GREENHOUSE GAS EMISSIONS INVENTORY AND MANAGEMENT REPORT

Toitū verification

Prepared in accordance with ISO 14064-1:2018 and the Technical Requirements of verification

Greater Wellington Regional Council

Prepared by (lead author): James Harbord

Dated: 20 March 2025

Verification status: Reasonable except agricultural, fertiliser, purchased CO_2 and sludge disposal emissions which are limited

Measurement period: 01 July 2023 to 30 June 2024

Base year period: 01 July 2018 to 30 June 2019

Approved for release by:

Nigel Corry

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DISCLAIMER

AVAILABILITY

This report is available to the public via Greater Wellingtons Website under the climate change section.

REPORT STRUCTURE

The Inventory Summary contains a high-level summary of this year's results and from year 2 onwards a brief comparison to historical inventories.

Chapter 1, the Emissions Inventory Report, includes the inventory details and forms the measure step of the organisation's application for verification. The inventory is a complete and accurate quantification of the amount of GHG emissions and removals that can be directly attributed to the organisation's operations within the declared boundary and scope for the specified reporting period. The inventory has been prepared in accordance with the requirements for verification, which is based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and ISO 14064-1:2018 Specification with Guidance at the Organization Level for

Quantification and Reporting of Greenhouse Gas Emissions and Removals[1]. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

Chapter 2, the reduction plan and progress report, forms the manage step part for any potential future organisation application for Programme certification.

See Appendix 1 and the related Spreadsheet for detailed emissions inventory results, including a breakdown of emissions by source and sink, emissions by greenhouse gas type, and non-biogenic and bio-genic emissions. Appendix 1 also contains detailed context on the inventory boundaries, inclusions and exclusions, calculation methodology, liabilities, and supplementary results.

This overall report provides emissions information that is of interest to most users but must be read in conjunction with the inventory workbook for covering all of the requirements of ISO 14064-1:2018.

[1] Throughout this document 'GHG Protocol' means the *GHG Protocol Corporate Accounting and Reporting Standard* and 'ISO 14064-1:2018' means the international standard *Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

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EXECUTIVE SUMMARY

This is the annual greenhouse gas (GHG) emissions inventory and management report for Greater Wellington Regional Council covering the measurement period 01 July 2023 to 30 June 2024.[2]

Greater Wellington has collectively made significant progress in terms of understanding our emissions profile and how to reduce that substantively over the decade. However, there is still much mahi to do. The emissions inventory and independent audit play a vital role in making our full carbon footprint explicit, creating an emissions record, and showing the business what we must improve and change to reduce emissions. Our emissions have reduced from previous years. Our business plans will create outcomes that meet our Long Term Plan goals of significant emissions reductions across operations, to become carbon neutral by 2030 and 'climate positive' by 2035.

Table 1: Inventory summary

Category (ISO 14064-1:2018)	**Scopes (ISO 14064-1:2006)**	**2019**	**2023**	**2024**
Category 1: Direct emissions (tCO_2e)	Scope 1	11,268.26	5,658.75	8,367.98
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	Scope 2	805.93	298.12	643.02
Category 3: Indirect emissions from transportation (tCO_2e)	Scope 3	471.68	528.76	587.77
Category 4: Indirect emissions from products used by organisation (tCO_2e)		23,917.78	19,600.79	18,137.28
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)		3,438.89	2,787.91	3,319.67
Category 6: Indirect emissions from other sources (tCO_2e)		0.00	0.00	0.00
Total direct emissions (tCO_2e)		**11,268.26**	**5,658.75**	**8,367.98**
Total indirect emissions* (tCO_2e)		**28,634.28**	**23,215.58**	**22,687.74**
Total gross emissions* (tCO_2e)		**39,902.54**	**28,874.33**	**31,055.71**
Category 1 direct removals (tCO_2e)		0.00	0.00	0.00
Purchased emission reductions (tCO_2e)		0.00	0.00	0.00
Total net emissions (tCO_2e)		**39,902.54**	**28,874.33**	**31,055.71**

*Emissions are reported using a location-based methodology. See section 1.2.1 for details.

[2] Throughout this document "emissions" means "GHG emissions". Unless otherwise stated, emissions are reported as tonnes of carbon dioxide equivalent (tCO_2e).

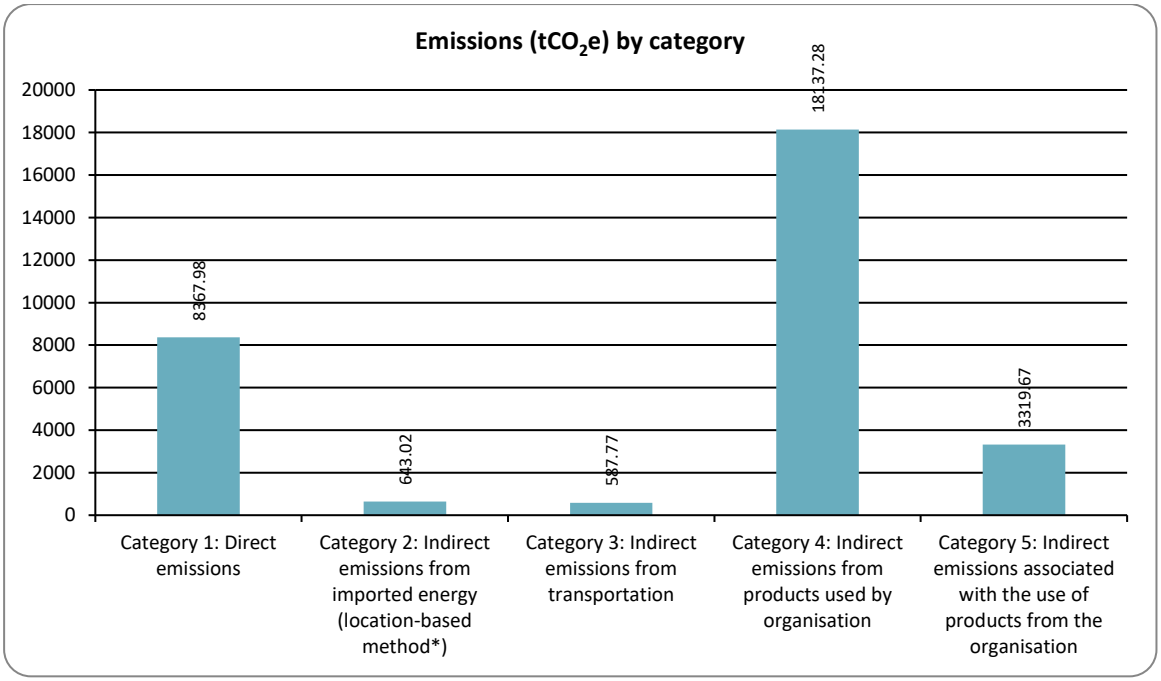

Figure 1: Emissions (tCO_2e) by Category for this measurement period

CHAPTER 1: EMISSIONS INVENTORY REPORT

1.1. INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions inventory and management report for Greater Wellington Regional Council.

The purpose of this report is to inform all stakeholders about the trend of the Greater Wellington Group of companies' greenhouse gas emissions over time. Regular updated and audited greenhouse gas reporting is essential to understand reduction opportunities and provide a foundation to communicate our intended emissions reduction pathway. This emissions reduction pathway aligns with our Long Term Plan, Council's public declaration of a Climate Emergency, and our Organisational Climate Emergency Action Plan.

The report informs Council, leadership and management about our emissions trends, how they affect each part of the business, and are significant to services and operations. The report is essential to inform our organisation where strategic opportunities are for emissions reductions, accurately recording data, showing changes in emissions over time, and informing the business about emissions and for business proposal analysis. The report provides transparent disclosure of emissions for public view, informing our stakeholders and customers about our emissions activities.

The inventory report and any GHG assertions are expected to be verified by an approved, third-party verifier. The level of assurance is reported in a separate Assurance Statement provided to the directors of the certification entity.

1.2. EMISSIONS INVENTORY RESULTS

Table 2: Emissions inventory summary for this measurement period

Measurement period: 01 July 2023 to 30 June 2024.

