TOITŪ ASSESSMENT REPORT

Toitū carbonreduce certification programme
Verification

Organisation:
Waipapa Taumata Rau | The University of Auckland

Lead Auditor	Pieter Fransen
Audit team	Harryson Cubillan
Verification firm	Enviro-Mark Solutions Limited (trading as Toitū Envirocare)
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Client Contact	Maria Jose Baldoni
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Report date	2 July 2025
Report reviewed by	Billy Ziemann, Toitū Envirocare, 22 July 2025

AUDIT OBJECTIVES

The objective of the audit was to determine if the organisation's GHG measurement (emissions data and calculations), GHG emissions management and reductions and marketing meets the criteria for Programme certification.

RESPONSIBILITIES

The responsible party is responsible for the preparation and fair presentation of the GHG statement in accordance with the criteria.

The verifier is responsible for expressing an opinion on the GHG statement based on the verification activities undertaken.

AUDIT CRITERIA AND SCOPE

The audit criteria and scope are detailed in the following table:

Audit criteria	Programme Technical Requirements 3.1, Certification Mark Guide v 3.0, Technical requirements Audit v3.0, ISO 14064-1:2018, ISO 14064-3:2019
Audit date	25/06/2025
Reporting year	01/01/2024 - 31/12/2024
Base year	01/01/2019 - 31/12/2019
Consolidation methodology	Operational control
Materiality threshold	5%
GHG statement (certification claim)	Toitū carbonreduce organisation certified: Waipapa Taumata Rau | University of Auckland including Auckland Uniservices Limited, all campuses and operational emissions. Toitū carbonreduce certified means measuring emissions to ISO 14064-1:2018 and Toitū requirements; and managing and reducing against Toitū requirements.
Intended users	The members of the Sustainable Estate and Operations Working Group and Governance Group, and the wider community of Waipapa Taumata Rau.
Registered office address	Princes Street, Auckland, 1010, New Zealand
Locations visited	Remote audit
Audit Type	Verification only
Activities undertaken remotely	Stage 1 & 2: Planning, execution and reporting remote.

CONCLUSION

The following total emissions have been verified:

Emissions summary by scopes	All verified emissions	Mandatory Programme Boundary	Additional emissions	Units
Category 1	4,984.91	4,984.91	0.00	tCO_2e
Category 2	7,570.48	7,570.48	0.00	tCO_2e
Category 3	57,139.79	19,104.19	38,035.60	tCO_2e
Category 4	1,567.04	896.89	670.15	tCO_2e
Total inventory:	**71,262.22**	**32,556.47**	**38,705.75**	**tCO_2e**
Emissions intensity:	44.90	20.51		tCO2e/$M

An assessment of materiality was made against the defined threshold. From this analysis it is concluded that the stated emissions are free from material error.

This is the fifth year of reporting under the Toitū carbonreduce programme. An absolute reduction in Category 1 and 2 emissions of 1,178.05 tCO_2e has been achieved against base year. A reduction in emissions intensity (for Category 1, 2 and mandatory Category 3 and 4 emissions) of 16.42 tCO_2e/$M has been achieved based upon a 5-year rolling average, adjusted for inflation.

SCOPE AND BOUNDARIES

The scope of the emissions inventory includes all activities within the operational boundaries of The University of Auckland including Auckland Uniservices Limited. Activities that are excluded due to being de minimus, data quality or availability, and out of scope are:

- Some products and services
- Sinks
- Waste - printer recycling
- Construction and demolition
- Fertiliser use - Grounds maintenance
- Fertiliser use - Epsom Sports Field
- Fertiliser use - Ngapouri Research Farm
- Waste - Chemical Waste

EMISSIONS FACTORS

The emissions factors were checked for all emission sources and were found to align with the following sources:

- Ministry for the Environment. 2025. *MfE Measuring Emissions: A guide for organisations – 2025 Emissions Factor Workbook*. Ministry for the Environment, New Zealand.

VERIFICATION PROCEDURES

Verification evidence-gathering procedures for the stated emission sources are as follows:

Verification Level	Emissions sources
Detailed review: Verification from reported emissions back to actual source data in accordance with the appropriate data sampling protocols (checking supplier or other source data, calculations, scope and boundaries of data, date ranges, emissions factors and key assumptions). The extent to which the verification was conducted varied depending on level of controls noted at the emission source level.	Business travel Electricity Fuel use Client/visitor transport
Limited review (Sense checks): Professional judgment that the reported emissions are of the correct order of magnitude; that all emissions factors are correct; that stated *de minimis* sources are appropriately justified. The extent to which the verification was conducted varied depending on level of controls noted at the emission source level.	All other sources

AUDIT SUMMARY

The audit was conducted in accordance with the Programme Verification Guidelines including ISO 14064-3:2019 and the Verification and Sampling Plan.

As part of the audit, the below criteria/documents were reviewed:

Criteria/documents	Status
Organisational boundaries	Meets scheme requirements.
Application of the accounting principles	Meets scheme requirements.
Emissions Inventory and Management report: part 1	Meets scheme requirements.
Emissions Inventory and Management report part 2	Meets scheme requirements.
Use of the Toitū carbonreduce logo	N/A.
The requirement to maintain a complaints procedure	Meets scheme requirements.
Success of remote audit process (where relevant)	Where audit activities have been undertaken using remote/ICT based approaches, it is confirmed that the methods used allowed all relevant audit activities to be undertaken effectively.

A total of 2 major non-conformances and 3 observations were raised during this visit. Full details of the findings are given in the findings log below.

Using our Data Quality Assessment tool for analysing data against completeness and assumed uncertainty an inventory "quality" can be classified as follows:

- High
- Good
- Fair
- Poor

From the analysis conducted your inventory is classified as: Good.

Certification to Toitū net carbonzero programme "certified organisation" is recommended**.** This is not subject to any further client actions.

CONCLUSION

Please refer to the separate Audit Opinion document for further information. The certification claim, along with the assurance level and any qualifications raised summarises the result of the audit process.

Level of Assurance	Reasonable for category 1, 2 and category 3 business travel and Limited for remaining categories.
Qualifications	The opinion is unmodified.

FINDINGS LOG

Date issued:	26/06/2025
Verifier:	Pieter Fransen, Harryson Cubillan
Company issued to:	The University of Auckland

A finding marked **NCR** must be corrected before audit can be closed out, unless otherwise approved by the Programme
A finding marked **mNCR** is not required to be corrected for this verification, but may need to be addressed/checked for your next inventory, or it may become a NCR. You may voluntarily correct a mNCR for completeness
A finding marked **Obs** is an observation or recommendation from the verifier that may be helpful to you
--- corrective actions are expected to be closed out within 15 days of the date raised---

Ref #	Issue	Status	Type	Comments / Agreed Corrective Actions	Date closed	Evidence sighted to close out the issue where corrective action required.
NCR 1	IMR - not yet signed	Closed	NCR	To be done	02/07/2025	IMR signed
NCR 2	Revenue - amount entered in emmage differs to the Annual report	Closed	NCR	Confirmed that AR revenue is 1587.2 - please update	02/07/2025	Emanage updated
Obs1	Staff commute - the CNGP Analysis Results do not show formula link to CNGP Analysis Results	Closed	Obs	Method could be improved by linking summary result totals to analyses	02/07/2025	Process updated
Obs2	Data summary workbook - waste - matches to emanage labels not established making reported totals more difficult to retrace see RfI above	Open	Obs	Consider adding emanage labels to waste annual totals list		
Obs3	Annual report - noted a KPI tCO_2e/pop^n but this is not documented in the GHG statement	Open	Obs	To consider for inclusion		

NOTES

1. The detailed audit findings and calculations are given in the Verification Plan and Working Papers associated with this audit. These contain proprietary verification methodologies and remain confidential to Toitū Envirocare.
2. The audit is based upon sampling and as such nonconformities may exist that have not yet been identified.
3. We have reviewed the company's GHG emissions inventory for the period. The inventory is based on historical information which is stated in accordance with the requirements of ISO 14064-1:2018 and the scheme Technical Requirements.
4. The scope of the review was limited to personnel interview, analytical review procedures applied to GHG emissions data, and review of the input of data into the emissions inventory. Based on our review the inventory is compliant with the requirements of ISO 14064-1:2018.
5. A **non-conformance (NCR)** indicates that the auditor has found a non-conformance with scheme Technical Requirements (audit criteria) and requires you to take the appropriate corrective action and provide evidence of this correction within two weeks. This may require resubmission of an updated Emissions Inventory and Management report.
6. A **minor non-conformance (mNCR)** which the auditor has found which is not material to the outcome of the inventory, but to which a failure to address in the preparation of future inventories could lead to a major Non-Conformance (NCR).
7. **Observations** made by your auditor are strongly advised but the actions are not required for the organisation to be recommended for certification.
8. Neither Toitū Envirocare nor the auditor has any interest in the organisation, other than in our capacity as assurance providers. We have not carried out any work with this business prior to this review other than conducting the previous verification.
9. This report has been prepared solely for the use of the organisation and Toitū Envirocare as part of an application for Toitū carbonreduce programme certification. It may be relied on solely by the organisation and Toitū Envirocare for that purpose only. Toitū Envirocare does not accept or assume any responsibility to any person other than the organisation in relation to the statements or findings expressed or implied in this report.
10. Any correspondence regarding this audit report should be directed to your Lead Auditor.
11. A copy of this report has been provided to the nominated client contact.
12. A copy of this report may be made available to intended users upon request.
13. **Confidentiality:** All information obtained during this assessment will remain confidential to The University of Auckland, the verifier and Enviro-Mark Solutions Limited (trading as Toitū Envirocare). No information will be released to any other party without your express permission except as required by law or Toitū's accreditation body JASANZ, or if it is in aggregate and/or de-identified form. This report must not be copied except in full without the permission of the Responsible Party and Toitū Envirocare.

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

Waipapa Taumata Rau | The University of Auckland

Prepared by (lead author): María José Baldoni, Associate Director, Sustainable Estate and Operations

Dated: 26 June 2025

Verification status: Reasonable for category 1, 2 and category 3 business travel, Limited for remaining categories

Measurement period: 01 January 2024 to 31 December 2024

Base year period: 01 January 2019 to 31 December 2019

Approved for release by:

Simon Neale, Chief Property Officer

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DISCLAIMER

AVAILABILITY

This report is publicly available via web https://www.auckland.ac.nz/en/about-us/about-the-university/the-university/sustainability-and-environment/sustainable-campus-and-operations/net-zero-carbon/reports.html

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

[1] Programme refers to the Toitū carbonreduce, Toitū net carbonzero and the Toitū climate positive programmes.

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.

[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 Waipapa Taumata Rau | The University of Auckland covering the measurement period 01 January 2024 to 31 December 2024.[3]

It reflects the University's continued commitment to reducing emissions, as outlined in Taumata Teitei and Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy. In 2024, total gross emissions reached 71,262 tCO_2e, a 15% increase from 2023. Despite this rise, emissions remain 14% below the 2019 baseline. The increase is partly due to improved data quality and the inclusion of new emission sources, which—aligned with the progressive pathway—added over 3,000 tCO_2e to the inventory. Key emission sources remain consistent: air travel, electricity, and gas. Work-related air travel emissions rose slightly from 2023 but are still 35.5% below 2019 levels. Energy-related emissions increased due to higher grid emission factors, despite a 19% reduction in gas emissions compared to the baseline. Waste emissions decreased by 46.1%, aided by improved landfill gas recovery and the inclusion of recycling emissions. The University achieved several milestones in 2024, including the launch of on-site solar generation at the GreenStar6-certified B201 building and a full transition to CarbonZero-certified electricity. Emissions intensity has improved across all indicators since 2019, with reductions of 31% per m^2, 18% per EFTS, 20% per FTE, and 31% per unit of operating revenue. While some 2025 interim targets—such as those for waste and work-related air travel—have been met or surpassed, energy-related emissions remain above target when measured using the location-based method. However, when accounting for CarbonZero electricity, the University is on track. Freight, previously under development, is now included in the inventory. The University continues to recognise and report emissions from international student air travel, which accounted for 47% of total emissions in 2024. This report will inform the 2025 to 2030 target cycle as well as the approach to long term target setting within the next reporting period.

Table 1: Inventory summary

Category (ISO 14064-1:2018)	**Scopes (ISO 14064-1:2006)**	**2019**	**2023**	**2024**
Category 1: Direct emissions (tCO_2e)	Scope 1	5,667.38	5,771.49	4,984.91
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	Scope 2	8,066.06	5,395.07	7,570.48
Category 3: Indirect emissions from transportation (tCO_2e)	Scope 3	65,935.12	49,357.02	57,139.79
Category 4: Indirect emissions from products used by organisation (tCO_2e)		2,799.14	1,405.77	1,567.04
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)		0.00	0.00	0.00
Category 6: Indirect emissions from other sources (tCO_2e)		0.00	0.00	0.00
Total direct emissions (tCO_2e)		**5,667.38**	**5,771.49**	**4,984.91**
Total indirect emissions* (tCO_2e)		**76,800.31**	**56,157.86**	**66,277.31**
Total gross emissions* (tCO_2e)		**82,467.70**	**61,929.35**	**71,262.22**
Category 1 direct removals (tCO_2e)		0.00	0.00	0.00
Total net emissions (tCO_2e)		**82,467.70**	**61,929.35**	**71,262.22**

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

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

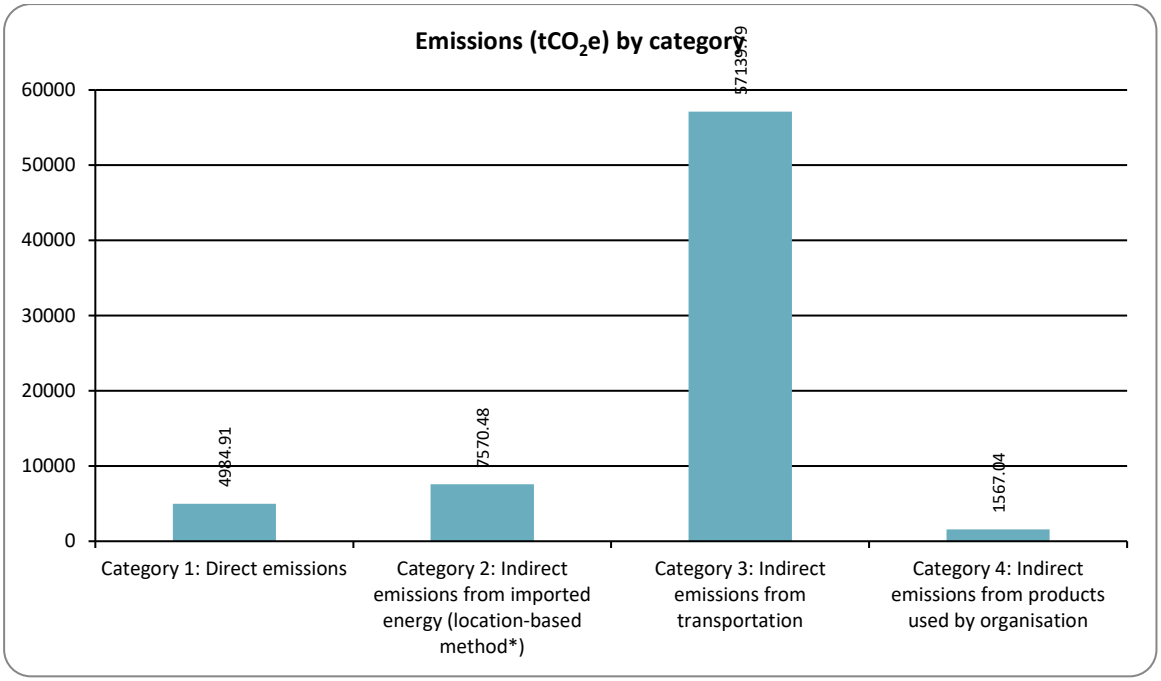

Figure 1: Emissions (tCO_2e) by Category for this measurement period

CHAPTER 1: EMISSIONS INVENTORY REPORT

1.1. INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions inventory and management report for Waipapa Taumata Rau | The University of Auckland.

The overall purpose of this report is to support the implementation of Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy and associated Sustainable Estate and Operations initiatives and plans. The main objective is to identify the Greenhouse Gas emissions profile of the University in a manner that is consistent with best practice and the latest international standards.

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: Emissions inventory summary for this measurement period

Measurement period: 01 January 2024 to 31 December 2024.

