









LINCOLN
UNIVERSITY
TE WHARE WĀNAKA O AORAKI

Sustainability Plan Report 2023



2023 Highlights

	18% carbon emission reduction to from the baseline year 2019 (7,019 tCO ₂ e)
	100% renewable certified electricity purchased to cover all campus demand
	772 Tertiary Metrocards issued in 2023 to students with a flat rate of \$1 per ride
	A travel survey was conducted showing students are using more sustainable ways of travelling to campus than our staff.
	651 MWh on-site electricity produced from solar arrays, an increase of over 22% since last year
	33% of Lincoln University's fleet is either electric vehicle or hybrid

Lincoln University Sustainability Plan



Vision

Lincoln University is committed to being an exemplar of sustainable practices for the land-based sector, and the ecosystems within it.



Purpose

Be sustainability leaders in education and research via a demonstration of sustainability impacting sectors we support.



Aligned to the Lincoln University Strategy 2019–2028

Goal 1

To be sector leaders in education, research and demonstration of sustainability

Goal 2

To become carbon neutral by 2030, and carbon zero by 2050



Following four themes

Education Research Demonstration Campus Environment



Guided by 5 principles

- Principle 1** Alignment with the Sustainable Development Goals (SDGs)
- Principle 2** Sector Leaders In Sustainability
- Principle 3** Self Sustainable
- Principle 4** Becoming carbon neutral
- Principle 5** Value of Mātauraka Māori

Governance and Reporting of Core KPI's



The plan will be managed by the Sustainability Taskforce which will report through to the Vice-Chancellor and the He Toki Tārai, Committee of Council. Formal reporting will occur 6-monthly from the chair of the taskforce to the Vice-Chancellor and the He Toki Tārai Committee of Council.

Core Key Performance Indicators are:

Goal	Focus Area	KPI	Measurement
Goal 1 Be Sector Leaders in education, research and demonstration of sustainability	Education	Graduate attributes are revised to include specific reference to sustainability	Annual student engagement survey
	Research	Set up two living laboratory projects on Lincoln University campus involving sustainability	Annual Sustainability Report
	Demonstration	Establish Lincoln University Multi-Crop Energy Farm	Annual Sustainability Report
Goal 2 Become carbon neutral by 2030 and carbon zero by 2050	Green Infrastructure	Baseline metrics and sustainability data schema compiled (Toitu)	Carbon audit
	Energy	Decommission the coal boiler by 2024	Campus Development dashboard and quarterly Sustainability Report
	Water & Biodiversity	Overall improvement in GreenMetric ranking for Water	Water conservation, recycling and water-efficient appliance metrics in annual GreenMetric Report
	Mobility	Overall improvement in GreenMetric ranking for Transport	A 5% annual reduction in carbon emissions from 2022 onwards
	Waste	Overall improvement in GreenMetric ranking for Waste	Recycling, toxic, organic and inorganic waste metrics in annual GreenMetric Report

Sustainability Goal 1

To be Sector Leaders in education, research and demonstration of sustainability.

Progress made in 2023 in the following initiatives:

Progress indicators	Achievement
Graduate attributes updated to include specific reference to sustainability - by the start of 2023	<ul style="list-style-type: none"> The Lincoln University Graduate Profile has been approved <p>The Lincoln University Graduate Profile has incorporated sustainability as one of five critical aspects of the Profile.</p> <p>The implementation of the LU Graduate Profile will be articulated through the Academic Plan to be developed following the release of the LU Strategy 2018-2028 update.</p>
Establish the Lincoln University Multi-Crop Energy Farm to provide a working solution for small-medium enterprises in primary industry.	<ul style="list-style-type: none"> Energy Farm – design stage <p>Great progress has been made to complete the final design of the Energy Farm.</p> <p>Currently gathering the required materials for the resource consent. This has involved engaging with several external experts and further refining the design of the site to ensure teaching and research opportunities are maximised.</p> <p>It will be the first university in Aotearoa to generate solar energy on a commercial scale, Lincoln University is poised to take its solar generating capacity to the next level, with a project to construct a large ground-mounted array co-located with high-value horticulture production now entering the consenting phase.</p> <p>The proposed agrivoltaic installation, known as the Lincoln University Energy Farm, will demonstrate how one site can be optimised to produce high-value horticulture, and at the same time generate commercial-scale energy.</p>

