

GREENHOUSE GAS EMISSIONS INVENTORY AND MANAGEMENT REPORT

Toitū verification

Prepared in accordance with ISO 14064-1:2018



Greater Wellington Regional Council

Prepared by (lead author): Mikaila Ceelen

Dated: 08 May 2023

Verification status: Reasonable and Limited

Measurement period: 01 July 2021 to 30 June 2022

Base year period: 01 July 2018 to 30 June 2019

Approved for release by:

Nigel Corry

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The consolidation approach chosen for the greenhouse gas inventory should not be used to make decisions related to the application of employment or taxation law.

This report shall not be used to make public greenhouse gas assertions without independent verification and issue of an assurance statement by Toitū Envirocare.

AVAILABILITY

This report is available to the public via Toitū Envirocare Website and to all employees via GWRC intranet.

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 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 Removals¹. 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 of the organisation's application for verification.

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 2021 to 30 June 2022.²

This is the annual greenhouse gas (GHG) emissions inventory and management report for Greater Wellington Regional Council covering the measurement period 01 July 2021 to 30 June 2022. Greater Wellington has collectively made great 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 where we must improve and change to reduce emissions. Our emissions have reduced from previous years. While emissions have risen over the year, this rise before reduction has been anticipated. Our planned business change will create climate positive outcomes that meet our Long Term Plan goals of significant emissions reductions across operations and to become carbon neutral by 2030.

Table 1: Inventory summary

Category (ISO 14064-1:2018)	Scopes (ISO 14064-1:2006)	2019	2021	2022
Category 1: Direct emissions	Scope 1	6,265.28	6,232.29	6,159.75
Category 2: Indirect emissions from imported energy (location-based method*)	Scope 2	3,370.84	3,281.16	3,796.53
Category 3: Indirect emissions from transportation	Scope 3	518.78	417.72	292.80
Category 4: Indirect emissions from products used by organisation	Scope 3	36,961.39	38,753.17	35,270.07
Category 5: Indirect emissions associated with the use of products from the organisation	Scope 3	3,928.32	3,798.11	2,918.95
Category 6: Indirect emissions from other sources	Scope 3	0.00	0.00	0.00
Total direct emissions		6,265.28	6,232.29	6,159.75
Total indirect emissions*		44,779.33	46,250.16	42,278.35
Total gross emissions*		51,044.61	52,482.45	48,438.10
Category 1 direct removals		0.00	0.00	0.00
Purchased emission reductions		0.00	0.00	0.00
Total net emissions		51,044.61	52,482.45	48,438.10

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

² Throughout this document "emissions" means "GHG emissions".

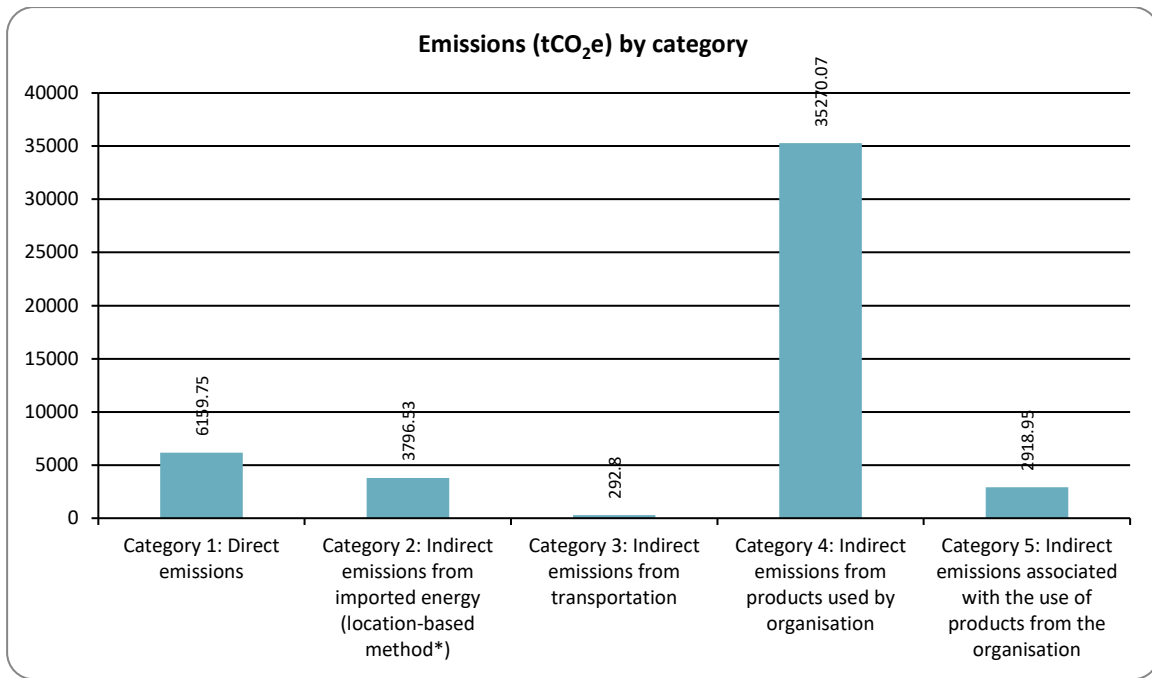


Figure 1: Emissions (tCO₂e) by Category for this measurement period

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 that we are in a Climate Emergency, and our Corporate Carbon Neutrality 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 a third-party verifier. The level of assurance is reported in a separate Assurance Statement provided to the directors of the verification entity.

1.2. EMISSIONS INVENTORY RESULTS

Table 2: GHG emissions inventory summary for this measurement period

Measurement period: 01 July 2021 to 30 June 2022.