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
Category 1: Direct emissions	8,367.98 Diesel, Natural Gas distributed commercial, Petrol premium, Petrol regular, Agricultural Soils Dairy Cattle, Agricultural Soils Non-dairy cattle, Agricultural Soils Sheep, Enteric Fermentation Dairy Cattle, Enteric Fermentation Horses, Enteric Fermentation Non-dairy cattle, Enteric Fermentation Sheep, Manure Management Non-dairy cattle, Manure Management Sheep, Manure Management Dairy cattle, Pre-calculated (tCO_2-e) - Fuel and energy related activities, Diesel stationary combustion, Fertiliser use Nitrogen (non-Urea sources), HFC-134a, LPG stationary commercial, Petrol stationary commercial, R-404A, R-438A, R-448A	0.00	8,367.98
Category 2: Indirect emissions from imported energy (location-based method*)	643.02 Electricity	0.00	643.02

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
Category 3: Indirect emissions from transportation	569.52 Air travel domestic (average), Air travel short haul (econ), Car Average (unknown fuel type), Rental Car Small (petrol 1350-1600cc) - post-2015, Taxi (Petrol hybrid), Taxi (regular), Pre-calculated (tCO_2-e) - Business travel, Air travel long haul (econ+), Rental Car Medium (petrol 1600-2000cc) - post-2015	18.25 Air travel long haul (econ+)	587.77
Category 4: Indirect emissions from products used by organisation	186.17 Electricity distributed T&D losses, Natural Gas distributed T&D losses, Waste landfilled LFGR Mixed waste, Waste landfilled LFGR Garden	17,951.11 Diesel, Fertiliser Dolomite, Fertiliser Phosphorous (P), Fertiliser Sulphur (S), Jet A1, Petrol, Electricity distributed T&D losses, Electricity, Composting	18,137.28
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	3,319.67 Natural Gas distributed commercial, Natural Gas distributed T&D losses, CO_2, Electricity distributed T&D losses, Electricity, Waste landfilled LFGR Sludge, Accommodation - New Zealand, Diesel, Petrol regular	3,319.67
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total direct emissions	**8,367.98**	**0.00**	**8,367.98**
Total indirect emissions*	**1,398.71**	**21,289.03**	**22,687.74**
Total gross emissions*	**9,766.69**	**21,289.03**	**31,055.71**
Category 1 direct removals	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00
Total net emissions	**9,766.69**	**21,289.03**	**31,055.71**
Emissions intensity		**Mandatory emissions**	**Total emissions**
Operating revenue (gross tCO_2e / $Millions)		15,932.60	50,661.85

*Emissions are reported using a location-based methodology. See section 1.2.1 for details.

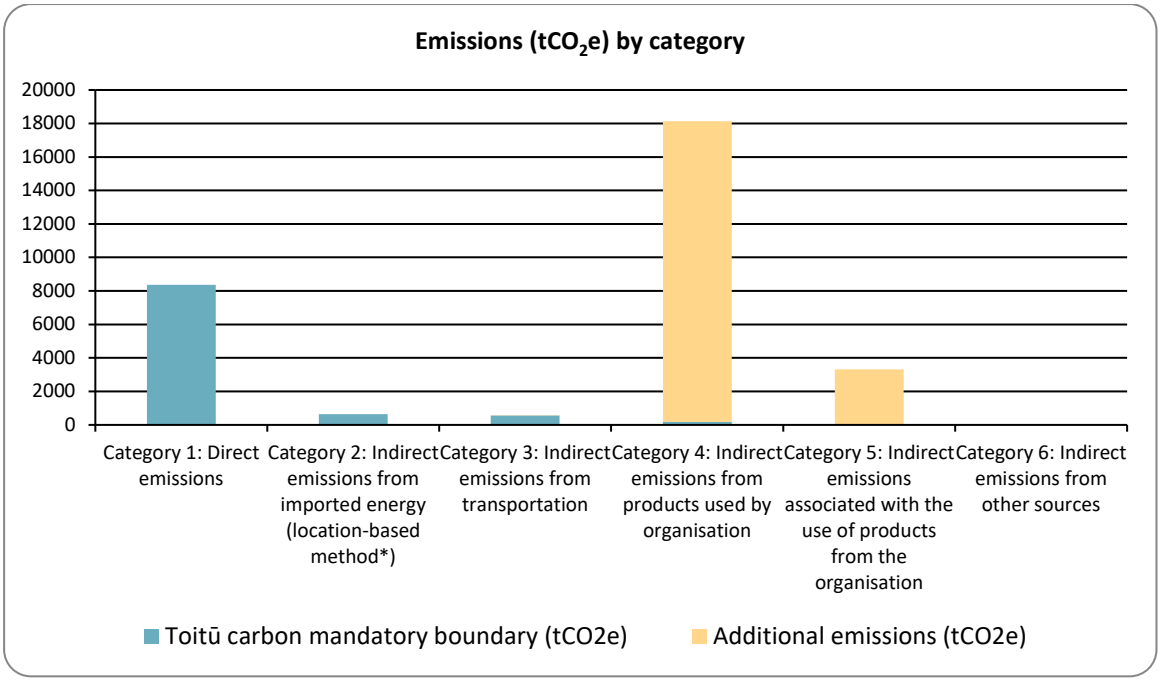

Figure 2: Emissions (tCO_2e) by category

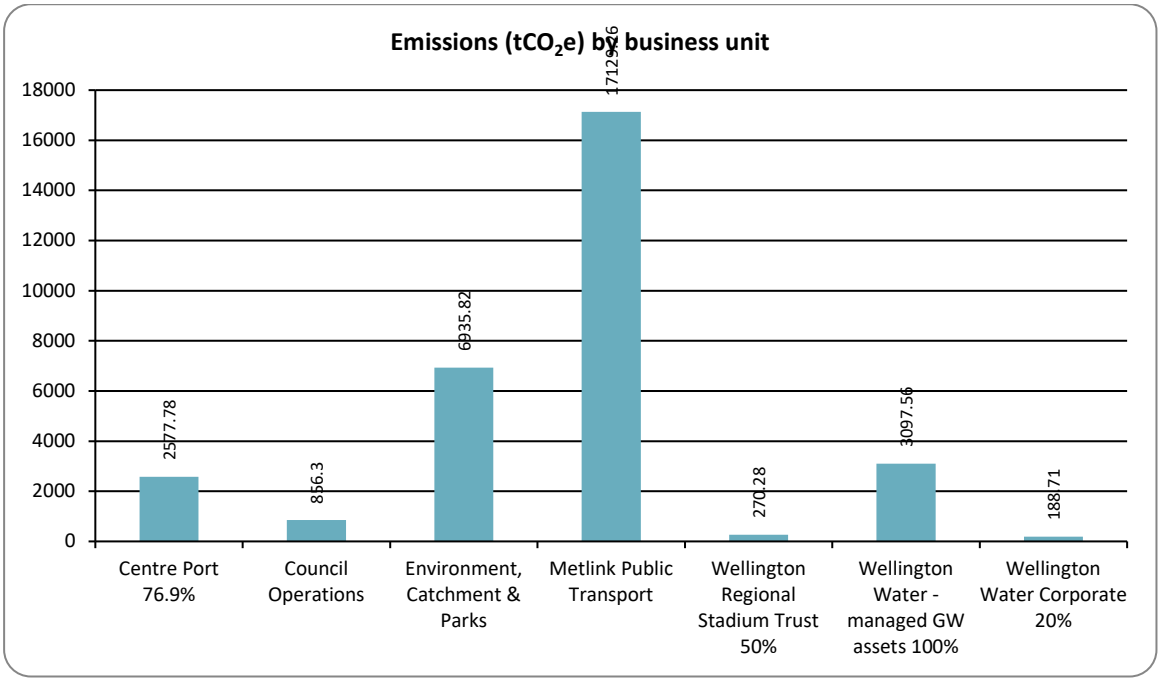

Figure 3: Emissions (tCO_2e) by business unit

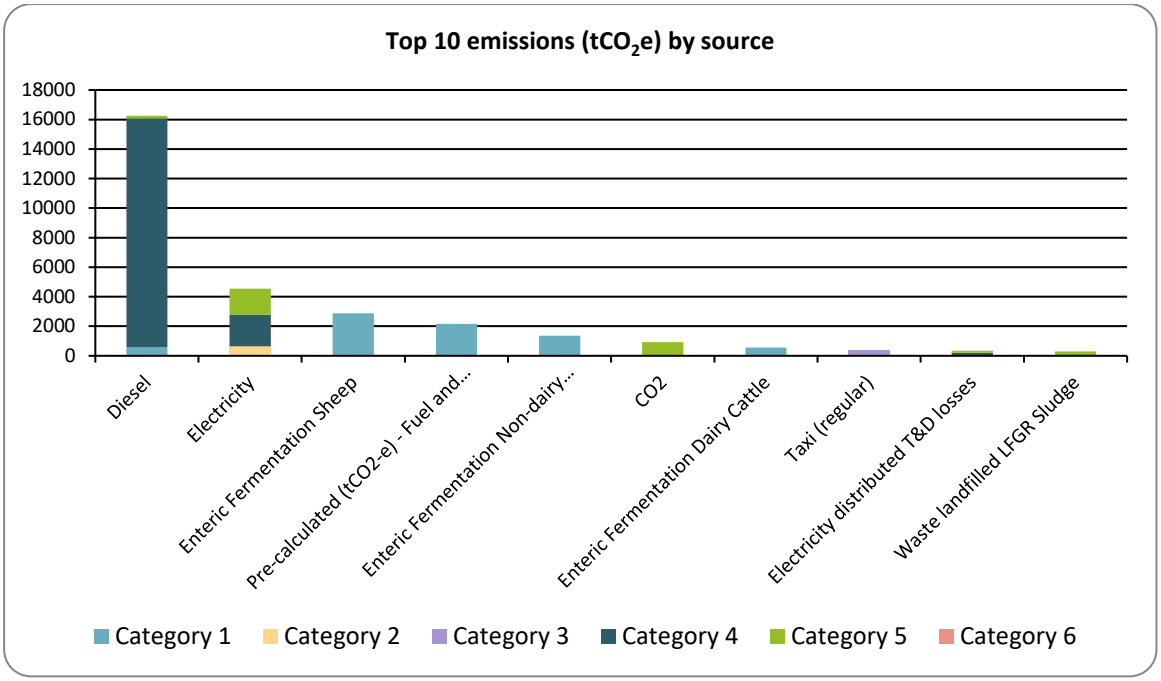

Figure 4: Top 10 emissions (tCO_2e) by source

1.2.1. Dual reporting of indirect emissions from purchased and generated energy

All purchased and generated energy emissions are dual reported using both the location-based method and market-based method. Dual reporting illustrates the role of supplier choice, onsite renewable energy generation and contractual instruments in managing indirect emissions from energy alongside any ongoing energy efficiency and reduction efforts.