Sustainability Goal 2

To become carbon neutral by 2030, and carbon net zero by 2050

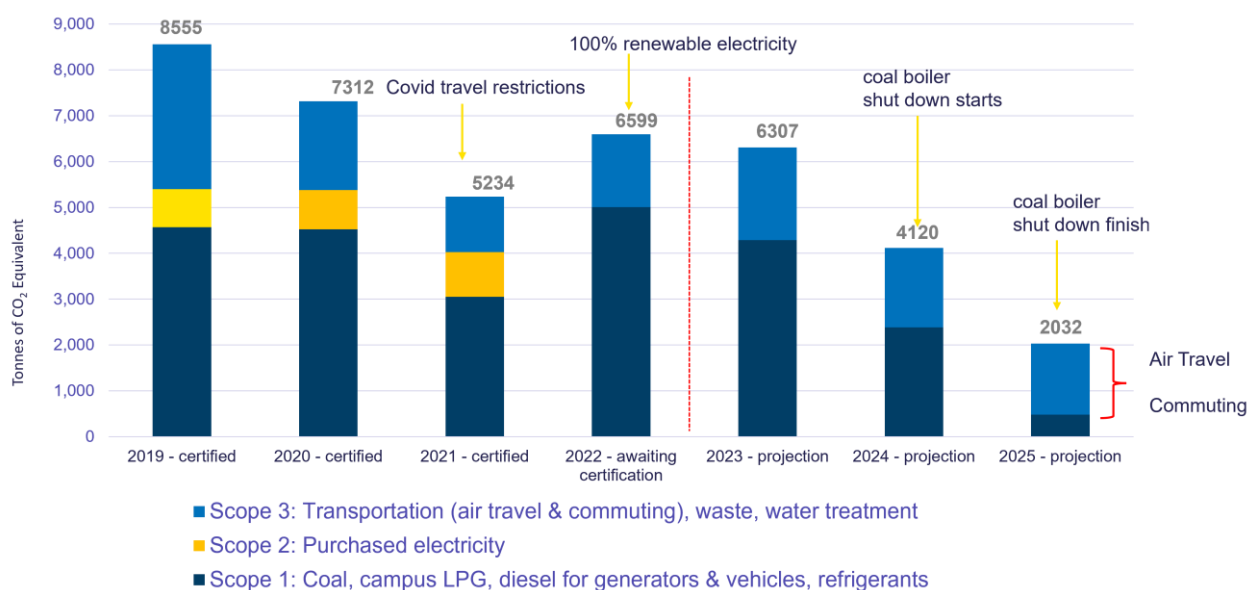
Progress made in 2023 in the following initiatives:

Progress indicators	Achievement
<p>Coal boiler decommissioned by 2024</p> <p>Ongoing reduction in energy consumed per user</p> <p>Ongoing increase in the overall percentage of renewable energy consumed</p>	<ul style="list-style-type: none"> Coal boiler decommission – final stages <p>Final stages 3 & 4 are underway, tracking to have all installations completed by December 2024. Critical path long-lead time items required for both heating upgrade and necessary HV network upgrades on order and due to arrive without impact to the programme. The scope has been amended to allow for increased BMS connectivity installed alongside new heating equipment, as a key enabler of next phase of energy efficiency improvements.</p> <p>Significant reduction in energy consumed per student (26% reduction compared with 2019 – baseline year. In 2023 5,454kWh per student, compared with the baseline year 2019 7,446 kWh per student</p> <p>In 2023 we have recorded a 22% increase in solar electricity generation compared with the previous year. We have generated 651,455kWh from solar arrays located on campus.</p>
<p>Adopt new energy management technology</p> <p>Establish baseline metrics for buildings and infrastructure</p> <p>Increase carpooling, bus, and electric vehicle use and more cycling.</p>	<ul style="list-style-type: none"> Waimarie opened <p>Our new flagship science facility, Waimarie, was officially opened on Wednesday 27 September</p> <p>In line with the University's sustainable infrastructure goals, Waimarie will have a minimal environmental impact, incorporating solar arrays, a ground-sourced heating/cooling system and a rainwater-fed toilet flushing system in the design.</p> <p>The building is insulated with 10 tonnes of locally grown wool from 2000 sheep, and the supplier of the 100% NZ wool carpet is owned by over 700 Kiwi wool-growing farming families.</p>

Introduce a carbon offset charge for all university travel	<ul style="list-style-type: none"> Air travel surcharge introduced <p>From 1 April 2023, a 5% sustainability surcharge applies to all LU air travel, with the funds from the surcharge directed to a new Sustainability Fund. The Sustainability Fund aims to enable more sustainable research and teaching practices, as well as support initiatives to reduce emissions.</p> <p>The first projects to receive funding from our new Sustainability Fund, sourced from a surcharge that applies to all air travel undertaken by University staff, have been announced.</p> <p>The first round of funding, totaling almost \$40,000, will contribute to a range of projects aiming to support more sustainable research and teaching at the University and/or reduce carbon emissions on campus.</p>
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Tracking towards net carbon zero

In 2025 Lincoln University will take a giant leap towards our goal of becoming carbon neutral by 2030 and net carbon zero by 2050, with the decommissioning of our coal boiler.