Category	Emission Source	Total emissions (tCO ₂ e)
Category 1: Direct emissions	Diesel stationary combustion, Diesel, Natural Gas distributed commercial, Petrol premium, Petrol regular, Agricultural Soils Dairy Cattle, Agricultural Soils Non-dairy cattle, Agricultural Soils Sheep, Manure Management Non-dairy cattle, Manure Management Sheep, Manure Management Dairy cattle, LPG stationary commercial, Petrol stationary commercial	6,159.75
Category 2: Indirect emissions from imported energy (location-based method*)	Electricity	3,796.53
Category 3: Indirect emissions from transportation	Accommodation - New Zealand, Air travel domestic (average), Car Average (unknown fuel type), Rental Car Small (petrol 1350-1600cc) - post-2015, Taxi (regular), Air travel short haul (average), Freight Road rigid truck (average), Rental Car Medium (petrol 1600-2000cc) - post-2015	292.80

Category	Emission Source	Total emissions (tCO ₂ e)
Category 4: Indirect emissions from products used by organisation	Electricity distributed T&D losses, Natural Gas distributed T&D losses, Waste landfilled LFGR Mixed waste, Waste landfilled LFGR Garden, Diesel, Enteric Fermentation Dairy Cattle, Enteric Fermentation Horses, Enteric Fermentation Non-dairy cattle, Enteric Fermentation Sheep, Fertiliser use Nitrogen, Jet A1, Petrol, CO ₂ , Waste to Landfill Sludge (CO ₂)	35,270.07
Category 5: Indirect emissions associated with the use of products from the organisation	Electricity	2,918.95
Category 6: Indirect emissions from other sources		0.00
Total direct emissions		6,159.75
Total indirect emissions*		42,278.35
Total gross emissions*		48,438.10
Category 1 direct removals		0.00
Purchased emission reductions		0.00
Total net emissions		48,438.10
Emissions intensity		Total emissions
Operating revenue (gross tCO ₂ e / \$Millions)		105.09