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
Category 1: Direct emissions	4,984.91 Agricultural Soils Sheep, CO_2, Diesel stationary combustion, Diesel, Dry ice, Electricity - Generated onsite, Enteric Fermentation Sheep, LPG, Manure Management Sheep, Natural Gas distributed commercial, Petrol premium, Petrol, R-404A, R-410A	0.00	4,984.91
Category 2: Indirect emissions from imported energy (location-based method*)	7,570.48 Electricity Toitū carbonzero certified factor Ecotricity, Electricity Toitū carbonzero certified factor Prime Energy, Electricity	0.00	7,570.48
Category 3: Indirect emissions from transportation	19,104.19	38,035.60	57,139.79

	Air passenger transport (spend-based), Air travel domestic (average), Air travel domestic (small aircraft), Air travel long haul (business), Air travel long haul (econ), Air travel long haul (econ+), Air travel long haul (first), Air travel short haul (average), Air travel short haul (econ), Air travel short haul b/f class, Aircraft - Aérospatiale/Alenia ATR 72, Aircraft - Airbus A320, Aircraft - British Aerospace Jetstream 32, Aircraft - Cessna Light Aircraft, Aircraft - De Havilland Canada DHC-8-300, Aircraft - Pilatus PC-12, Aircraft - Saab SF-340, Freight Air travel Domestic (average), Freight Air travel long haul (average), Freight Air travel short haul (average), Freight Road all trucks (average), Freight Road van (average), Petrol, Rental Car average (diesel), Rental Car average (hybrid), Rental Car average (petrol), Rental Car EV - average, Taxi (regular)	Accommodation - Argentina, Accommodation - Australia, Accommodation - Austria, Accommodation - Bahrain, Accommodation - Belgium, Accommodation - Brazil, Accommodation - Canada, Accommodation - Caribbean Region, Accommodation - Chile, Accommodation - China (Hong Kong), Accommodation - China, Accommodation - Colombia, Accommodation - Costa Rica, Accommodation - Czech Republic, Accommodation - Egypt, Accommodation - Fiji, Accommodation - Finland, Accommodation - France, Accommodation - French Polynesia, Accommodation - Germany, Accommodation - Greece, Accommodation - Hungary, Accommodation - India, Accommodation - Indonesia, Accommodation - Ireland, Accommodation - Italy, Accommodation - Japan, Accommodation - Macau, China, Accommodation - Malaysia, Accommodation - Mexico, Accommodation - Morocco, Accommodation - Netherlands, Accommodation - New Zealand, Accommodation - Peru, Accommodation - Philippines, Accommodation - Poland, Accommodation - Portugal, Accommodation - Qatar, Accommodation - Romania, Accommodation - Saudi Arabia, Accommodation - Singapore, Accommodation - South Africa, Accommodation - South Korea, Accommodation - Spain, Accommodation - Switzerland, Accommodation - Taiwan, Accommodation - Thailand, Accommodation - Turkey, Accommodation - United Arab Emirates, Accommodation - United Kingdom, Accommodation - United States, Accommodation - Vietnam, Accommodation (spend-based), Air travel long haul (average), Air travel short haul (average), Bus travel (average), Car Average (diesel), Car Average (hybrid), Car Average (petrol), Car Average (PHEV petrol), Car EV - average, Electric bike, Electric scooter (Commuting), Ferry travel (foot passengers), Motorcycle, Rail metropolitan (diesel), Rail metropolitan	

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
		(electric), Taxi (regular), Working from home	
Category 4: Indirect emissions from products used by organisation	896.89 Decontamination of medical waste - Autoclaving, Electricity distributed T&D losses, Electricity Toitū carbonzero certified factor Ecotricity (T & D losses), Electricity Toitū carbonzero certified factor Prime Energy (T & D losses), Incineration of hazardous waste, Natural Gas distributed T&D losses, Waste landfilled - Hampton Downs, Waste landfilled LFGR Mixed waste	670.15 Composting, Paper use - default, Recycling - Aluminium cans, Recycling - Batteries (non-automotive), Recycling - Card, Recycling - Fluorescent tubes & other light bulbs, Recycling - Mixed glass, Recycling - Mixed plastics, Recycling - Paper, Recycling - Steel cans, Waste disposal recycling of Aluminium, Waste disposal recycling of Batteries, Waste disposal recycling of Electrical and Electronic Equipment, Waste disposal recycling of Glass, Waste disposal recycling of Paper, Waste disposal recycling of Plastic, Waste disposal recycling of Steel cans, Wastewater for treatment plants (average), Water supply	1,567.04
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 direct emissions	**4,984.91**	**0.00**	**4,984.91**
Total indirect emissions*	**27,571.56**	**38,705.75**	**66,277.31**
Total gross emissions*	**32,556.47**	**38,705.75**	**71,262.22**
Category 1 direct removals	0.00	0.00	0.00
Total net emissions	**32,556.47**	**38,705.75**	**71,262.22**
Built environment (gross tCO_2e / m^2)		0.041	0.090
Equivalent Full Time Student (gross tCO_2e / per FTE per annum)		0.89	1.95

Category	Toitū carbon mandatory boundary (tCO_2e)	Additional emissions (tCO_2e)	Total emissions (tCO_2e)
FTE & EFTS - Full-time employees and Equivalent full-time students combined (gross tCO_2e / per FTE per annum)		0.76	1.66
Full Time Employee (gross tCO_2e / per FTE per annum)		5.05	11.06
Operating revenue (gross tCO_2e / $Millions)		20.51	44.90

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

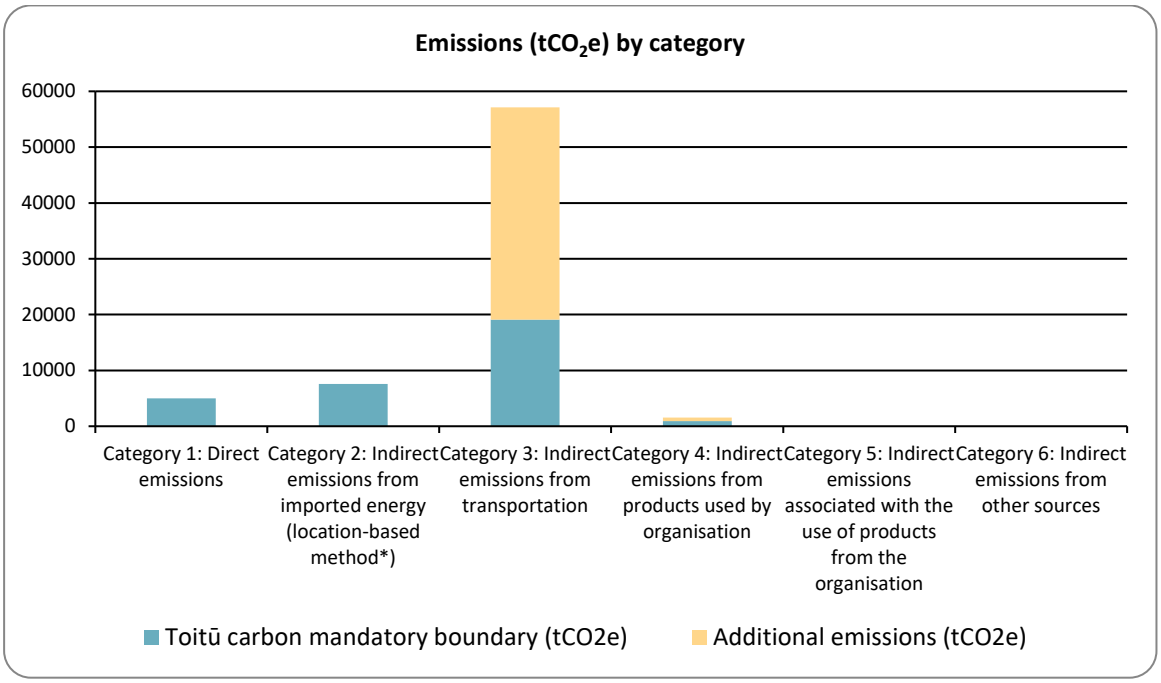

Figure 2: Emissions (tCO_2e) by category

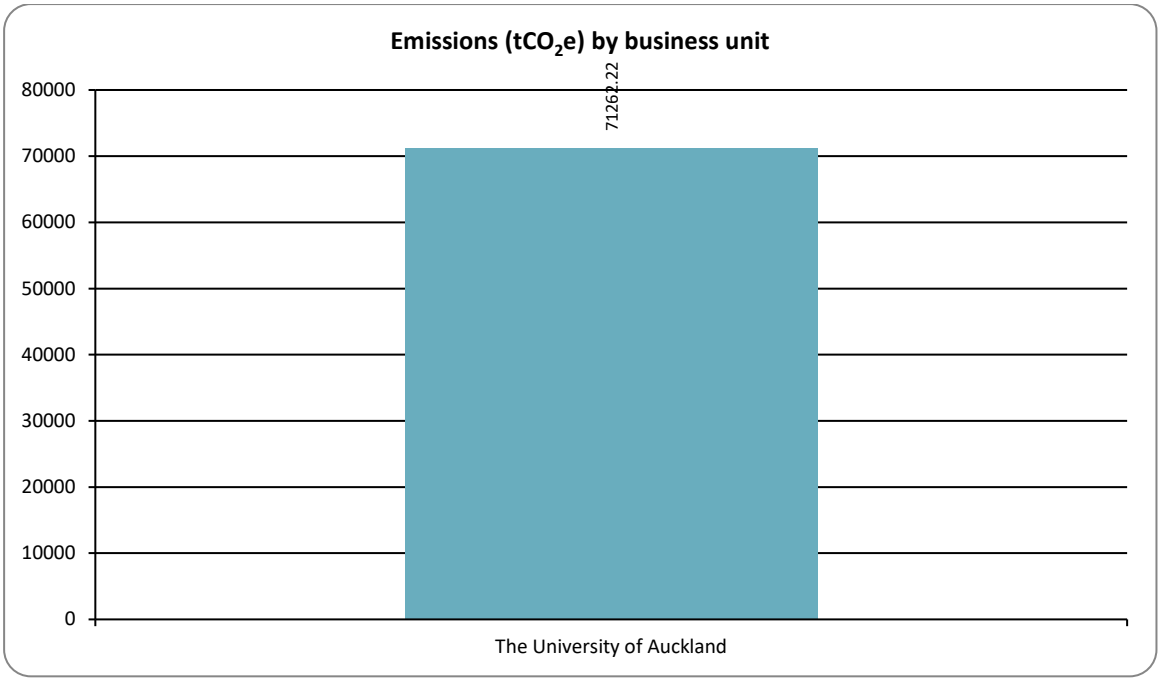

Figure 3: Emissions (tCO_2e) by business unit

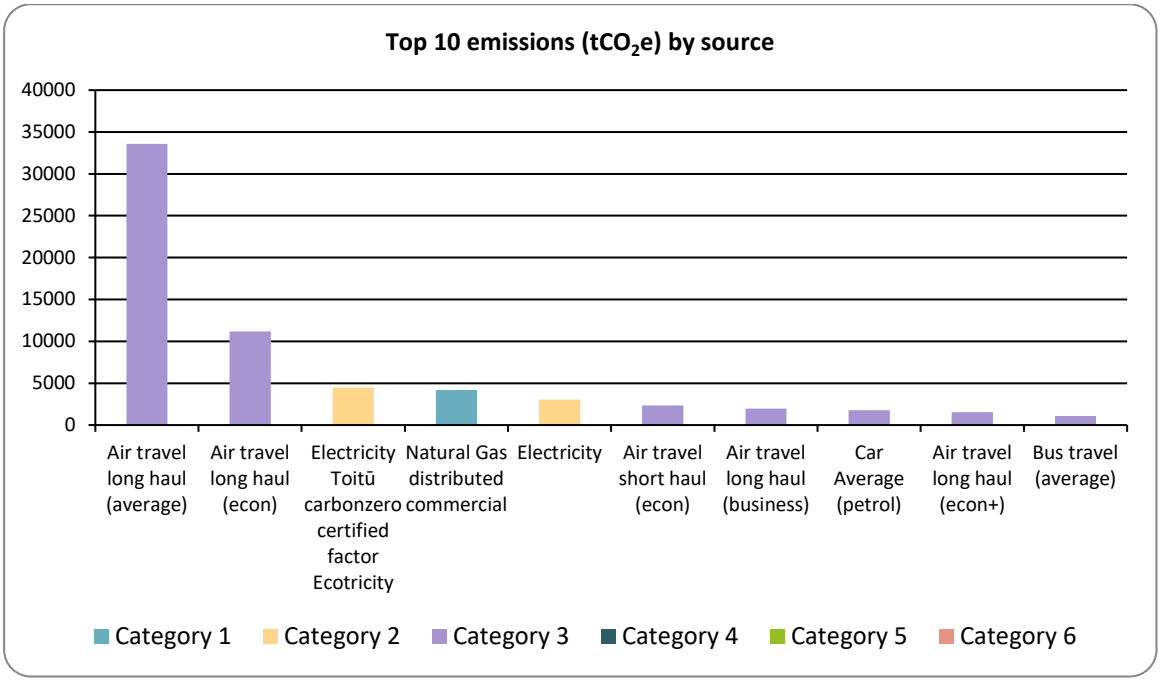

Figure 4: Top 10 emissions (tCO_2e) by source

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

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

The University of Auckland aligns to location-based reporting for tracking energy related emissions and reductions over time.

The University has marked a significant milestone by launching on-site electricity generation at its City Campus. A total of 82,710 kWh has been produced through a solar array installed on the award-winning B201 building, home to the new Faculty of Arts and Education.

In addition, from 01 October 2024, all purchased electricity has been 100% certified carbon zero. These initiatives reaffirm the University's commitment to clean energy and its support for phasing out fossil fuel use in electricity generation across Aotearoa.

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.

Contractual instruments are applicable for this reporting period.

Waipapa Taumata Rau | The University of Auckland consumed 75,598,953 kWh of electricity in 2024. A total of 49,948,763 kWh was carbonZero certified. In addition, the University purchased 25,567,410 kWh NZRECS (New Zealand Renewable Electricity Certificates) covering the period of January to September 2024. From October 2024 onwards, all electricity consumed was from a CarbonZero certified supplier.

Table 3. Dual reporting of indirect emissions from imported energy

Category	Location-based methodology (tCO_2e)	Market-based methodology (tCO_2e)
Category 1: Direct emissions	4,984.91	4,984.91
Category 2: Indirect emissions from imported energy	7,570.48	0.01
Category 3: Indirect emissions from transportation	57,139.79	57,139.79
Category 4: Indirect emissions from products used by organisation	1,567.04	1,182.92
Category 5: Indirect emissions associated with the use of products from the organisation	0.00	0.00
Category 6: Indirect emissions from other sources	0.00	0.00
Total direct emissions	**4,984.91**	**4,984.91**
Total indirect emissions	**66,277.31**	**58,322.71**
Total gross emissions	**71,262.22**	**63,307.62**
Category 1 direct removals	0.00	0.00
Total net emissions	**71,262.22**	**63,307.62**

1.3. ORGANISATIONAL CONTEXT

1.3.1. Organisation description

The University of Auckland was established in 1883 as a constituent college of the University of New Zealand and became an autonomous university under the University of Auckland Act 1961. It is governed by this Act and the Education and Training Act 2020 and its amendments.

The University's governing body is the Council. Under the Act, its functions include appointing the Vice-Chancellor, undertaking long-term planning, adopting and managing the Investment Plan, and setting institutional policies.

Section 281 of the Act outlines additional Council responsibilities: striving for excellence in education, training, and research; acknowledging the principles of Te Tiriti o Waitangi (the Treaty of Waitangi); and promoting participation from the communities it serves, especially under-represented groups.

In 2024, the University had 36,603 Equivalent Full-Time Students (EFTS) and 6,446 Full-Time Equivalent Staff (FTE) and occupied 132 premises 99 of which are owned by the University. The University also owns or has responsibility for seven natural reserves.

The University and Auckland UniServices Limited (AUL) primarily provide teaching and research services.

Commitment to certification

The University's Vision 2030 is to become internationally recognised for its unique contribution to fair, ethical and sustainable societies. This is expressed in 'Taumata Teitei Vision 2030 and Strategic Plan 2025' developed collectively with input from all sectors of the University in 2020 and published in 2021. As part of this vision, Waipapa Taumata Rau made a commitment to Net Zero reflected in 'Te Taumata Tukuwaro kore | Net Zero Carbon Strategy' 2022. The strategy includes a progressive pathway for a Net Zero trajectory. Toitū's CarbonReduce certification provides support and assurance to the University's carbon reduction efforts and progress.

GHG Reporting

One of the key commitments expressed in Taumata Teitei is to achieve Net-Zero Carbon status and to publish meaningful metrics of the University's progress towards overall sustainability. The contents of this report are important to better understand the emissions profile of the University and to identify effective pathways to net-zero that reflect the commitments and aspirations of Taumata Teitei. This year's report is especially important, as it highlights improved understanding of the carbon profile and what this means for the overall progress against the progressive pathway to Net Zero.

Climate Change Impacts

The Climate Change Scenarios for the Aotearoa NZ Tertiary Education Sector report, developed by the Tertiary Education Sector Climate Futures Group—of which the University is an active member—has been a valuable resource in shaping the University's approach to risk.

Several climate-related impacts previously identified by the University are also reflected in the report, including:

Disruption of campus activities and limited access to both built and natural facilities

Temporary or extended isolation due to compromised infrastructure such as airports and transport hubs, affecting participation by both domestic and international staff and students

Buildings becoming unfit for purpose due to rising temperatures or changing expectations around on-campus presence

Broader transition risks with financial and operational implications

These insights continue to inform the University's risk management approach. As part of an annual review cycle focused on continuous enhancement, the University progressed refinement of the Enterprise Risk matrix during 2024 with a focus on the following emerging priority areas:

Health, Safety & Wellbeing

Reputation and Stakeholder confidence

Environmental (natural and built environment)

Information (including data and intellectual property)

Legal and Regulatory compliance

Financial sustainability

Operational disruption

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 report is intended for use by the members of the Sustainable Estate and Operations Governance Group, and the wider community of Waipapa Taumata Rau. Understanding the emissions profile and progress towards Net Zero is essential for all members of the University to foster collective efforts towards carbon reduction across all operations. The report is also intended to support the reporting of the University's Statement of Service Performance as part of the Annual Report 2025.

Other schemes and requirements

The inventory is expected to align with best practice in GHG measuring and reporting, especially with ISO14064-1:2018. Alignment with international and local schemes such as the Science Based Targets Initiative (SBTi) and the New Zealand Carbon Neutral Government Programme (CNGP) are also intended.