Category	Scopes	2019	2020	2021	2022	2023
Category 1: Direct emissions (tCO ₂ e)	Scope 1	4,572.08	4,523.86	3,053.29	5,004.68	4,728.72
Category 2: Indirect emissions from imported energy (location-based method*) (tCO ₂ e)	Scope 2	827.81	852.71	969.85	0.00	0.00
Category 2: Indirect emissions from imported energy (market-based method*) (tCO ₂ e)		0.00	0.00	0.00	0.00	0.03
Category 3: Indirect emissions from transportation (tCO ₂ e)		2,939.73	1,648.76	1,082.49	1,456.73	2,026.75

Category 4: Indirect emissions from products used by the organisation (tCO ₂ e)	Scope 3	215.58	287.40	128.42	135.42	263.62
Category 5: Indirect emissions associated with the use of products from the organisation (tCO ₂ e)		0.00	0.00	0.00	2.38	0.00
Category 6: Indirect emissions from other sources (tCO ₂ e)		0.00	0.00	0.00	0.00	0.00
Total direct emissions (tCO₂e)		4,572.08	4,523.86	3,053.29	5,004.68	4,728.72
Total indirect emissions* (tCO₂e)		3,983.11	2,788.88	2,180.76	1,594.53	2,290.40
Total emissions (tCO₂e)		8,555.20	7,312.74	5,234.05	6,599.21	7,019.12

Once the coal boiler is decommissioned, the greenhouse gas emissions generated from our travel activities, including the regular commute to campus by our staff and student whānau, will become the major contributor to the University's carbon footprint.

Changing travel trends on campus

The 2023 Lincoln University Travel Survey asked our staff and students to indicate how we travel to and from campus currently, and what our existing and future preferences are.

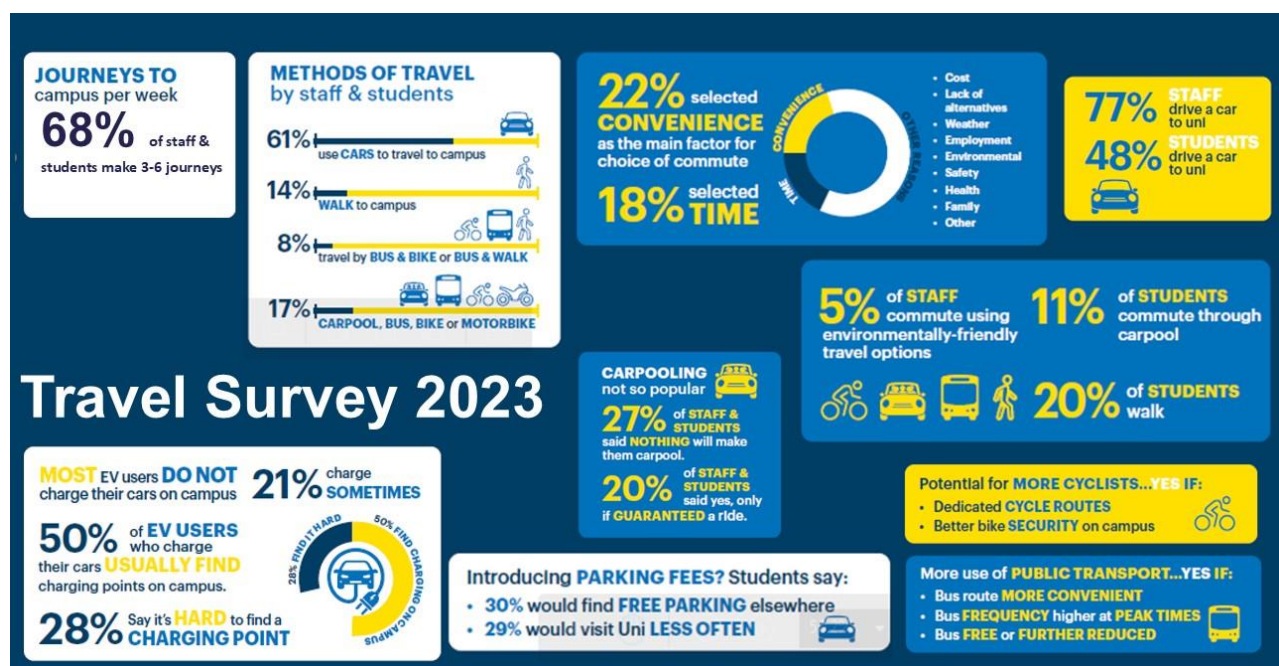
The survey findings set a baseline of commuting behaviour so we can track our changing travel trends over time.

Travel Survey 2023

The results of the Travel Survey for 2023 demonstrate that our students are using more sustainable ways of travelling to campus than our staff.

While 77% of staff respondents regularly commute by car, 48% of students drive a car to and from campus. Fewer than 5% of staff use the environmentally friendly travel options of cycling, walking, busing or carpooling, but more than 20% of students walk and 11% either carpool or travel by a combination of bus, bike and walk.

It's not unexpected that student respondents, many of whom live in on-site accommodation, can report using more sustainable forms of transport, but the results are still interesting and revealing of our overall travel behaviour.



Measuring and tracking waste on campus

Landfill / Recycle	Material Profile	Weight (t)
Landfill Waste	General Waste	219.480
Recycled Waste	Polystyrene	0.621
Recycled Waste	Plastic Wrap	1.064
Recycled Waste	Mixed Recyclables	2.761
Recycled Waste	Scrap Metal	3.760
Recycled Waste	Paper & Cardboard	3.843
Recycled Waste	Food Waste	28.777
Recycled Waste	Mixed Recyclables	8.780
Recycled Waste	Ash	13.820
Recycled Waste	Cardboard	19.771
Recycled Waste	Paper	20.067
TOTAL	Recycled	103.265
	Landfill	219.480