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

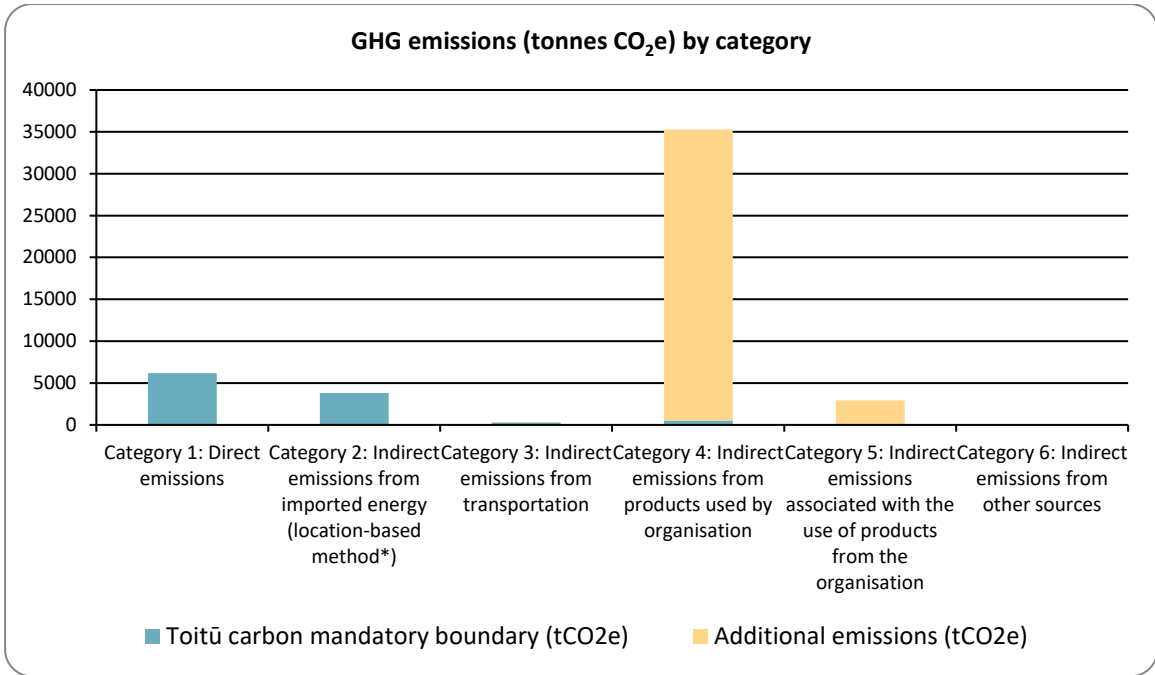


Figure 2: GHG emissions (tonnes CO₂e) by category

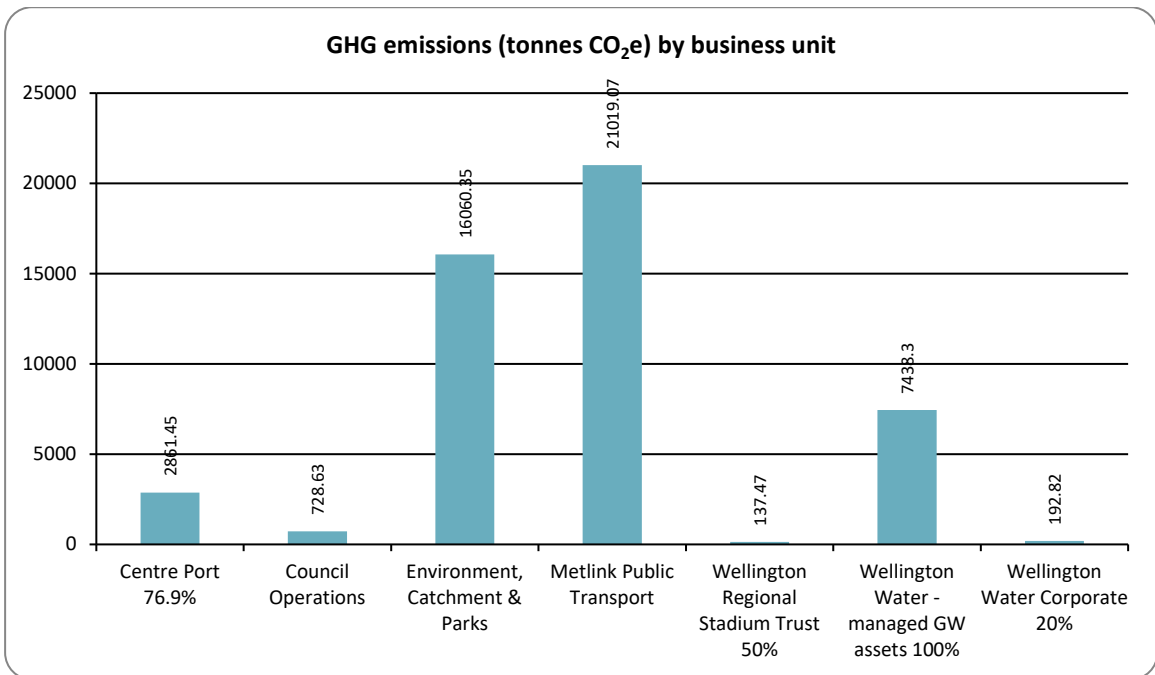


Figure 3: GHG emissions (tonnes CO₂e) by business unit

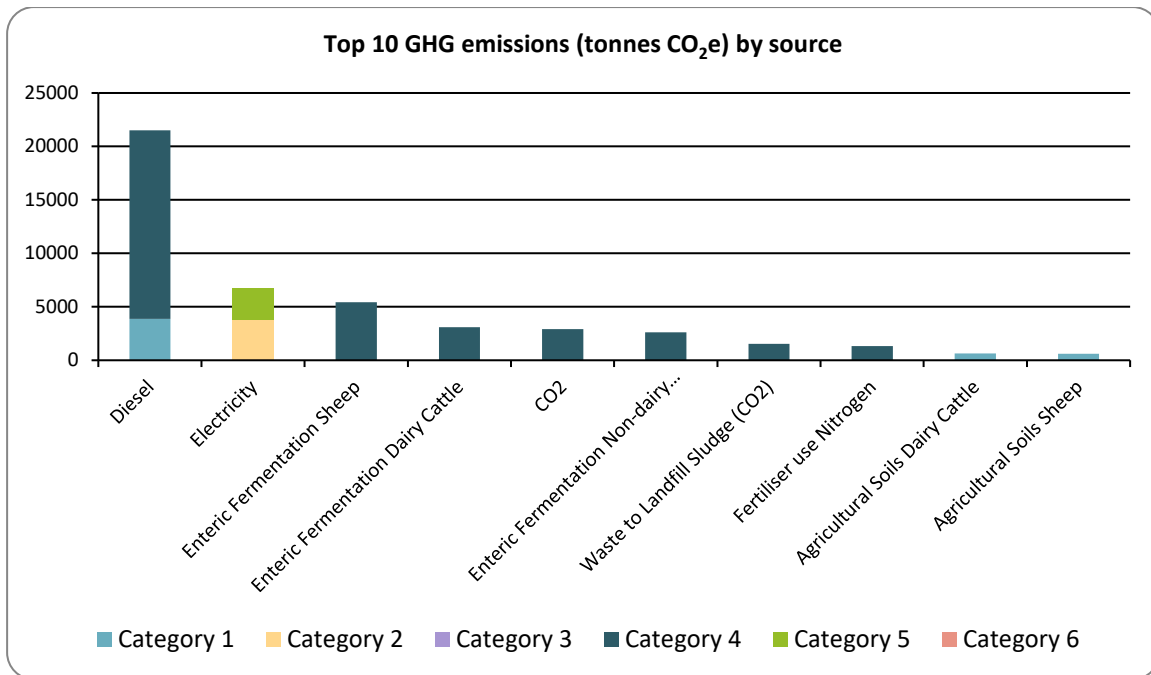


Figure 4: Top 10 GHG emissions (tonnes CO₂e) by source

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.

Table 3. Dual reporting of indirect emissions from imported energy

Category	Location-based methodology (tCO ₂ e)	Market-based methodology (tCO ₂ e)
Category 1: Direct emissions	6,159.75	6,159.75
Category 2: Indirect emissions from imported energy	3,796.53	3,502.00
Category 3: Indirect emissions from transportation	292.80	292.80
Category 4: Indirect emissions from products used by organisation	35,270.07	35,270.07
Category 5: Indirect emissions associated with the use of products from the organisation	2,918.95	2,918.95
Category 6: Indirect emissions from other sources	0.00	0.00
Total direct emissions	6,159.75	6,159.75
Total indirect emissions	42,278.35	41,983.81
Total gross emissions	48,438.10	48,143.56
Category 1 direct removals	0.00	0.00
Total net emissions	48,438.10	48,143.56

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 Council 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. The Council has committed to reduce emissions as much as possible over the next decade and become carbon neutral by 2030. The Council intends to begin offsetting 40% (net neutral) emissions in 2025, and ten percent more each year after that until it has reached 100% net neutral in 2030. The Council has aspiration to be a net carbon sink.

Commitment to verification

Climate change is beginning to have a wide and varied effect on the Wellington region and Greater Wellington Group of companies. The latest regional climate change long term projections report (commissioned by Greater Wellington can be found here <http://www.gw.govt.nz/climate-change/>) shows that given the current global emissions trajectory the intensity of the regional impact of climate change will continue to increase. More severe droughts, infrequent and more intense rainfall, larger storms and 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.

Greater Wellington has been committed to measuring carbon emissions since 2015. From 2019 on, the Council has committed to independently audit its carbon footprint in accordance with Toitū's Verification Only requirements. This includes the rigorous international (ISO14064) standard regarding emissions measurement and verification. Toitū requires documented accountability and ongoing reduction plans to assist in the achievement of emissions reduction commitments.

In 2019 the Council committed to reduce emissions as much as possible over the decade and become carbon neutral by 2030.

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 Corporate Carbon Neutrality 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 already having a significant impact on Greater Wellington Council operations and the region. Climate change brings more complexity around the suitability of assets and services in the future. Climate change is now central to the Council's Long Term Plan. More frequent and severe weather events are impacting levels of service delivery. The regional climate modelling report commissioned by GWRC informs us that the changes will become more pronounced by 2030 and more extreme to 2050. Identifying the best strategic approach to the mitigation and adaptation of climate change for the Council is becoming increasingly significant.