Greater Wellington Regional Council aligns to location-based reporting for tracking energy related emissions and reductions over time.

N/A

Table 3. Dual reporting of indirect emissions from imported energy

Category	Location-based methodology (tCO_2e)	Market-based methodology (tCO_2e)
Category 1: Direct emissions	8,367.98	8,367.98
Category 2: Indirect emissions from imported energy	643.02	691.68
Category 3: Indirect emissions from transportation	587.77	587.77
Category 4: Indirect emissions from products used by organisation	18,137.28	18,137.28
Category 5: Indirect emissions associated with the use of products from the organisation	3,319.67	3,319.67
Category 6: Indirect emissions from other sources	0.00	0.00
Total direct emissions	**8,367.98**	**8,367.98**
Total indirect emissions	**22,687.74**	**22,736.40**

Category	Location-based methodology (tCO_2e)	Market-based methodology (tCO_2e)
Total gross emissions	**31,055.71**	**31,104.37**
Category 1 direct removals	0.00	0.00
Total net emissions	**31,055.71**	**31,104.37**

1.3. ORGANISATIONAL CONTEXT

1.3.1. Organisation description

Greater Wellington Regional Council promotes quality of life through environmental management while meeting the economic, cultural and social needs of the community.

Our responsibilities include environmental management, flood protection and land management, provision of regional parks, regional public transport planning and service procurement, and regional water catchment and treatment. The Council has equity share in several organisations including Centre Port, Wellington Water, and Wellington Regional Stadium Trust.

The Council has a Climate Emergency Programme of work involving adaptation and mitigation relating to the region and across operations and services. In 2019 Council declared a Climate Emergency. The Council adopted targets to achieve a 40% reduction in net emissions in 2025, and be 'carbon neutral', that is have net annual emissions of zero, from 2030. The Council's 'Climate Positive' goal for 2035 is to have its annual removals exceed its annual emissions.

Commitment to certification

Greater Wellington has committed to measuring its GHG emissions since 2015. From 2019 on, the Council has committed to independently audit its GHG emissions inventory in accordance with the rigorous international (ISO14064) standard regarding emissions measurement and verification.

Responding to climate change is now central to the Council's long term planning.

GHG Reporting

Reporting and verification of carbon emissions supports planning and policy development, business planning and analysis across all parts of the Council.

This reporting aligns with our Long Term Plan, Council's public declaration that we are in a Climate Emergency and our Organisational Climate Emergency Action Plan. The report is essential for Councillors (governance), leadership and management to understand emissions trends and how they affect the business or are significant to the organisation. The report is essential to informing our organisation about where the strategic opportunities are for emissions reductions, accurately recording and showing changes in emissions over time and informing the business about emissions, whether for awareness raising, or to be used as data for Council decisions and business proposals.

Climate Change Impacts

Climate change is beginning to have a wide and varied effect on the Wellington Region and the wider Greater Wellington organisation. The latest regional climate change long term projections report (http://www.gw.govt.nz/climate-change/) shows that given the current global emissions trajectory the intensity of regional impacts of climate change will continue to increase. More severe droughts, infrequent and more intense rainfall, larger storms and other climate-related events are anticipated. This will affect all parts of Greater Wellington operations, as well as the Wellington Region that the organisation seeks to protect and enhance.

1.3.2. Statement of intent

This inventory forms part of the organisation's commitment to gain Toitū verification only. The intended uses of this inventory are:

Intended use and users

This report is essential to inform Councillors, leadership and management about emissions trends. Intended audiences of this report are Greater Wellington councillors, leadership, staff and stakeholders. Aspects from the report are used in the Annual Report and to inform the public. The report is intended to be used by Council to identify each business group's part in the management and reduction of emissions.

The report is essential for informing our organisation about the strategic opportunities for emissions reductions, accurately recording and showing changes in emissions over time, informing business groups about their emissions and for analysis in Council decisions and business proposals.

1.3.3. Person responsible

The Group Manager Strategy is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to top management. The Group Manager Strategy has the authority to represent top management and has financial authority to authorise budget for the Programme, including Management projects and any Mitigation objectives.

State any other people/entities involved

The Chief Executive has overall authority and performance indicators about emissions reduction performance and climate change related mitigation and adaptation activities in operations and in the Wellington Region. The Group Manager Strategy, is the overarching manager for the Climate Emergency Response Programme of work. The Manager Climate Change manages the Climate Emergency Response Programme, including the budget, and holds overall responsibility for reporting results to Council and Leadership.

The data process manager and author of the report is the Climate Change Advisor. There are many across the business who contribute to reporting, some are managers and others have a specialist role. Staff who provide data to the carbon footprint are specialists in their respective fields and highly qualified to contribute. Identification of process and reporting improvements and staff training is a necessary and ongoing part of the annual cycle surrounding the carbon footprint.

Top management commitment

The 'Climate Committee' of elected members governs the Climate Emergency Response Programme of work. The Chief Executive has climate change related key performance indicators. The Group Manager Strategy owns climate change performance responsibility for the Chief Executive. Responsibility for that KPI cascades down to all members of the leadership team. Progress on the Climate Emergency Response Programme is reported to and monitored by the Programme Board, whose membership includes the Group Manager Strategy and other senior managers.

Management involvement

The Manager Climate Change monitors performance and delivery of the carbon footprint. The Climate Change Advisor is responsible for delivery of the data acquisition, audit and reporting, and they collaborate with management and staff across the business in this process. The Climate Emergency Programme Board receive the inventory report and a presentation about the carbon footprint.

1.3.4. Reporting period

Base year measurement period: 01 July 2018 to 30 June 2019

The base period results from the first year the Council used Toitū's Carbon Reduce Standard, that includes the application of international standard - ISO14064. At this point the boundary of the carbon footprint was redefined to include the organisations GW has an equity share in, as well as significant service contracts including regional public transport, and land management emissions. The size of the footprint substantively increased by a factor of four and was no longer comparable to previous organisational inventories

Measurement period of this report: 01 July 2023 to 30 June 2024

The current inventory reporting frequency is an annual cycle.

The current inventory reporting frequency is an annual cycle. Emissions report data is also used to inform business planning in the Long Term Plan (a ten year plan), which is fully reviewed by the organisation every three years. The inventory measurement period corresponds to GW's financial year and annual reporting cycle.

1.3.5. Organisational boundary and consolidation approach

An equity share consolidation approach was used to account for emissions.[3]

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards.

Justification of consolidation approach

An equity share approach has been used to determine which emissions the Council has responsibility for across its group of companies and contracts. A large proportion of the services provided to the public by Greater Wellington are delivered through service provider contracts and or Council Organisations that have separate governance and management.

The equity share approach has been applied where Council Organisations are part owned by Greater Wellington and managed by others. The equity share approach has been used for business that Greater Wellington has full control over, and where it remains in full ownership of assets regardless of whether others manage those assets. An equity share approach has also been used for major contracts where Greater Wellington is the financial sponsor and has strong influence of the resulting contractual procurement requirements that determines the nature of the subsequent business.

Organisational structure

Figure 5 shows what has been included in the context of the overall structure.

Greater Wellington is the parent company of all operations and the Council Organisations (the Group) on the chart. Corporate parts have operational control. Council organisations are joint ventures with an equity share. This share is designated on the chart as percentage. For contracts and where asset ownership is managed by others, financial control and contractual control gives Greater Wellington high level of influence over the nature of the business procured and how that will be managed. In those cases full ownership of greenhouse gas emissions is designated to Greater Wellington as the service procurer and sponsor. All business on this chart flows through Greater Wellington financial accounts.

[3]control: the organisation accounts for all GHG emissions and/or removals from facilities over which it has financial or operational control. equity share: the organisation accounts for its portion of GHG emissions and/or removals from respective facilities.