1.3.3. Person responsible

Simon Neale, Chief Property Officer is responsible for overall emission inventory measurement and reduction performance, as well as reporting results to top management. Simon Neale, Chief Property Officer 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

Associate Director Sustainable Estate and Operations, Environment and Sustainability Office

Data and Reporting Coordinator, Carbon and Sustainability, Environment and Sustainability Office

Carbon and Sustainability Communications and Engagement Manager, Environment and Sustainability Office

Asset Information Specialist, Facilities Management

Associate Director Facilities, Facilities Management, Property Services

Campus Operations Manager, Facilities Management, Property Services

Campus Service Managers, Facilities Management, Property Services

Campus Services Coordinators, Facilities Management, Property Services

Chemical Risk Management Adviser, Health and Safety

Commercial Services and Maintenance Manager, Facilities Management, Property Services

Compliance Analyst, One Finance

Data Centre Tech Specialist, Connect, Digital Services

Energy Manager, Facilities Management, Property Services

Facilities Manager, Facilities Management, Property Services

Finance Business Partner, Finance Business Advisory

Lead Planning Analyst, Planning and Information Office

Livestock and Facility Manager, Liggins Institute

Manager, Risk Office

Procurement Category Managers, Strategic Procurement

Research Assistant, Faculty of Science

Senior Finance Business Partner, Finance Business Advisory

Space Planning Analyst, Planning and Capital Projects, Property Services

Strategic Asset Manager, Facilities Management, Property Services

Waste Minimisation Specialist, Facilities Management, Property Services

The Environment and Sustainability Office checks completeness, accuracy, and overall integrity of data, recording any limitations and assumptions in the summary data sheet and supporting documents, including a comprehensive list of definitions for the measures included in this report.

María José Baldoni, Associate Director Sustainable Estate and Operations, Environment and Sustainability Office, Carbon Auditing SME - ISO 14064-3:2019 (Accredited 2021)

Marama Nakamura, Data and Reporting Coordinator, Carbon and Sustainability, Environment and Sustainability Office - Data reconciliation and document management

Top management commitment

The University has made a commitment to net zero in its Vision 2030 and Strategic Plan 2025, Taumata Teitei and in 2022 published Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy and Te Rautaki Aronga Toitū | Sustainability Strategy. Taumata Teitei is the key document in the University's cycle of planning, delivery and accountability. It sets out a vision to be internationally recognised for its unique contribution to fair, ethical and sustainable societies, and establishes priorities within five strategic portfolios. The Enabling Environment portfolio includes a commitment to achieve net-zero carbon status and to publish meaningful metrics of the University's progress towards overall sustainability. Annual progress toward achieving carbon and environmental sustainability priorities is reported under the Statement of Service Performance, 'KPI 23 Net CO_2 emissions' and 'KPI 24 Environmental sustainability measures' in the University's Annual Report.

Management involvement

The University's Chief Property Officer leads the direction of the delivery plans supported by the Associate, Sustainable Estate and Operations and the Environment and Sustainability team in collaboration with teams across the University. The emissions inventory measurement and reduction performance monitoring are part of the overall remit, including reporting results to leadership. The Environment and Sustainability Office works with internal senior partners in other divisions to seek data from existing data bases and third-party suppliers, providing guidance, templates and subject matter expertise, including around maturity, progress and data improvement.

The Chief Property Officer also chairs the Sustainable Estate and Operations Governance Group. Membership of the governance group includes: Kaiarataki Pro Vice-Chancellor (Māori), Chief Financial Officer, Director of Planning and Information Office, Chief Digital Officer and Director of Campus Life.

1.3.4. Reporting period

Base year measurement period: 01 January 2019 to 31 December 2019

This University of Auckland's overall reporting period corresponds to a calendar year from January to December. The University has been reporting carbon emissions from utilities (electricity, water, gas), waste disposal, paper consumption and staff air travel since 2011. The change in base year to 2019 responds to a more comprehensive approach taken considering changes to international best practice, including expectations to set baselines no earlier than 2015.

Measurement period of this report: 01 January 2024 to 31 December 2024

Reporting will be done annually with an alignment to the University financial reporting year which coincides with the calendar year.

Alignment to financial reporting year which coincides with calendar year.

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

The operational control approach was chosen as the University has control over its operations and has authority to introduce operating policies and corresponding implementation plans.

Organisational structure

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

The University of Auckland was established by The University of Auckland Act 1961. The University of Auckland (the University), Auckland UniServices Limited (AUL), and the University of Auckland Foundation (the Foundation) are all controlled entities and together form 'the Group'. AUL operates in China and has a branch in the Kingdom of Saudi Arabia although both are currently in the process of liquidation and will be deregistered once all regulatory requirements have been met. The principal activities of the University and AUL are the provision of teaching and research services. The principal activities of the Foundation are raising and stewardship of funds for charitable purposes and advancement of education and health care, assistance of students to pursue courses of study at The University of Auckland, and the general advancement of the University.

The central office of the University's management is located at the Clock Tower, 22 Princes St, Auckland, New Zealand.

[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.

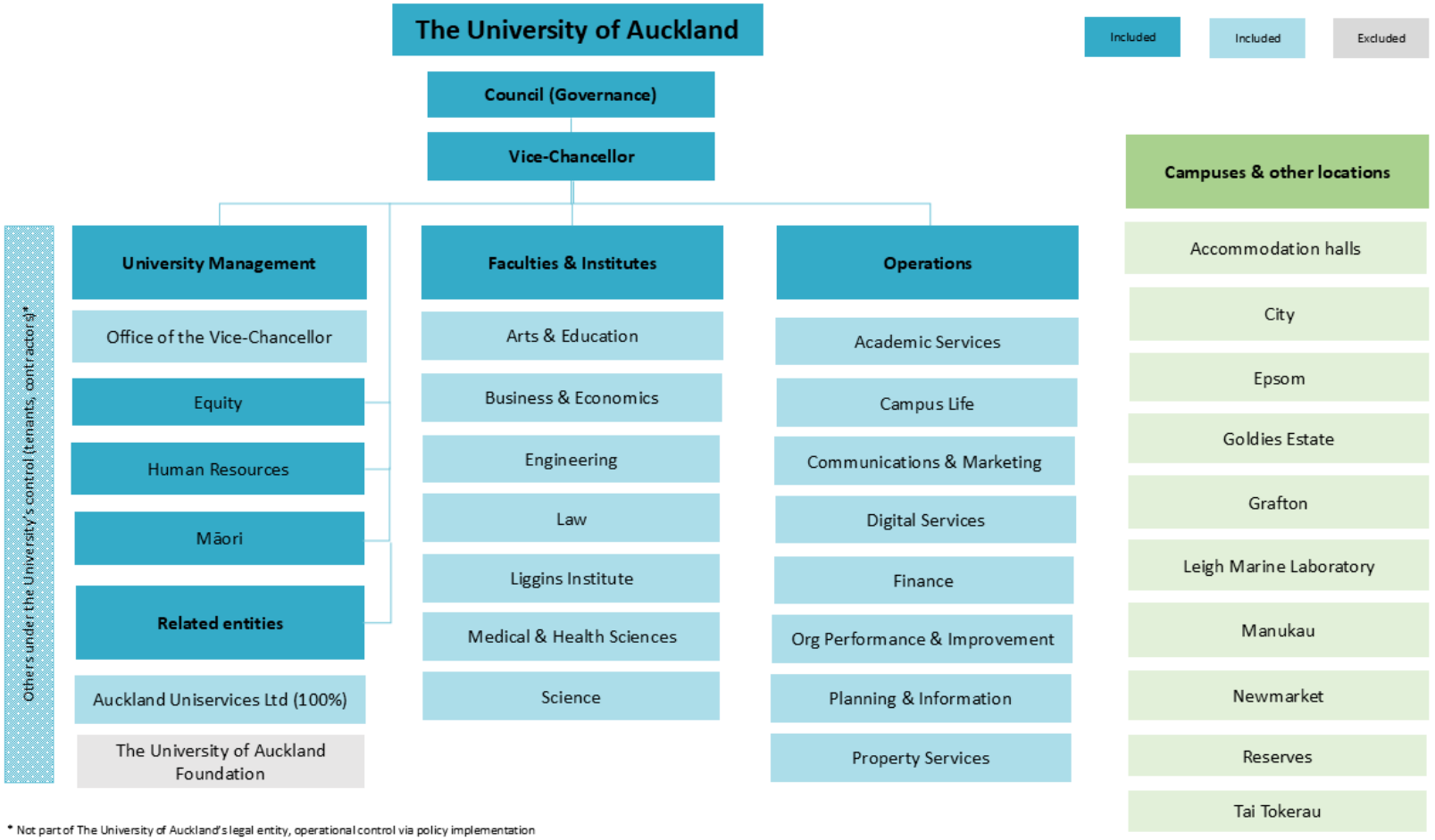

Figure 5: Organisational structure

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

Company/Business unit/Facility	Physical location	Description
Waipapa Taumata Rau University of Auckland		The Estate of Waipapa Taumata Rau University of Auckland spans the North Island of Aotearoa, from Wellington in the south to Tai Tokerau (Whangārei) in the north. There are three central Auckland campuses, three smaller satellite campuses, three ecological reserves, a vineyard and winery, and a field station. In 2024, the estate buildings encompass a gross floor area (GFA) of 793,250 m^2. Over 99% of the estate is located within the Auckland region.
Eight Accommodation Halls, Faculty of Arts & Education, Faculty of Business & Economics, Faculty of Engineering, Faculty of Law, Faculty of Science, Academic Services, Campus Life, Communications & Marketing, Digital Services (partial), Finance, Libraries and Learning Services, Org Performance & Improvement, Planning & Information, Property Services, Human Resources, Equity, Māori, Office of the Vice Chancellor	City Campus	City Campus is comprised of 77 physical street addresses. This includes residential accommodation, office accommodation, a library, general teaching spaces, specialist teaching and research spaces including laboratories, student commons areas, recreation centre, retail spaces, early childhood education centres, infrastructure areas, marae, carparking areas, bike parking areas, and vacant land.
Campus currently unoccupied	Epsom Campus	Epsom Campus is comprised of 6 physical street addresses. Facilities are maintained but unoccupied.
Seven Accommodation Halls, Liggins Institute, Faculty of Medical and Health Sciences	Grafton Campus	Grafton Campus is comprised of 30 physical street addresses. This includes residential accommodation, office accommodation, general teaching spaces, specialist teaching and research spaces including laboratories, clinic spaces, student commons areas, an early childhood education centre, retail spaces, infrastructure areas, carparking areas and bike parking areas.
Digital Services, Faculty of Engineering, Faculty of Science	Newmarket Campus	Newmarket Campus is comprised of 2 physical street addresses. This includes office accommodation, specialist teaching and research spaces including laboratories, a cafe, infrastructure areas, carparking areas and bike parking areas.
Digital Services, Property Services	Tamaki Campus	Tamaki Campus is comprised of 3 physical street addresses. This includes infrastructure areas.
Faculty of Science	Leigh Campus - Marine Laboratory	Leigh Campus is comprised of 1 physical street address. This includes specialist teaching and research facilities, infrastructure areas, accommodation areas, and carparking areas.
Arts and Education, Libraries and Learning Services, Faculty of Medical and Health Sciences	Tai Tokerau Campus	Tai Tokerau Campus is comprised of 1 physical street address. This includes general teaching spaces, specialist teaching spaces, student commons areas, a library, infrastructure areas, and carparking areas.

Company/Business unit/Facility	Physical location	Description
Arts and Education, Libraries and Learning Services	Tai Tonga South Auckland Campus	Tai Tonga South Auckland Campus is comprised of 1 physical street address. This includes general teaching spaces, student commons areas, and a carparking area.
Faculty of Science, Campus Life	Goldie Estate	Goldie Estate on Waiheke Island is comprised of 2 physical street addresses. This includes a winery, specialist teaching and research spaces, accommodation, infrastructure areas and carparking areas.
Faculty of Science	Ardmore	Ardmore research station is comprised of 1 physical street address. This includes specialist research areas.
Faculty of Science	Reserves	The reserves are comprised of 7 physical street addresses. These include steep coastal forest (Anawhata), kauri forest, mature kanuka scrub, areas of puriri, taraire, rewarewa and podocarps (Huapai), podocarp, broadleaf and kauri forest (Oratia).
Various	Other	Other locations are comprised of 8 physical street addresses.

1.3.6. Excluded business units

The University Foundation is excluded from the GHG emissions boundary as it is not under the operational control of the University. The principal activities of the Foundation are raising and stewardship of funds for charitable purposes and advancement of education and healthcare, assistance of students to pursue courses of study at the University of Auckland, and the general advancement of the University.

The Auckland UniServices Limited (AUL) operations in China and the Kingdom of Saudi Arabia are also excluded from the GHG emissions boundary as these are not under the University's operational control and are currently in the process of liquidation. Both will be deregistered once all regulatory requirements have been met.

CHAPTER 2: EMISSIONS MANAGEMENT AND REDUCTION REPORT

2.1. EMISSIONS REDUCTION RESULTS

In 2024, the University's carbon profile continued to show an overall upward trend compared to the previous year. Total emissions reached 71,262 tCO_2e, representing a 15% increase from 2023. However, this year-on-year growth is less than half the rate observed between 2022 and 2023 (31%). Encouragingly, the University has not returned to baseline levels—total emissions remain 13.6% below the 2019 baseline, despite the year-on-year increase.

During the initial years of the Net Zero Carbon Strategy and its implementation plans, the University has made significant improvements in data quality and expanded the inventory to include additional emission sources. These newly added sources account for over 3,000 tCO_2e and are reflected in the progress against baseline figures presented later in this report. If the impact of these additions and the improvements in data completeness and accuracy—particularly within the University's supply chain—were fully quantified, the overall emissions performance against the baseline would show even more positive results.

As expected, the three primary sources of emissions for this reporting period were:

Air travel

Electricity

Gas

Emissions from waste are also included in the University's target commitments and continue to be monitored.

Work-related air travel accounted for 26.5% of total gross emissions—1.5% lower than in 2023. However, emissions from this activity were 5.8% higher than the previous year. Despite this increase, air travel emissions remain 35.5% below the 2019 baseline, with 30 million fewer kilometres travelled.

Emissions from imported energy (using the location-based method) are 8.8% lower than the baseline. However, there was a 13.5% year-on-year increase, reaching 11,739 tCO_2e when electricity and gas are combined. This spike is attributed to changes in emission factors, driven by increased fossil fuel use for electricity generation in New Zealand during a dry year. The University's electricity consumption rose by 2.5% compared to 2023, and by approximately 4.5 million kWh relative to the 2019 baseline. This increase is expected as decarbonisation progresses, particularly with the decommissioning of natural gas plant and equipment across the estate. When electricity and gas consumption are considered together, usage was 2.3% lower than last year.

A positive result in 2024 was the reduction in gas consumption and associated emissions, which fell by 19.2% and 19%, respectively, compared to the 2019 baseline. The year-on-year trend also shows positive progress, with 16.3% less gas used than in the previous reporting period.

In Q4 2024, the University transitioned away from purchasing Renewable Energy Certificates and began sourcing electricity from CarbonZero-certified suppliers. Additionally, it reached a key milestone by starting to generate electricity from solar panels installed on the award-winning GreenStar6 building, B201.