1.3.2. Statement of intent

This inventory forms part of the organisation's commitment to gain Toitū verification. 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 General Manager Strategy is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to senior management. The General Manager Strategy has the authority to represent senior management and has financial authority to authorise budget for the verification, including management projects and any mitigation objectives. is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to top management. The General Manager Strategy is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to senior management. The General Manager Strategy has the authority to represent senior management and has financial authority to authorise budget for the verification, including management projects and any mitigation objectives. has the authority to represent top management and has financial authority to authorise budget for the verification, 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 General Manager Strategy is the overarching manager for the Climate Emergency Response Programme of work. The Climate Change Team Lead 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 Coordinator. 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

A Climate Committee of Council governs the Climate Emergency Response Programme of work. The Chief Executive has climate change related key performance indicators. The General 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 leadership.

Management involvement

The Climate Change Team Lead monitors performance and delivery of the carbon footprint. The Climate Change Coordinator and Advisor are responsible for delivery of the data acquisition, audit and reporting, and they collaborate with management and staff across the business in this process. The Executive Leadership Team 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 - ISO10064. At this point the boundary of the carbon footprint was redefined to include the GW Group of companies as well as significant service contracts, including regional public transport and land management. The size of the footprint substantively increased by a factor of four and was no longer comparable to previous years.

Measurement period of this report: 01 July 2021 to 30 June 2022

The current inventory reporting frequency is an annual cycle. This aligns with the Annual Report, in which an inventory summary is reported for public accountability. 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 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 GW Group of companies as well as significant service contracts, including regional public transport and land management, that the organisation is responsible for delivering. The size of the footprint substantively increased by a factor of three and was no longer comparable to previous years.

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

Overall an equity control approach has been used to determine the actual influence on emissions the Council has all on business across its Group of companies. 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 control approach has been applied where Council Organisations are part owned by Greater Wellington and managed by others. The equity approach has been used for business that Greater Wellington has full control over, and where it remains in full ownership of assets regardless if others manage those assets. An equity control 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.

³control: 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.

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.

GWRC emissions boundary

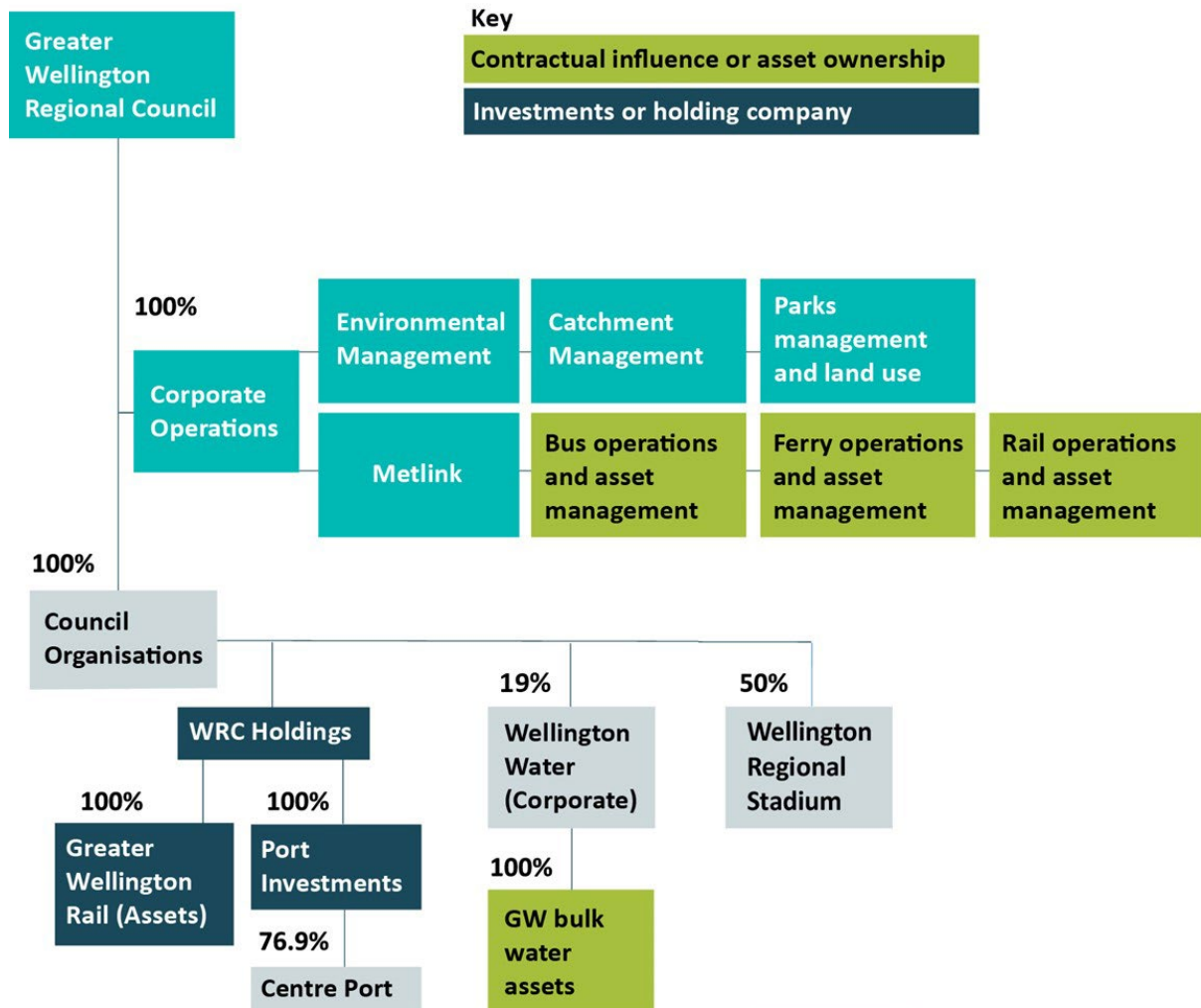


Figure 5: Organisational structure

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	15 Walter Street, Te Aro, Wellington	Corporate office
	Shed 39, Fryatt Quay, Wellington	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. Wellington Stadium are currently undertaking an external audit that was not complete by this inventory verification close off date.