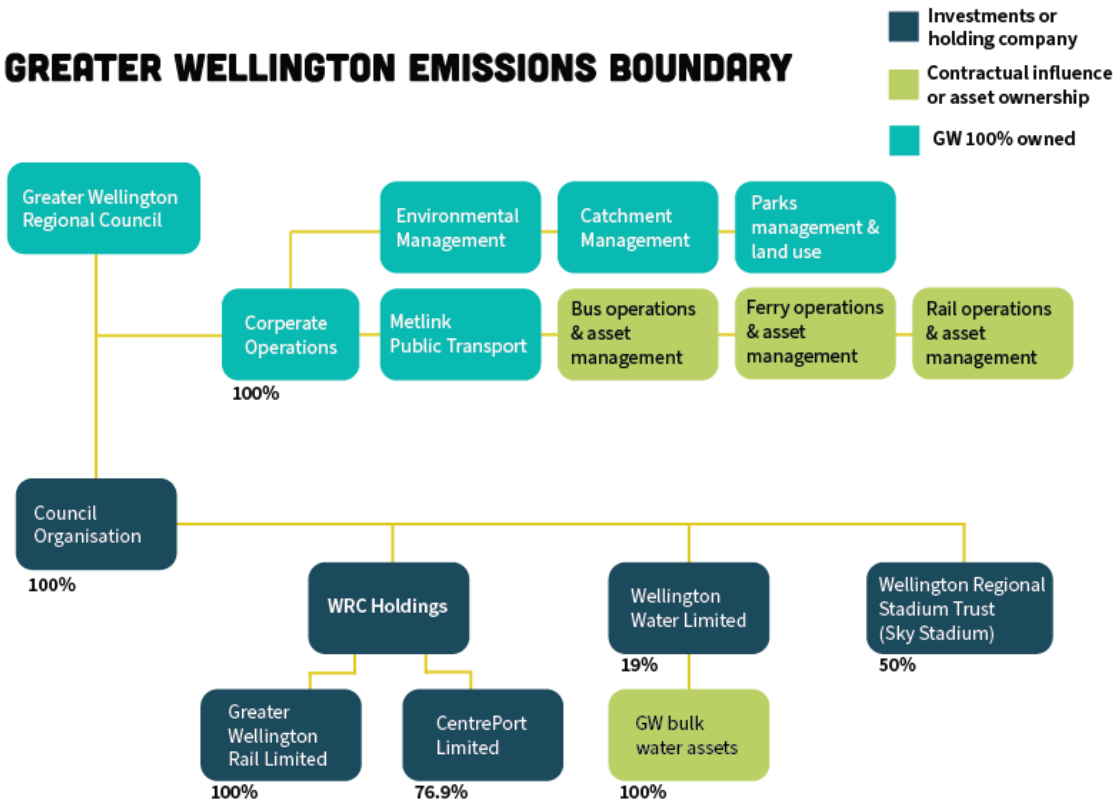

Figure 5: Organisational structure

Table 4. Brief description of business units, sites and locations included in this emissions inventory

Business unit	Address	Purpose
Greater Wellington Regional Council		
Corporate operations	34 Chapel Street, Masterton 5810	Corporate office & environmental services base
	1056 Fergusson Drive, Upper Hutt 5140	Corporate office & environmental services base
	100 Cuba Street, Te Aro Wellington 6011	Corporate office & environmental services base
Centre Port	1 Hinemoa Street, Pipitea, Fryatt Quay, Wellington 6011	Corporate office & port operations
Wellington Water	Level 4, IBM House, 25 Victoria Street, Petone, Lower Hutt	Corporate office
Wellington Economic Development Agency (Wellington NZ)	See Wellington City Council pre-audited data	Corporate office
Wellington Regional Stadium Trust	See Wellington City Council pre-audited data	Corporate office

1.3.6. Excluded business units

The term Corporate Operations in this context refers to most corporate business group (unit) emissions. Other business units, Metlink and Environment, have significant emissions and have been separated out from the Corporate Operations business group to separate emissions for reporting. From the 2020-2021 financial year reporting period onward, emissions from council organisations, Wellington NZ and Creative HQ, no longer appear in the GWRC inventory. The other shareholder Wellington City Council has 75% ownership. They have opted to own and report 100% of these emissions as this portion of emissions is insignificant to the total footprint and it is more practical for a small organisation to report to one entity. Emissions reported in this inventory from Wellington Stadium are not yet verified.

CHAPTER 2: EMISSIONS MANAGEMENT AND REDUCTION REPORT

2.1. EMISSIONS REDUCTION RESULTS

Overall emissions reduction targets have been met this reporting period. Significant progress has been made in commitments to reductions of the Council's two largest sources of emissions over the medium and long term. As of July 2023, there were 104 active electric buses added to the Metlink regional public transport fleet. Further electrification of public transport is planned as contract renewal opportunities arise over the coming years. Significant improvements have been made in data quality related to grazing and fertilizer reporting. Further grazing related emissions reductions can be expected over coming years as contract renewals arise.

Table 5: Comparison of historical GHG inventories

Category	2019	2020	2021	2022	2023	2024
Category 1: Direct emissions (tCO_2e)	11,268.26	11,487.68	10,580.13	6,078.92	5,658.75	8,367.98
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	805.93	892.52	708.79	1,064.54	298.12	643.02
Category 3: Indirect emissions from transportation (tCO_2e)	471.68	528.72	416.44	291.51	528.76	587.77
Category 4: Indirect emissions from products used by organisation (tCO_2e)	23,917.78	23,519.42	24,006.28	23,300.53	19,600.79	18,137.28
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)	3,438.89	3,957.01	4,197.74	4,096.72	2,787.91	3,319.67
Category 6: Indirect emissions from other sources (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Total direct emissions (tCO_2e)	**11,268.26**	**11,487.68**	**10,580.13**	**6,078.92**	**5,658.75**	**8,367.98**
Total indirect emissions* (tCO_2e)	**28,634.28**	**28,897.68**	**29,329.25**	**28,753.31**	**23,215.58**	**22,687.74**
Total gross emissions* (tCO_2e)	**39,902.54**	**40,385.35**	**39,909.38**	**34,832.23**	**28,874.33**	**31,055.71**
Category 1 direct removals (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Purchased emission reductions (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Total net emissions (tCO_2e)	**39,902.54**	**40,385.35**	**39,909.38**	**34,832.23**	**28,874.33**	**31,055.71**
Emissions intensity						
Operating revenue (gross tCO_2e / $Millions)	87.29	77.70	92.28	78.47	54.58	50,661.85
Operating revenue (gross mandatory tCO_2e / $Millions)	28.55	25.16	28.10	24.31	17.62	15,932.60

*Emissions are reported using a location-based methodology. See section 1.2.1 for details.

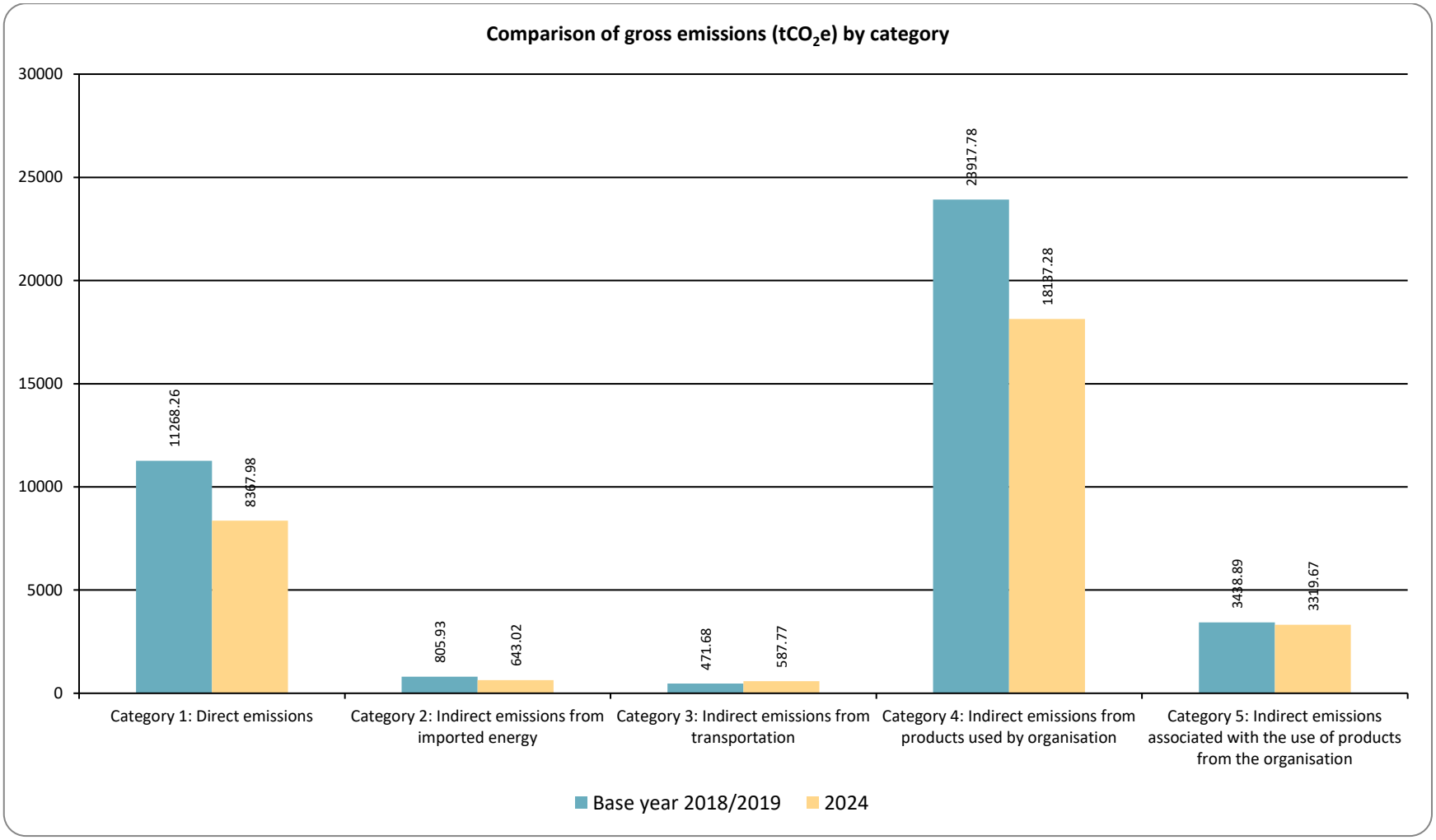

Figure 6: Comparison of gross emissions (tCO_2e) by category between the reporting periods

