GREENHOUSE GAS EMISSIONS INVENTORY AND MANAGEMENT REPORT

Toitū carbonreduce programme

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

Toitū Te Whenua Land Information New Zealand

Prepared by (lead author): Melissa Ho

Dated: 19 August 2022

Verification status: Reasonable for categories 1 & 2 and Limited for categories 3 & 4

Measurement period: 01 July 2021 to 30 June 2022

Base year period: 01 July 2019 to 30 June 2020

Approved for release by:

Claire Richardson, Kaihautū Organisational Effectiveness

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AVAILABILITY

Summarised information from this report will be published in our annual report. This report will made available on our website, it will also be submitted to the Ministry for the Environment as part of the Carbon Neutral Government Programme (CNGP).

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 Programme certification. 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 of the Programme[1], 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[2]. 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 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] Programme refers to the Toitū carbonreduce and the Toitū carbonzero programmes.

[2] 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 Toitū Te Whenua Land Information New Zealand covering the measurement period 01 July 2021 to 30 June 2022.[3]

Toitū Te Whenua Land Information New Zealand (LINZ) has prepared this inventory in accordance with the requirements of the measure-step of the Toitū Carbonreduce Programme. The inventory is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to LINZ's operations within the declared boundary and scope for the stated period. The management and reduction plan records our reduction targets and planned initiatives to achieve our goals.

Table 1: Inventory summary

Category (ISO 14064-1:2018)	**Scopes (ISO 14064-1:2006)**	**2020**	**2021**	**2022**
Category 1: Direct emissions	Scope 1	177.39	197.00	181.87
Category 2: Indirect emissions from imported energy	Scope 2	96.48	103.21	92.36
Category 3: Indirect emissions from transportation	Scope 3	616.33	195.85	134.34
Category 4: Indirect emissions from products used by organisation		31.13	33.85	27.85
Category 5: Indirect emissions associated with the use of products from the organisation		5.18	0.00	0.00
Category 6: Indirect emissions from other sources		0.00	0.00	0.00
Total direct emissions		**177.39**	**197.00**	**181.87**
Total indirect emissions		**749.11**	**332.92**	**254.55**
Total gross emissions		**926.50**	**529.92**	**436.42**
Category 1 direct removals		0.00	0.00	0.00
Certified renewable electricity certificates		0.00	0.00	0.00
Purchased emission reductions		0.00	0.00	0.00
Total net emissions		**926.50**	**529.92**	**436.42**

[3] Throughout this document "emissions" means "GHG emissions".

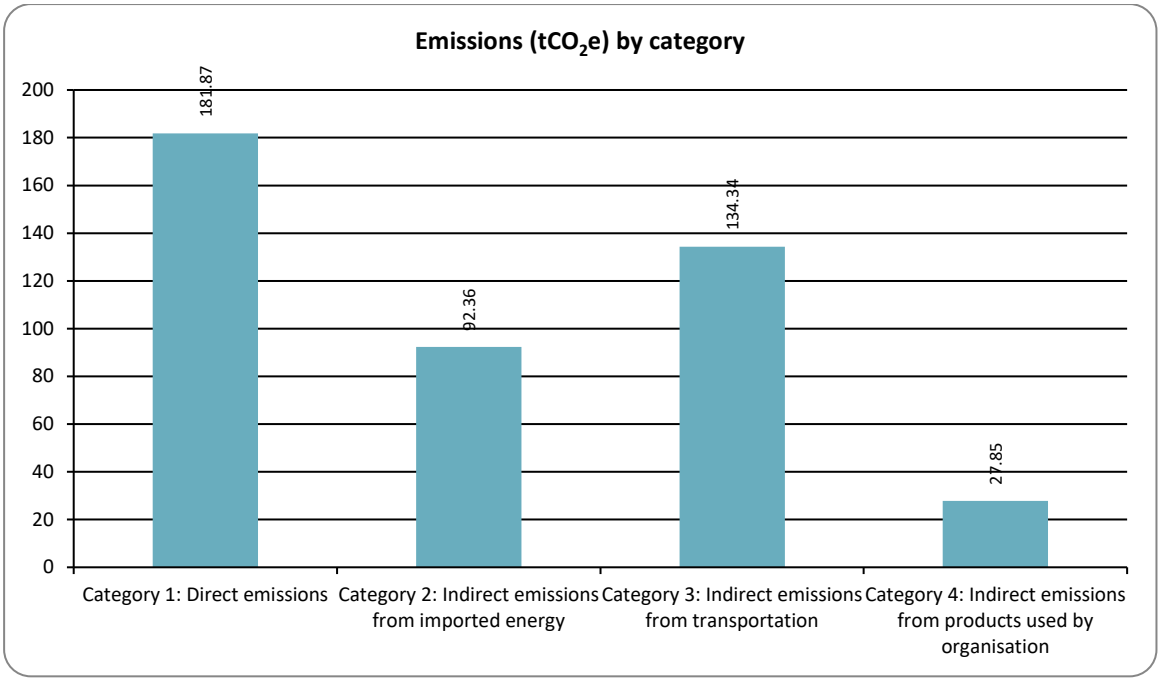

Figure 1: Emissions (tCO_2e) by Category for this measurement period

CHAPTER 1: EMISSIONS INVENTORY REPORT

1.1. INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions inventory and management report for Toitū Te Whenua Land Information New Zealand.

The purpose of this report is to measure and manage our emissions. This report will help us meet our reporting and emissions reduction requirements under the Carbon Neutral Government Programme (CNGP).

The inventory report and any GHG assertions are expected to be verified by a Programme-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: GHG emissions inventory summary for this measurement period

Measurement period: 01 July 2021 to 30 June 2022.

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
Category 1: Direct emissions	181.87 Diesel, Petrol premium, Petrol regular, Natural Gas distributed commercial	0.00	181.87
Category 2: Indirect emissions from imported energy	92.36 Electricity	0.00	92.36
Category 3: Indirect emissions from transportation	69.76 Air travel domestic (average), Air travel short haul (econ), Aircraft - Aérospatiale/Alenia ATR 72, Aircraft - Airbus A320, Aircraft - Cessna Light Aircraft, Aircraft - De Havilland Canada DHC-8-300, Aircraft - Pilatus PC-12, Car Average (unknown fuel type), Freight (pre-verified tCO_2-e), Rental Car average (fuel type unknown), Taxi (regular)	64.58 Accommodation - Australia, Accommodation - New Zealand, Working from home	134.34
Category 4: Indirect emissions from products used by organisation	19.02 Electricity distributed T&D losses, Waste landfilled LFGR Mixed waste, Natural Gas distributed T&D losses	8.83 Paper use - default, Wastewater for treatment plants (average), Water supply	27.85
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	0.00	0.00

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total direct emissions	**181.87**	**0.00**	**181.87**
Total indirect emissions	**181.14**	**73.41**	**254.55**
Total gross emissions	**363.01**	**73.41**	**436.42**
Category 1 direct removals	0.00	0.00	0.00
Certified renewable electricity certificates	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00
Total net emissions	**363.01**	**73.41**	**436.42**

Emissions intensity	Mandatory emissions	Total emissions
Operating revenue (gross tCO_2e / $Millions)	1.55	1.86