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 2022, there were 83 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 reductions are planned for grazing licenses on Council owned land. 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
Category 1: Direct emissions	6,265.28	6,866.09	6,232.29	6,159.75
Category 2: Indirect emissions from imported energy (location-based method*)	3,370.84	3,647.44	3,281.16	3,796.53
Category 3: Indirect emissions from transportation	518.78	5,284.24	417.72	292.80
Category 4: Indirect emissions from products used by organisation	36,961.39	36,308.35	38,753.17	35,270.07
Category 5: Indirect emissions associated with the use of products from the organisation	3,928.32	0.00	3,798.11	2,918.95
Category 6: Indirect emissions from other sources	0.00	0.00	0.00	0.00
Total direct emissions	6,265.28	6,866.09	6,232.29	6,159.75
Total indirect emissions*	44,779.33	45,240.03	46,250.16	42,278.35
Total gross emissions*	51,044.61	52,106.12	52,482.45	48,438.10
Category 1 direct removals	0.00	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00	0.00
Total net emissions	51,044.61	52,106.12	52,482.45	48,438.10
Emissions intensity				
Operating revenue (gross tCO ₂ e / \$Millions)	111.66	100.25	121.35	105.09
Operating revenue (gross mandatory tCO ₂ e / \$Millions)	111.66	30.39	36.28	29.74

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

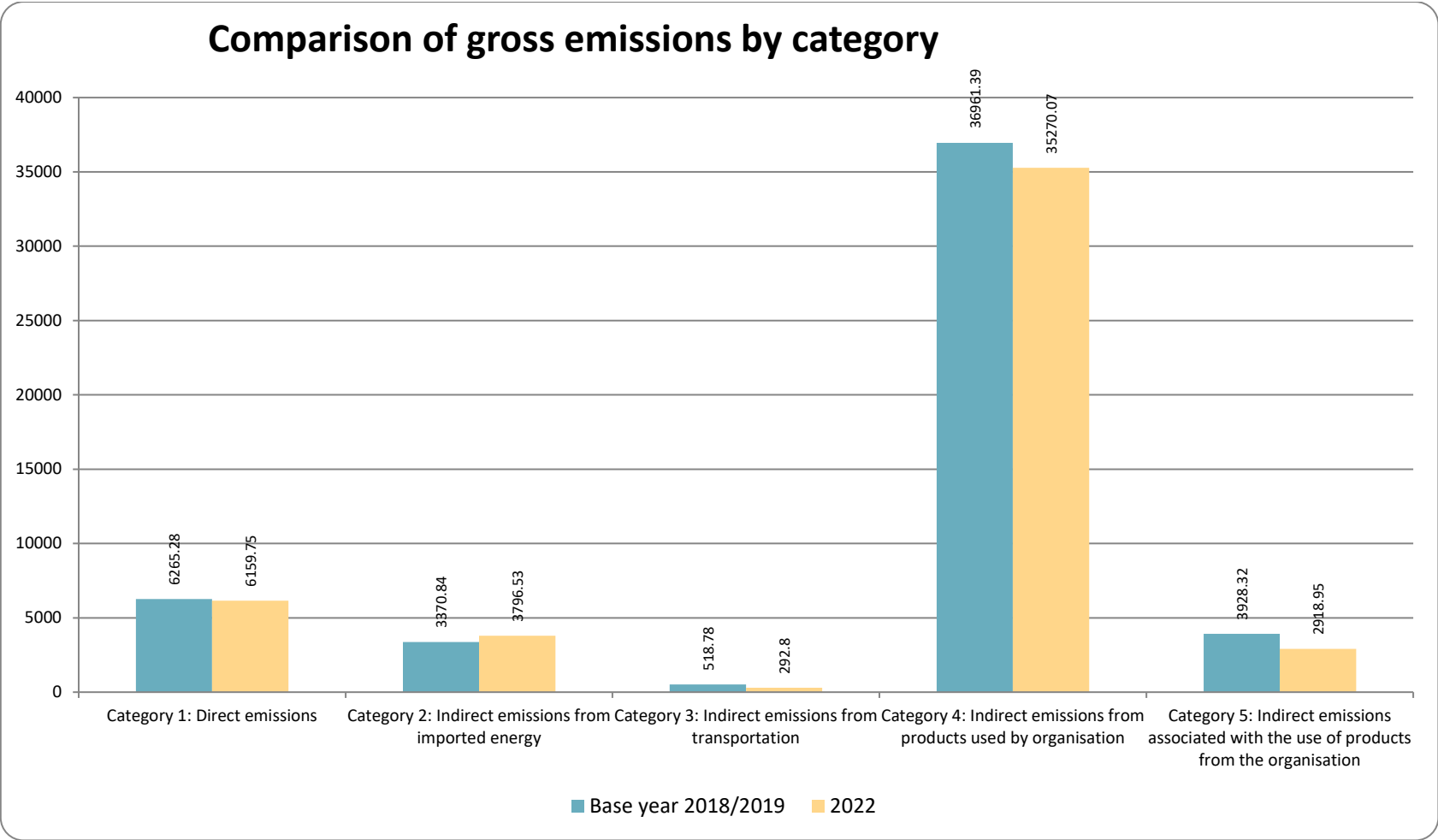


Figure 6: Comparison of gross emissions by category between the reporting periods



