2 tCO_{2e} in 2022/23, followed by the leisure centre contract, emitting 1,151.8 tCO_{2e}.

Staff commuting data now contributes to TWBC's scope 3 emissions, after data collection started in 2023. Commuting emitted 217.4 tCO_{2e} in 2022/23, contributing 6.5% to scope 3 and 4.2% to TWBC's total emissions.

Well to tank emissions fall under scope 3. These are emissions associated with fuel extraction, refinement, and delivery, covering fuel use for vehicles, heating (gas) and electricity generation (oil and gas). Electricity and gas well to tank emitted 280.0 tCO_{2e} and 122.3 tCO_{2e} respectively.

As can be seen in figure 1, scope 3 contributes the largest percentage of TWBC emissions, sitting at 65% and has been the largest contributor since reporting began in 2018/19. It is expected that scope 3 is the largest contributor, due to it being the largest and most complex emissions scope, considering wider activities such as contracts, purchases, well to tank and staff travel. It is for this reason that scope 3 emissions are the most complex to calculate and difficult to reduce.



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 practice 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 CO₂ factors that should be used to account for the direct carbon dioxide (CO₂) impact of burning biomass and biofuels, including when reporting emissions from electricity consumption. Biogenic CO₂ 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 CO₂ during the growth phase as the amount of CO₂ released through combustion).”

Out of scope emissions totalled at **998.9 tCO₂e** in 2022/23.

7.5. Renewable energy

TWBC generated **109,400.0 kWh** of renewable electricity across its solar PV arrays in 2022/23.

7.6. Significant emissions & consumption changes

Emissions in 2022/23 reduced from 2021/22, by 15.36 tCO₂e. This equates to a 0.3% decrease.

Emissions have decreased by 1,484.5 tCO₂e since the 2018/19 base year. This equates to a 22% reduction.

TWBC’s observed reduction is largely a result of decreases to gas and electricity consumption, which reduced by 2% and 19% respectively. Figure 2 highlights the reduction trend observed in TWBC gas and electricity consumption (scope 1 and scope 2).

The largest percentage reduction observed in 2022/23 is with the ground’s maintenance fleet, which reduced its emissions by 43%. This is a result of decreases in diesel and petrol consumption and therefore, their associated well to tank emissions. However, whilst this is a large annual reduction, emissions from this contract have only reduced by 19% since the 2018/19 base year. This is a result of increased emissions in the intermediary years between 2018/219 and 2022/23. Despite this, emissions from this contract fell in 2022/23 to their lowest levels on record.

The TWBC vehicle fleet reduced its emissions by 30% compared to 2021/22 and 50% from the 2018/19 base year. Similarly, this is a result of overall reductions in fuel consumption compared to previous years, as the council transitions its vehicles fleet over to electric. Associated vehicle fleet well to tank emissions have therefore, seen a 78.8% reduction from 2021/22 and an 85.3% reduction since 2018/19.

Despite this reduction, TWBC saw an 11% increase (344.5 tCO_{2e}) in scope 3 emissions, limiting the total emission reductions observed in 2022/23. Therefore, total observed emissions reductions of 548.7 tCO_{2e} across nine sources were subsequently, undermined by increases of 533.3 tCO_{2e} across ten different sources, resulting in the 0.2% reduction observed.

These emissions increases are associated with the waste collection and street cleaning contract, leisure centre contract, commuting, water consumption and subsequent treatment.

Gas consumption emissions increased by 18% from 2021/22 and a further 26% from the 2018/2019 baseline. Electricity consumption also observed a 5% increase, however due to the national grid decarbonisation, emissions from electricity decreased by 5% and 49% from the 2018/19 base year.