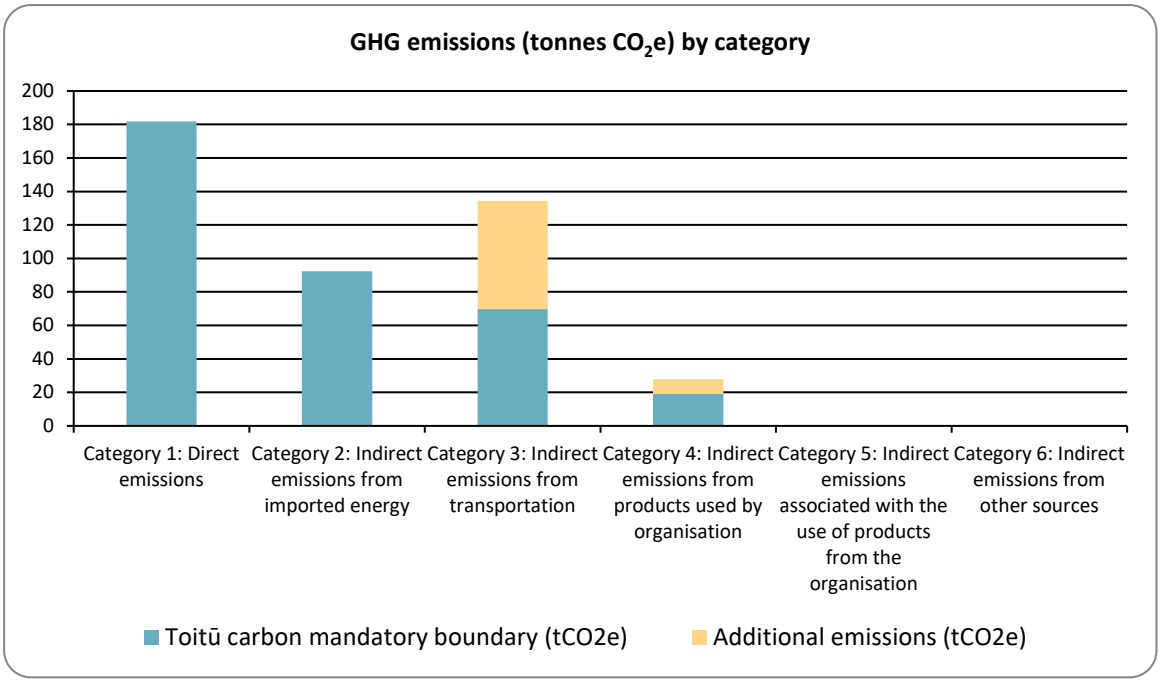

Figure 2: GHG emissions (tonnes CO_2e) by category

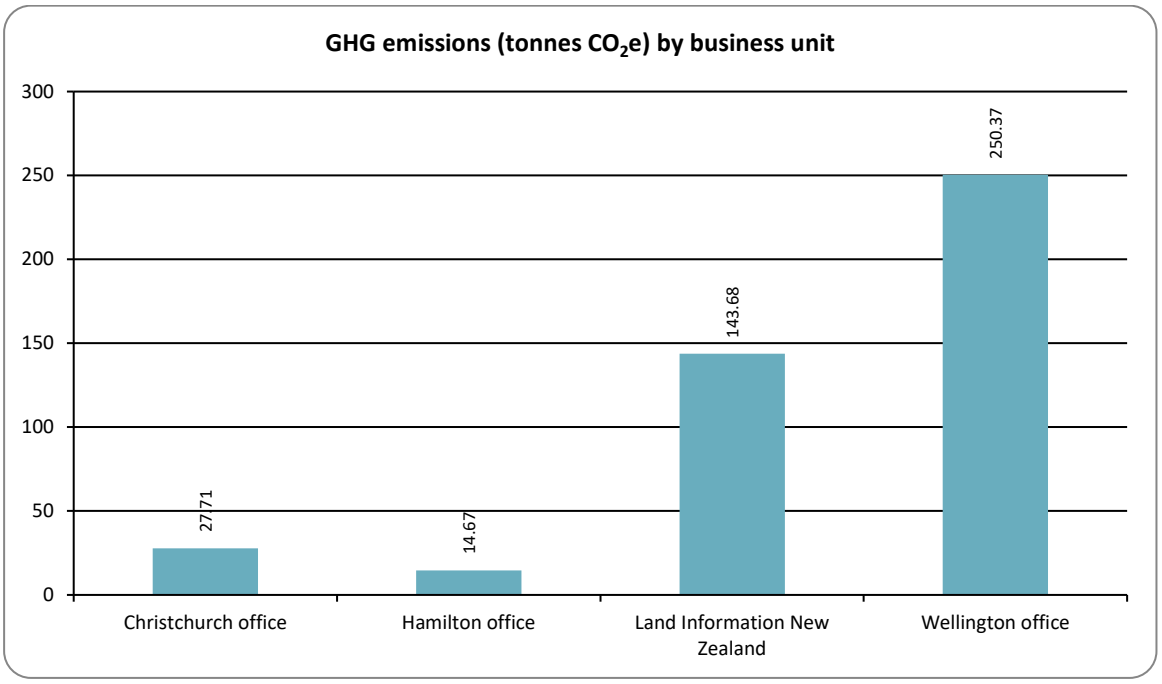

Figure 3: GHG emissions (tonnes CO_2e) by business unit

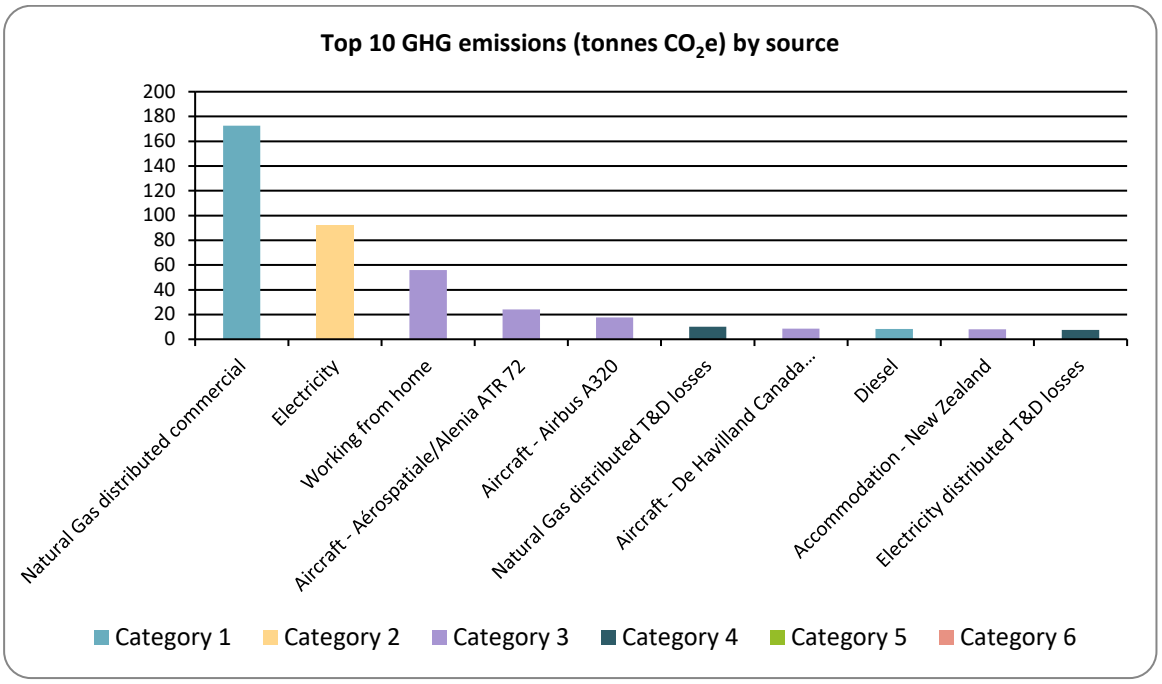

Figure 4: Top 10 GHG emissions (tonnes CO_2e) by source

1.3. ORGANISATIONAL CONTEXT

1.3.1. Organisation description

Toitū Te Whenua Land Information New Zealand (LINZ) is the Government's lead agency for property and location information, Crown property and managing overseas investment – working across land, sea, data and regulatory areas.