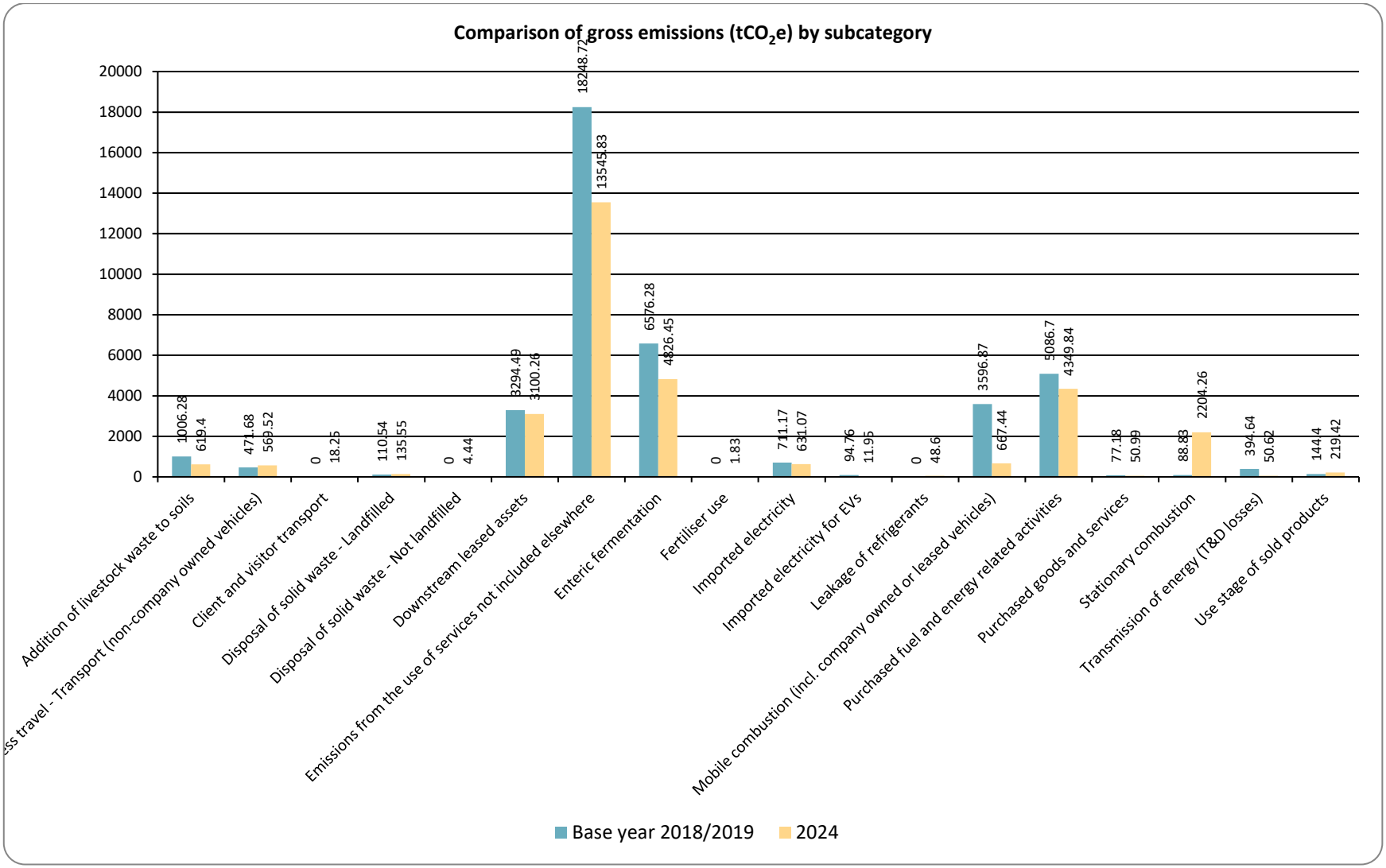

Figure 7: Comparison of gross emissions (tCO_2e) by subcategory between the reporting periods

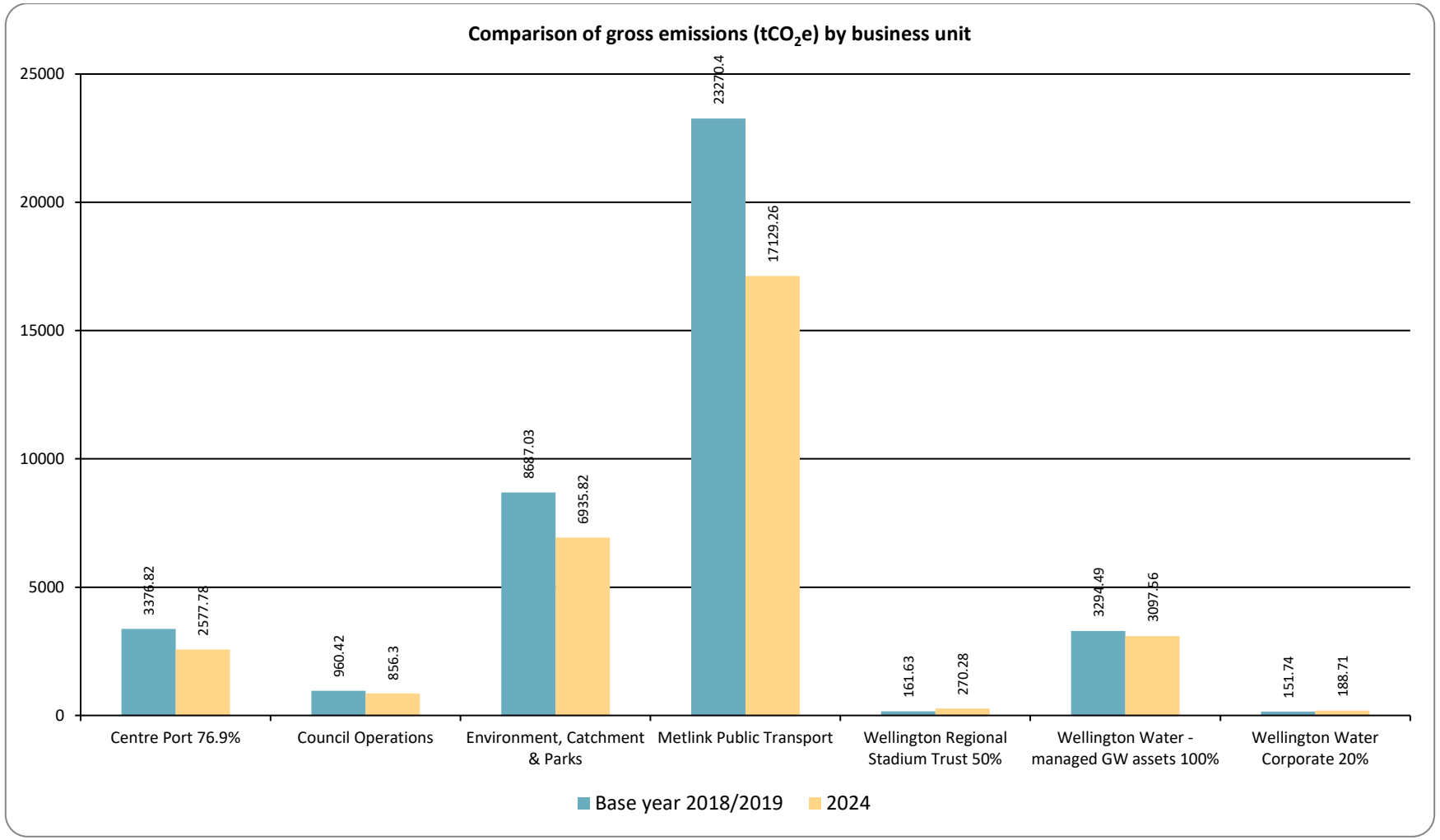

Figure 8: Comparison of gross emissions (tCO_2e) by business unit between the reporting periods

Performance against target has not been provided

Figure 9: Performance against target since base year

Table 6. Performance against plan

Performance
(No information supplied)

2.2. SIGNIFICANT EMISSIONS SOURCES

Significant sources

The largest source of emissions is use of diesel as a fuel for regional public transport (Metlink buses and trains), operational fleets that include on and off-road vehicles and heavy machinery and other operations across the Greater Wellington Group. The greatest opportunity for Council to reduce emissions is in the reduction of diesel fuel used in public transport, operational off-road fleet vehicles and heavy machinery, though electrification as suitable vehicle technology becomes available.

Activities responsible for generating significant emissions

The second largest source of emissions is purchased electricity used across the Greater Wellington Group offices, operations, and service delivery. The Council has direct control over a limited portion of total Group electricity use. Council manages and controls electricity in its main offices and many small sites, such as public transport stations and parks network facilities, and environmental monitoring stations. A significant proportion of electrical energy is consumed by Council Organisations Wellington Water and Centre Port, particularly to pump water from water catchments for municipal distribution. These entities have separate governance and management and are not under the direct management influence of Greater Wellington, who is a shareholder. A large proportion of electrical energy is consumed by public transport electric trains and increasingly in electric bus charging.

Influences over the activities

The third largest source of emissions comes from Wellington Water chemicals used for Water Supply. Wellington Water has separate governance and management to Greater Wellington to manage water assets that Greater Wellington owns. Current management influence over Wellington Water is limited to that of an equal shareholder with other councils.