Table 5: Comparison of historical GHG inventories

Category	2019	2020	2021	2022	2023	2024
Category 1: Direct emissions (tCO_2e)	5,667.38	5,723.70	5,426.74	5,485.52	5,771.49	4,984.91
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	8,066.06	8,058.39	7,865.56	5,432.63	5,395.07	7,570.48
Category 3: Indirect emissions from transportation (tCO_2e)	65,935.12	4,252.51	1,906.21	35,181.44	49,357.02	57,139.79
Category 4: Indirect emissions from products used by organisation (tCO_2e)	2,799.14	1,552.13	1,461.75	1,276.34	1,405.77	1,567.04
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Category 6: Indirect emissions from other sources (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Total direct emissions (tCO_2e)	**5,667.38**	**5,723.70**	**5,426.74**	**5,485.52**	**5,771.49**	**4,984.91**
Total indirect emissions* (tCO_2e)	**76,800.31**	**13,863.02**	**11,233.52**	**41,890.42**	**56,157.86**	**66,277.31**
Total gross emissions* (tCO_2e)	**82,467.70**	**19,586.71**	**16,660.26**	**47,375.94**	**61,929.35**	**71,262.22**
Category 1 direct removals (tCO_2e)	0.00	0.00	0.00	0.00	0.00	0.00
Total net emissions (tCO_2e)	**82,467.70**	**19,586.71**	**16,660.26**	**47,375.94**	**61,929.35**	**71,262.22**
Emissions intensity						
Built environment (gross tCO_2e / m^2)	0.13	0.028	0.024	0.069	0.083	0.090
Built environment (gross mandatory tCO_2e / m^2)	0.071	0.028	0.023	0.032	0.040	0.041
Equivalent Full Time Student (gross tCO_2e / per FTE per annum)	2.39	0.57	0.45	1.32	1.75	1.95
Equivalent Full Time Student (gross mandatory tCO_2e / per FTE per annum)	1.30	0.56	0.43	0.61	0.85	0.89
FTE & EFTS - Full-time employees and Equivalent full-time students combined (gross tCO_2e / per FTE per annum)	2.04	0.49	0.39	1.13	1.49	1.66
FTE & EFTS - Full-time employees and Equivalent full-time students combined (gross mandatory tCO_2e / per FTE per annum)	1.11	0.47	0.37	0.52	0.72	0.76
Full Time Employee (gross tCO_2e / per FTE per annum)	13.81	3.27	2.78	7.75	9.78	11.06
Full Time Employee (gross mandatory tCO_2e / per FTE per annum)	7.54	3.20	2.64	3.58	4.76	5.05
Operating revenue (gross tCO_2e / $Millions)	64.72	15.88	12.20	34.01	38.96	44.90
Operating revenue (gross mandatory tCO_2e / $Millions)	35.31	15.50	11.57	15.72	18.96	20.51

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

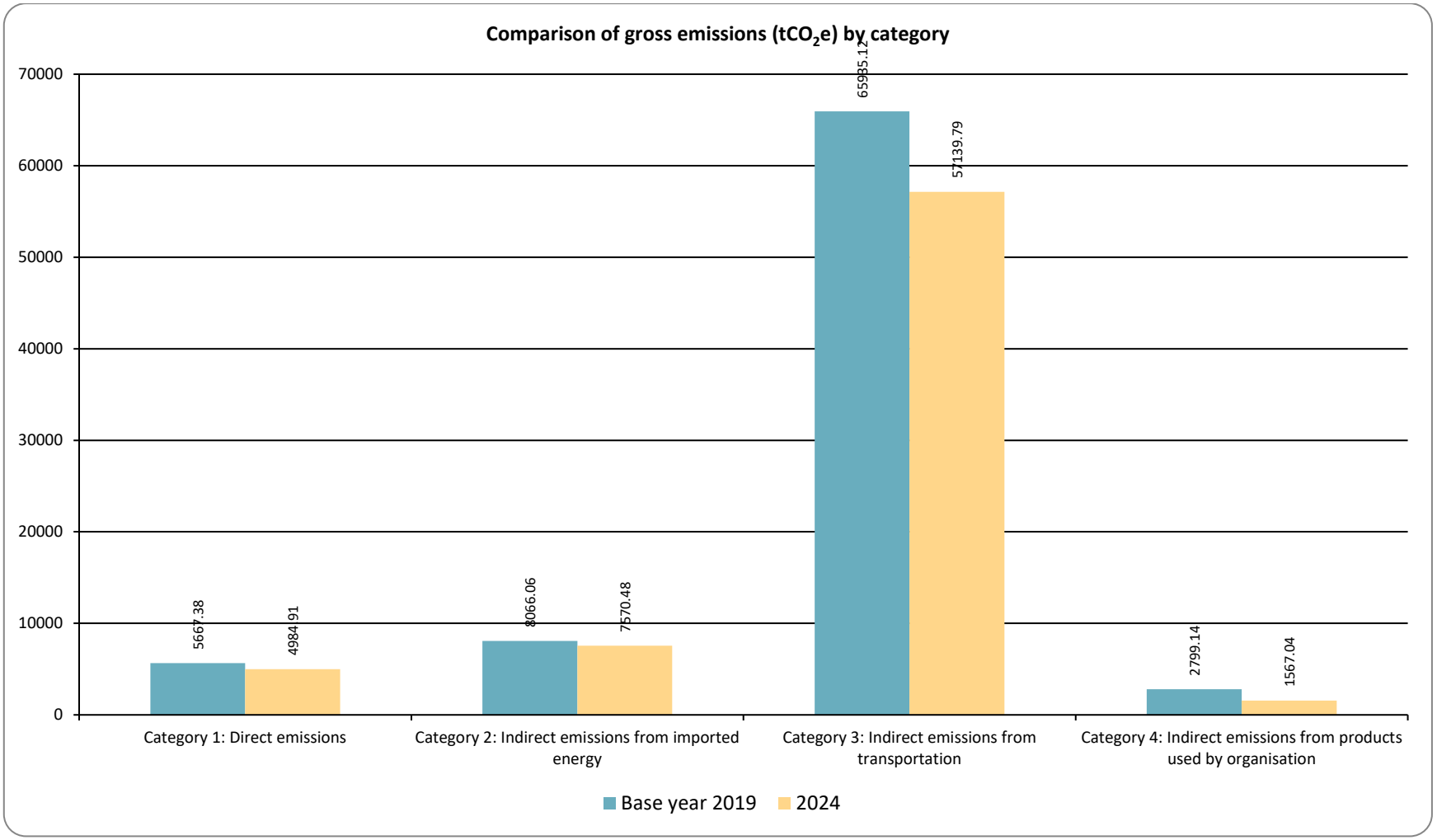

Figure 6: Comparison of gross emissions (tCO_2e) by category between the reporting periods

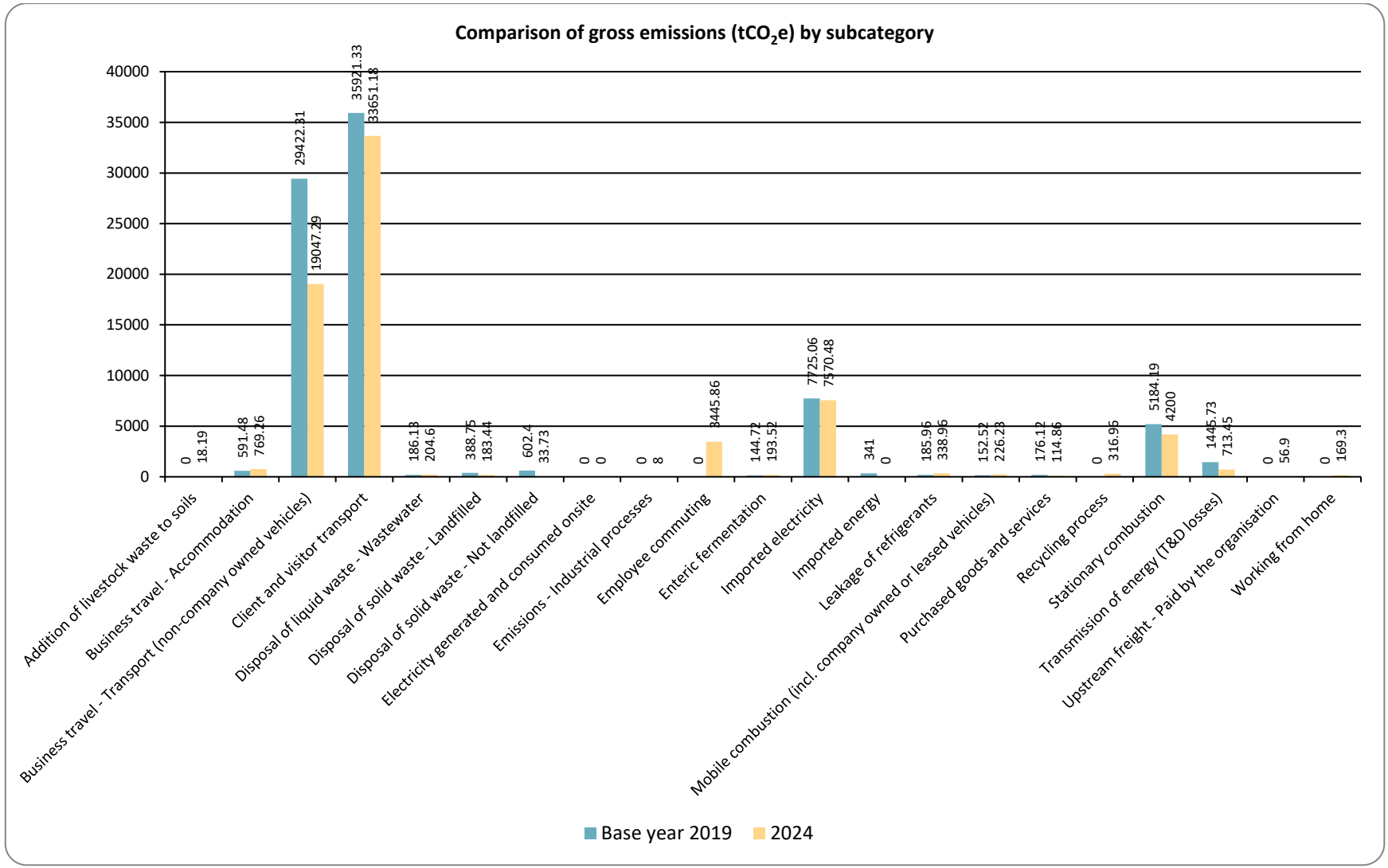

Figure 7: Comparison of gross emissions (tCO_2e) by subcategory between the reporting periods

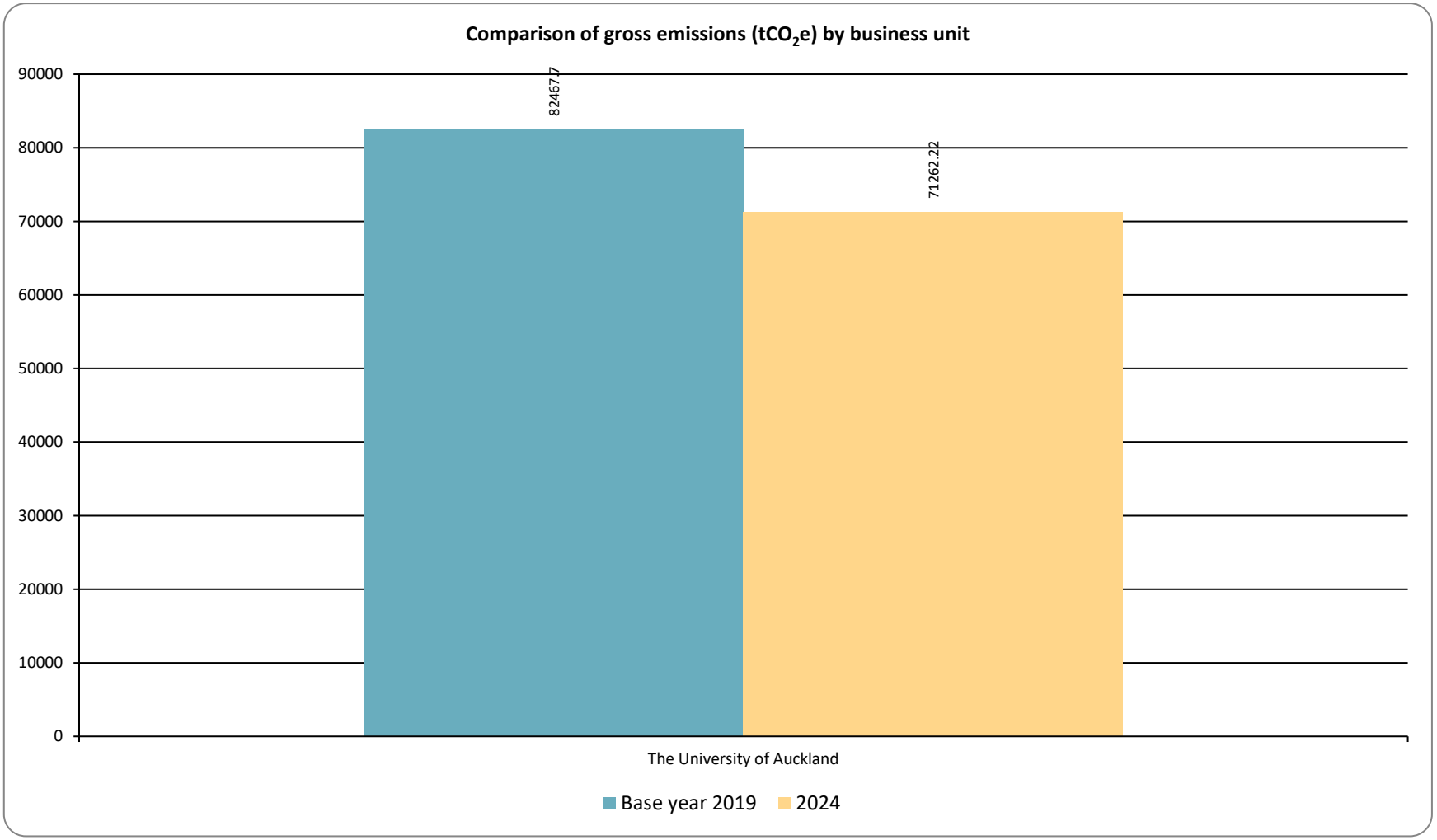

Figure 8: Comparison of gross emissions (tCO_2e) by business unit between the reporting periods

Figure 9: Performance against target since base year

Table 6. Performance against plan

Te Taumata Tukuwaro-kore | Net Zero Carbon Progressive Pathway - Target name	Baseline period	Target date	Reduction target	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments	Interim target date	Interim reduction target	Current performance against 2025 interim target
Work related Air travel, staff and students	2019	2030	50%	Absolute	18,850	-35.5	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions.	2025	25%	Achieved and surpassed
Energy and fuel	2019	2030	50%	Absolute	11,997	-10.5	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions. Note the emission factor for grid source electricity increased almost 40% in 2024.	2025	25%	Based on location method, a further 15.5 % reduction required to achieve the target. When accounting for NetZero sourced electricity, the target has been met and surpassed.

Te Taumata Tukuwaro-kore | Net Zero Carbon Progressive Pathway - Target name	Baseline period	Target date	Reduction target	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments	Interim target date	Interim reduction target	Current performance against 2025 interim target
Waste	2019	2030	50%	Absolute	534	-46.1	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions.	2025	25%	Achieved and surpassed

2.2. SIGNIFICANT EMISSIONS SOURCES

Significant sources

Due to its geographical isolation, the University continues to rely on air travel as a key means of fostering and maintaining global connections and partnerships, supporting research, and ensuring access to academic opportunities. Despite a 5.8% year-on-year increase in emissions from this source, the University has consistently kept work-related travel emissions below the baseline, this year 35.5% less than in 2019.

As highlighted in last year's Inventory Management Report, 2024 marked the first full year of implementing the updated Travel Policy (2023), which introduced carbon criteria into decision-making for work-related travel. This policy has been supported by the air travel dashboard, available monthly, providing insights to guide travel decisions for both academic and professional staff.

These elements—along with 2025 data, both in absolute terms and through intensity-based metrics—will be used to inform how future targets are set, including the next phase of the 2030 pathway and the development of a longer-term emissions reduction target.

Activities responsible for generating significant emissions

The University manages a large and diverse portfolio of buildings, complex facilities, and a vehicle fleet to support services for staff, students, and the general public. Electricity and gas are the primary sources of energy-related emissions and remain the main focus of decarbonisation efforts.

Beyond energy consumption, most significant emissions within the University's boundary originate from its supply chain. This includes a wide range of service contracts and suppliers involved in capital projects, as well as the procurement of IT products and infrastructure, food services, and other operational goods and services. The University's progressive pathway to Net Zero has identified these supply chain emissions as a critical area of focus, highlighting the need for targeted action and engagement across procurement and operational planning. This is a priority area for the 2025 target review cycle and already included in the Sustainable Estate and Operations Implementation Plan.

Influences over the activities

Further decarbonisation efforts will require significant infrastructure upgrades on the City Campus. The University is currently assessing the capacity and resilience of its existing high-voltage infrastructure and exploring a range of options and opportunities for enhancement. These investigations are in the early stages as of 2024, and their findings will help shape the ambition and direction of the 2025–2030 target-setting cycle.

Significant sources that cannot be influenced

In 2024, air travel by international students accounted for over 47% of the emissions recorded in the University's greenhouse gas (GHG) inventory. In 2019, Waipapa Taumata Rau became the first university in New Zealand to formally acknowledge the significant impact of this activity on its carbon footprint.

As these travel decisions fall outside the University's operational control, they are not included within its formal carbon mitigation boundary. Nevertheless, the University, via its International Office, actively engages with its international student community to promote lower-carbon travel options and foster climate-conscious behaviours through education, outreach, and awareness initiatives.

2.3. EMISSIONS REDUCTION TARGETS

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

Targets have been set as part of the commitments of Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy, published in Q4 2022.

Amidst a continued upward trend compared to the previous year, emissions have remained below the baseline for all specific targets set within the Net Zero Carbon Strategy's progressive pathway. Work-related air travel emissions are 35.5% lower than the baseline, while energy and fuel-related emissions are 10.5 % lower than in 2019 when measured using the location-based methodology. This below-target result should be considered in the context of a 40% increase in grid electricity emission factors applied under the location-based method. Once CarbonZero electricity is accounted for, the results would place the University well within the expected target trajectory.

The 46% reduction in emissions from waste and recycling should be interpreted with care. This figure reflects the use of landfill sites equipped with gas recovery systems (causing emissions to be lower) and the inclusion of emissions from recycling processes—an area often omitted from many inventories. This broader accounting helps avoid the misconception of recycling as a complete solution to waste, rather than emphasising waste prevention.

As noted, the University has made significant progress in improving data quality, including the addition of new emission sources to the inventory. These sources were known to be significant or material but lacked data at the time the baseline was established. These improvements have added over 3,000 tCO_2e to the overall emissions.

