



SUMMARY OF TOITŪ CARBONREDUCE CERTIFICATION¹

FOR LINCOLN UNIVERSITY



Summary for 01 January 2023 to 31 December 2023

TOITŪ CARBONREDUCE ORGANISATION CERTIFIED: LINCOLN UNIVERSITY (INCLUDING ALL CAMPUS OPERATIONAL EMISSIONS AND LINCOLN AGRITECH LIMITED)

Toitū carbonreduce means committing to ongoing reductions while achieving annual measurement 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 Lincoln University 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 Lincoln University.

Toitū carbonreduce organisation certified: Lincoln University (including all campus operational emissions and Lincoln Agritech Limited). Toitū carbonreduce certified means measuring emissions to ISO 14064-1:2018 and Toitū requirements; and managing and reducing against Toitū requirements.

This report is the annual greenhouse gas (GHG) emissions inventory report for the named organisation. The inventory is a complete and accurate quantification of the amount of GHG emissions 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 measure-step of the Programme, which is based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

ACHIEVEMENTS

These achievements have been verified in line with ISO 14064-3:2019 and Toitū carbonreduce Programme Technical Requirements for the 01 January 2023 to 31 December 2023 measurement period.

EMISSIONS MEASUREMENT

Lincoln University's greenhouse gas emissions for this year (01 January 2023 to 31 December 2023) were 7,019.12 tCO₂e. Lincoln University 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 market-based methodology.ⁱⁱⁱ

Category (ISO 14064-1:2018)	Scopes (GHG Protocol)	GHG emissions (tCO ₂ e)		
		Base Year 2019	Previous Year 2022	Current Year 2023
Category 1: Direct emissions (tCO ₂ e)	Scope 1	4,572.08	5,004.68	4,728.72
Category 2: Indirect emissions from imported energy (location-based method*) (tCO ₂ e)	Scope 2	827.81	0.00	0.00
Category 2: Indirect emissions from imported energy (market-based method*) (tCO ₂ e)		0.00	0.00	0.03
Category 3: Indirect emissions from transportation (tCO ₂ e)	Scope 3	2,939.73	1,456.73	2,026.75
Category 4: Indirect emissions from products used by organisation (tCO ₂ e)		215.58	135.42	263.62
Category 5: Indirect emissions associated with the use of products from the organisation (tCO ₂ e)		0.00	2.38	0.00
Total indirect emissions* (tCO ₂ e)		3,983.11	1,594.53	2,290.40
Total gross emissions* (tCO₂e)		8,555.20	6,599.21	7,019.12
Total net emissions (tCO₂e)		8,555.20	6,599.21	7,019.12

*Gross and net emissions are reported using a market-based methodology. Contact Lincoln University for full details.