Significant sources that cannot be influenced

The fourth largest emissions source results from grazing animals from land use licencees on Council owned land and in regional parks. Land use change has been identified as an area for emissions reductions and this will need to happen to meet GWRC emissions reduction targets.

2.3. EMISSIONS REDUCTION TARGETS

The organisation is committed to managing and reducing its emissions. Table 6 provides details of the emission reduction targets to be implemented. These are ‘SMART’ targets (specific, measurable, achievable, realistic, and time-constrained).

The organisation is committed to managing and reducing its emissions. Table 7 provides details of the emission reduction targets to be implemented. These are ‘SMART’ targets (specific, measurable, achievable, realistic, and time-constrained).

Greater Wellington Regional Council has committed to reduce the Group's emissions as much as possible and becoming carbon neutral by 2030. In addition, the Council has committed to a 40% net reduction by 2025. The Council will influence Council Organisations (those it has equity shares in) to attain aligned targets.

Table 7. Emission reduction targets

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Categories covered	Target		KPI	Responsibility	Rationale
Electrifying the bus fleet	01 July 2018 to 30 June 2019	30/06/2030	Absolute	Category 1	75%	15545tco2e	Total bus fleet emissions	GM Public Transport	Accelerate the implementation of an electric bus fleet in the region by 2030. * Subject to agreement and financial and planning support from other central and local government authorities.
Reduce stock grazing emissions	01 July 2018 to 30 June 2019	30/06/2030	Absolute	Category 1	90%	8433 tco2e	Absolute reduction in stock head numbers	GM Environment	Review the future of grazing leases in regional parks as part of the Parks Network Plan and options to use this land for native reforestation where appropriate to earn carbon credits. *Subject to multiple land owners and or leases adopting GW policy and guidelines.
Low carbon vehicle fleet	01 July 2018 to 30 June 2019	30/06/2030	Absolute	Category 1	80%	1134 tco2e	Absolute reduction in total emissions from all GW Group fleet vehicles	GM Strategy / GM Coronate Services	GW has an EV first policy in place and a target of a fully-electric [or low carbon] corporate vehicle fleet by 2030 (if mature technology is available).

2.4. EMISSIONS REDUCTION PROJECTS

In order to achieve the reduction targets identified in Table 6, specific projects have been identified to achieve these targets, and are detailed in Table 7 below.

Table 8. Projects to reduce emissions

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Carbon neutral Group	Align Council Organisations to reduce emissions and be carbon neutral by 2030.	GM Strategy Group	30/06/2030			
Secure 100% renewable and or carbon neutral electricity supplies	Investigate securing renewable electricity supplies. partnerships and/or direct investment. The Council is currently exploring the possibility of carbon neutral certified electricity in future contracts.	GM Corporate Planning	30/06/2030			
Explore electric vehicle fleet options	Investigate and evaluate options for off-road and high performance four wheel drive electric vehicles.	GM Strategy Group	30/06/2030			
Establish a low carbon acceleration fund	Use the potential liquidity of carbon credits (NZUs) GWRC has from its pre-1990 forests to create a 'low carbon acceleration fund'.	Treasury	30/06/2020			
Accelerate reforestation planting in regional parks	Allocate resources to accelerate reforestation planting in regional parks, with a 10-year plant of planting native species.	GM Strategy / GM Environment	30/06/2030			

Table 8 highlights emission sources that have been identified for improving source the data quality in future inventories.

Table 9. Projects to improve data quality

Emissions source	Actions to improve data quality	Responsibility	Completion date
Emissions liabilities	Complete consolidation of GWRC liabilities. Improve data gaps and quality.	GM Metlink/ GM Environment/ GM Corporate Services	30/06/2025
Transition to NETBI for Meltink Bus	GW has transitioned from Hamish's SQL codehosted on EMMA to a platform called NETBI for data hosting. This platform offers more reliable and centralised data management. NETBI is operated by a third party with experience supporting Australian central government, with trust in their practices and data integrity. Ongoing functionalities are continuing to be added within NetBi, and advice from auditors will be implemented including to increase GW individual capacity to generate emissions estimates	Andrew Myers, Manager Customer Insights & Assets / Tamsin Mitchell Senior Environmental Scientist	30/07/2024

2.5. STAFF ENGAGEMENT

The Climate Emergency Response Programme (CERP) is governed by an Organisational Emissions Reduction Steering Group of managers, reporting to a CERP Programme Board of senior managers, reporting in turn to the Climate Committee of Council. The managers involved are responsible, alongside the Climate Change team, for engaging with staff regarding climate change and emissions reductions awareness and training. The programme provides online resources and information to support all staff in their work towards emissions reductions. The Climate Change Team has developed, tested, and launched the Staff Climate Change Training course and 16 sessions have been held to date at Masterton, Upper Hutt Depot and Cuba Street. 170 staff members, including a trial cohort, have attended the training. A key part of the training is emissions reduction at GWRC

2.6. KEY PERFORMANCE INDICATORS

2.7. MONITORING AND REPORTING

Greenhouse gases will be monitored annually and reported publicly in the Annual Report. The Chief Executive has a climate change related KPI and that performance is monitored annually by the Council (the governance board). The leadership team of general managers are responsible for delivering the carbon targets and projects to the Chief Executive. Emissions reduction targets and project KPIs are given in the respective tables contained in this report.

APPENDIX 1: DETAILED GREENHOUSE GAS INVENTORY

Additional inventory details are disclosed in the tables below, and further GHG emissions data is available on the accompanying spreadsheet to this report (Appendix1-Data Summary Greater Wellington Regional Council.xls).

Table 10. Direct GHG emissions and removals, quantified separately for each applicable gas

Category	CO_2	CH_4	N_2O	NF_3	SF_6	HFC	PFC	Desflurane	Sevoflurane	Isoflurane	Emissions total (tCO_2e)
Stationary combustion	2,204.02	0.15	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,204.26
Mobile combustion (incl. company owned or leased vehicles)	654.60	2.06	10.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	667.44
Emissions - Industrial processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Removals - Industrial processes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Leakage of refrigerants	0.00	0.00	0.00	0.00	0.00	45.13	3.47	0.00	0.00	0.00	48.60
Treatment of waste	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Treatment of wastewater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions - Land use, land-use change and forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Removals - Land use, land-use change and forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fertiliser use	0.00	0.00	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83
Addition of livestock waste to soils	0.00	104.46	514.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	619.40
Addition of crop residue to soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Addition of lime to soils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enteric fermentation	0.00	4,826.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,826.45
Open burning of organic matter	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity generated and consumed onsite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Medical gases	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exported electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total net emissions	2,858.62	4,933.13	527.64	0.00	0.00	45.13	3.47	0.00	0.00	0.00	8,367.98

Table 11. Non-biogenic, biogenic anthropogenic and biogenic non-anthropogenic CO_2 emissions and removals by category

Category	Anthropogenic biogenic CO_2 emissions	Anthropogenic biogenic (CH_4 and N_2O) emissions (tCO_2e)	Non-anthropogenic biogenic (tCO_2e)
Category 1: Direct emissions	0.00	5,445.85	0.00
Category 2: Indirect emissions from imported energy	0.00	0.00	0.00
Category 3: Indirect emissions from transportation	0.00	0.00	0.00
Category 4: Indirect emissions from products used by organisation	0.00	139.99	0.00
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	290.19	0.00
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total gross emissions	**0.00**	**5,876.03**	**0.00**

A1.1 REPORTING BOUNDARIES

A1.1.1 Emission source identification method and significance criteria

The GHG emissions sources included in this inventory were identified with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards as well as the inventory technical requirements.

GWRC continues to report on the original footprint.

Significance of emissions sources within the organisational boundaries has been considered in the design of this inventory. The significance criteria used comprise:

- All direct emissions sources that contribute more than 1% of total Category 1 and 2 emissions
- All indirect emissions sources that are required by the Toitu's programme.

No changes to the significance criteria have been made since this inventory was initially developed in the base year.

A1.1.2 Included sources and activity data management

As adapted from ISO 14064-1, the emissions sources deemed significant for inclusion in this inventory were classified into the following categories:

- **Direct GHG emissions (Category 1):** GHG emissions from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Category 2):** GHG emissions from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Categories 3-6):** GHG emissions that occur as a consequence of the activities of the company but occur from sources not owned or controlled by the company.

Table 14 provides detail on the categories of emissions included in the GHG emissions inventory, an overview of how activity data were collected for each emissions source, and an explanation of any uncertainties or assumptions made based on the source of activity data. Detail on estimated numerical uncertainties are reported in Appendix 1.

The Climate Change Advisor is responsible for gathering the GHG inventory activity data. GW's carbon footprint covers hundreds of data points, there is a range of people involved in the data collection phase. These people are 'data owners' and they are responsible for collecting their activity data and providing it to the Climate Change Advisor. The Advisor has an initial meeting with data owners and provides them with their requirements, these vary for each data owner. GW maintains this collection process by ensuring open lines of communication between business units and if there are any new emission sources business units inform the Climate Change team as soon as identified.

Grazing and fertilizer has been calculated based on carrying capacity and maximum stock numbers per licence. This has data has been reviewed by BakerAg.