Our responsibilities include managing land titles, geodetic and cadastral survey systems, topographic information, hydrographic information, managing Crown property and supporting government decision-making around foreign ownership.

We are guided by, and our name is derived from our whakataukī:

Whatungarongaro te tangata toitū te whenua.

People come and go, but the land remains.

Land, sea and waterways are taonga that connect us all. Our expertise and information help develop and protect these environments for the benefit of all New Zealanders, our visitors and future generations. We work with a diverse range of stakeholders, including central and local government, businesses, Māori and iwi, surveyors and conveyancers, as well as the users of our products and services.

LINZ has over 900 staff and contractors spread across our offices in Wellington, Christchurch and Hamilton as well as working remotely in various locations across New Zealand.

Commitment to certification

LINZ is an agency that understands the role sustainability has in New Zealand's future. We are committed to measuring and reporting our carbon emissions and taking action to reduce them. We want to make continuous improvement, increasing the energy efficiency of our facilities and reducing the impact of our supply chains. We will use policy changes and raise awareness to change staff behaviours. We want to achieve Toitū carbon reduce certification not only as part of our CNGP obligations, but to ensure we are doing our part to tackle climate change.

GHG Reporting

This report is a key part of our climate change and sustainability programme. In addition to complying with our CNGP obligations, it enables us to understand our emissions, identify where we need to make changes, and raise awareness across LINZ.

Climate Change Impacts

Climate change affects us all, and the public sector needs to demonstrate best practice in this area. As property managers we need to understand the impacts of climate change on the land that we manage. LINZ also has an active role in co-ordinating and promoting the use of geographic data to support New Zealand to prepare for and respond to emergency events and climate change.

1.3.2. Statement of intent

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

Intended use and users

This inventory will be used to comply with the Toitū carbonreduce programme and meet our CNGP obligations. As part of the public sector there is an expectation for responsible leadership with respect to managing our climate change impacts. Our organisation must reduce our emissions and to do this we need the inventory to inform our short-term and long-term operational decisions. There is an increasing awareness of environmental and climate change issues and showing organisational commitment to these issues can contribute to staff culture.

This report will inform senior management so that they can lead the required changes our organisation needs to make to reduce emissions. CNGP requires us to publish key data publicly in our annual report, as well as providing our inventory to the Ministry for the Environment.

Other schemes and requirements

This inventory is required to meet CNGP commitments.

1.3.3. Person responsible

Claire Richardson, Kaihautū Organisational Effectiveness, is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to top management. Claire Richardson, Kaihautū Organisational Effectiveness, 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

Melissa Ho - Senior Business & Data Analyst

Darren Press - Manager Property and Facilities

Craig Reid - Advisor - Property and Facilities

Vivek Lala - Management Accountant

James Robbins -Senior HR Reporting Analyst

External suppliers who provided data

Staff involved in preparing the data and reports attended CNGP presentations and cross government working groups. The data was collected and prepared by an experienced data analyst with some prior knowledge of GHG emissions, and subject matter experts for various data sets were consulted as required. Our Manager of Property and Facilities is a Chartered Surveyor with over 25 years' experience in the construction and property sectors and has delivered several sustainable and renewable technology programmes in both the United Kingdom and Europe.

Top management commitment

Senior leadership will demonstrate commitment by enabling and supporting the changes required to reduce our emissions. They will lead by example and promote a culture of sustainability at LINZ.

Management involvement

Management gave approval for staff to collect and prepare the data required for this inventory. This report requires management approval and commitment to be finalised and incorporated into the work programme at LINZ.

1.3.4. Reporting period

Base year measurement period: 01 July 2019 to 30 June 2020

Our base year is July 2019 - June 2020 as this was when we began measuring our carbon emissions. We acknowledge that this may not be a "typical" year as March - June were impacted by COIVD-19 lockdowns, however this could well be representative of potentially disrupted years to come.

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

Reporting will be done annually.

Our reporting period aligns with our financial year and runs from July to June.

1.3.5. Organisational boundary and consolidation approach

An operational control consolidation approach was used to account for emissions.[4]

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

Justification of consolidation approach

Organisational boundaries for the base year were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. The Programme specified that the operational control consolidation approach should be used unless otherwise agreed with the Programme. We continue to use the operational control consolidation approach to account for our emissions as it makes the most sense as we do not have any part-holding of other companies/businesses.

Organisational structure

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

LINZ is structured into the following business groups:

Māori Crown Relations

Digital Delivery

Organisational Effectiveness

Customer Delivery

Our business groups may be spread across any of our offices and can also include people who only work remotely. The locations of our offices are shown below:

Christchurch Office - 112 Tuam Street, Christchurch 8011

Hamilton Office - Level 3, 65 Bryce Street, Hamilton 3204

Wellington Office - Level 5-10, 155 The Terrace, Wellington 6011

Note: the revenue used to calculate our $ operating revenue KPI is for the whole organisation, not just office work.

[4]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.

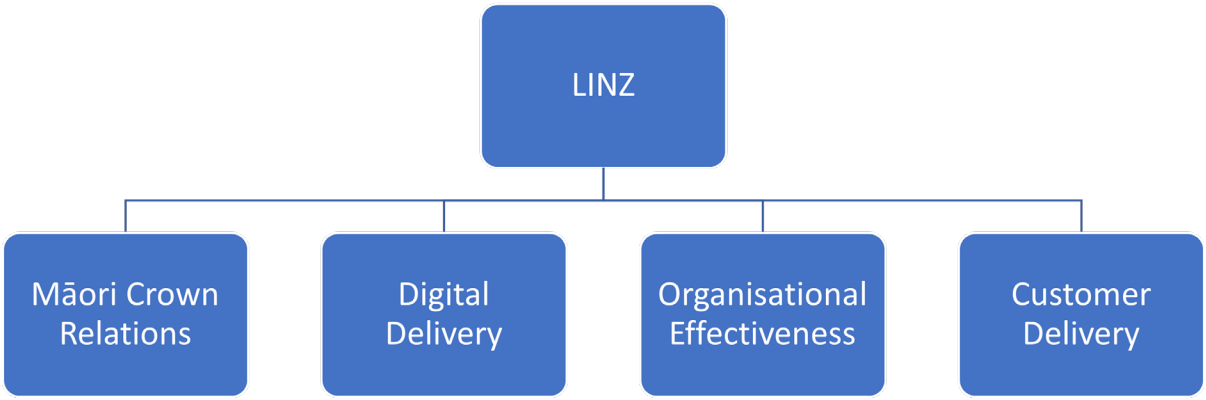

Figure 5: Organisational structure

Table 3. Brief description of business units, sites and locations included in this emissions inventory

Company/Business unit/Facility	Physical location	Description
Christchurch Office	112 Tuam Street, Christchurch 8011	All our business functions, whether they are core operational functions or digital and enabling functions, may be carried out at this office.
Hamilton Office	Level 3, 65 Bryce Street, Hamilton 3204	All our business functions, whether they are core operational functions or digital and enabling functions, may be carried out at this office.
Wellington Office	Level 5-10, 155 The Terrace, Wellington 6011	All our business functions, whether they are core operational functions or digital and enabling functions, may be carried out at this office.

1.3.6. Excluded business units

N/A

CHAPTER 2: EMISSIONS MANAGEMENT AND REDUCTION REPORT

2.1. EMISSIONS REDUCTION RESULTS

We have reduced our overall emissions from the previous year. This was largely due to reduced domestic travel due to Covid-19 entering New Zealand and continued restrictions on overseas travel. The change in the work from home factor, to align with international practice, has reduced the emissions reporting from working from home even though there was an increase in the number of days people worked from home.