By setting absolute targets, the University has demonstrated a strong commitment to meaningful change and alignment with scientific evidence. Notably, collective efforts have led to consistent year-on-year reductions in intensity targets. In 2024, total gross emissions are, when compared to 2019 baseline:

31% lower per m^2 of Built Environment (GFA),

18% lower per Equivalent Full-Time Student (EFTS),

20% lower per Full-Time Employee (FTE), and

31% lower per unit of operating revenue

Table 7. Emission reduction targets

Progressive pathway and targets - Te Taumata Tukuwaro-kore -Net Zero Carbon Strategy, November 2022						
Ambition level	Source	2022	2023	2024	2025	2030
Net Zero boundary (GHG baseline 2019)	- Travel (work related) - Energy - Waste (landfill and recycling)	Develop Implementation Plan	Launch implementation plan	Launch implementation plan	25 % Reduction Target	50% Reduction Target
Extended Net Zero boundary (GHG baseline 2019 gaps)	- Travel (international students inbound) - Waste: construction and demolition - Working from home - Staff and student commuting - Freight and couriers	Start/improve data gathering	Establish / Improve baseline	Set Targets		Achieve target set in 2024
Data improvement, monitoring (2025 target review cycle)	- Embodied Carbon (from materials) - Information and Communication Technology - Food on campus	Develop	Start data gathering	Assess significance	Set targets / develop implementation plan	Achieve targets set in 2025
Mitigation programme for residual emissions	- Mitigation boundary	Establish mitigation boundary	Develop a well-informed, evidence-based carbon mitigation programme	Develop a well-informed, evidence-based carbon mitigation programme	Begin mitigation programme	Achieve Net Zero Trajectory Status

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

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Work-related air travel	Create Air Travel Dossier in the new Enterprise Management System to provide better tools for managers to assist decision making about air travel.	The Air Travel Dossier final version is active and accessible to all University Staff via their login.	Strategic Procurement, Planning & Information Office, Sustainability Office	Completed	Improved alignment with the University's data governance strategy.	None anticipated	n/a
Energy and Fuel	B114 Teaching spaces upgrade and decarbonisation	Decommissioned gas boiler and upgraded heating to electric panel and new HVAC system.	Property Services	Completed			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B114 Teaching spaces upgrade and decarbonisation	The new LED lighting system and room temperature control have been explored to attain more energy-efficient light fittings and heating with modern control systems, further increasing efficiency and lowering running costs. This also reinforced the option to decommission the existing gas boiler heating system thereby proving the University's commitment to a sustainable estate and carbon reduction.	Property Services	In progress			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B614 O'Rorke Stage 2 Works	- Decarbonisation of domestic hot water system - Replaced all existing bedroom furniture (wardrobes and bookshelves) and dining hall furniture. All the old wardrobes and bookshelves were donated to charity. - Waste materials recycled, including metal from old light fittings and heaters.	Property Services	In progress			
	B109 Student Service Hub	Cleared asbestos material above the ceiling AND - Lighting upgraded to LED Lights - Ceiling - Paint	Property Services	Completed	Health and safety improvement.	None anticipated	

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
		- Carpet - Furniture - New meeting room AV systems					
	B109 Decentralisation and de-carbonisation of building infrastructure and services	Feasibility studies on B109 Building Services (CHW & HHW system, Electrical distribution, and field equipment's) Pre-requisite for actual decarbonisation.	Property Services	Completed	Improved resilience.		
	Sector 200 Power infrastructure upgrade	Enabling works to provide incoming mains for decarbonisation of B251 & B252 (Marae), B253 (Māori Studies) and B273 & B275 (Fale).	Property Services	Completed			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B601, B602 & B603 – Gas decommissioning as part of required demolition	A gas connection to the site which was decommissioned.	Property Services	Completed			
	Upgrade energy monitoring system	System implementation completed to improve monitoring of energy consumption and on-site generation.	Property Services	Completed	Improved alignment with the University's data governance strategy.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B432-126 & 127 CAI Improvement of office environment	A heat recovery unit was installed in Room 127, supplying fresh air to Rooms 126 and 127 to improve air circulation and reduce moisture buildup. This reduced energy use through using heat from one part of the building to heat another area and supported a healthier, indoor environment.	Property Services	Completed	Health and safety improvement.		
	B604: Improve Leigh Marine Research Centre	Replacement of aquarium tank rooms, seawater tanks and installation of new filtration systems. Cantilever platform installed to facilitate plant and materials transportation.	Property Services	Completed	Enhance marine research capabilities. Directly benefitting current research including: - Invasive Caulerpa seaweed, Effects of microplastics on seafloor ecology, Carbon sequestration in kelp forests, Physiological basis of sleep in fish, using sharks as a model, Excessive growth in sea urchin populations, Health of farmed salmon.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
					https://www.auckland.ac.nz/en/news/2025/02/03/-state-of-the-art-aquariums-will-boost-marine-research-.html		
	B620, B260 Carpark and 500 Sector Lecture Theatre Lighting Upgrades (project initiated in 2023 as included in IMR 2023)	Converted to high efficiency lighting devices. Upgraded to energy-efficient LED fittings. Light fittings were also upgraded with lighting controls.	Property Services	Completed	Improved user experience, health and safety.		
Waste	B_OCH Old Choral Hall - Construction waste recovery/recycling and diversion from landfill (project reporting in 2023)	Project is in final stages. Results to be included as part of streamlined monitoring of Construction and Demolition in projects within the next two reporting cycles.	Property Services	In progress	Lessons learned for better supplier engagement.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	External waste audit (operational waste).	Operational waste auditing resumed. Expected to take place every 2-3 reporting cycles.	Property Services, Environment and Sustainability Office sponsored	Completed			
	Waste audit - work integrated learning experience for University of Auckland Students	Three students took the opportunity to be part of the waste audit team.	Property Services, Environment and Sustainability Office sponsored	Completed	Improved access of students to work experience and direct contact with professionals in their field of study.		
	Waste audit - webinar for internal stakeholder engagement	Webinar to socialise the results of the audit and discuss how staff can contribute to waste reduction targets via their portfolios and roles.	Property Services, Environment and Sustainability Office sponsored	Completed	Improved staff engagement.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
C&D Waste	B601, B602 and B603 – Demolition	Waste materials recycled. Furniture and books donated to charity.	Property Services	Completed			
Progressive pathway - Net zero extended boundary	Wynyard Street (reported in 2023 in progress)	Sustainable streetscape prioritising people and biodiversity over cars. Improved the way water flows on the land and much improved accessibility lungs. Increased biodiversity through a range of native plantings and planted lung which includes a rain garden. Improved resilience of the estate infrastructure (underground services routes and stormwater drainage future-proofed).	Property Services	Completed	Improved amenity for staff, students and visitors, improved accessibility, well-being, security and lighting, increased distinctive sense of place and visible presence demonstrating the cultural narrative, improved traffic flow and site safety.		

	Newmarket landscape (reported in 2023 in progress)	Original project design (concrete mass and gravel) reviewed and adjusted to significantly reduce impervious surface, enable stormwater treatment and improve biodiversity. Created a nature-rich environment, including tree planting to provide shade, attract wildlife and increase biodiversity. Added covered and uncovered seating. Enabled stormwater treatment through raised boardwalk and improved flood resilience. A sustainable solution for a challenging site that tends to create water pools at the low point.	Property Services	Completed	Integration of a cultural narrative specific to Newmarket and its place in Aotearoa, improved site access, improved site safety, improved circulation and amenities.		
	University of Auckland Community Garden	Feasibility investigations and initial concept.	Property Services, Environment and Sustainability Office sponsored	Completed	Site deemed unsuitable in current state. Further opportunities expected to be explored within the next two reporting cycles.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
All measures	Sustainable Design Guidelines	Published guidelines to operationalise the principles of sustainable design and exceed many of the wider regulatory frameworks and standards for sustainability and environmental performance.	Property Services, Environment and Sustainability Office sponsored	Completed	Improve supplier engagement opportunities as the guidelines can be used as part of briefs to third parties such as consultants and collaboration. It is publicly available and can be accessed by students and the general public via the University's sustainability website.		

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
Staff and student work-related air travel	Stage 3: Automated file transfer of reports (flights boarded data). Stage 4: Supplier implemented the latest Ministry of Environment emission factors into the reports from September 2023. Stage 5: The supplier can apply 'Aircraft specific' emission factors (Source MfE) to the reports. We improved our data quality by shifting our method of carbon calculation to 'Aircraft specific' emission factors, instead of using 'Aircraft size' (large, medium and small aircraft emission factors). Using the more granular 'Aircraft specific' factors will provide us with more accurate data.	Planning and Information Office Strategic Procurement Environment and Sustainability Office (SME)	Stage 3: August 2023 Stage 4: September 2023 Stage 5: May 2024 Completed 2024
Client and visitor transport (International student air travel)	• Worked with the Planning and Information office to better use existing definitions to improve assumptions of this data set with high uncertainty. • Subset of students with international residency in the calendar year, cross-referenced with moderate confidence campus location data.	Planning and Information Office Environment and Sustainability Office	Complete April 2024
Waste to landfill	• Supplier engagement to continue improving reports and address data gaps. • Site monitoring to improve completeness of the University's waste profile. • Special wastes and processes identified and added to the inventory. • Internal waste dashboard implemented. • Conduct waste audit May 2024. • Review waste audit results to improve understanding of waste composition and areas for intervention. • Waste webinar video. • Waste Management Services review completed. Waste reduction and innovation focused contract is under development for going to market in future.	Waste Minimisation Specialist	In progress
Composting (Food waste)	• Monitoring of food hall scans to compare with waste data in waste dashboard. • Monitoring new buildings and cafes to ensure food waste diversion and obtain data.	Waste Minimisation Specialist	In progress
Recycling	Supplier engagement to identify recycling streams and process. Stage 1: Emissions of transportation of reported recycling waste.	Environment and Sustainability Office Waste Minimisation Specialist	Stage 1: Pre-2023 Stage 2: Jan 2023

Emissions source	Actions to improve data quality	Responsibility	Completion date
	Stage 2: Included emissions of recycling process in addition to the transport.		
Refrigerants and other gases	• Supplier engagement to continue improving reports. • Updated report templates to include the latest AR6 GWP values.	Chemical Risk Team Environment and Sustainability Office Facilities Management Strategic Procurement	1/12/2023
Electricity	Current multi-year projects	Energy, Facilities Management	
	1. New utilities monitoring and reporting system. The new system is in its final stages of completion. This to significantly improve functionality and ability to capture and assess utility bills, consolidate and streamline data sources and improved reporting capabilities.		Completed Nov 2024
	2. Check-meter upgrades: upgrading once a month manually read meters to meters that give 15-minute interval data. Both these projects enable better identification of reduction opportunities. This is a multi-year project. Several check meters have been upgraded to smart meters. • Last year, check meters at 315 were upgraded to ToU meters. • This year, four gas retail meters will be connected to an ESP logger to provide hourly data to assist with decarbonisation projects. • In addition, energy/heat meters will be installed in buildings that come up for decarbonisation.	Energy, Facilities Management	In progress
Utilities	Building 201 Project	Energy, Facilities Management	Completed
	Extensive electrical, thermal and water metering to measure and report on the environmental performance of the building. Due to extensive electrical, thermal, and water metering, we can regularly report on building performance and investigate issues during the building tuning phase. This data is regularly being used for post occupancy building tuning (Feb-24 to Feb-26).		
Freight	• Supplier engagement to continue improving reports. • Requested to include weight (kg) and origin/destination when possible, and to specify what type of carriers/vehicles are used for each freight provider.	Strategic Procurement Environment and Sustainability Office	In progress

Emissions source	Actions to improve data quality	Responsibility	Completion date
Working from Home	Used 'Staff Commuting Survey' data to estimate the number of days employees work from home in the year.	Environment and Sustainability Office	Completed
Employee commuting	Used 'Staff Commuting Survey' data to estimate the distance (km) employees travelled by transport mode.	Environment and Sustainability Office	Completed
Staff reimbursements	Staff reimbursement $NZD data can be applied to a specific emission source, e.g. Accommodation (spend-based), Petrol ($), Air passenger transport (spend-based). This was previously excluded due to de minimis, but with improved granularity of data and specific emission factors we have included this in the inventory.	Strategic Procurement	1/12/2023
Fuel emissions	Separate petrol emissions to regular petrol and petrol premium factors on reports that provide specific fuel types.	Strategic Procurement Environment and Sustainability Office	Completed
Enteric Fermentation Sheep	A more detailed report of farm stock provided by livestock and facility manager. The farm stock record reports on opening stock, purchases, sales, and lost sheep throughout the year.	Liggins Research Farm Laboratory Environment and Sustainability Office	1/04/2024
KPI: Built Environment (GFA)	Data improvement for Built Environment (GFA m^2). Reviewed GFA definition and what is included in this boundary. Previously included only covered spaces, from 2024 the built environment includes uncovered spaces such as carparks. Does not include vacant land or reserves but these are included as part of the organisation physical boundary.	Space Planning Environment and Sustainability Office	Completed
Physical Locations list	Improved physical boundary characterisation: engagement to continue improving reports. • Physical locations list now reflects the Land Registry and includes vacant land, without buildings, including reserves. Previous list only included built environment locations. • Included description of premises and land	Space Planning Environment and Sustainability Office	Completed
Organisation description:	Updated the organisation chart	General Counsel Office of VC Environment and Sustainability Office	Completed

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
Refrigerants accidental release from units	Engage contractors to ensure adequate maintenance and servicing of units.	Facilities Management, Property Services	Ongoing
Refrigerants and other gases, accidental release	Consolidate location monitoring (asset and research related gas holdings)	Property Services and Chemical Risk Team	TBC

2.5. STAFF ENGAGEMENT

Net Zero carbon commitments are embedded in the University's strategic plans under the Enabling Environment portfolio. These strategies are accessible to all staff and are publicly available on the University website. Further details on the University's progressive pathway to Net Zero carbon—including its climate action plan, progress on targets, emissions sources, and reduction projects—are also published online.

Active engagement with staff and students remained a key focus throughout 2024. One of the primary platforms for staff involvement was the Sustainable Estate and Operations Working Group, which includes representatives from key operational service divisions such as Property Services, Finance, Strategic Procurement, and Campus Life. This group is responsible for developing and implementing projects aligned with emissions reduction goals and is overseen by a Governance Group that met quarterly during the year.

The University’s progress on sustainability and its Net Zero carbon commitments was shared across various internal audiences. Highlights included two guest lectures delivered to 200-level sustainability courses, a townhall presentation to Property Services, and targeted sessions and one-on-one meetings with sustainability committees in the Faculties of Engineering and Science.

Energy, waste, and resource recovery were also integrated into the regular agenda of meetings between Property Services and the six faculties, reinforcing operational alignment with sustainability goals.

Student engagement was equally strong. In the annual Green Your Room challenge, 50% of all residents in accommodation halls participated by making voluntary lifestyle pledges in areas such as transport, energy, waste, and water—resulting in a total of 2,122 pledges. One hall achieved a 99% participation rate, and three halls formed green teams that extended engagement beyond the challenge through activities like herb gardening and clothes swaps.

To further embed sustainability into campus culture, event planning procedures for staff and students were updated to encourage greater compliance with the Sustainable Events Guide.

The Environment and Sustainability Office also maintained a visible presence at major University events, including the Manawa Mai Open Day for students and ASPIRE, the professional staff conference, where they hosted interactive stalls.

A video showcasing the redevelopment of the award-winning GreenStar6 building B201—highlighting its achievements in both embodied and operational carbon—was produced for the Australasian Green Gown Awards. This video is featured on the University’s sustainability webpages and was widely shared on social media platforms.

Finally, a webinar presenting the findings of a waste and container recycling audit conducted across 14 sites on the three central Auckland campuses was recorded and shared with key stakeholders.

2.6. KEY PERFORMANCE INDICATORS

Additional KPIs are in line with University's existing service performance indicators included in the Annual Report.

Table 11. Key Performance Indicators (KPIs).

KPI	Rationale of using the additional KPI
GFA (Gross Floor Area)	In line with University's existing environmental service performance indicators included in the Annual Reporting
EFTS (Equivalent Full Time Student)	In line with University's existing service performance indicators included in the Annual Reporting
FTE (Full Time Employee)	In line with University's existing service performance indicators included in the Annual Reporting
EFTS & FTE (Equivalent full-time students and Full-time employees combined)	In line with University's existing service performance indicators included in the Annual Reporting

2.7. MONITORING AND REPORTING

Overall progress against the Net Zero Carbon progressive pathway and associated emission targets is reported annually by the Environment and Sustainability Office as part of the Sustainable Estate and Operations Implementation Plan. Portfolio managers across Property Services and the Strategic Procurement teams from Finance monitor the activity of the main sources of emissions monthly. The Environment and Sustainability Office reports on carbon and environmental sustainability measures in the University's Annual Reports via the Planning and Information Office and works closely with all areas including Pro VC Māori, Procurement, Campus Life, Finance, Digital Services, International Office, Planning and Information Office, Finance, and Property Services on initiatives and plans for other significant sources of emissions.