The GW Bus Emissions Model was developed in 2016 by EIL to evaluate the emissions associated with tenders for new bus fleet and routes. This model was updated in 2019 and used in-house for corporate GHG reporting from 2018/19 to 2022/23 and for bus emissions environmental reporting for the period 4/1/2017 to 30/6/2022 (Mitchell & Clark, 2022)4. This model version was called EMMA (Emissions Modelling, Monitoring and Analysis). The Bus Emissions Model (underpinning EMMA) was updated in 2022 by EIL to be consistent with the methodology and assumptions for calculating emission factors in the national Vehicle Emission Prediction Model (VEPM). The 2022 model version was implemented on Metlink's new cloud-based business data analytics and reporting system (netBI). This model version is called the Bus Emissions Cube. This report is based on the Bus Emissions Cube with emissions data back cast to 1 August 2018. There are some differences in emissions calculated by EMMA compared to the Bus Emissions Cube, although the trends are generally consistent. The differences between these two models

are attributed to updated emission factors, new parameters in the Bus Emissions Cube (e.g., road gradient) and differences in the way bus trips are tracked. The method for tracking vehicle km was previously based on PTBIS (Public Transport Business Information System) which was retired in May 2023. The Bus Emissions Cube uses the Real Time Information system (provided by Vix Technology) or Snapper trips to determine if a trip was run for in-service fixed-route services.

All other data sources have come from supplier reports or invoices.

Table 12. GHG emissions activity data collection methods and inherent uncertainties and assumptions

GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Category 1: Direct emissions and removals	Stationary combustion	LPG stationary commercial, Natural Gas distributed commercial, Petrol stationary commercial, Diesel stationary combustion	Assumed all supplier reports are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
	Mobile combustion (incl. company owned or leased vehicles)	Diesel stationary combustion, Diesel, Petrol premium, Petrol regular	Supplier invoice from Eroad are assumed to be accurate	Yes	No
	Addition of livestock waste to soils	Agricultural Soils Dairy Cattle, Agricultural Soils Non-dairy cattle, Agricultural Soils Sheep, Manure Management Non-dairy cattle, Manure Management Sheep, Manure Management Dairy cattle	Not actual numbers are reported, numbers have been calculated based on carrying capacity and maximum stock numbers per licence. This has data has been reviewed by BakerAg	Yes	No
Overall assessment of uncertainty for Category 1 emissions and removals		19%	Medium		
Category 2: Indirect emissions from imported energy	Imported electricity	Electricity	Assumed all supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
Overall assessment of uncertainty for Category 2 emissions and removals		5%	Medium		

GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Category 3: Indirect emissions from transportation	Business travel - Transport (non-company owned vehicles)	Car Average (unknown fuel type), Rental Car Medium (petrol 1600-2000cc) - post-2015, Rental Car Small (petrol 1350-1600cc) - post-2015, Air travel domestic (average), Air travel long haul (average), Air travel short haul (average), Taxi (regular)	Assumed all APX Travel supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
	Downstream freight - Paid by the organisation	Freight Road rigid truck (average)	Assumed all supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
Overall assessment of uncertainty for Category 3 emissions and removals		26%	High		

GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Category 4: Indirect emissions from products used by organisation	Purchased goods and services	Fertiliser use	BakerAg was conducted to review GWRC grazing licences and fertilizer application. It was found that superphosphate would be applied as it is the most widely used fertiliser applied by farmers and represents the best balance of nutrients than can be applied in one product and one application. Superphosphate provides a well balanced application of nutrients in one product and is widely used for maintenance fertiliser to maintain the nutrients in the soil. It is 10% Phosphorous, 12 % Sulphur and 20% Calcium. The other 58% is rock that doesn't have available nutrients for the soil. Some farmers might apply nitrogen or Urea and this will boost pasture growth but will not maintain the P, S Or Ca nutrients that are vital to soil health and nutrient maintenance. For the GW blocks, BakerAg doesn't think any nitrogen would be applied as they are either too small to warrant it (as its very expensive) or not intensively farmed blocks so usually wouldn't apply nitrogen. There isn't one product in your GWRC list that fits but you GWRC could work out a ratio for each nutrient. 1kg of Superphosphate has 100g of Phosphorous, 120g of Sulphur and 200g of Calcium. Therefore if you are applying 250 kg/ha pa you will be applying 25kg of Phosphorous, 30kg of Sulphur, and 50kg of Calcium per ha pa.	Yes	No
	Disposal of solid waste - Landfilled	Waste landfilled LFGR Garden, Waste landfilled LFGR Mixed waste	Assumed all supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
	Disposal of liquid waste - Not wastewater	Waste to Landfill Sludge (CO_2)	Assumed all Wellington Water supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
	Transmission of energy (T&D losses)	Electricity distributed T&D losses, Natural Gas distributed T&D losses	Assumed all supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No

GHG emissions category	GHG emissions source or sink subcategory	Overview of activity data and evidence	Explanation of uncertainties or assumptions around your data and evidence	Use of default and average emissions factors	Pre-verified data
Overall assessment of uncertainty for Category 4 emissions and removals		4%	Low		
Category 5: Indirect emissions associated with the use of products from the organisation	Use stage of sold products	Electricity	Assumed all supplier reports from are accurate. Supplier invoices are totalled and input into Emanage	Yes	No
Overall assessment of uncertainty for Category 5 emissions and removals		7%	Medium		

A1.1.3 Excluded emissions sources and sinks

Emissions sources in Table 16 have been identified and excluded from this inventory.

Table 13. GHG emissions sources excluded from the inventory

Business unit	GHG emissions source or sink	GHG emissions category	Reason for exclusion
GW Council Operations	Reimbursed: Air Travel/ rental cars	Category 3	Most emissions (estimated to be over 99%) from travel is included in the EIR. There is a very small proportion (believed to be estimated at < 1%) of travel that has been reimbursed separately to the corporate booking service. This record has not been coded separately from the in the general ledger from that of booked services, as a result a report is unobtainable. Calculating this would have taken excessive amount of time and we have excluded this due to the programme de minimis rule.
GW Council Operations	Scooters	Category 4	Most emissions (estimated to be over 99%) from travel is included in the EIR. There is a very small proportion (believed to be estimated at < 1%). We have excluded this due to the programme de minimis rule.
GW Council Operations	Refrigeration	Category 1	It is assumed that refrigeration (various fluorocarbons) is at a very low level (well under 1% of total emissions) and calculating this would be very time consuming. As a result there is no current record of refrigerants. Refrigerants have been excluded based on the programme de minimus rule.
GW Council Operations	Recycling	Category 4	Estimated de minimis. Excluded based on the programme de minimis rule.
GW Council Operations	Couriers & Postage	Category 3	It is assumed that this activity is at a very low level , well under 1% of total emissions. No general ledger code exists for these activities, as a result there is way to report this data. Calculating this would have taken excessive amount of time and we have excluded this based on the programme de minimis rule.
GW Council Operations	Waste to landfill	Category 4	Waste excluded for CentrePort, Wellington Water (corporate), and Wellington Regional Stadium Trust.
GW Council Operations	Accommodation - New Zealand	Category 2	Estimated de minimis. Excluded based on the programme de minimis rule.
GW Council Operations	Garden waste	Category 4	Estimated de minimis. Excluded based on the programme de minimis rule.
GW Council Operations	Rental vehicles	Category 3	Estimated de minimis. Excluded based on the programme de minimis rule.
Environment, Catchment and Parks	Horse Agricultural Soils & Manure Management	Category 1	Estimated de minimis. Excluded based on the programme de minimis rule.
Metlink Rail	Capital Connection	Category 4	Capital Connection train line. Although this is something we fund we have no operational control. However, this may change in the future.
CentrePort	Workplace travel reimbursements	Category 3	No data available

Business unit	GHG emissions source or sink	GHG emissions category	Reason for exclusion
CentrePort	Waste to landfill	Category 4	No data available
CentrePort	Refrigeration	Category 1	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Stadium	Accommodation - Australia	Category 2	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Stadium	Accommodation - New Zealand	Category 3	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Stadium	Water Usage - Not including turf watering	Category 4	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Stadium	Water Usage	Category 4	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Water (managed assets)	Freight Road rigid truck sludge (average)	Category 3	Estimated de minimis. Excluded based on the programme de minimis rule.
Wellington Water (managed assets)	Waterloo Water Treatment Plant Sludge	Category 4	This plant extracts water from anaquifer (underground water) and no chemical are used during treatment process, so there are no sludge waste need to be discharged from the plant.
Wellington Water (managed assets)	Gear Island Water Treatment Plant Sludge	Category 4	This plant extracts water from anaquifer (underground water) and no chemical are used during treatment process, so there are no sludge waste need to be discharged from the plant.
Wellington Water (corporate)	Refrigeration	Category 1	No data available
Wellington Water (corporate)	Workplace travel reimbursements	Category 3	No data available
Wellington Water (corporate)	Waste to landfill	Category 4	No data available

A1.2 QUANTIFIED INVENTORY OF EMISSIONS AND REMOVALS

A1.2.1 Calculation methodology

A calculation methodology has been used for quantifying the emissions inventory based on the following calculation approach, unless otherwise stated below:

Emissions = activity data x emissions factor

The quantification approach(es) has not changed since the previous measurement period

All emissions were calculated using Toitū emanage with emissions factors and Global Warming Potentials provided by the Programme (see Appendix 1 - data summary.xls). Global Warming Potentials (GWP) from the IPCC fifth assessment report (AR5) are the preferred GWP conversion[4].