Table 4: Comparison of historical GHG inventories

Category	2020	2021	2022
Category 1: Direct emissions	177.39	197.00	181.87
Category 2: Indirect emissions from imported energy	96.48	103.21	92.36
Category 3: Indirect emissions from transportation	616.33	195.85	134.34
Category 4: Indirect emissions from products used by organisation	31.13	33.85	27.85
Category 5: Indirect emissions associated with the use of products from the organisation	5.18	0.00	0.00
Category 6: Indirect emissions from other sources	0.00	0.00	0.00
Total direct emissions	**177.39**	**197.00**	**181.87**
Total indirect emissions	**749.11**	**332.92**	**254.55**
Total gross emissions	**926.50**	**529.92**	**436.42**
Category 1 direct removals	0.00	0.00	0.00
Certified renewable electricity certificates	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00

Category	2020	2021	2022
Total net emissions	**926.50**	**529.92**	**436.42**
Emissions intensity			
Operating revenue (gross tCO_2e / $Millions)	5.74	2.82	1.86
Operating revenue (gross mandatory tCO_2e / $Millions)	5.46	2.36	1.55

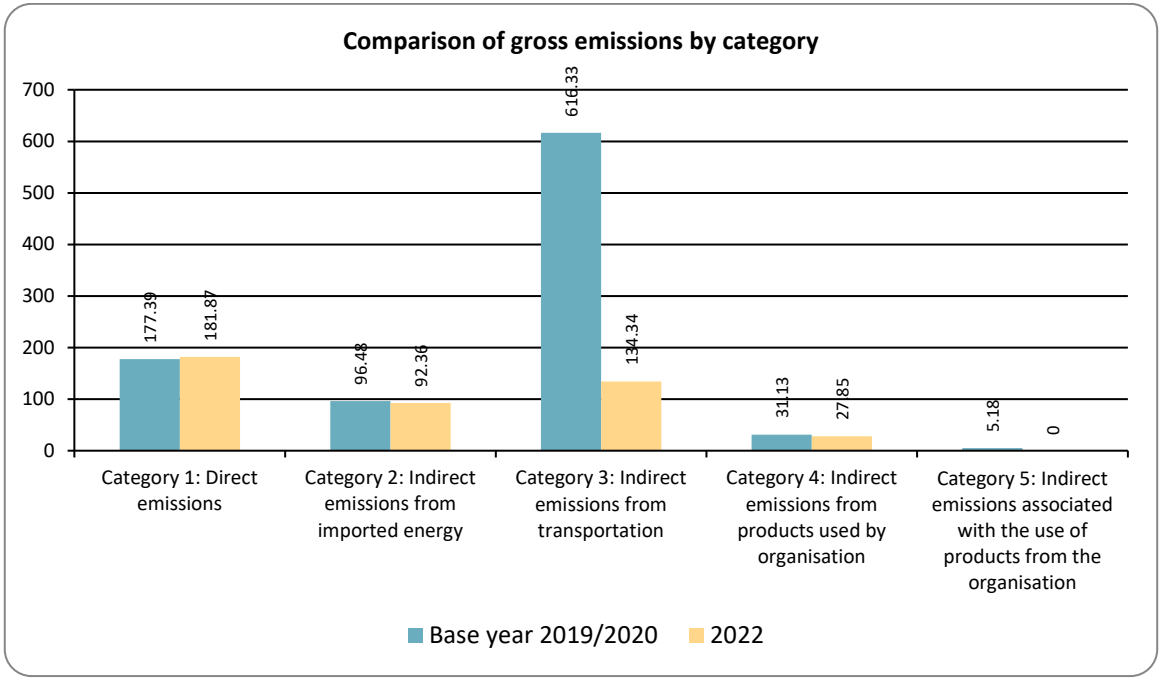

Figure 6: Comparison of gross emissions by category between the reporting periods

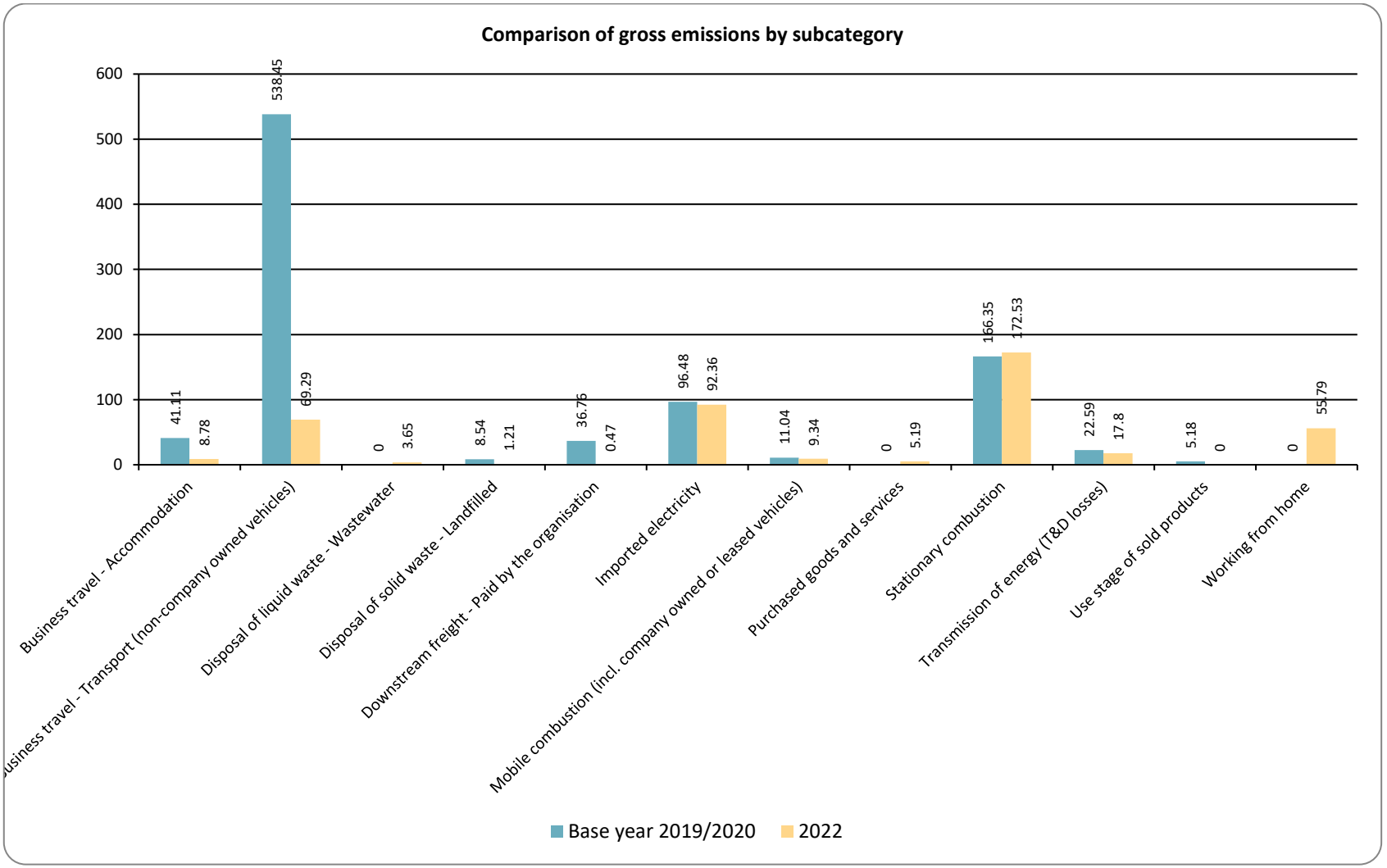

Figure 7: Comparison of gross emissions by subcategory between the reporting periods