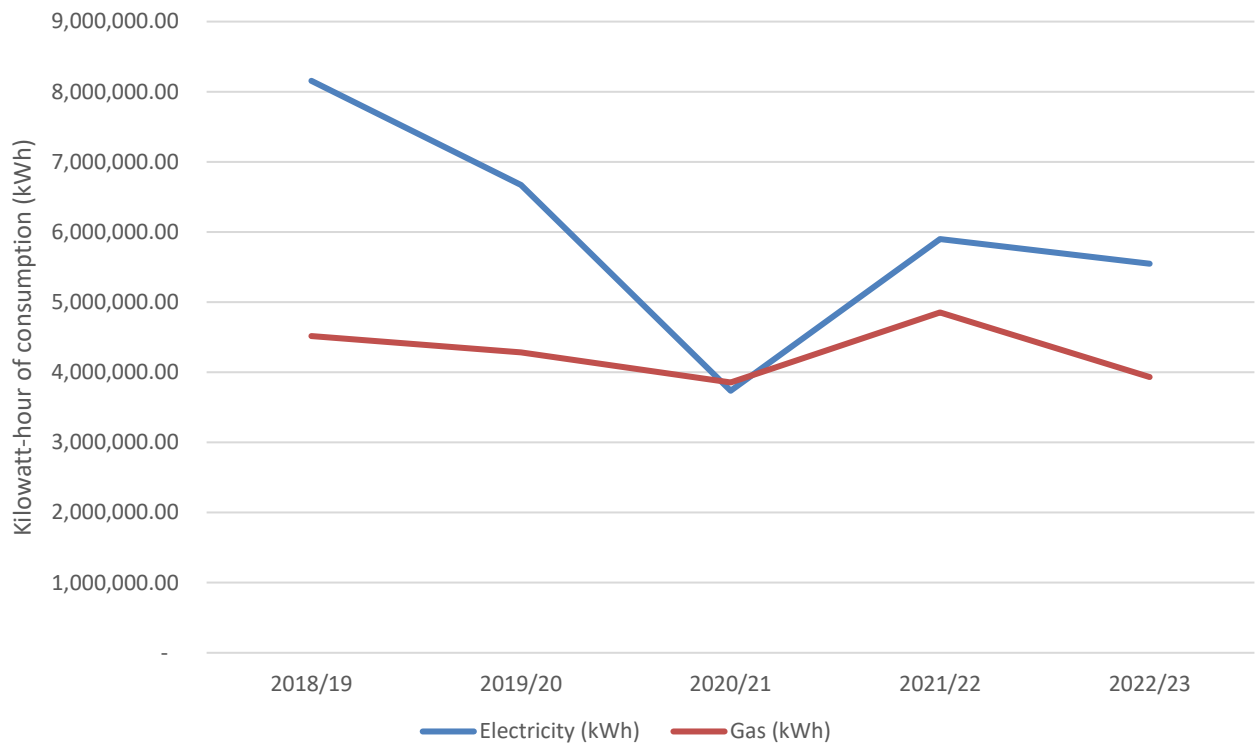
The waste collection and street cleaning contract increased by 9% over the past year (an increase of 98.85 tCO_{2e}). This is a result of diesel consumption increasing by 7%, with subsequent associated increases in well to tank emissions.

Our leisure centre contract emissions increased by 10% over the past year (105.22 tCO_{2e}). This is largely associated with increases from gas and electricity consumption. Leisure centre emissions are now in line with pre COVID-19 pandemic levels, thus, are expected to stabilise until further decarbonisation works take place.

Water consumption emissions increased by 261% compared to the previous year. Consequently, emissions from water treatment, (which is more emissions intensive process) have increased by 276%. However, we have had significant meter reading and data issues from our water supplier. As such, we have much lower confidence in the accuracy of our water data. However, TWBC will be transitioning to a new water supplier, which will help improve the accuracy of this data for future reporting years.

Emissions increases have also been observed from the use of biofuels in 2022/23, such as wood pellets and hydrotreated vegetable oil (HVO). As a result, we have seen additional emissions from these sources. Despite this, the impact on the council's emissions is minimal (1.59 tCO_{2e}) and has helped in the process of transitioning away from more emission's intensive fuels. We will continue to investigate biofuels as a cleaner, less emissions intensive option in the short and medium term to meet our net zero ambitions.

Figure 2: TWBC Electricity and Gas Consumption 2018/19 - 2022/23



7.7. Largest emitting sources

Emissions Category	Emissions Scope	tCO ₂ e	Total Contribution
Waste Collection & Street Cleaning Contract	Scope 3	1,207.2	23.4%
Leisure Centre Contract	Scope 3	1,151.8	22.4%
Electricity Consumption	Scope 2	1,072.7	20.8%
Gas Consumption	Scope 1	718.1	13.9%
Electricity Well to Tank	Scope 3	280.0	5.4%

TWBC emissions from the above top 5 direct sources contributed 85.9% to all total emissions in 2023/24.