Table 12. Monitoring and reporting

	Work related air travel	**Unit**	**2019**	**2023**	**2024**	**Difference against baseline**	**Difference against baseline %**	**Difference against previous year**	**Difference against previous year %**	**Notes**
	Air travel activity data	pkm	141,016,007.00	104,180,821.56	110,447,633.15	-30,568,373.85	-21.7%	6,266,811.59	6.0%	
nzTB	Air travel emissions	tCO_2e	29,230.22	17,825.18	18,850.43	-10,379.79	-35.5%	1,025.25	5.8%	
	Energy (Electricity + Gas only)	Unit	2019	2023	2024	Difference against baseline	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
	Electricity activity data	kWh	70,987,977.00	73,722,186.43	75,598,952.53	4,610,975.53	6.5%	1,876,766.10	2.5%	Normalised data. Includes onsite generated electricity
	Natural Gas activity data	kWh	26,427,303.00	25,532,358.00	21,362,585.63	-5,064,717.37	-19.2%	-4,169,772.37	-16.3%	Normalised data
	Electricity + Natural Gas activity data	kWh	97,415,280.00	99,254,544.43	96,961,538.16	-453,741.84	-0.5%	-2,293,006.27	-2.3%	Normalised data

	Work related air travel	Unit	2019	2023	2024	Difference against baseline	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
	Electricity emissions	tCO_2e	7,725.06	5,367.57	7,570.48	-154.58	-2.0%	2,202.91	41.0%	Normalised data. Includes onsite generated electricity
	Natural Gas emissions	tCO_2e	5,146.61	4,976.09	4,168.86	-977.74	-19.0%	-807.23	-16.2%	Normalised data
nzTB	Electricity + Natural Gas emissions	tCO_2e	12,871.67	10,343.66	11,739.34	-1,132.32	-8.8%	1,395.68	13.5%	Normalised data
	Waste activity data	Unit	2019	2023	2024	Difference against baseline	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
	Waste + Recycling activity data	kg	2,108,074.04	2,013,444.48	2,161,567.42	53,493.38	2.5%	148,122.94	7.4%	
nzTB	Waste + Recycling emissions	tCO_2e	991.15	610.01	534.12	-457.03	-46.1%	-75.89	-12.4%	More accurate emission factors (landfill gas collection) likely to be responsible for most of the emissions reduction when compared against baseline. The year on year reduction is due to changes in the emission factors applied to special wastes.
	Work related travel (other)	Unit	2019	2023	2024	Difference against baseline kWh	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
nzEB	Work related travel (other)	tCO_2e	783.57	1,222.66	966.11	182.54	23.3%	-256.55	-21.0%	Accommodation and car rentals

	Work related air travel	Unit	2019	2023	2024	Difference against baseline	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
	Energy + Fuel	Unit	2019	2023	2024	Difference against baseline kWh	Difference against baseline %	Difference against previous year	Difference against previous year %	Notes
	Electricity emissions	tCO_2e	7,725.06	5,367.57	7,570.48	-154.58	-2%	2,202.91	41%	Normalised data (includes onsite generated)
	Natural Gas emissions	tCO_2e	5,146.61	4,976.09	4,168.86	-977.74	-19%	-807.23	-16%	Normalised data
	Steam	tCO_2e	341.00	27.50	-	-341.00	-100%	-27.50	-100%	
	Stationary combustion	tCO_2e	37.58	26.30	31.14	-6.44	-17%	4.83	18%	
	Mobile combustion	tCO_2e	152.52	220.37	226.23	73.71	48%	5.87	3%	
nzTB	Energy + Fuel emissions	tCO_2e	13,402.77	10,617.83	11,996.72	-1,406.05	-10.5%	1,378.88	13.0%	Normalised data

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 Waipapa Taumata Rau | The University of Auckland.xls).

Table 13. 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	4,188.29	9.81	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4,200.00
Mobile combustion (incl. company owned or leased vehicles)	220.45	1.32	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	226.23
Emissions - Industrial processes	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00
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	3.95	0.00	0.00	0.00	0.00	335.01	0.00	0.00	0.00	0.00	338.96
Treatment of waste	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fugitive Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Treatment of wastewater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions - Land use, land-use change and forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Removals - Land use, land-use change and forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fertiliser use	0.00	0.00	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	2.09	16.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.19
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	193.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	193.52
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	4,420.69	206.75	22.46	0.00	0.00	335.01	0.00	0.00	0.00	0.00	4,984.91

Table 14. 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	211.71	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	349.56	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**	**561.27**	**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 methods used to identify relevant sources for previous years remain valid. These include:

1. Preliminary gap analysis conducted in 2019

2. Direct communication with relevant staff

3. High level review of main categories of expenditure reports

4. Direct communication with key suppliers. Note: supplier engagement work that included development of new templates for reporting to ensure data was complete and accessible, and that measures and metrics were correctly defined is ongoing. This work is included in the 'progress against targets' charts and identified as 'data improvements'.

The sector-specific significance criteria added in 2023, has been applied again in 2024 and is included in Appendix 2, under Carbon Neutral Government Programme.

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.

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 15 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.

Data are collected and collated following the requirements of ISO14064-1:2018 and in alignment with the technical guidelines of the Carbon Neutral Government Programme and Toitū CarbonReduce Programme. Data for this report were collected in 2024 and collated in 2025.

Table 15. 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	Diesel stationary combustion LPG stationary commercial Natural Gas distributed commercial	Assumed all supplier reports are accurate data comes from contractors via Campus Services Manager, Facilities Management using templates provided.	Default unit and emission factor selected to report on these sources	NO
	Mobile combustion (incl. company owned or leased vehicles)	Diesel mobile combustion (fuel cards) Petrol mobile combustion (fuel cards) LPG mobile combustion (fork lifts)	Assumed all supplier reports are accurate. Data comes from Procurement Manager, Finance.	Default unit and emission factor selected to report on these sources	NO
	Leakage of refrigerants	Dry ice CH_4 CO_2 HCFC-22 (R-22, Genetron 22 or Freon 22) R-404A R-410A	UoA prepared a reporting template and requested suppliers to fill it in, following MfE 2022 guidelines for monitoring and reporting of GHG. Purchases/top-ups and leakage assumed as equal during measurement period.	Default unit and emission factor selected to report on these sources	NO
	Emissions - Industrial processes	Acetylene use	Assumed all supplier reports are accurate. Data comes from Procurement Manager, Finance.	Default unit and emission factor selected to report on these sources	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
	Enteric fermentation	Enteric Fermentation Sheep	Data provided by farm manager is assumed to be accurate. Increased level of uncertainty due to no systematic data collection.	Default unit and emission factor selected to report on these sources	NO
Overall assessment of uncertainty for Category 1 emissions and removals			Low		
Category 2: Indirect emissions from imported energy	Imported electricity	Electricity Toitū carbonzero certified factor Ecotricity Electricity Toitū carbonzero certified factor Prime Energy Electricity	Assumed all supplier invoices are accurate. Data comes from Energy Manager, Facilities Management.	Supplier specific emission factors provided by Toitū have been used for carbonzero certified electricity when using market-based reporting. Otherwise, default unit and grid emission factor selected to report on these sources (location-based)	YES for Toitū carbonzero certified suppliers NO for grid electricity supplier
	Imported energy	Steam generation - Pre-calculated (tCO_2e)	Assumed all supplier invoices are accurate. Data comes from Energy Manager, Facilities Management.	Default unit and emission factor selected to report on these sources	NO
Overall assessment of uncertainty for Category 2 emissions and removals			Low		
Category 3: Indirect emissions from transportation	Business travel - Accommodation	Accommodation - Australia Accommodation - Austria Accommodation - Belgium	Assumed data from supplier is correct and accurate - Accommodation data is based on number of room nights paid for by the University. Data comes from Procurement Manager, Finance.	Default unit and emission factor selected to report on these sources For countries without a specified emission factor, the New Zealand emission factor has been selected as the default.	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
		Accommodation - Canada Accommodation - Chile Accommodation - China (Hong Kong) Accommodation - Czech Republic Accommodation - Fiji Accommodation - Finland Accommodation - France Accommodation - French Polynesia Accommodation - Germany Accommodation - Greece Accommodation - India Accommodation - Indonesia Accommodation - Ireland Accommodation - Italy	Not all countries have a specified emission factor. As more countries are added assessed, these emissions will have more certainty on accuracy.		

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
		Accommodation - Japan Accommodation - Malaysia Accommodation - Netherlands Accommodation - New Zealand Accommodation - New Zealand Accommodation - Portugal Accommodation - Singapore Accommodation - South Korea Accommodation - Spain Accommodation - Switzerland Accommodation - Taiwan Accommodation - Thailand Accommodation - Turkey Accommodation - United Arab Emirates			

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
		Accommodation - United Kingdom Accommodation - United States			
	Business travel - Transport (non-company owned vehicles)	Air travel domestic (Aerospatiale ATR 7) Air travel domestic (Airbus 320) Air travel domestic (Cessna Light Aircraft) Air travel domestic (De Havilland Dash) Air travel domestic (Pilatus PC-12) Air travel domestic (Saab 340B) Air travel domestic (average) Air travel long haul (average) Air travel long haul (business) Air travel long haul (econ) Air travel long haul (econ+) Air travel short haul (average)	Assumed data from supplier is correct and accurate - Air transport data is based on flights boarded. Rental car data is based on bookings paid for by the University. Data comes from Procurement Manager, Finance.	Emission factor specific to aircraft size (domestic), class booked (international) and short/long haul flights (international). When an average emission factor is selected, this is due to not knowing the type of aircraft or class booked.	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
		Air travel short haul (econ) Air travel short haul b/f class Accommodation (spend-based) Air passenger transport (spend-based) Petrol (spend-based) Rental Car average (diesel) Rental Car average (hybrid) Rental Car average (petrol) Rental Car EV - average Taxi (regular)			
	Client and visitor transport	Air travel long haul (average) Air travel short haul (average)	High uncertainty. Assumptions: departure airport allocated by student's country of citizenship. It is assumed 80% of international students located in New Zealand took a return to their countries of citizenship within the same year. The remaining 20% are assumed to have taken a one-way flight to New Zealand from their countries of origin.	The average emission factor was selected due to not knowing the type of aircraft or class booked.	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
	Upstream freight - Paid by the organisation	Freight Air travel Domestic (average) Freight Air travel long haul (average) Freight Air travel short haul (average) Freight Road all trucks (average) Freight Road van (average)	Medium uncertainty. Assumed supplier reports are accurate, some estimation required. When distance (km) is not included in a report, assumptions are made to estimate the distance. If weight (kg) is not included, assumptions are made to estimate the average package size based on a similar freight report.	The average emission factor was selected due to not knowing the type of aircraft or vehicle used for transit.	NO
	Employee commuting	Bus travel (average) Car Average (diesel) Car Average (hybrid) Car Average (petrol) Car Average (PHEV petrol) Car EV - average Electric bike Electric scooter (Commuting) Ferry travel (foot passengers) Motorcycle Rail metropolitan (diesel) Rail metropolitan (electric)	High uncertainty. Data taken from staff commuting survey and extrapolated for all full time equivalent staff. Further statistical analysis of survey results focusing on the distance range variable was conducted. The results indicate the following trends: commute distances below 20 km tend to be underrepresented, while commute distances above 20 km tend to be overrepresented. No adjustments have been made to the data in this IMR to reflect the above trend.	The average emission factor was selected for each vehicle type and fuel type due to unknown engine size of vehicle used for the commute.	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
		Taxi (regular)			
	Working from home	Working from home	High uncertainty. Data taken from staff commuting survey and extrapolated for all full-time equivalent staff. This data set is used, as it is based on estimates of actual employee days.	Default unit and emission factor selected to report on these sources	NO
Overall assessment of uncertainty for Category 3 emissions and removals			Medium to High		
Category 4: Indirect emissions from products used by organisation	Purchased goods and services	Paper use - default Water supply	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	NO
	Disposal of solid waste - Landfilled	Decontamination of medical waste - Autoclaving Incineration of clinical waste Waste landfilled - Hampton Downs Waste landfilled LFGR Mixed waste	Recycling of plastic, aluminium and glass carries higher level of uncertainty. Assumptions based on 2019 baseline waste analysis of 'bottles and cans' materials distribution.	Where landfill location is known, specific emission factor is applied. Default unit and emission factor selected to report on all other sources.	YES for Hampton Downs Landfill NO for remaining emission factors
	Disposal of solid waste - Not landfilled	Waste disposal recycling of Aluminium Waste disposal recycling of Batteries	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	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
		Waste disposal recycling of Glass Waste disposal recycling of Paper Waste disposal recycling of Plastic Waste disposal recycling of Steel cans			
	Recycling process	Recycling - Aluminium Recycling Recycling - Batteries (non-automotive) Recycling - Card Recycling - Mixed Glass Recycling - Mixed Plastic Recycling - Mixed Plastics Recycling - Paper Recycling - Steel cans	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	NO
	Disposal of solid waste - Not landfilled	Composting	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	NO
	Disposal of liquid waste - Wastewater	Wastewater for treatment plants (average)	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	NO
	Transmission of energy (T&D losses)	Electricity distributed T&D losses	Assumed supplier reports are accurate	Default unit and emission factor selected to report on these sources	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
		Electricity Toitū carbonzero certified factor Ecotricity (T & D losses) Electricity Toitū carbonzero certified factor Prime Energy (T & D losses) Natural Gas distributed T&D losses			
Overall assessment of uncertainty for Category 4 emissions and removals			Low		
For more detail refer to:	• University of Auckland Information Management Procedures for Carbon Audit • University of Auckland GHG Inventory Definitions & Source Information				

A1.1.3 Excluded emissions sources and sinks

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

Table 16. GHG emissions sources excluded from the inventory

Business unit	GHG emissions source or sink	GHG emissions category	Reason for exclusion
The University of Auckland	Products and services (≤ $99,000)	Indirect - category 4 - (From products and services used by the organisation)	Data is not systematically collected in a way that enables analysis of this kin. Phase 1 (investigation) of supply chain assessment is expected to be included in the next two reporting cycles.
The University of Auckland	Sinks		Data is not systematically collected in a way that enables analysis of this kind. Phase 1 is under way to identify land which may fit the programme criteria for sinks.
The University of Auckland	Waste - printer recycling	Indirect - category 4 - (From products and services used by the organisation)	Excluded due to de minimis.
The University of Auckland	Construction and demolition	Indirect - category 4 - (From products and services used by the organisation)	Methodology underway to develop a split baseline and incorporate C&D waste as a separate source. C&D waste will be reported on a project-by-project basis. In 2024 phase 1 of methodology and data collection progressed well. Phase 2 will involve developing a projects wide methodology that will be reflected in the IMR within the next two reporting cycles.
The University of Auckland	Fertiliser use - Grounds maintenance	Category 1: Direct emissions and removals	Excluded due to de minimis.
The University of Auckland	Fertiliser use - Epsom Sports Field	Category 1: Direct emissions and removals	Excluded due to de minimis.
The University of Auckland	Fertiliser use - Ngapouri Research Farm	Category 1: Direct emissions and removals	Excluded as it falls outside of the university's operational control.
The University of Auckland	Waste - Chemical Waste	Indirect - category 4 - (From products and services used by the organisation)	Excluded it as the quality of the supplier data is not sufficient this year, and it is deemed to be de minimis.

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 GHG Storage and liabilities

A1.2.2.1 GHG STOCKS HELD ON SITE

Refrigerants and fuels may be stored on site, but their accidental leakage or release could result in a large increase in emissions for that period. Refrigerants such as HFCs, PFCs and SF_6 are GHGs with high global warming potentials, so material volumes of these or fuel are reported as potential liabilities.

Table 17. Total storage as of year end with potential GHG emissions liabilities.

GHG gas stock held	Quantity	Unit	Potential liability (tCO_2e)
Acetylene use	128.15	kilograms	0.43
Ammonia R717 (also known as NH3)	33.00	kilograms	0.00
Argon	2,206.17	kilograms	0.00
Argoshield	436.10	kilograms	0.05
CO_2	8,169.00	kilograms	8.17
Desflurane	4.73	kilograms	8.47
Diesel stationary combustion	33,151.00	litres	88.79
HCFC-22 (R-22, Genetron 22 or Freon 22)	240.00	kilograms	422.40
HFC-134a	6.00	kilograms	7.80
HFC-32	19.87	kilograms	13.45
HFE-449sl (HFE-7100)	72.00	kilograms	30.31
Isoflurane	9.35	kilograms	4.59
LPG stationary commercial	234.00	kilograms	0.70
Methane (CH_4)	42.21	kilograms	1.18
N_2O	205.50	kilograms	54.46
Petrol	400.00	litres	0.95
R-290 (Propane)	0.00	kilograms	0.00
R-404A	11.00	kilograms	43.37
R-407A	0.00	kilograms	0.00
R-407C	0.00	kilograms	0.00
R-410A	249.40	kilograms	479.72
Sevoflurane	5.74	kilograms	1.24
Sulphur Hexafluoride (SF_6)	27.90	kilograms	655.65
Total potential liability			1,821.74

[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.

A1.2.3 Supplementary results

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

APPENDIX 2: SIGNIFICANCE CRITERIA USED

Table 18. 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?
Accommodation		•	•	•	•	•	•	YES
Agricultural soils sheep*	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Air travel domestic, short and long haul (average): Work-related (staff and students)	•	•	•	•	•	•	•	YES
Air travel short and long haul (average): Category 3 - Emissions from Client and visitor transport (International students)	•	•	•	•	•	•	•	YES
Direct fugitive emissions arising from the release of GHGs	ALL Categories 1 and 2 deemed significant in principle		•					YES
Construction & demolition waste*		•	•		•			NO - In progress / will be reported separately once the data are available. Refer to IMR section targets section
Composting		•	•			•	•	YES
Diesel: Fuel cards	ALL Categories 1 and 2 deemed significant in principle	•	•	•				YES

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Diesel stationary combustion: City campus generator	ALL Categories 1 and 2 deemed significant in principle	•	•	•				YES
Diesel stationary combustion: Fire pumps	ALL Categories 1 and 2 deemed significant in principle	•	•					YES
Purchased electricity	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Electricity distributed T&D losses: Category 4 - Emissions from purchased fuel and energy related activities	ALL Energy T&D losses deemed significant in principle		•	•				YES
Enteric fermentation dairy cattle	ALL Categories 1 and 2 deemed significant in principle		•					YES
Enteric fermentation sheep	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Freight			•	•	•		•	YES
LPG stationary commercial	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Manure management sheep*	ALL Categories 1 and 2 deemed significant in principle		•	•				YES

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Natural Gas distributed commercial	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Natural Gas distributed T&D losses: Category 4 - Emissions from the transmission of energy	ALL Energy T&D losses deemed significant in principle		•	•				YES
Paper use: Category 4 - Emissions from purchased goods		•	•				•	YES
Petrol: Fuel cards	ALL Categories 1 and 2 deemed significant in principle	•	•	•				YES
Rental car average (All fuel types)	ALL Categories 1 and 2 deemed significant in principle	•	•	•				YES
Staff commute*				•		•	•	YES
Staff reimbursements	Although de minimis, included as it is material to the completeness of the business travel	•		•	•			YES
Steam generation CO_2e: Purchased from ADHB	ALL Categories 1 and 2 deemed significant in principle		•	•				YES
Taxi (regular)		•	•	•	•	•	•	YES
Waste recycling transportation & processing		•	•			•	•	YES

Emission source	Magnitude	Level of influence	Risk or opportunity	Sector specific guidance	Outsourced	Employee engagement	Intended Use and Users	Include in inventory?
Waste landfilled		•	•	•				YES
Water supply		•	•	•				YES
Waste water				•		•	•	YES
Working from home		•	•	•				YES
* Emission source added in 2024								

APPENDIX 3: CERTIFICATION MARK USE

Waipapa Taumata Rau | The University of Auckland may choose to make use of the Certification Marks for the period 2024 in marketing and communication materials both internally and externally.