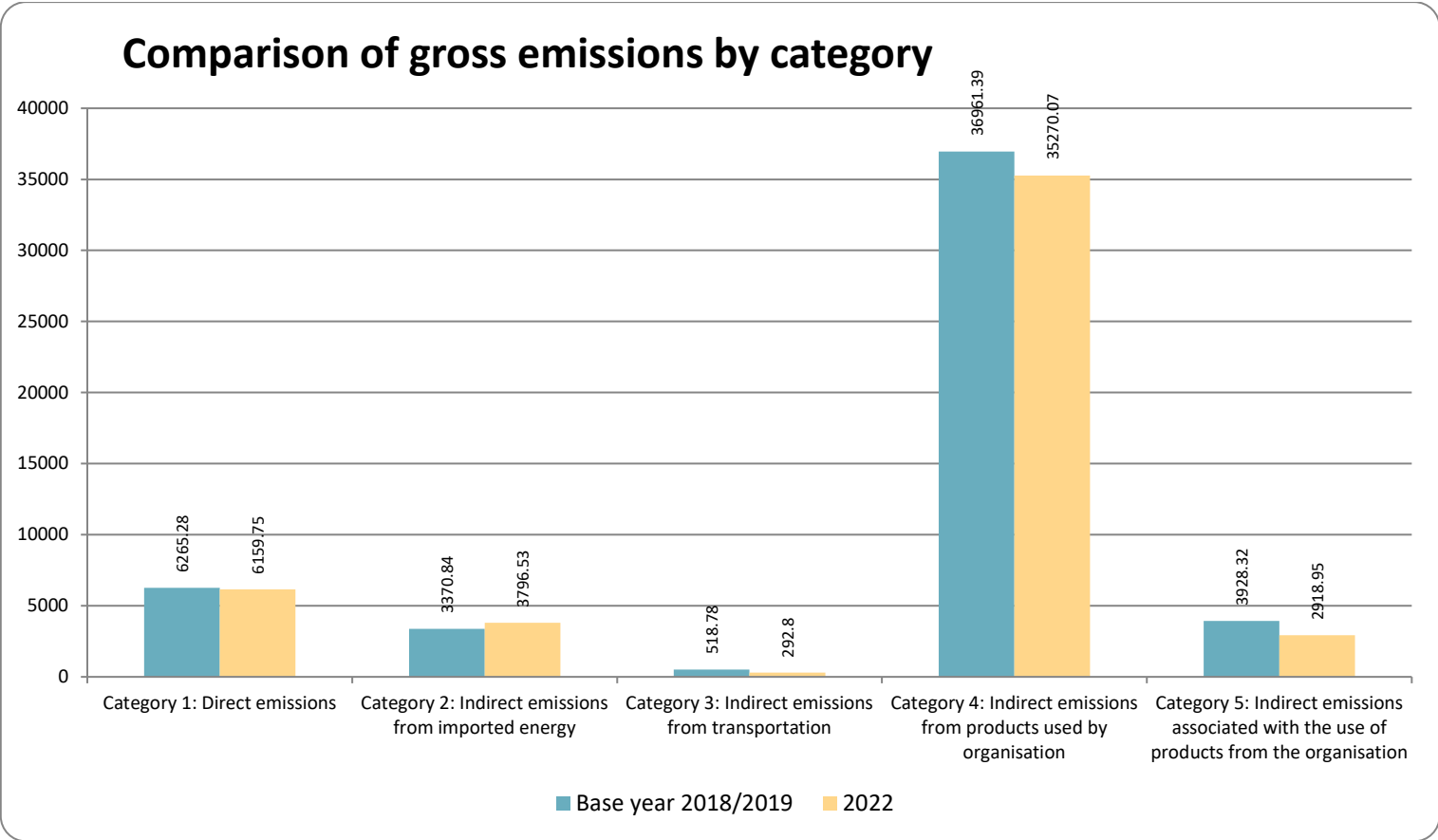


Figure 7: Comparison of gross emissions by subcategory between the reporting periods



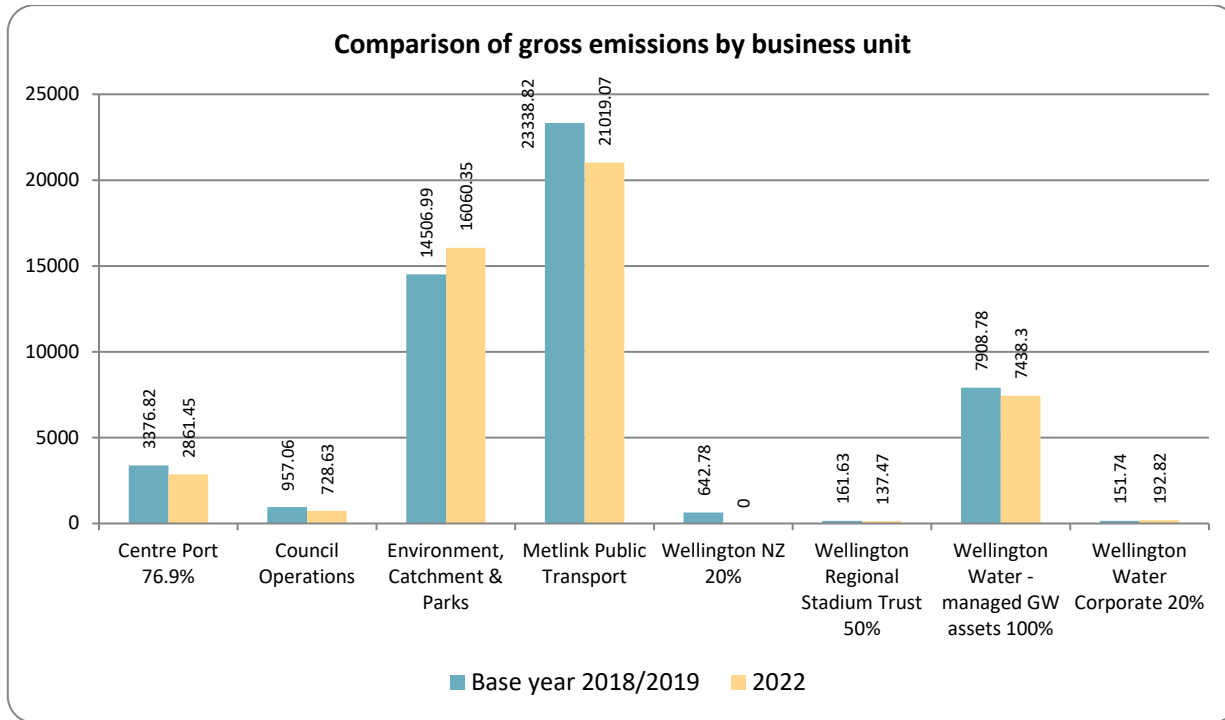


Figure 8: Comparison of gross emissions by business unit between the reporting periods

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 emissions source results from grazing animals and fertilizer from land use contractors 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.