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

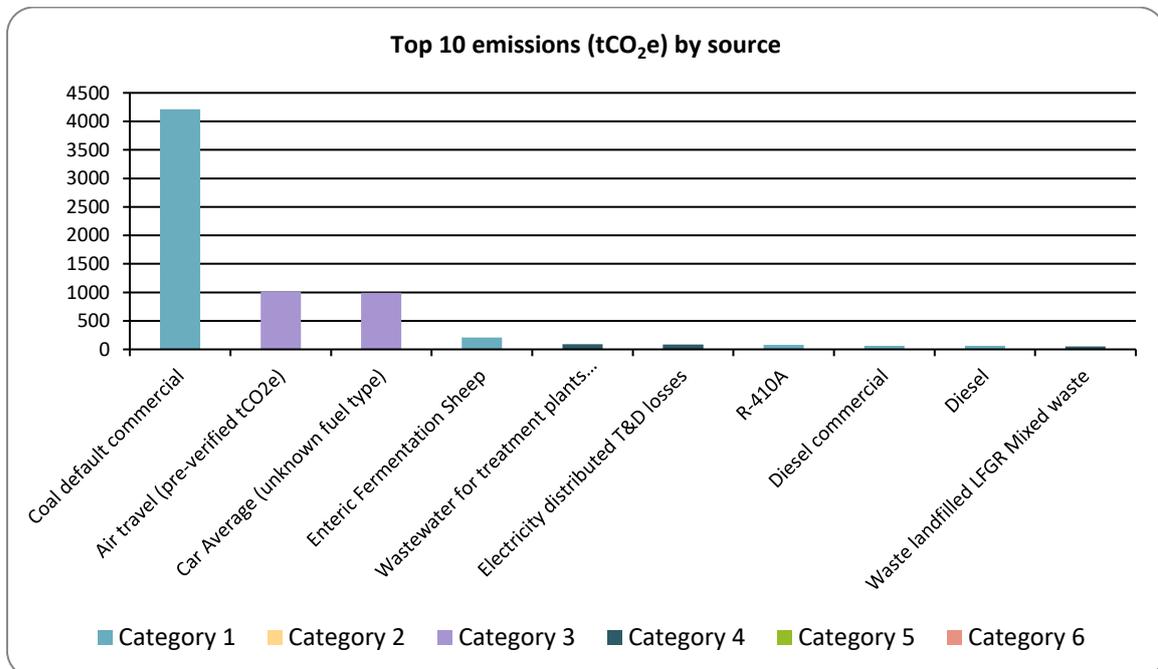


Figure 1: Top 10 GHG emissions (tonnes CO₂e) by source

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}

An operational control consolidation approach has been chosen as it reflects full authority LU has to introduce and implement its operating policies, and accounts for 100% of emissions from operations.

BOUNDARIES

Lincoln University has focused this audit on the larger Te Waihora campus of 120.5 hectares which is the 59ha title that is predominantly teaching and accommodation space, and the adjacent 61.5ha title including the Biological Husbandry Unit (BHU) and Johnstone Memorial Laboratory (JML). This audit does not include the surrounding Lincoln University farms at this stage as there is a separate measuring guide for this sector.

The audit has not broken-down details to business units. This will be done once more robust data collection processes are in place. Lincoln Agritech Limited is a subsidiary of Lincoln University. While its operational work is not included, they have been included in the footprint from buildings etc. This means that there is only one site for this audit.

The Lincoln University Property Joint Venture is also noted in this audit as it is a registered subsidiary operating within the campus. Activities from subsidiaries are covered in this audit through the general operation.



Figure 2: Organisational structure showing business units included and excluded

The Lincoln University farms are excluded from this report due to their sector targets and guidelines. Excluded emissions do not exceed 5% of the total footprint within the organisation boundary stated.

We are currently working with Toitū to establish separate farm carbon certification by the end of 2024.

Lincoln Agritech Limited is aggregated for the onsite footprint and is expected to be separated out in future audits.

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 671.15 tCO₂e has been achieved against base year. A reduction in emissions intensity (for Category 1, 2 and mandatory Category 3 and 4 emissions) of 7.88 tCO₂e/\$M has been achieved based upon a 5 year rolling average.