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

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

INDEPENDENT AUDIT OPINION
Toitū Climate Impact Programme certification

To the intended users

Organisation subject to audit:	The University of Auckland
Toitū Carbon Programme:	Toitū carbonreduce organisation certification
Audit Criteria:	ISO 14064-1:2018 ISO 14064-3:2019 Toitū Programme Technical Requirements 3.1 Technical Requirements – Audit V3 Certification Mark Guide
Responsible Party:	The University of Auckland
Intended users:	The members of the Sustainable Estate and Operations Working Group and Governance Group, and the wider community of Waipapa Taumata Rau.
Registered address:	Princes Street, Auckland, 1010, New Zealand
Inventory period:	1/01/2024 - 31/12/2024
Inventory report:	IMR_2024_The University of Auckland_CR_Org.pdf

We have reviewed the greenhouse gas emissions inventory report ("the inventory report") for the above named Responsible Party for the stated inventory period.

Responsible Party's Responsibilities

The Management of the Responsible Party is responsible for the preparation of the GHG statement in accordance with ISO 14064-1:2018 and the requirements of the stated Toitū carbon programme. This responsibility includes the design, implementation and maintenance of internal controls relevant to the preparation of a GHG statement that is free from material misstatement.

Verifiers' Responsibilities

Our responsibility as verifiers is to express a verification opinion to the agreed level of assurance on the GHG statement, based on the evidence we have obtained and in accordance with the audit criteria. We conducted our verification engagement as agreed in the audit letter, which define the scope, objectives, criteria and level of assurance of the verification.

The International Standard ISO 14064-3:2019 requires that we comply with ethical requirements and plan and perform the verification to obtain the agreed level of assurance that the GHG emissions, removals and storage in the GHG statement are free from material misstatement.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit carried out in accordance with the ISO 14064-3:2019 Standards will always detect a material misstatement when it exists. The procedures performed on a limited level of assurance vary in nature and timing from, and are less in extent compared to reasonable assurance, which is a high level of assurance. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of the information we audited.

GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Basis of verification opinion

Our responsibility is to express an assurance opinion on the GHG statement based on the evidence we have obtained. We conducted our assurance engagement as agreed in the Contract which defines the scope, objectives, criteria and level of assurance of the verification.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Verification

We have undertaken a verification engagement relating to the Greenhouse Gas Emissions Inventory Report (the 'Inventory Report')/Emissions Inventory and Management Report of the organisation listed at the top of this statement and described in the emissions inventory report for the period stated above.

The Inventory Report provides information about the greenhouse gas emissions of the organisation for the defined measurement period and is based on historical information. This information is stated in accordance with the requirements of International Standard ISO 14064-1 Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals ('ISO 14064-1:2018') and the requirements of the stated Enviro-Mark Solutions Limited (trading as Toitū Envirocare) programme.

Verification strategy

Our verification strategy used a combined data and controls testing approach. Evidence-gathering procedures included but were not limited to:
—activities to inspect the completeness of the inventory;
—interviews of site personnel to confirm operational behaviour and standard operating procedures;
—reviewing emission factors for accuracy and appropriateness;
—sampling of fuel, electricity, business travel, and student travel records
—recalculation of emissions;
The data examined during the verification were historical in nature.

Basis for modified verification opinion

The following qualifications have been raised in relation to the verification opinion:

The opinion is unmodified

Verification level of assurance

ISO CATEGORY	LOCATION BASED tCO_2e	LEVEL OF ASSURANCE
Category 1	4,984.91	Reasonable
Category 2	7,570.48	Reasonable
Category 3 (mandatory), business travel	19,047.29	Reasonable
Category 3 (mandatory), excluding business travel	56.90	Limited
Category 3 (additional)	38,035.60	Limited
Category 4 (mandatory)	896.89	Limited
Category 4 (additional)	670.15	Limited
TOTAL NET EMISSIONS	**71,262.22**	

Responsible party's greenhouse gas assertion (certification claim)

Toitū carbonreduce organisation certified: Waipapa Taumata Rau | University of Auckland including Auckland Uniservices Limited, all campuses and operational emissions. Toitū carbonreduce certified means measuring emissions to ISO 14064-1:2018 and Toitū requirements; and managing and reducing against Toitū requirements.

Verification conclusion

EMISSIONS - REASONABLE ASSURANCE
We have obtained all the information and explanations we have required. In our opinion, the emissions, removals and storage defined in the inventory report, in all material respects:
• comply with ISO 14064-1:2018 and the requirements of the stated Toitū Climate Impact Programme; and
• provide a true and fair view of the emissions inventory of the Responsible Party for the stated inventory period.

EMISSIONS - LIMITED ASSURANCE
Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the emissions, removals and storage defined in the inventory report:
• do not comply with ISO 14064-1:2018 and the requirements of the stated Toitū Climate Impact Programme; and
• do not provide a true and fair view of the emissions inventory of the Responsible Party for the stated inventory period.

Other information

The responsible party is responsible for the provision of Other Information to meet Climate Impact Programme requirements. The Other Information may include emissions management and reduction plan and purchase of carbon credits, but does not include the information we verified, and our auditor's opinion thereon.

Our opinion on the information we verified does not cover the Other Information and we do not express any form of audit opinion or assurance conclusion thereon. Our responsibility is to read and review the Other Information and consider it in terms of the programme requirements. In doing so, we consider whether the Other Information is materially inconsistent with the information we verified or our knowledge obtained during the verification.

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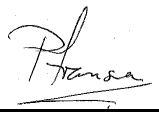
	VERIFIED BY	AUTHORISED BY
Name:	Pieter Fransen	Billy Ziemann
Position:	Verifier, Toitū Envirocare	Certifier, Toitū Envirocare
Signature:		

Date verification audit:	25 June 2025	
Date opinion expressed:	2 July 2025	22 July 2025

TOITŪ CARBON REDUCE ISO 14064-1 ORGANISATION

STATEMENT OF TOITŪ CARBONREDUCE CERTIFICATION [i]

FOR WAIPAPA TAUMATA RAU | THE UNIVERSITY OF AUCKLAND

Waipapa Taumata Rau University of Auckland

Statement for 01 January 2024 to 31 December 2024

Toitū carbonreduce organisation certified: Waipapa Taumata Rau | The University of Auckland including Auckland Uniservices Limited, all campuses and operational emissions

Toitū carbonreduce means committing to ongoing reductions while achieving annual requirements for at least the Toitū mandatory emissions.[ii]

Measured emissions to ISO 14064-1:2018 and Toitū requirements

Managing and reducing against Toitū requirements

This report provides a summary of the annual greenhouse gas (GHG) emissions inventory and management report for Waipapa Taumata Rau | The University of Auckland as part of the annual work to achieve Toitū carbonreduce certification. Additional details of the annual achievements, commitments, and verification are available on request from Waipapa Taumata Rau | The University of Auckland.

Toitū carbonreduce organisation certified: The University of Auckland including Auckland Uniservices Limited, all campuses and operational emissions. Toitū carbonreduce certified means measuring emissions to ISO 14064-1:2018 and Toitū requirements; and managing and reducing against Toitū requirements.

The overall purpose of this report is to support the implementation of Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy and associated Sustainable Estate and Operations initiatives and plans. The main objective is to identify the Greenhouse Gas emissions profile of the University in a manner that is consistent with best practice and the latest international standards.

Achievements

These achievements have been verified in line with ISO 14064-3:2019 and Toitū carbonreduce Programme Technical Requirements for the 01 January 2024 to 31 December 2024 measurement period.

Emissions measurement

Waipapa Taumata Rau | The University of Auckland's greenhouse gas emissions for this year (01 January 2024 to 31 December 2024) were 71,262.22 tCO_2e. Waipapa Taumata Rau | The University of Auckland has measured the emissions resulting from its operational activities, purchased energy, and selected impacts from its value chain activities, including business travel, freight, and waste sent to landfill. The annual inventory is detailed in the following table. Emissions and reductions are reported using a location-based methodology. [iii]

The data and information supporting the measurement of GHG emissions were historical in nature.

Category (ISO 14064-1:2018)	Scopes (GHG Protocol)	GHG emissions (tCO_2e) Base Year 2019	Previous Year 2023	Current Year 2024
Category 1: Direct emissions (tCO_2e)	Scope 1	5,667.38	5,771.49	4,984.91
Category 2: Indirect emissions from imported energy (location-based method*) (tCO_2e)	Scope 2	8,066.06	5,395.07	7,570.48
Category 3: Indirect emissions from transportation (tCO_2e)	Scope 3	65,935.12	49,357.02	57,139.79
Category 4: Indirect emissions from products used by organisation (tCO_2e)		2,799.14	1,405.77	1,567.04
Category 5: Indirect emissions associated with the use of products from the organisation (tCO_2e)		0.00	0.00	0.00
Category 6: Indirect emissions from other sources (tCO_2e)		0.00	0.00	0.00
Total gross emissions* (tCO_2e)		82,467.70	61,929.35	71,262.22
Total net emissions (tCO_2e)		82,467.70	61,929.35	71,262.22

*Gross and net emissions are reported using a location-based methodology. Contact Waipapa Taumata Rau | The University of Auckland for full details.

The operational GHG emission sources included in this inventory are shown in Figure 1 below.

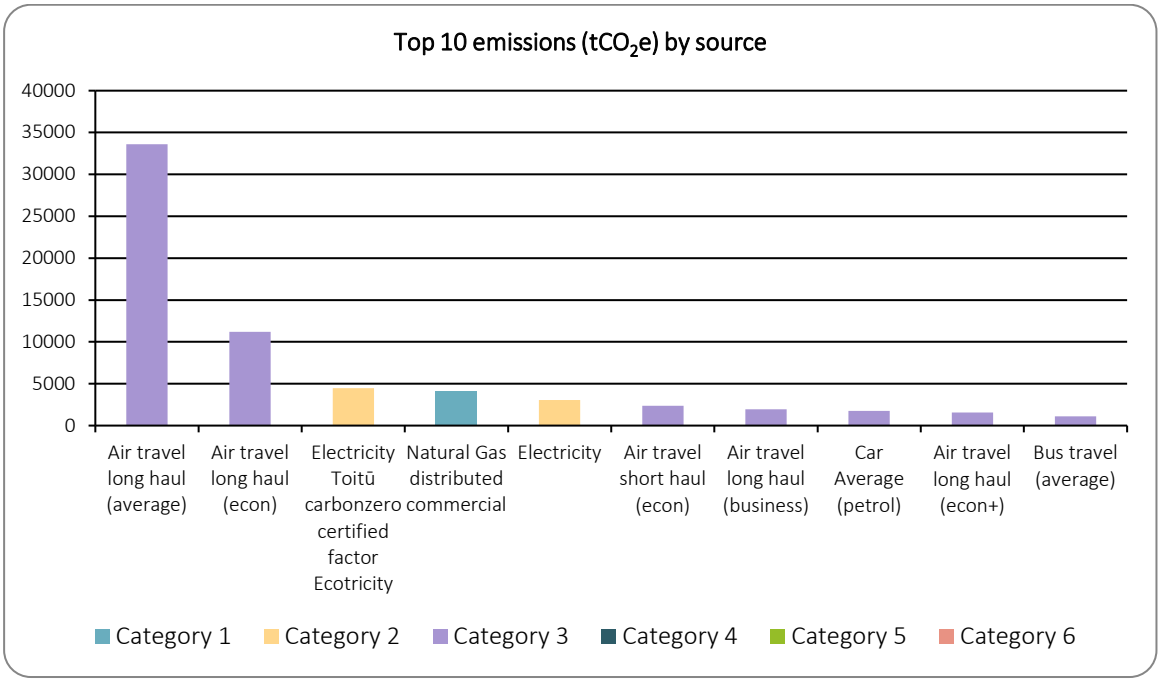


Figure 1: Top 10 GHG emissions (tonnes CO_2e) by source

Scope of Measured inventory

CONSOLIDATION APPROACH

An operational control consolidation approach was used to account for emissions. Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2018 standards.[iv]

The operational control approach was chosen as the University has control over its operations and has authority to introduce operating policies and corresponding implementation plans.

BOUNDARIES

The University of Auckland was established by The University of Auckland Act 1961. The University of Auckland (the University), Auckland UniServices Limited (AUL), and the University of Auckland Foundation (the Foundation) are all controlled entities and together form 'the Group'. AUL operates in China and has a branch in the Kingdom of Saudi Arabia although both are currently in the process of liquidation and will be deregistered once all regulatory requirements have been met. The principal activities of the University and AUL are the provision of teaching and research services. The principal activities of the Foundation are raising and stewardship of funds for charitable purposes and advancement of education and health care, assistance of students to pursue courses of study at The University of Auckland, and the general advancement of the University.

The central office of the University's management is located at the Clock Tower, 22 Princes St, Auckland, New Zealand.

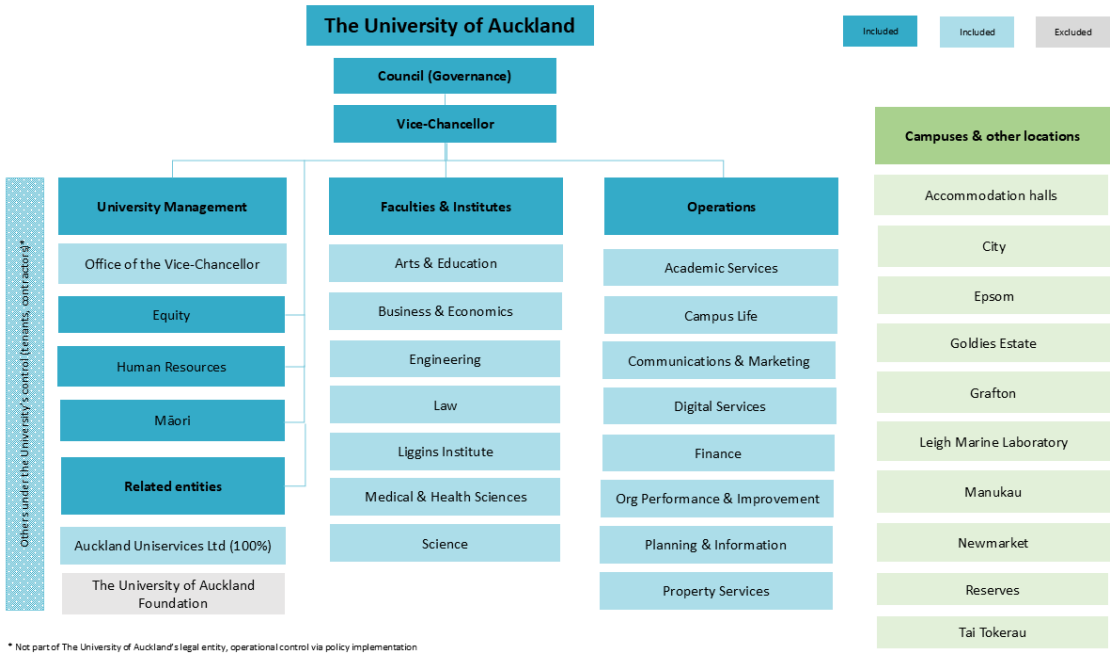


Figure 2: Organisational structure showing business units included and excluded

The University Foundation is excluded from the GHG emissions boundary as it is not under the operational control of the University. The principal activities of the Foundation are raising and stewardship of funds for charitable purposes and advancement of education and healthcare, assistance of students to pursue courses of study at the University of Auckland, and the general advancement of the University. Excluded emissions do not exceed 5% of the total footprint within the organisation boundary stated.

The Auckland UniServices Limited (AUL) operations in China and the Kingdom of Saudi Arabia are also excluded from the GHG emissions boundary as these are not under the University's operational control and are currently in the process of liquidation. Both will be deregistered once all regulatory requirements have been met.

Managing and reducing

This is the fifth year of reporting under the Toitū carbonreduce programme. An absolute reduction in Category 1 and 2 emissions of 1,178.05 tCO2e has been achieved against base year. A reduction in emissions intensity (for Category 1, 2 and mandatory Category 3 and 4 emissions) of 16.42 tCO2e/$M has been achieved based upon a 5-year rolling average, adjusted for inflation.