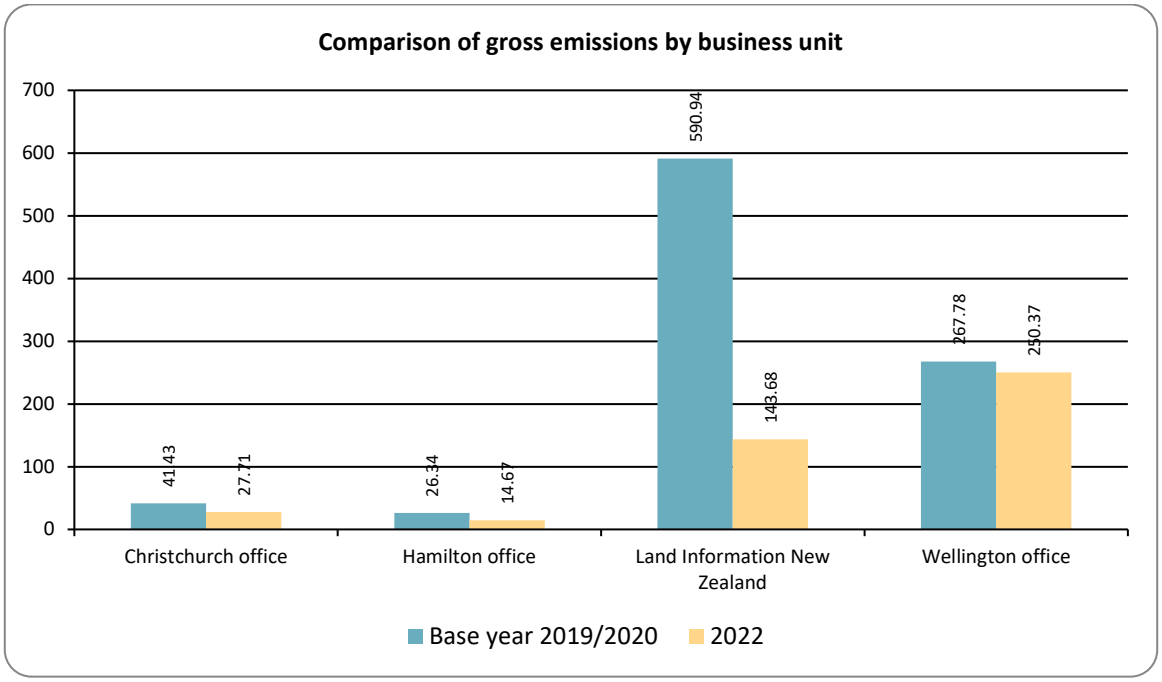

Figure 8: Comparison of gross emissions by business unit between the reporting periods

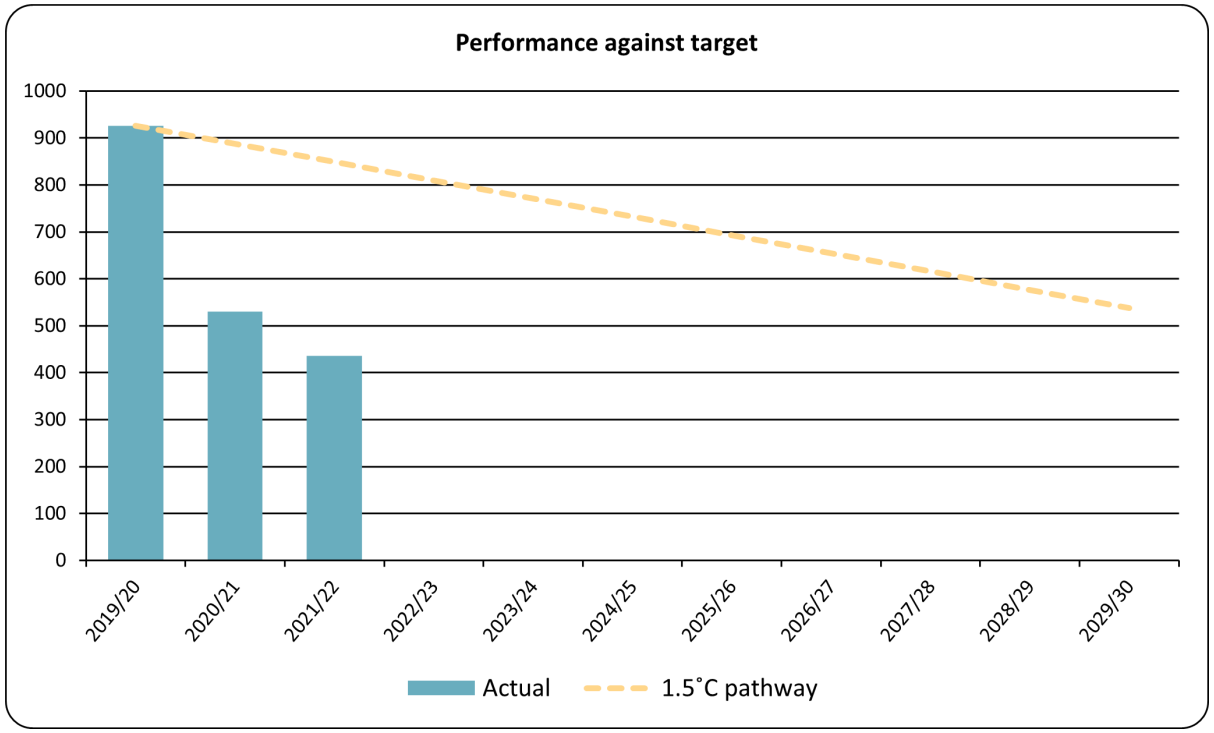

Figure 9: Performance against target since base year

Table 5. Performance against plan

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments
Overall emissions	July 2019 - June 2020	30/06/2025	Absolute	437	53% reduction	As this is an unusual year due to the impact of Covid-19 on travel, it is difficult to base future years on the reduction seen here.

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments
Overall emissions	July 2019 - June 2020	30/06/2030	Absolute	437	53% reduction	As this is an unusual year due to the impact of Covid-19 on travel, it is difficult to base future years on the reduction seen here.
Electricity (including T&D losses)	July 2019 - June 2020	30/06/2024	Absolute	100	4% decrease	This target was set based on a planned initiative that has not occurred yet.
Natural Gas (including T&D losses)	July 2019 - June 2020	30/06/2027	Absolute	183	1% decrease	This target was set based on a planned change that has not occurred yet.
Emissions from Flights	July 2019 - June 2020	30/06/2025	Absolute	55	89% decrease	While this is a significant decrease, this is largely due to Covid-19 related travel restrictions and better data.
Petrol & Diesel for fleet vehicles	July 2019 - June 2020	30/06/2024	Absolute	10	9% decrease	This target was set based on an initiative that will not be reflected in the data yet.

2.2. SIGNIFICANT EMISSIONS SOURCES

Significant sources

Natural gas continues to be one of our top emissions sources, however we are unable to influence this in our current building.

Electricity is a significant source of emissions, and we have projects underway to become more energy efficient in our office spaces.

Emissions related to working from home make up a noticeable portion of our emissions this year, especially as our travel emissions have been suppressed due to the Covid-19 pandemic. There has been an increase in the number of people working from home. This is due to better technology and changing attitudes to flexible working, both accelerated by the Covid-19 lockdowns and restrictions.