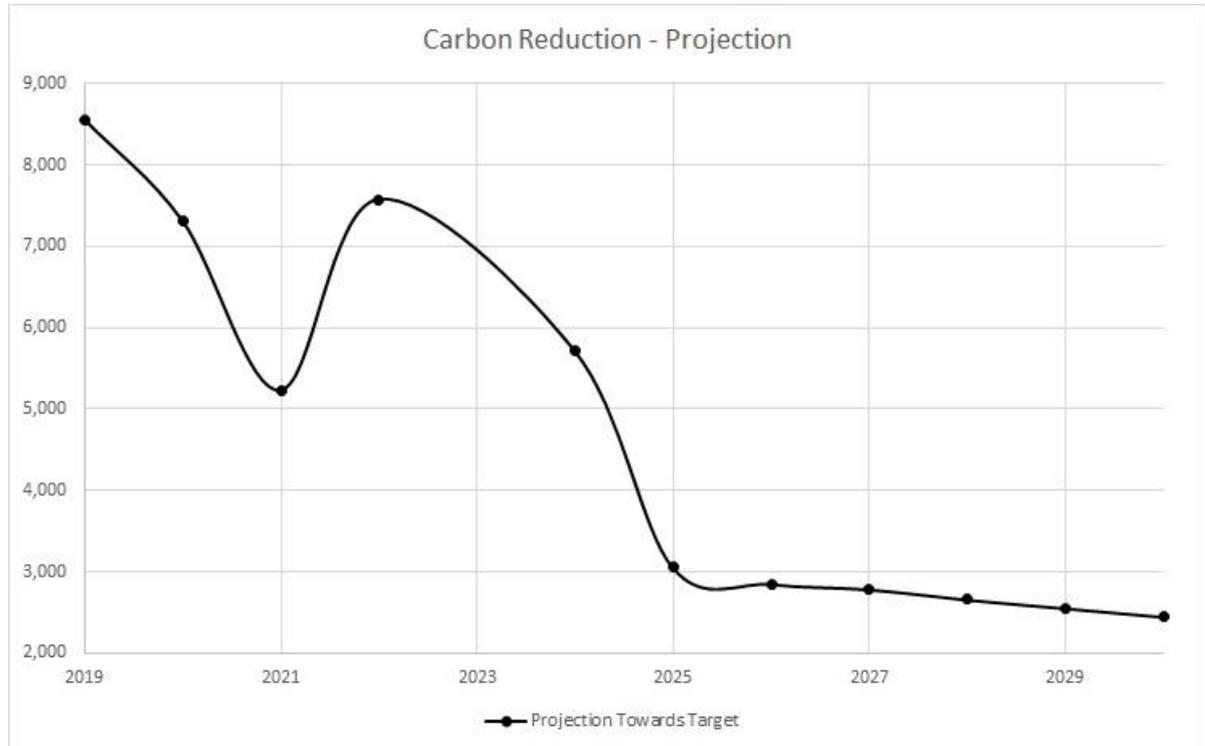


Figure 3: Performance against target since the base year

The University's overall annual carbon footprint has been reduced by 19% compared to 2019 base year, but has increased by 5% compared with previous year. In 2023 it achieved its target of purchasing electricity from 100% renewable sources, as signed an agreement with Meridian to purchase REC's from 1 January 2022.

LU is on track to achieve numerous targets such as:

- 50% air travel reduction by 2030 (reduced 58%)
- 100% EV fleet by 2024 (33% of fleet is EV)
- 75% reduction of waste to landfill by 2030 (increase 5%)

University is at its final stages to announce Lincoln University Carbon Emission Reduction target of 2,500 tCO₂e by 2030. In 2023 we have reduced our emissions compared to baseline year by 19%, and we are on track to achieve our 2030 target. We expect a significant reduction in emissions in 2024 due to coal boiler shutdown.

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Current performance (tCO ₂ e)	Current performance (%)	Comments
Carbon Neutrality	2019	2030	absolute	6926	19%	19% reduction in our carbon footprint compared to base line year was mostly achieved due purchasing certified renewable electricity and successful implementation of carbon mitigation projects

COMMITMENTS

REDUCTION TARGETS

Lincoln University is committed to managing and reducing its emissions. Lincoln University's commitments, including GHG emissions reduction targets and plans, have been reviewed and are in line with Toitū carbonreduce programme requirements.

The Sustainability Plan outlines our targets for this report and in alignment with achieving our Plan Goal of being carbon neutral by 2030 and net carbon zero by 2050. This goal was set in alignment with the New Zealand Goal of having carbon net zero emissions by 2050 (refer Zero Carbon Act 2019).

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Categories covered	Target	KPI	Responsibility	Rationale
Renewable energy by 2024	01 - January 2019 - 31 December 2019	1/03/2024	Absolute		100%	Increase in on-site renewable electricity	Sustainability Taskforce Member - Campus Development Programme Representative	Achievable through the Heating Infrastructure and Plant Decarbonisation Plan within the Campus Development Programme
Diesel generators decommissioned by 2030	01 - January 2019 - 31 December 2019	2030	Absolute	1	100%	Increase in on-site renewable electricity	Sustainability Taskforce Member - Campus Development Programme Representative	Achievable through the Heating Infrastructure and Plant Decarbonisation Plan within the Campus Development Programme
Decrease in water usage	01 - January 2019 - 31 December 2019	2030	Absolute	1	10%	Reduction of tCO ₂ e from water usage	Sustainability Taskforce Member - Campus Development Programme Representative	Achievable through the water conservation projects and water-efficient building services of the CDP
Change university fleet to 100% carbon zero vehicles as soon as suitable carbon zero vehicles are available I NZ (ie. Farm vehicles)	01 - January 2019 - 31 December 2019	end 2024 - 2030	Absolute	3	90%-100%	Transfer to carbon zero vehicles through fleet management	Chair of Sustainability Taskforce	Achievable through the fleet management programme changing all vehicles to carbon zero as practicable. Non farm vehicles will be converted by end 2024.
Decrease in carbon from student field trips	01 - January 2019 - 31 December 2019	31/12/2023	Absolute	3	20% then 5-10%	Decrease in tCO ₂ e from field trips	Chair of Sustainability Taskforce	Achievable through reviewing the RFP for bus hire, and working with faculty budgets