Significant sources that cannot be influenced

The fourth largest source of emissions comes from Wellington Water waste to landfill sludge, a by-product of bulk water production. 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. Wellington Water is also subject to national water reform, and will be restructured into a super entity yet to be formed. More certainty of future governance and ownership of Wellington Water is required to make sound asset investment evaluations.

2.3. EMISSIONS REDUCTION TARGETS

The organisation is committed to managing and reducing its emissions in accordance with the verification requirements. Table 7 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 in accordance with the verification requirements. 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 become 40% net carbon neutral 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	tco2e	KPI	Responsibility	Rationale
Electrifying the bus fleet	01 July 2018 to 30 June 2019	30/06/2030	Absolute	Category 1	75%	15,545 tco2e	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.
Procurement of energy efficient office	01 July 2018 to 30 June 2019	30/06/2023	Absolute	Category 2	32%	114.8 tco2e	Total CO ₂ e resulting from total purchased main office energy (electricity and gas)	GM Corporate Planning	Procure two office accommodation leases in Wellington and Masterton. The Wellington office will have annual NABERS energy performance assessments over the 15-year lease agreement. Ongoing incremental energy performance improvements anticipated.
Reduce stock grazing emissions	01 July 2018 to 30 June 2019	30/06/2030	Absolute	Category 1	90%	8,433 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%	1,134 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 7, specific projects have been identified to achieve these targets, and are detailed in Table 8 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 9 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
GWRC owned land animal grazing emissions	GWRC Consolidated Stocktake Project. Consolidate all GWRC land use contracts and animal grazing numbers. Implement new business systems to fill data gaps, improve monitoring accuracy, and ensure ongoing and auditable record keeping. Requires monitoring and maintaining of up to date contract information and site specific maximum allowable grazing numbers of each animal type.	GM Environment/ GM Corporate Services	30/06/2023
Emissions liabilities	Complete consolidation of GWRC liabilities. Improve data gaps and quality.	GM Metlink/ GM Environment/ GM Corporate Services	30/06/2023

The emissions inventory chapter identified various emissions liabilities (see GHG Storage and liabilities section). Table 10 details the actions that will be taken to prevent GHG emissions from these potential emissions sources.

Table 10. Projects to prevent emissions from liabilities

Liability source	Actions to prevent emissions	Responsibility	Completion date
Permanent forest sink initiative (PFSI)	Best practice afforestation planning: Wild-fire prevention and containment planning. Health and safety planning.	Parks Manager	Ongoing
Public transport	Public transport strategy to increase patronage, efficiency and minimise breakdowns	GM Public Transport	Ongoing
Air conditioning /refrigeration units	Regular servicing and prevention of damage to units	Property manager	Ongoing
Fuel storage tanks	Regular servicing and prevention of damage to units	Site managers	Ongoing
Unintended accidents and or spills	Regular training and accident prevention, incident reporting system	Health and Safety	Ongoing

2.5. STAFF ENGAGEMENT

The Climate Emergency Response Programme is governed by a Corporate Carbon Neutral 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.

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

Category	CO ₂	CH ₄	N ₂ O	NF ₃	SF ₆	HFC	PFC	Desflurane	Sevoflurane	Isoflurane	Emissions total (tCO ₂ e)
Stationary combustion	92.44	0.21	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.75
Mobile combustion (incl. company owned or leased vehicles)	3,867.38	5.89	62.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,936.13
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	0.00	0.00	0.00	0.00	0.00	0.00
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
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Addition of livestock waste to soils	0.00	401.04	1,729.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,130.87
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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	3,959.82	407.14	1,792.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,159.75

Table 12. Non-biogenic, biogenic anthropogenic and biogenic non-anthropogenic CO₂ emissions and removals by category

Category	Anthropogenic biogenic CO ₂ emissions	Anthropogenic biogenic (CH ₄ and N ₂ O) emissions (tCO ₂ e)	Non-anthropogenic biogenic (tCO ₂ e)
Category 1: Direct emissions	0.00	2,130.87	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	11,368.03	0.00
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	0.00	0.00
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total gross emissions	0.00	13,498.90	0.00

A1.1 REPORTING BOUNDARIES

A1.1.1 Emission source identification method and significance criteria

The GHG emissions sources included in this inventory are those required for verification and were identified with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards as well as the Technical Requirements.

GWRC continues to report on the original footprint. There was one new emissions source that was identified through invoices, this was on charged electricity from KiwiRail to GWRC, it is included in the 2021/2022 footprint and will be previous years.

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 verification.

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 13 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 Coordinator 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 Coordinator. The coordinator 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.

A Microsoft SQL database created by Intergeren for Greater Wellington to store public transport operational data and monitor key performance indicators. This is stored on Emma, a database management system (DBMS) for calculating emissions for all Metlink operated public bus services since the 4th of January 2017. The system provides processes for extracting data from existing Metlink operational data sources, applying emission factor calculations, and storing the data into a separate data warehouse for emissions reporting.

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

Table 13. 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 is 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	Maximum stock numbers are counted for each license agreement, therefore not actual numbers are reported. Emissions are expected to decrease as GWRC moves to reporting actual stock numbers	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		
Category 4: Indirect emissions from products used by organisation	Purchased goods and services	Fertiliser use Nitrogen	High level of uncertainty, guestimate only - Based on max rate of 190 kg/ha from N-Cap-guidance-for-livestock-farms.pdf (environment.govt.nz). Total ha's are 2613 and this has been divided by 2 as fertiliser is not applied to total farm area e.g. steep country, gully areas, bush remnants etc	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 14 have been identified and excluded from this inventory.