7.8. Top ten sites by emissions of carbon dioxide equivalent (tCO₂e)

Building	Electricity Consumption (kWh)	Gas Consumption (kWh)	tCO ₂ e
Royal Victoria Place	3,472,040.0	524,640.0	1,036.6
Tunbridge Wells Sports Centre	813,523.2	2,899,679.3	836.0
Tunbridge Wells Town Hall	195,378.0	1,295,838.0	327.9
Kent & Sussex Crematorium	123,983.0	1,020,843.0	250.5
The Weald Sports Centre	283,304.5	791,019.9	246.5
The Amelia Scott	286,964.0	480,508.0	177.9
North Farm Lane Depot	113,822.0	209,021.0	74.4
Assembly Hall Theatre	243,086.0	-	63.6
Tunbridge Wells Streetlighting	214,472.0	-	56.1
Crescent Road Car Park Lighting	165,513.0	-	43.3
Total	5,912,085.7	7,221,549.2	3,112.8

TWBC emissions from the above top ten buildings contributed 60.5% to all total emissions in 2022/23.

7.9. Top ten sites by electricity consumption (kWh)

Building	Electricity Consumption (kWh)	tCO ₂ e (including transmission and distribution and WTT)
Royal Victoria Place	3,472,040.0	908.1
Tunbridge Wells Sports Centre	813,523.2	212.8
The Amelia Scott	286,964.0	75.1
The Weald Sports Centre	283,304.5	74.1
Assembly Hall Theatre	243,086.0	63.6

Tunbridge Wells Streetlighting	214,472.0	56.1
Tunbridge Wells Town Hall	195,378.0	51.1
Crescent Road Car Park Lighting	165,513.0	43.3
Putlands Sports & Leisure Centre	136,840.4	35.8
Kent & Sussex Crematorium	123,983.0	32.4
Total	5,935,104.1	1,552.3

Electricity consumption emissions from our top ten buildings contributed 30.2% of all TWBC emissions in 2022/23.

7.10. Top ten sites by gas consumption (kWh)

Building	Gas Consumption (kWh)	tCO₂e (Including WTT)
Tunbridge Wells Sports Centre	2,899,679.3	619.5
Tunbridge Wells Town Hall	1,295,838.0	276.8
Kent & Sussex Crematorium	1,020,843.0	218.1
The Weald Sports Centre	791,019.9	169.0
Royal Victoria Place	524,640.0	112.1
The Amelia Scott	480,508.0	102.7
North Farm Lane Depot	209,021.0	44.7
Putlands Sports & Leisure Centre	156,221.3	33.4
The Camden Centre	130,456.0	27.9
TN2 Community Centre	90,282.0	19.3
Total	7,598,508.6	1,610.0

Gas consumption emissions from our top ten buildings contributed 31.3% of all TWBC emissions in 2022/23.

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 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	Activity	Description	Data Source
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 2018/19 base year is recalculated when significant structural changes to the council's operations occur. Furthermore, where emissions increase due to such a change, recalculation will occur if these emissions meet or exceed 10% of TWBC's base year emissions.

If a lack of data is a limiting factor when recalculating the 2018/19 base year, then the next most appropriate year will be chosen.