Target name	Baseline period	Target date	Type of target (intensity or absolute)	Categories covered	Target	KPI	Responsibility	Rationale
Decrease in university air travel	01 - January 2019 - 31 December 2019	2030	Absolute	3	50%	Air travel emissions down	Chair of Sustainability Taskforce	Introducing a carbon offset charge for all university air travel will contribute. Digital-enabled technology for meetings/conferences increased
Food waste reduction	01 - January 2019 - 31 December 2019	31/12/2023	Absolute	3	75%	Less waste going to pig farmer/compost	Chair of Sustainability Taskforce	Achievable through Campus Life catering programmes
Waste to Landfill		2030		3	75%	Decrease in waste to landfill	Chair of Sustainability Taskforce	Achievable through Facilities Management bin labelling and education programmes, and reducing packaging coming onto campus

Looking ahead, Lincoln University is currently focused on the following projects.

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Remove CO₂e from Coal and diesel generators	Decommission the Coal Boiler through the Heating Infrastructure and Plant Decarbonisation Plan within the Campus Development Plan	Sustainability Taskforce - CDP member	end 2024	Improving air quality	Cost	Financial planning
Build all green infrastructure to green star building standard	New builds to be built to L4 Green star standard	Sustainability Taskforce - CDP member	ongoing	Improving teaching facilities	Cost	Financial planning
Increase water conservation and biodiversity solutions to enhance native biodiversity	Landscape Master Plan	Sustainability Taskforce - CDP member	2024 (partly completed)	Increases biodiversity/sustainability awareness	hazardous water features	Education
Put in retention pond solutions for stormwater and rainwater harvesting	Landscape Master Plan	Sustainability Taskforce - CDP member	2025 (partly completed)	Increases biodiversity/sustainability awareness	hazardous water features	Education
Provide water-efficient building services	Landscape Master Plan	Sustainability Taskforce - CDP member	ongoing	Improving teaching facilities	hesitant to enhance new technology	Education
Replace all lights with LED bulbs	LED Lighting project	Sustainability Taskforce - FM member	2024 (completed)	Reduce energy demand	Lighting quality	Lighting quality checks
Convert all fleet vehicles to carbon zero vehicles (where available)	Conversion plan through procurement	Finance	2030	Improving air quality	Cost	Financial planning

Objective	Project	Responsibility	Completion date	Potential co-benefits	Potential unintended consequences	Actions to minimise unintended consequence
Increase and encourage more cycling	Provide incentives through covered sheds, showers, bike share, e-bike deals, safety etc	Sustainability Taskforce - Chair	2024	Improve staff/student health	space for cycling parking	Property Group planning
Reduce carbon emissions for field trips	Review RFP and review bus provider solutions	Finance	2024	Reduce carbon emissions	Cost	Financial planning
Increase recycling, reduce landfill	- label all bins on campus consistently	Sustainability Taskforce - Property Services member	ongoing	Increases recycling/sustainability awareness	waste contamination	Waste education
	- incorporate RA and student accommodation training programme			Increases recycling/sustainability awareness	waste contamination	Waste education
	- student education waste programme			Increases recycling/sustainability awareness	waste contamination	Waste education
Reduce electricity demand from grid	Building 1.5MW Solar Farm	Sustainability Taskforce - CDP member	end 2024	Reduce energy demand	Cost	Financial planning

CERTIFICATE DETAILS

Certification status:	Toitū carbonreduce certified organisation
Certificate number:	2023378J, Year 2 of 3 year certificate period
Valid until:	09 November 2026
Measurement period:	01 January 2023 to 31 December 2023
Base year:	01 January 2019 to 31 December 2019
Audited by:	Toitū Envirocare
Level of assurance:	Reasonable for categories 1 & 2 and Limited for categories 3 & 4

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.

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 market-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.