Table 14. 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 verification <i>de minimis</i> 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 verification <i>de minimis</i> 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 verification <i>de minimis</i> 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 <i>de minimis</i> . Excluded based on the verification <i>de minimis</i> rule.
GW Council Operations	Garden waste	Category 4	Estimated <i>de minimis</i> . Excluded based on the verification <i>de minimis</i> rule.
GW Council Operations	Rental vehicles	Category 3	Estimated <i>de minimis</i> . Excluded based on the verification <i>de minimis</i> 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
CentrePort	Waste to landfill	Category 4	No data available
CentrePort	Refrigeration	Category 1	Estimated <i>de minimis</i> . Excluded based on the verification <i>de minimis</i> rule.
Wellington Water (managed assets)	Waterloo Water Treatment Plant	Category 4	This plant treats Aquifer (underground water), no chemical are used during treatment process, so there are no sludge waste need to be discharged from the plant.

Business unit	GHG emissions source or sink	GHG emissions category	Reason for exclusion
Wellington Water (managed assets)	Gear Island Water Treatment Plant	Category 4	This plant treats Aquifer (underground water), 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:

$$\text{Emissions} = \text{activity data} \times \text{emissions factor}$$

The following alternative emissions quantification approaches have been used in this inventory:

- Forest removals using Toitū supplied template based on growth rate lookup tables.

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 Toitū (see Appendix 1 - data summary.xls). Global Warming Potentials (GWP) from the IPCC fifth assessment report (AR5) are the preferred GWP conversion⁴.

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):

Metlink Electricity: Station electricity: 368,477kWh (Smart Billing Solutions/KiwiRail), Emu depot electricity: 420,967kWh (Smart Billing Solutions/KiwiRail), Ticket office electricity: 193,907kWh (Smart Billing

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

Solutions/KiwiRail) and Waterloo Interchange electricity (EnergyPro/Meridian bill). These can be added to the emissions source currently called 'Bus & Rail Stationary Assets'

The finance team is investigating if they can get the data back to 2019/2020, as GW changed finance systems (from SAP to Ngatahi) meaning old invoices are not easily accessible. If we are unable to get the data backdated, we will assume the numbers for 2021/22 can be reapplied to previous years.

Wellington Stadium: LPG stationary commercial (108 Litres), Petrol stationary commercial (1169 Litres) and Diesel stationary (4569 Litres). GWRC Only has data from 2020/2021 and we are assuming these figures are the same for previous years.

Environment: Agriculture Soils and Manure Management have previously been missed out of the Inventory. Data for 2018/2019 & 2019/2020 is Non-dairy cattle 2097 per head and Sheep 17520 per head, 2020/2021 is Dairy cattle 1,367 per head, Non-dairy cattle 1,692 per head and Sheep 17,042 per head.

New data sources (for 2018-19 and 2019-20 only):

Flood protection land grazing emissions: this was not included prior to 2020-21. We propose to use the 2020-21 figure for 2018-19 and 2019-20 in the absence of any data collected during those actual periods. It is 3,004 tonnes CO₂e.

Metlink rail replacement bus data: this was not included prior to 2020-21. We have estimates of volume produced using the same model that is used for all Metlink bus diesel. The quantities are 122,921 l and 331.2 tonnes CO₂e for 2018-19 and 267,149 l and 719.7 tonnes CO₂e for 2019-20. Improved measurement (for 2018-19 and 2019-20 only, new figure replaces old data)

Wellington Water sludge to landfill measurement: Improved measurement has caused an apparent 483% increase compared to past years. We propose to use the 2020-21 figure for 2018-19 and 2019-20, (1,618 tonnes CO₂e) replacing those previously used, in the absence of any better data collected during those actual periods. Note we are querying the emissions factor used/composition of sludge with Wellington Water. They may provide a further update to the figure used.

A1.2.3 GHG Storage and liabilities

A 1 . 2 . 3 . 1 LAND - USE LIABILITIES

Organisations that own land subject to land-use change may achieve sequestration of carbon dioxide through a change in the carbon stock on that land. Where sequestration is claimed, then this also represents a liability in future years should fire, flood, management activities or other intentional or unintentional events release the stored carbon.

Table 15. Land-use liabilities (total)

Site name	Total sequestration during reporting period (tCO ₂ e)	Contingent liability (tCO ₂ e)	Total potential liability (tCO ₂ e)
Greater Wellington Regional Council	0	5,368.366	75,201.13

A1.2.4 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 Toitū are reported separately here.



A1.2.4.1 DOUBLE COUNTING AND DOUBLE OFFSETTING

There are various definitions of double counting or double offsetting. For this report, it refers to:

- Parts of the organisation have been prior offset.
- The same emissions sources have been reported (and offset) in both an organisational inventory and product footprint.
- Emissions have been included and potentially offset in the GHG emissions inventories of two different organisations, e.g. a company and one of its suppliers/contractors. This is particularly relevant to indirect (Categories 2 and 3) emissions sources.
- Toitū approved 'pre-offset' products or services that contribute to the organisation inventory
- The organisation generates renewable electricity, uses or exports the electricity and claims the carbon benefits.
- Emissions reductions are counted as removals in an organisation's GHG emissions inventory and are counted or used as offsets/carbon credits by another organisation.

Double counting / double offsetting has not been included in this inventory.

Details

N/A

APPENDIX 2: SIGNIFICANCE CRITERIA USED

Table 16. 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 activities	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	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?
				supporting the uptake of low-carbon liquid fuels by implementing a sustainable aviation fuel mandate and a sustainable biofuels obligation.				
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	Not a part of GW core business activities	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?
				<p>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.</p>				



APPENDIX 3: VERIFICATION 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 Technical Requirements. The following table cross references the requirements against the relevant section(s) of this report.

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