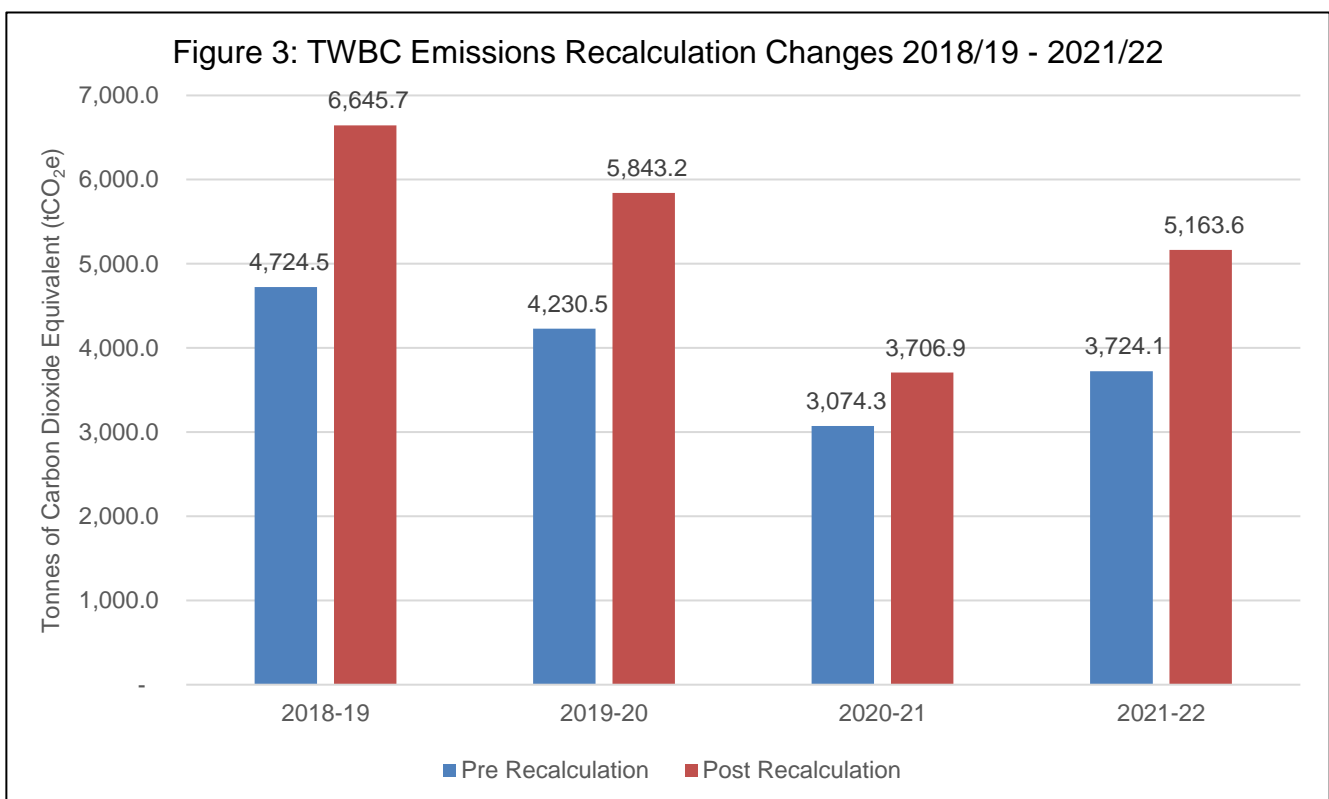
Base year emissions, alongside all previous emissions reports have been recalculated following the council's acquisition of the Royal Victoria Place Shopping Centre and the Amelia Scott building renovation and acquisition 2022.

Base year emissions from 2018/19 are **6,632.7 tCO₂e**. This is an increase from the previous emissions figure of **4,724.5 tCO₂e**.

Observed increases from this recalculation are as follows:

- 2018/19 observed a 41% increase in emissions (1,921.2 tCO₂e).
- 2019/20 observed a 38% increase in emissions (1,612.6 tCO₂e).
- 2020/21 observed a 21% increase in emissions (632.7 tCO₂e).
- 2021/22 observed a 39% increase in emissions (1,439.5 tCO₂e).

The above changes to emissions are highlighted in figure 3 below:



14. Emissions target

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

15. Intensity measurement

TWBC's intensity measurement is 15.8 tCO₂e 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 approximately 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.