Where applicable, unit conversions applied when processing the activity data has been disclosed.

There are systems and procedures in place that will ensure applied quantification methodologies will continue in future GHG emissions inventories.

A1.2.2 Historical recalculations

Historical recalculations have been conducted

Details

Additional data (all years):

A full review of Metlink Bus diesel and electricity emissions has been conducted. We have transitioned from Hamish's SQL code hosted on EMMA to a platform called NETBI for data hosting. This platform offers more reliable and centralised data management. As NETBI is operated by a third party with experience supporting Australian central government, we can trust in their practices and data integrity.

A1.2.3 Supplementary results

Holdings and transactions in GHG-related financial or contractual instruments such as permits, allowances, verified offsets or other purchased emissions reductions from eligible schemes recognised by the Programme are reported separately here.

[4] If emission factors have been derived from recognised publications approved by the programme, which still use earlier GWPs, the emission factors have not been altered from as published.

APPENDIX 2: SIGNIFICANCE CRITERIA USED

Table 14. Significance criteria used for identifying inclusion of indirect emissions

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Wellington Stadium	0.20%	This is a Council Controlled Organisation (CCO). GWRC has taken the equity share approach, therefore, accounts for our equity of Wellington Stadium.	Low	N/A	Not a part of GW core business activities	There are several opportunities that the stadium can implement to reduce indirect emissions eg (energy conservation incentives, carpooling, switching to an electric fleet)	Yes	Yes
Wellington Water (WW)	18%	This is a Council Controlled Organisation (CCO). GWRC has taken the equity share approach, therefore, accounts for our equity of the Wellington Water. There are two categories underneath WW: Bulk water assets and corporate, we account for 100% of bulk water assets & 20% of corporate.	Medium/High	N/A	Wellington Water bulk water assets - no, Wellington Water corporate - yes	There are several opportunities that that Wellington Water can implement to reduce indirect emissions eg (energy conservation incentives, carpooling, switching to an electric fleet)	Yes	Yes
CentrePort	9%	This is a Council Controlled Organisation (CCO). GWRC has taken the equity share approach, as we are the majority shareholder of CentrePort we account for 76.9%.	Medium/High	N/A	Not a part of GW core business activites	There are several opportunities that CentrePort can implement to reduce indirect emissions eg (energy conservation incentives, carpooling, switching to an electric fleet)	Yes	Yes

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Metlink - Bus	35%	GWRC can directly reduce bus emissions by purchasing electric buses and converting diesel buses to electric.	Medium	By 2035, Aotearoa New Zealand will have significantly reduced transport-related carbon emissions and have a more accessible and equitable transport system that supports wellbeing. Reduce reliance on cars and support people to walk, cycle and use public transport including by: improving the reach, frequency and quality of public transport and making it more affordable for low-income New Zealanders	Yes, it is outsourced core business	N/A	Yes	Yes
Metlink - Rail	11%	GWRC can directly reduce bus emissions by switching to electric trains	High	By 2035, Aotearoa New Zealand will have significantly reduced transport-related carbon emissions and have a more accessible and equitable transport system that supports wellbeing. Reduce reliance on cars and support people to walk, cycle and use public transport including by: improving the reach, frequency and quality of public transport and making it more affordable for low-income New Zealanders	Yes, it is outsourced core business	N/A	Yes	Yes

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Metlink - Total Mobility Taxi	0.40%	GWRC can directly reduce Total mobility emissions as the Total Mobility subsidy is co-funded with Waka Kotahi who meet 60% of the cost, GW meeting the remainder 40%.	Low	By 2035, Aotearoa New Zealand will have significantly reduced transport-related carbon emissions and have a more accessible and equitable transport system that supports wellbeing. Reduce reliance on cars and support people to walk, cycle and use public transport including by: improving the reach, frequency and quality of public transport and making it more affordable for low-income New Zealanders	Yes, it is outsourced core business	N/A	Yes	Yes
Heavy Machinery	1.7% of Corporate and operations 4%	GWRC owns all the contracts for all types of heavy machinery. We can have the ability to reduce these emissions.	Low	By 2035, Aotearoa New Zealand will have significantly reduced transport-related carbon emissions and have a more accessible and equitable transport system that supports wellbeing. Key actions include: begin work now to decarbonise heavy transport and freight including by: providing funding to support the freight sector to purchase zero- and low-emissions trucks requiring only zero-emissions public transport buses to be purchased by 2025 supporting the uptake of low-carbon liquid fuels by implementing a sustainable aviation fuel mandate and a sustainable biofuels obligation.	Yes, it is outsourced core business	N/A	Yes	Yes

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Grazing	22%	GWRC manages and owns all the stock license agreements on Parks and Flood Protection land. We can reduce these emissions by opting not to renew each license	Low	Reducing agriculture emissions is needed to achieve the 2050 target, including the requirement to reduce biogenic methane emissions by 24–47 per cent by 2050.	Not a part of GW core business activities	N/A	Yes	Yes
Fertilizer use	Unsure	GWRC manages and owns all the stock license agreements on Parks and Flood Protection land. These agreements include the use of fertilizer which farmers use at their discretion on the land	Low	About three-quarters of agricultural emissions are biogenic methane emitted from livestock, followed by nitrous oxide. Nitrous oxide emissions from nitrogen fertiliser use make up about 3.9 per cent of agricultural emissions. Actions to reduce synthetic nitrogen fertiliser include: adopting best practice to ensure fertiliser is applied in the right amount, in the right location at the right time to limit the amount of nitrogen lost to both water and the atmosphere. Increasing the proportion of nitrogen fertilisers applied that have been modified to reduce emissions, for example, urease inhibitors, nitrification inhibitors and slow-release nitrogen fertiliser products.	Not a part of GW core business activities	N/A	Yes	Yes

APPENDIX 3: CERTIFICATION MARK USE

n/a

APPENDIX 4: REFERENCES

International Organization for Standardization, 2018. ISO 14064-1:2018. Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. ISO: Geneva, Switzerland.

World Resources Institute and World Business Council for Sustainable Development, 2004 (revised). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. WBCSD: Geneva, Switzerland.

World Resources Institute and World Business Council for Sustainable Development, 2015 (revised). The Greenhouse Gas Protocol: Scope 2 Guidance. An amendment to the GHG Protocol Corporate Standard. WBCSD: Geneva, Switzerland.

APPENDIX 5: REPORTING INDEX

This report template aligns with ISO 14064-1:2018 and meet Toitū verification Organisation Technical Requirements. The following table cross references the requirements against the relevant section(s) of this report.

Section of this report	ISO 14064-1:2018 clause	Organisational Technical Requirement rule
Cover page	9.3.1 b, c, r 9.3.2 d,	TR8.2, TR8.3
Availability	9.2 g	
Chapter 1: Emissions Inventory Report		
1.1. Introduction	9.3.2 a	
1.2. Emissions inventory results	9.3.1 f, h, j 9.3.3	TR4.14, TR4.16, TR4.17
1.3. Organisational context	9.3.1 a	
1.3.1. Organisation description	9.3.1 a	
1.3.2. Statement of intent		TR4.2
1.3.3. Person responsible	9.3.1 b	
1.3.4. Reporting period	9.3.1 l	TR5.1, TR5.8
1.3.5. Organisational boundary and consolidation approach	9.3.1.d	TR4.3, TR4.5, TR4.7, TR4.11
1.3.6. Excluded business units		
Chapter 2: Emissions Management and Reduction Report		
2.1. Emissions reduction results	9.3.1 f, h, j, k 9.3.2 j, k	TR4.14, TR6.18
2.2. Significant emissions sources		
2.3. Emissions reduction targets		TR6.1, TR6.2, TR6.4, TR6.6, TR6.8,
2.4. Emissions reduction projects	9.3.2 b	TR6.8, TR6.11, TR6.12, TR6.13, TR6.14, TR6.15
2.5. Staff engagement		TR6.1, TR6.9
2.6. Key performance indicators		TR6.19
2.7. Monitoring and reporting	9.3.2 h	TR6.2
Appendix 1: Detailed greenhouse gas inventory	9.3.1 f, g	TR4.9, TR4.15
A1.1 Reporting boundaries		
A1.1.1 Emission source identification method and significance criteria	9.3.1 e	TR4.12, TR4.13
A1.1.2 Included emissions sources and activity data collection	9.3.1 p, q 9.3.2 i	TR5.4, TR5.6, TR5.17, TR5.18,
A1.1.3 Excluded emissions sources and sinks	9.3.1 i	TR5.21, TR5.22, TR5.23
A1.2 Quantified inventory of emissions and removals		
A1.2.1 Calculation methodology	9.3.1 m, n, o, t	
A1.2.2 Historical recalculations		
A1.2.3 GHG Storage and liabilities		
A1.2.3.1 GHG stocks held on site		TR4.18
A1.2.3.2 Land-use liabilities	9.3.3.	TR4.19

A1.2.4 Supplementary results		
A1.2.4.1 Carbon credits and offsets	9.3.3.3	
A1.2.4.2 Purchased or developed reduction or removal enhancement projects	9.3.2 c	
A1.2.4.3 Double counting and double offsetting		
Appendix 2: Significance criteria used	9.3.1.e	TR4.12
Appendix 3: Certification mark use		TR3.6
Appendix 4: References		
Appendix 5: Reporting index		