Figure 3: Performance against target since the base year

In 2024, the University's carbon profile continued to show an overall upward trend compared to the previous year. Total emissions reached 71,262 tCO_2e, representing a 15% increase from 2023. However, this year-on-year growth is less than half the rate observed between 2022 and 2023 (31%). Encouragingly, the University has not returned to baseline levels—total emissions remain 13.6% below the 2019 baseline, despite the year-on-year increase.

During the initial years of the Net Zero Carbon Strategy and its implementation plans, the University has made significant improvements in data quality and expanded the inventory to include additional emission sources. These newly added sources account for over 3,000 tCO_2e and are reflected in the progress against baseline figures presented later in this report. If the impact of these additions and the improvements in data completeness and accuracy—particularly within the University's supply chain—were fully quantified, the overall emissions performance against the baseline would show even more positive results.

As expected, the three primary sources of emissions for this reporting period were:

Air travel

Electricity

Gas

Emissions from waste are also included in the University's target commitments and continue to be monitored.

Work-related air travel accounted for 26.5% of total gross emissions—1.5% lower than in 2023. However, emissions from this activity were 5.8% higher than the previous year. Despite this increase, air travel emissions remain 35.5% below the 2019 baseline, with 30 million fewer kilometres travelled.

Emissions from imported energy (using the location-based method) are 8.8% lower than the baseline. However, there was a 13.5% year-on-year increase, reaching 11,739 tCO_2e when electricity and gas are combined. This spike is attributed to changes in emission factors, driven by increased fossil fuel use for electricity generation in New Zealand during a dry year. The University's electricity consumption rose by 2.5% compared to 2023, and by approximately 4.5 million kWh relative to the 2019 baseline. This increase is expected as decarbonisation progresses, particularly with the decommissioning of natural gas plant and equipment across the estate. When electricity and gas consumption are considered together, usage was 2.3% lower than last year.

A positive result in 2024 was the reduction in gas consumption and associated emissions, which fell by 19.2% and 19%, respectively, compared to the 2019 baseline. The year-on-year trend also shows positive progress, with 16.3% less gas used than in the previous reporting period.

In Q4 2024, the University transitioned away from purchasing Renewable Energy Certificates and began sourcing electricity from CarbonZero-certified suppliers. Additionally, it reached a key milestone by starting to generate electricity from solar panels installed on the award-winning GreenStar6 building, B201.

Amidst a continued upward trend compared to the previous year, emissions have remained below the baseline for all specific targets set within the Net Zero Carbon Strategy's progressive pathway. Work-related air travel emissions are 35.5% lower than the baseline, while energy and fuel-related emissions are 10.5 % lower than in 2019 when measured using the location-based methodology. This below-target result should be considered in the context of a 40% increase in grid electricity emission factors applied under the location-based method. Once CarbonZero electricity is accounted for, the results would place the University well within the expected target trajectory.

The 46% reduction in emissions from waste and recycling should be interpreted with care. This figure reflects the use of landfill sites equipped with gas recovery systems (causing emissions to be lower) and the inclusion of emissions from recycling processes—an area often omitted from many inventories. This broader accounting helps avoid the misconception of recycling as a complete solution to waste, rather than emphasising waste prevention.

As noted, the University has made significant progress in improving data quality, including the addition of new emission sources to the inventory. These sources were known to be significant or material but lacked data at the time the baseline was established. These improvements have added over 3,000 tCO_2e to the overall emissions.

By setting absolute targets, the University has demonstrated a strong commitment to meaningful change and alignment with scientific evidence. Notably, collective efforts have led to consistent year-on-year reductions in intensity targets. In 2024, total gross emissions are, when compared to 2019 baseline:

31% lower per m^2 of Built Environment (GFA),

18% lower per Equivalent Full-Time Student (EFTS),

20% lower per Full-Time Employee (FTE), and

31% lower per unit of operating revenue

Te Taumata Tukuwaro-kore | Net Zero Carbon Progressive Pathway - Target name	Baseline period	Target date	Reduction target	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments	Interim target date	Interim reduction target	Current performance against 2025 interim target
Work related Air travel, staff and students	2019	2030	50%	Absolute	18,850	-35.5	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions.	2025	25%	Achieved and surpassed

Te Taumata Tukuwaro-kore | Net Zero Carbon Progressive Pathway - Target name	Baseline period	Target date	Reduction target	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments	Interim target date	Interim reduction target	Current performance against 2025 interim target
Energy and fuel	2019	2030	50%	Absolute	11,997	-10.5	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions. Note the emission factor for grid source electricity increased almost 40% in 2024.	2025	25%	Based on location method, a further 15.5 % reduction required to achieve the target. When accounting for NetZero sourced electricity, the target has been met and surpassed.

Te Taumata Tukuwaro-kore | Net Zero Carbon Progressive Pathway - Target name	Baseline period	Target date	Reduction target	Type of target (intensity or absolute)	Current performance (tCO_2e)	Current performance (%)	Comments	Interim target date	Interim reduction target	Current performance against 2025 interim target
Waste	2019	2030	50%	Absolute	534	-46.1	Performance is based on verified 2019 figures and is influenced by: University's efforts to reduce emissions, data improvements via internal processes and supplier engagement, more accurate emission factors available, and emission factor changes beyond the University's control. Refer to the summary of emissions that includes quantities in units of measure for a more comprehensive assessment of the University's efforts to reduce emissions.	2025	25%	Achieved and surpassed

Commitments

Reduction targets

Waipapa Taumata Rau | The University of Auckland is committed to managing and reducing its emissions. Waipapa Taumata Rau | The University of Auckland's commitments, including GHG emissions reduction targets and plans, have been reviewed and are in line with Toitū carbonreduce programme requirements.

Targets have been set as part of the commitments of Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy, published in Q4 2022.

Progressive pathway and targets - Te Taumata Tukuwaro-kore -Net Zero Carbon Strategy, November 2022						
Ambition level	Source	2022	2023	2024	2025	2030
Net Zero boundary (GHG baseline 2019)	- Travel (work related) - Energy - Waste (landfill and recycling)	Develop Implementation Plan	Launch implementation plan	Launch implementation plan	25 % Reduction Target	50% Reduction Target
Extended Net Zero boundary (GHG baseline 2019 gaps)	- Travel (international students inbound) - Waste: construction and demolition - Working from home - Staff and student commuting - Freight and couriers	Start/improve data gathering	Establish / Improve baseline	Set Targets		Achieve target set in 2024
Data improvement, monitoring (2025 target review cycle)	- Embodied Carbon (from materials) - Information and Communication Technology - Food on campus	Develop	Start data gathering	Assess significance	Set targets / develop implementation plan	Achieve targets set in 2025
Mitigation programme for residual emissions	- Mitigation boundary	Establish mitigation boundary	Develop a well-informed, evidence-based carbon mitigation programme	Develop a well-informed, evidence-based carbon mitigation programme	Begin mitigation programme	Achieve Net Zero Trajectory Status

Looking ahead, Waipapa Taumata Rau | The University of Auckland is currently focused on the following projects.

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Work-related air travel	Create Air Travel Dossier in the new Enterprise Management System to provide better tools for managers to assist decision making about air travel.	The Air Travel Dossier final version is active and accessible to all University Staff via their login.	Strategic Procurement, Planning & Information Office, Sustainability Office	Completed	Improved alignment with the University's data governance strategy.	None anticipated	n/a
Energy and Fuel	B114 Teaching spaces upgrade and decarbonisation	Decommissioned gas boiler and upgraded heating to electric panel and new HVAC system.	Property Services	Completed			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B114 Teaching spaces upgrade and decarbonisation	The new LED lighting system and room temperature control have been explored to attain more energy-efficient light fittings and heating with modern control systems, further increasing efficiency and lowering running costs. This also	Property Services	In progress			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
		reinforced the option to decommission the existing gas boiler heating system thereby proving the University's commitment to a sustainable estate and carbon reduction.					
	B614 O'Rorke Stage 2 Works	- Decarbonisation of domestic hot water system	Property Services	In progress			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
		- Replaced all existing bedroom furniture (wardrobes and bookshelves) and dining hall furniture. All the old wardrobes and bookshelves were donated to charity. - Waste materials recycled, including metal from old light fittings and heaters.					

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B109 Student Service Hub	Cleared asbestos material above the ceiling AND - Lighting upgraded to LED Lights - Ceiling - Paint - Carpet - Furniture - New meeting room AV systems	Property Services	Completed	Health and safety improvement.	None anticipated	

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B109 Decentralisation and de-carbonisation of building infrastructure and services	Feasibility studies on B109 Building Services (CHW & HHW system, Electrical distribution, and field equipment's) Pre-requisite for actual decarbonisation.	Property Services	Completed	Improved resilience.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	Sector 200 Power infrastructure upgrade	Enabling works to provide incoming mains for decarbonisation of B251 & B252 (Marae), B253 (Māori Studies) and B273 & B275 (Fale).	Property Services	Completed			
	B601, B602 & B603 – Gas decommissioning as part of required demolition	A gas connection to the site which was decommissioned.	Property Services	Completed			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	Upgrade energy monitoring system	System implementation completed to improve monitoring of energy consumption and on-site generation.	Property Services	Completed	Improved alignment with the University's data governance strategy.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B432-126 & 127 CAI Improvement of office environment	A heat recovery unit was installed in Room 127, supplying fresh air to Rooms 126 and 127 to improve air circulation and reduce moisture buildup. This reduced energy use through using heat from one part of the building to heat another area and supported a healthier, indoor environment.	Property Services	Completed	Health and safety improvement.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B604: Improve Leigh Marine Research Centre	Replacement of aquarium tank rooms, seawater tanks and installation of new filtration systems. Cantilever platform installed to facilitate plant and materials transportation.	Property Services	Completed	Enhance marine research capabilities. Directly benefitting current research including: - Invasive Caulerpa seaweed, Effects of microplastics on seafloor ecology, Carbon sequestration in kelp forests, Physiological basis of sleep in fish, using sharks as a model, Excessive growth in sea urchin populations, Health of farmed salmon. https://www.auckland.ac.nz/en/news/2025/02/03/-state-of-the-art-aquariums-will-boost-marine-research-.html		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	B620, B260 Carpark and 500 Sector Lecture Theatre Lighting Upgrades (project initiated in 2023 as included in IMR 2023)	Converted to high efficiency lighting devices. Upgraded to energy-efficient LED fittings. Light fittings were also upgraded with lighting controls.	Property Services	Completed	Improved user experience, health and safety.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Waste	B_OCH Old Choral Hall - Construction waste recovery/recycling and diversion from landfill (project reporting in 2023)	Project is in final stages. Results to be included as part of streamlined monitoring of Construction and Demolition in projects within the next two reporting cycles.	Property Services	In progress	Lessons learned for better supplier engagement.		
	External waste audit (operational waste).	Operational waste auditing resumed. Expected to take place every 2-3 reporting cycles.	Property Services, Environment and Sustainability Office sponsored	Completed			

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	Waste audit - work integrated learning experience for University of Auckland Students	Three students took the opportunity to be part of the waste audit team.	Property Services, Environment and Sustainability Office sponsored	Completed	Improved access of students to work experience and direct contact with professionals in their field of study.		
	Waste audit - webinar for internal stakeholder engagement	Webinar to socialise the results of the audit and discuss how staff can contribute to waste reduction targets via their portfolios and roles.	Property Services, Environment and Sustainability Office sponsored	Completed	Improved staff engagement.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
C&D Waste	B601, B602 and B603 – Demolition	Waste materials recycled. Furniture and books donated to charity.	Property Services	Completed			

Progressive pathway - Net zero extended boundary	Wynyard Street (reported in 2023 in progress)	Sustainable streetscape prioritising people and biodiversity over cars. Improved the way water flows on the land and much improved accessibility lungs. Increased biodiversity through a range of native plantings and planted lung which includes a rain garden. Improved resilience of the estate infrastructure (underground services routes and stormwater drainage future-proofed).	Property Services	Completed	Improved amenity for staff, students and visitors, improved accessibility, well-being, security and lighting, increased distinctive sense of place and visible presence demonstrating the cultural narrative, improved traffic flow and site safety.		
	Newmarket landscape (reported in	Original project design (concrete mass and gravel)	Property Services	Completed	Integration of a cultural narrative specific to Newmarket and its place in Aotearoa, improved site access, improved site safety, improved circulation and amenities.		

	2023 in progress)	reviewed and adjusted to significantly reduce impervious surface, enable stormwater treatment and improve biodiversity. Created a nature-rich environment, including tree planting to provide shade, attract wildlife and increase biodiversity. Added covered and uncovered seating. Enabled stormwater treatment through raised boardwalk and improved flood resilience. A sustainable solution for a challenging site that tends to create water pools at the low point.					

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
	University of Auckland Community Garden	Feasibility investigations and initial concept.	Property Services, Environment and Sustainability Office sponsored	Completed	Site deemed unsuitable in current state. Further opportunities expected to be explored within the next two reporting cycles.		

Measure: see Net Zero Carbon Progressive Pathway in: Te Taumata Tukuwaro-kore | Net Zero Carbon Strategy	Project	Detail	Responsibility	Status/Completion date/BAU	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
All measures	Sustainable Design Guidelines	Published guidelines to operationalise the principles of sustainable design and exceed many of the wider regulatory frameworks and standards for sustainability and environmental performance.	Property Services, Environment and Sustainability Office sponsored	Completed	Improve supplier engagement opportunities as the guidelines can be used as part of briefs to third parties such as consultants and collaboration. It is publicly available and can be accessed by students and the general public via the University's sustainability website.		

Certificate details

CERTIFICATION STATUS:	Toitū carbonreduce certified organisation
CERTIFICATE NUMBER:	2024337J, Year 2 of 3 year certificate period[v]
ISSUED:	22 July 2025
VALID UNTIL:	16 October 2027
MEASUREMENT PERIOD:	01 January 2024 to 31 December 2024
BASE YEAR:	01 January 2019 to 31 December 2019
AUDITED BY:	Toitū Envirocare
ASSURED BY:	Toitū Envirocare
CERTIFIED BY:	Toitū Envirocare
LEVEL OF ASSURANCE:	Reasonable for category 1, 2 and category 3 business travel, Limited for remaining categories

[i] ©Enviro-Mark Solutions Limited 2020.

Disclaimer: This Certification Summary Statement is a summary of the information (validated and verified for relevant components of the certification) considered for certification and the certification decision. It should not be taken to represent the full submission for certification. Whilst every effort has been made to ensure that the information in this Statement is accurate and complete, Enviro-Mark Solutions Limited (trading as Toitū Envirocare) does not, to the maximum extent permitted by law, give any warranty or guarantee relating to the accuracy or reliability of the information.

Enviro-Mark Solutions Limited (trading as Toitū Envirocare) head office, located at Toitū Envirocare, The Formery, 87 Albert Street, Auckland Central, Auckland 1010, New Zealand, is a third-party validation / verification body.

[ii] The mandatory sources that must be included in any Toitū carbon programme inventory include:

- All direct emissions from the activities of the organisation, or the part of the organisation being certified. Direct emissions come from assets owned or controlled by the organisation, such as emissions from fleet vehicles, boilers, generators and HVAC systems.
- All emissions from imported energy (electricity, heat and steam)
- Emissions from business travel and freight paid for by the organisation
- Emissions associated with waste disposed of by the organisation, as well as the transmission and distribution of electricity, and natural gas

[iii] All purchased and generated energy emissions are dual reported using both the location-based method and market-based method in the certified Inventory Report and appendices. This summary document presents the information using the location-based method. Note that reductions and any required compensation are assessed using that 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. This dual reporting aligns with ISO 14064-1:2018 and the GHG Protocol. Please contact this organisation for the dual reporting details applicable to this inventory.

[iv] 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.

[v] In year 1 (recertification year) of the certificate validity period, this certification summary statement also serves as the verification/validation statement required by paragraph 9.7 of ISO 17029:2019. In year 2 or 3 (surveillance year) this certification summary statement serves only as a summary of the results of the verification/validation of the GHG Statement.

Toitū carbonreduce organisation certified: Waipapa Taumata Rau | The University of Auckland including Auckland Uniservices Limited, all campuses and operational emissions

Measured emissions to **ISO 14064-1:2018** and
Toitū requirements

ACHIEVEMENT CLAIMS

Measure period: 01/01/2024 - 31/12/2024

Toitū boundary, category 1: 4,984.91 tCO_2e
Toitū boundary, category 2: 7,570.48 tCO_2e
Toitū boundary, category 3-6: 20,001.08 tCO_2e
Toitū boundary, total: 32,556.47 tCO_2e

Additional emissions, category 3-6: 38,705.75 tCO_2e

All measured emissions: 71,262.22 tCO_2e

Managing and reducing against
Toitū requirements

ACHIEVEMENT CLAIMS

Toitū boundary cat 1 and 2: - 1,178.05 tCO_2e against base year

Toitū boundary, total: - 16.42 tCO_2e/$M based on a 5 year rolling average

COMMITMENT CLAIMS

Reduce absolute total energy and fuel emissions by 25% by the year 2025, relative to base year.

Reduce absolute total work related travel emissions by 50% by the year 2030, relative to base year.

Date issued: 22 July 2025 | Valid until: 16 October 2027 | Certificate Number: 2024337J | Certification Status: Certified Organisation
Company Address: Princes Street, Auckland, 1010, New Zealand | Level of Assurance: Reasonable for category 1, 2 and category 3 business travel, Limited for remaining categories
Audited by: Toitū Envirocare | Assured by: Toitū Envirocare | Certified by: Toitū Envirocare