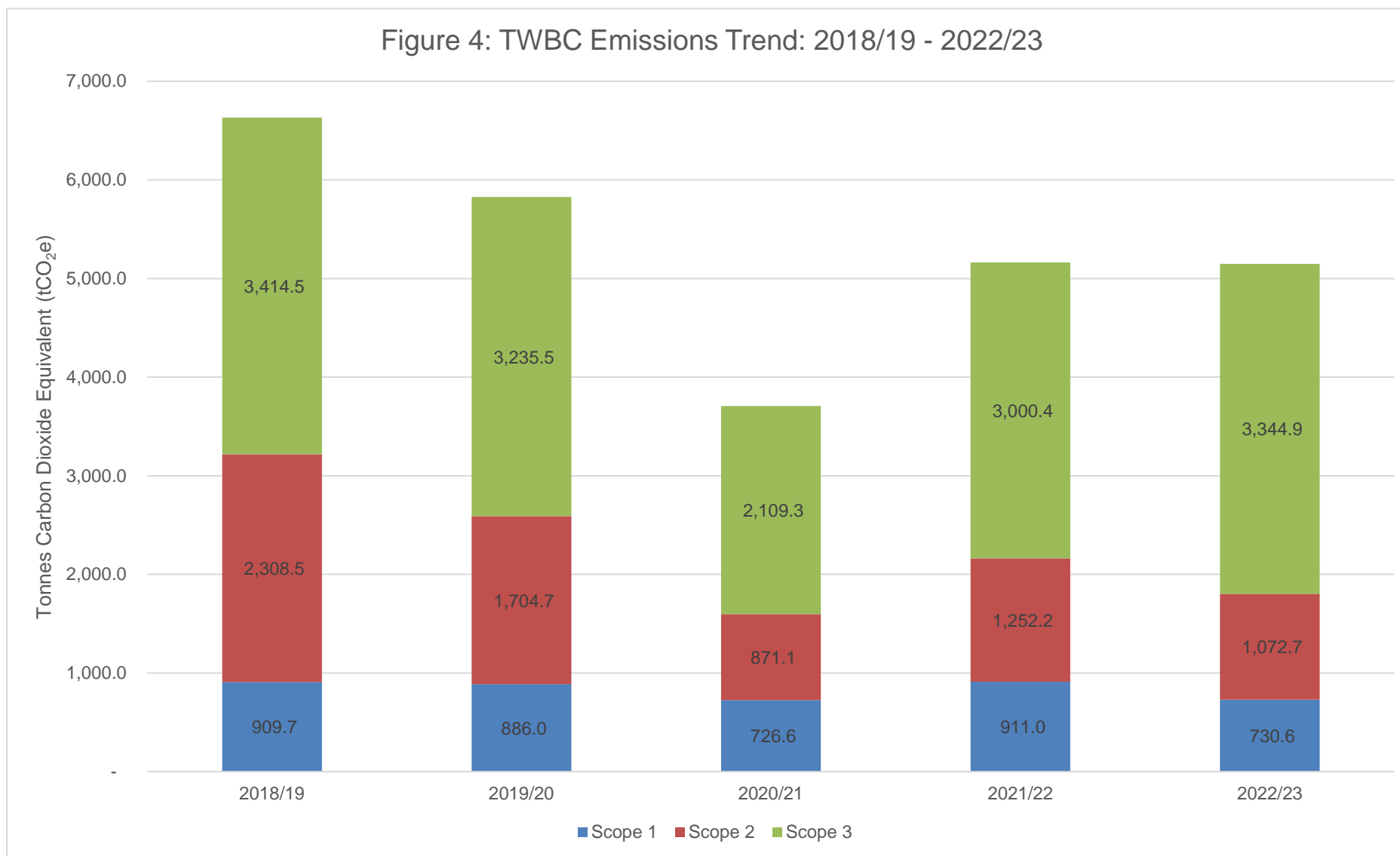
19. Background documents

- [Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard](#)
- [UK Government: Greenhouse Gas Reporting Conversion Factors 2023](#)

20. Annex 1: Emissions trend from base year

Figure 4 on page 18 provides an overview of how Tunbridge Wells Borough Council emissions have changed since the 2018/19 base year.

Figure 4: TWBC Emissions Trend: 2018/19 - 2022/23



21. Annex 2: Version control

Document Name	Tunbridge Wells Borough Council Emissions Report: 2022/2023
Responsible Officer	Henry Saunders, Sustainability Manager

Version Number	Reason for Review	Author	Date
1.0	First Version	H. Saunders, Sustainability Manager	25.07.24