Air travel, and travel in general, has been identified as a key area where we need to make changes. Due to the disruption caused by Covid-19, overseas travel has largely stopped and the number of domestic flights taken has reduced. The challenge will be when New Zealand opens up that we do not return to pre-Covid levels of travel.

Activities responsible for generating significant emissions

Operating our offices generates emissions, natural gas is used for heating and hot water in our Wellington office and emissions from electricity relates to all three of our offices. In addition, water supply, wastewater treatment, and waste are all necessary for running an office environment.

Flights, and other travel modes, are taken for a variety of reasons including carrying out inspections, engaging with iwi, connecting staff in person across our offices or attending meetings with external parties.

Influences over the activities

Improving the energy efficiency of our buildings will make a difference to our electricity usage. This may be through making changes in our current premises or moving to a building with a better NABERS|NZ rating. We also need to think about the way we use our offices and what flexible working looks like going forward.

The Covid-19 pandemic has shown that we can operate without travelling as much. Not all travel is necessary and online options have improved. Having clear decision criteria and being deliberate about when we need to travel, and efficient when we do travel will make a difference. Note that while we can reduce the need for travel, some travel will still be necessary for LINZ to carry out its duties in various locations and to connect with experts in our field.

Significant sources that cannot be influenced

We are one of several tenants in our Wellington building. While we remain in this building, emissions from natural gas are largely outside of our control as responsibility for this fall under the Property Manager's control.

2.3. EMISSIONS REDUCTION TARGETS

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

Overall reduction targets for 2025 and 2030 have been set in accordance with the CNGP simplified method of defining '1.5°C-consistent' levels of reduction and are consistent with the intent of the Zero Carbon Act and the Paris Agreement of limiting global warming to 1.5°C above pre-industrial levels.

Reviewing our emissions shows that there is reduction potential within LINZ.

The New Zealand Government is committed to making government office buildings energy efficient and this is a key area of focus for us. NABERS|NZ rating assessments have been done for all three offices and have shown that there are improvements that can be made, especially in our Wellington office. Implementing the required changes will be done over time, but the foundations have already been laid through work programmes within the organisation.

Travel is the other big focus for us and managing our travel across all modes of transport will be critical for us to meet our reduction targets. Travel is made up of interconnected elements, for example most taxi rides are to and from airports, so reducing the number of flights should have a flow on effect and reduce emissions from taxi trips. The impact of Covid-19 on travel has been notable and we are comfortably below our travel target this year. We anticipate a rise in travel emissions due to "deferred travel" as travel restrictions ease. A revised travel policy and developing the option of carbon budgets will be the main tools to manage travel emissions. Covid-19 has shown that although there were challenges when travel was disrupted, LINZ was able to function and carry out many of our responsibilities to a larger or lesser degree.

We have significantly reduced our emissions from base year which aligns with our goal to reduce our reported emissions by 21% by 2025. Many of our targets are based on recent or planned changes and were not expected to be met this year. It should be noted that improvements in data have made a significant difference and reductions associated with these data improvements should be locked in for future years. The reduction in emissions related to flights is due in part to travel restrictions on overseas travel as well as suppressed domestic travel due to Covid-19. Travel will need to be monitored and managed now restrictions have been lifted and people are travelling again. We have prioritised reviewing all possible international travel for the 2022/23 financial year and only 29 trips are listed for approval. This is a significant reduction compared to pre-Covid levels of travel.

Table 6. Emission reduction targets

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Categories covered	Target		KPI	Responsibility	Rationale
Overall emissions	July 2019 - June 2020	30/06/2025	Absolute	All Categories	21% reduction	Baseline: 926.5 tco2e Reduction of: 195 tco2e	Absolute emissions	Claire Richardson, Kaihautū Organisational Effectiveness	Target set in accordance with the CNGP guidance for '1.5°C-consistent' levels of reduction. We believe that there is reduction potential in LINZ to meet this target.
Overall emissions	July 2019 - June 2020	30/06/2030	Absolute	All Categories	42% reduction	Baseline: 926.5 tco2e Reduction of: 390 tco2e	Absolute emissions	Claire Richardson, Kaihautū Organisational Effectiveness	Target set in accordance with the CNGP guidance for '1.5°C-consistent' levels of reduction. This will be a more challenging target with potential changes in technology likely to be a factor in combination with other planned initiatives.
Electricity (including T&D losses)	July 2019 - June 2020	30/06/2024	Absolute	Category 2 & Category 4 (T&D losses)	20% reduction	Baseline: 104 tco2e Reduction of: 20 tco2e	Absolute emissions	Darren Press, Manager Property and Facilities	Planned installation of LED lighting in our Wellington office and other efficiency improvements should lead to savings. Target based on estimated saving for changes to LED lights by comparing electricity consumption for the office floor that currently has LED lighting with floors that do not have them installed. Note this target excludes electricity from working from home.
Natural Gas (including T&D losses)	July 2019 - June 2020	30/06/2027	Absolute	Category 1 & Category 4 (T&D losses)	100% reduction	Baseline: 182 tco2e Reduction of: 182 tco2e	Absolute emissions	Darren Press, Manager Property and Facilities	Target based on moving to premises that does not use natural gas for heating. Move likely to occur in 2026 with reductions seen in the following year's data.

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Categories covered	Target		KPI	Responsibility	Rationale
Emissions from Flights	July 2019 - June 2020	30/06/2025	Absolute	Category 3	25% reduction	Baseline: 513 tco2e Reduction of: 128 tco2e	Absolute emissions	Claire Richardson, Kaihautū Organisational Effectiveness	Target based on adopting a reduction of 5% of baseline each year to give a 25% reduction by 2025. Note that this target includes both domestic New Zealand and overseas flights.
Petrol & Diesel for fleet vehicles	July 2019 - June 2020	30/06/2024	Absolute	Category 1	50% reduction	Baseline: 11 tco2e Reduction of: 5.5 tco2e	Absolute emissions	Procurement	Fleet optimisation carried out in 2021 will lead to a reduction of emission based on utilising more efficient vehicles. Transition to the new fleet will be completed by December 2022 with reductions seen the following year. This reduction assumes similar vehicle usage in the future and no changes in demand.

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 7. Projects to reduce emissions

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Reduce air travel	Revise our travel policy, including a decision framework for prioritising travel and guidance to choose efficient and environmentally friendly options.	Claire Richardson, Kaihautū Organisational Effectiveness	31/12/2022	Flow on effect for accommodation, car hire and taxis (most taxis taken are to and from the airport).	None anticipated	n/a

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	Centralise our travel approach with a revised policy and new guidance to have better oversight and consistency in our travel arrangements.	Claire Richardson, Kaihautū Organisational Effectiveness	31/12/2022	Could collect better data about why we travel.	None anticipated	n/a
	Develop a carbon budget approach for travel to meet our reduction targets.	Claire Richardson, Kaihautū Organisational Effectiveness	1/07/2023	Greater staff awareness about the emissions related to travel.	People do not plan ahead and exhaust their budget.	Work with teams so they understand their budget and plan ahead.
	Improve AV technology to reduce need for travel.	Darren Press, Manager Property and Facilities	Ongoing	None anticipated	Increased electricity usage.	The number of online meetings that can be held for the carbon emissions of a single flight suggest this makes sense provided we follow best practise.
Reduce emissions from rental car use	Work with suppliers to book EVs as a default preference when renting cars. Include this in our travel policy. Note that there may be circumstances where an EV is not appropriate for our needs. Note that the EV rental fleet is limited, however it is growing, and we should continue to request this option.	Craig Reid, Advisor - Property and Facilities	Ongoing	Suppliers will change the makeup of their fleet to meet demand.	None anticipated	n/a
Choose more environmentally friendly taxis where possible	Investigate if it is possible to preferentially choose EVs or hybrids when taking taxis. Note there are challenges both in terms of availability of EV taxis and management as people can book their own taxi or take a taxi from the rank. However, we will encourage staff to choose lower emissions options where possible.	Craig Reid, Advisor - Property and Facilities	31/12/2022	Staff may decide to choose more environmentally friendly transport outside of work.	Recording taxi type may create an administrative burden.	Work with suppliers to minimise administration effort.

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Use more environmentally friendly options to taxis if feasible	Investigate rideshare, mevo or public transport options as an alternative to taxis. Promote available options, such as the airport bus, to staff.	Darren Press, Manager Property and Facilities	31/12/2022	None anticipated	None anticipated	n/a
Reduce emissions from fleet vehicles	We will review our fleet at least every two years or more frequently if our needs or available technology changes. The last fleet optimisation review was in 2021.	Darren Press, Manager Property and Facilities	Ongoing	None anticipated	None anticipated	n/a
Reduce electricity & natural gas usage in our offices	Install LED lighting in our Wellington office. Invest in passive infrared (PIR) and acoustic sensors to detect if people are in the room.	Darren Press, Manager Property and Facilities	30/06/2023	None anticipated	None anticipated	n/a
	Refurbishment of Christchurch office which will address heating issues and reduce the number of heating zones.	Darren Press, Manager Property and Facilities	30/11/2022	Agile office to suit a modern way of working.	None anticipated	n/a
	Standardise office fitout, e.g. standardise monitors to energy efficient models. Do this in bulk when we go to new building, current practice is to replace items as required.	Darren Press, Manager Property and Facilities	Ongoing	None anticipated	None anticipated	n/a
	We are currently looking at new premises for our Wellington office and have set a criterion that allows us to achieve the All of Government (AoG) requirements for CNGP and Government Property Group (GPG) requirements for modern office developments. They include achieving a five-star NABERS|NZ rating for the new building.	Darren Press, Manager Property and Facilities	2026	Adoption of the GPG's 8 principles for office design will create modern agile offices for our staff.	None anticipated	n/a

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Reduce waste to landfill	Reduce contamination of organic waste and recycling through better education and signage and making changes to products, e.g. plastic free tea bags, using compostable rubbish bags for organic waste. Organise waste audits to understand where we need to make improvements.	Darren Press, Manager Property and Facilities	Ongoing	None anticipated	None anticipated	n/a
	Encourage and enable recycling through raising awareness through events such as plastic free July. Trial initiatives like Cup Cycle to recycle single-use coffee cups as well as reviving the container library.	Darren Press, Manager Property and Facilities	Ongoing	None anticipated	None anticipated	n/a
Influence our service providers and suppliers to consider environmental impacts	Ongoing review of our service and supply chains to choose sustainable and environmentally conscious options.	Darren Press, Manager Property and Facilities	Ongoing	Supporting local social enterprises and influencing suppliers.	None anticipated	n/a

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

Table 8. Projects to improve data quality

Emissions source	Actions to improve data quality	Responsibility	Completion date
Rental cars	Work with supplier to collect better data on vehicle type for rental cars.	Craig Reid, Advisor - Property and Facilities	31/12/2022
Taxis	Investigate if we can collect the vehicle and fuel type of taxis we take.	Craig Reid, Advisor - Property and Facilities	31/12/2022
Waste to landfill	Start weighing waste in all offices by August 2022.	Craig Reid, Advisor - Property and Facilities	1/08/2022
Water supply	Consider installing water meters in our offices.	Darren Press, Manager Property and Facilities	31/12/2022
Wellington office utilities	Review methodology for measuring and apportioning water, gas and electricity in the Wellington office. We have engaged Smart Power to help with this.	Darren Press, Manager Property and Facilities	31/12/2022
General	Work with accounts payable to improve coding for MasterCard and reimbursement claims.	Melissa Ho, Senior Business & Data Analyst	31/12/2022
General	Work with suppliers to get data supplied regularly in a useful format where possible, e.g. set up recurring reports or get access to self-service downloadable data.	Various team members	Ongoing

2.5. STAFF ENGAGEMENT

We publish regular news stories on our intranet on sustainability initiatives and our annual report will include key points from this report. An article about the CNGP and what that means for us is planned. We are currently working on a proposal to include sustainability in our induction and learning modules. When the changes to the travel policy are launched, guidance including an explanation about why we are making these changes, will be provided. People will be encouraged to consider climate change implications in their decision making and thought has been put into modifying our memo template to encourage people to consider environmental impacts.

2.6. KEY PERFORMANCE INDICATORS

Table 9. Key Performance Indicators (KPIs).

KPI	Rationale of using the additional KPI
N/A	N/A

2.7. MONITORING AND REPORTING

Our emissions must be reported annually as part of the CNGP which will provide a key check point to assess our progress. During the year the sustainability team will report quarterly to senior management to ensure that planned initiatives are on track and that emissions are in line with expectations. The emissions reporting team and relevant operational teams will monitor activity as we receive information throughout the year.

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 Toitū Te Whenua Land Information New Zealand.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	172.09	0.36	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	172.53
Mobile combustion (incl. company owned or leased vehicles)	9.15	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.34
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
Enteric fermentation	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
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

Category	CO_2	CH_4	N_2O	NF_3	SF_6	HFC	PFC	Desflurane	Sevoflurane	Isoflurane	Emissions total (tCO_2e)
Total net emissions	181.24	0.38	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	181.87

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	0.00	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	4.27	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**	**4.27**	**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 Programme certification and were identified with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards as well as the Programme Technical Requirements.

The inventory from the previous year was reviewed with relevant people including facilities, procurement, and finance staff to check for any new emissions sources or changes to previously reported sources. We also checked for changes in programme requirements and added CNGP mandatory and common emission sources not previously reported.

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 Programme.

Additional detail on significance criteria used, by source and sink, is included in Appendix 2.

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 12 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.

A carbon reporting lead was appointed and a team established. A spreadsheet was set up to record decisions made around scope, inclusions and exclusions, as well as documentation with details on each data source.

As part of continuous improvement, data sources were reviewed, and changes and improvements identified.

Documentation for each source includes who, how and where the data comes from with key contact persons recorded. Any required calculations or conversions for entry into the management tool are noted as well as any assumptions and uncertainties.

Original emails from suppliers are saved in the relevant folders along with spreadsheets containing our calculations and any additional documentation on our methodology. A consolidated workbook for each year has been set up.

All documentation is stored in our document management system which complies with the public records act.

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	Natural Gas distributed commercial	Natural gas is metered for the whole building which we share with other tenants and is a common service which is pro-rated across the tenants. The calculation used to calculate the LINZ share of natural gas is based on how the landlord calculates our invoices. We cannot be certain that this method accurately reflects our actual usage. Invoices were not available for 5 months, so an estimate based on the previous two years was used. This assumes that the previous years were representative and that the missing months were not unusual.	N/A - the most accurate emission factor was used.	N/A
	Mobile combustion (incl. company owned or leased vehicles)	Diesel, Petrol premium, Petrol regular	Assumes that people use fuel cards as they are supposed to when refuelling the fleet vehicles and that if they do not, that they clearly code their MasterCard or reimbursement claim so that it can be identified. Our most common type of fuel is diesel, so this is assumed when it is not specified in the transaction detail. Most fuel is purchased using a fuel card.	Litres are used if the fuel was purchased using the fuel card. For MasterCard or reimbursements, dollars are used.	N/A
Overall assessment of uncertainty for Category 1 emissions and removals		0%	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 2: Indirect emissions from imported energy	Imported electricity	Electricity	Electricity for our Wellington office is metered for the whole building which we share with other tenants. The LINZ share of electricity is based on check meters on each floor. We assume the readings provided by the landlord are accurate. Readings were not available for two months of the year, so estimates based on a proportion of total building electricity were used. The assumes that the proportion of electricity that LINZ uses is relatively consistent, and the missing months were not unusual. Electricity for our Christchurch and Hamilton offices is based on invoices from the electricity supplier.	N/A - the most accurate emission factor was used.	N/A
Overall assessment of uncertainty for Category 2 emissions and removals		0%	Low		
Category 3: Indirect emissions from transportation	Business travel - Transport (non-company owned vehicles)	Rental Car average (fuel type unknown), Air travel domestic (average), Air travel short haul (econ), Aircraft - Aérospatiale/Alenia ATR 72, Aircraft - Airbus A320, Aircraft - Cessna Light Aircraft, Aircraft - De Havilland Canada DHC-8-300, Aircraft - Pilatus PC-12, Aircraft - Saab SF-340	Flight and rental car data is provided by our supplier. We assume that the data they provide is accurate. A sense check is carried out before submitting the data and any anomalies are queried with the supplier.	The most accurate emission factors were used for flights, however we do not have sufficient detail on vehicle type so we are using an average for rental cars.	N/A

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
		Taxi (regular)	We have data from our supplier when we use a taxi card, however there are people who pay for taxis by MasterCard or pay first and claim this back an expense. We need to assume that they clearly code their MasterCard or reimbursement claim so that it can be identified.	Kms are used for taxi rides where a taxi card has been used, dollars are used where the data has come from our finance system. We do not have details on the type of vehicle of the taxi.	N/A
		Car Average (unknown fuel type)	This is used for milage claims. We assume that people submit their claims correctly.	As we do not know the litres of fuel consumed or details of the type of vehicle an average must be used.	N/A
	Business travel - Accommodation	Accommodation - New Zealand	Accommodation data is provided by our supplier. We assume that the data they provide is accurate. A sense check is carried out before submitting the data and any anomalies are queried with the supplier.	N/A - the most accurate emission factor was used.	N/A
	Downstream distribution for goods - paid by the organisation	Freight (pre-verified tCO_2-e)	Assume that our supplier's data is complete and accurate.	N/A - pre-verified data.	Yes - our freight provider provides a pre-verified 'Toitū compatible report'.

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
	Working from home	Working from home	We are using access card data and HR data to calculate the number of people working from home. This is based on the assumption that people swipe in at least once each day as they are supposed to, and that people who swipe in are working in the office that day. It assumes that if the HR record shows someone as working and they are not in the office they are most likely to be working from home (there may be other possibilities such as working offsite that day, but those should be minimal). The numbers calculated using this method were in line with expected values.	N/A - there is currently only one working from home emission factor available.	N/A
Overall assessment of uncertainty for Category 3 emissions and removals		0%	Low		
Category 4: Indirect emissions from products used by organisation	Purchased goods and services	Paper use - default	Assume that the report provided by our supplier is accurate.	Most of the paper we purchase has a carbon neutral claim that has not been verified yet, so we are using the default emission factor.	N/A

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
		Water supply	Water usage in the Wellington office is metered for the whole building which we share with other tenants. The LINZ share is calculated based on floor area and does not take into account the different water usage between tenants and we suspect that our actual usage may be lower than the calculation suggests. Due to a hold up with invoicing, an estimate was used for just over half the year based on data from previous year. This assumes that the previous year was representative and that the missing months were not unusual. Water usage is not metered in our Christchurch and Hamilton offices and is estimated based on Wellington water usage per person/day. This assumes that water usage between our offices is similar and largely driven by the number of people in the office.	N/A - the most accurate emission factor was used.	N/A
	Disposal of solid waste - landfilled	Waste landfilled LFGR Mixed waste	We do not have weighed waste data for the whole period. We used actuals for the months where it was available. Using the available data for each office, we calculated an average kg of waste per staff-day to use for the remaining months. This assumes that the months we had data for were representative and that staff-days can be related to kgs of waste to landfill.	N/A - the most accurate emission factor was used.	N/A
	Disposal of liquid waste - Wastewater	Wastewater for treatment plants (average)	Wastewater is not metered so we assumed that wastewater will be approximately equal to water supply. Refer to water supply for assumptions and uncertainties for that source.	N/A - the most accurate emission factor available was used.	N/A
	Transmission of energy (T&D losses)	Electricity distributed T&D losses	As for electricity above.	N/A - the most accurate emission factor was used.	N/A

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
	Transmission of energy (T&D losses)	Natural Gas distributed T&D losses	As for natural gas above.	N/A - the most accurate emission factor was used.	N/A
Overall assessment of uncertainty for Category 4 emissions and removals		0%	Medium		

A1.1.3 Excluded emissions sources and sinks

Emissions sources in Table 13 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
Wellington Office	Diesel Stationary Combustion	Category 1	Outside of operational control.
Wellington Office	Refrigerant use	Category 1	Outside of operational control.
All Offices	Recycling	Category 4	Recycling (and the associated "avoided" emissions) is to be encouraged. Guidance suggests that it is not appropriate to report these "avoided emissions" in our inventory.
All LINZ	Datacentre/cloud hosting	Category 4	Difficulty getting accurate data for this.

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[5].

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 Supplementary results

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

[5] 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.

A1.2.2.1 CONTRACTUAL INSTRUMENTS FOR GHG ATTRIBUTES

Contractual instruments are any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims. This includes Renewable Energy Certificates.

A1.2.2.2 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.
- Programme 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 been included in this inventory.

Details

Freight emissions will also be included in the NZ Couriers GHG inventory as they are a Toitū Carbonreduce member. It is possible that our other suppliers are also reporting emissions in their inventories.

To the best of our knowledge the services we use are not programme approved 'pre-offset' products or services.

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?
Toitū carbon programme boundary sources:								
a) All Category 1 and 2 emissions	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Include
b) Category 3 emissions associated with business travel and freight paid for by the organisation	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Include
c) Category 4 emissions associated with waste disposed of by the organisation, and transmissions and distribution of electricity and natural gas, where appropriate	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Include
d) any Sector specific mandatory emissions sources as outlined by the Programme	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Include
Sources beyond the Toitū carbon programme boundary or exclusions within the boundary:								
Diesel Stationary Combustion	De minimus (<1% of estimated total)	Low	None identified	Yes	No	No	Yes	Exclude
Refrigerant use	De minimus (<1% of estimated total)	Low	None identified	Yes	No	No	Yes	Exclude
Working from Home	Significant (>5% of estimated total)	Moderate	Opportunities	Yes	n/a	Yes	Yes	Include

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Paper use	Moderate (1-5% of estimated total)	Moderate	None identified	Yes	No	Yes	No	Include
Water Supply	De minimus (<1% of estimated total)	Low	None identified	Yes	No	Yes	Yes	Include
Wastewater Treatment	De minimus (<1% of estimated total)	Low	None identified	Yes	No	No	Yes	Include
Recycling	Moderate (1-5% of estimated total)	Moderate	None identified	No	No	Yes	No	Exclude
Datacentre/cloud hosting	Significant (>5% of estimated total)	Low	None identified	No	No	No	No	Exclude

APPENDIX 3: CERTIFICATION MARK USE

Our organisation has not made use of the certification marks to date.

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 carbonreduce programme 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	TR4.14
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 Treatment of biogenic emissions and removals	9.3.1 g	TR4.15
A1.1.4 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 Liabilities		
A1.2.3.1 GHG stocks held		TR4.18
A1.2.3.2 Land-use liabilities	9.3.3.	TR4.19

A1.2.4 Supplementary results		
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