

LCANZ President's Address

Emily Townsend

ALCAS Conference July 2023

LCANZ Life Cycle Association New Zealand



LCANZ ACTIVITY

Events



THE
POWER OF LCA
LCANZ SUMMIT 2021

Thursday 25th Feb 2021
GridAKL, 1PM - 6PM

The poster for "The Power of LCA" event. It has a dark blue background. On the left, there is a green plug icon with a white cord. The text "THE POWER OF LCA" is in large, bold, white letters, with "THE" in smaller green letters above it. Below that, "LCANZ SUMMIT 2021" is written in green. At the bottom, the date and location are listed in green.

THE NOW AND THE NEXT OF LCA: CARBON & WATER

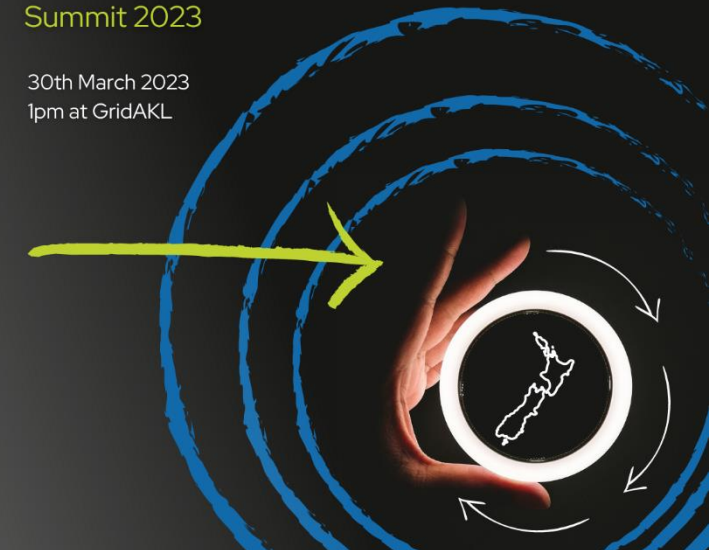
Autumn Webinar Series
Wednesdays @ 1pm

A graphic of a blue water splash with many small bubbles, positioned at the bottom of the text area.

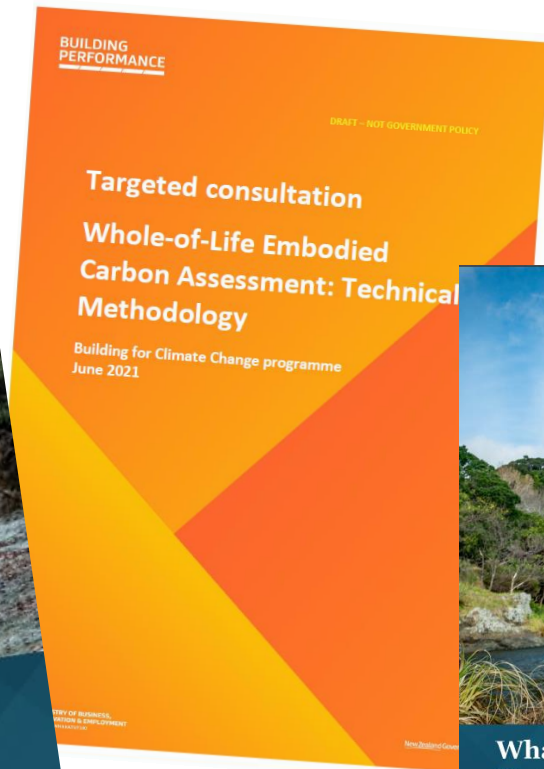
Enabling Circular Economy Through Life Cycle Assessment

Summit 2023

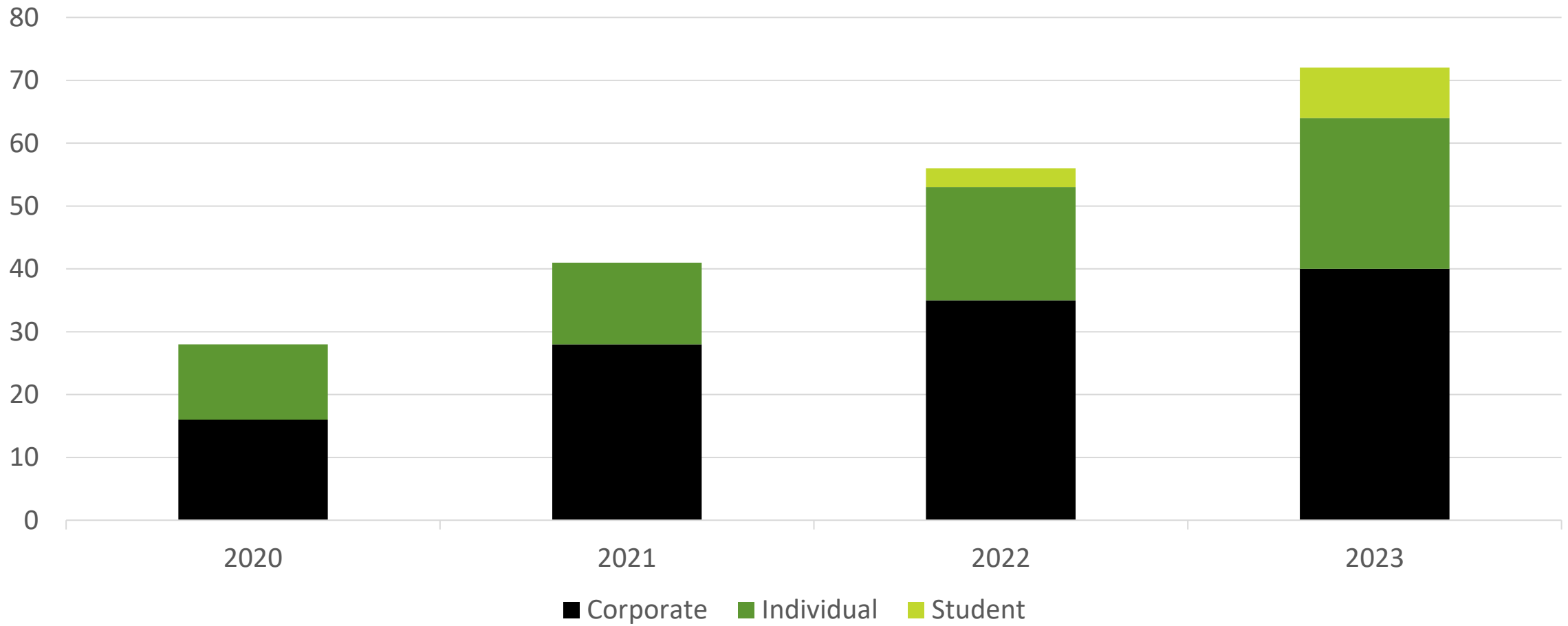
30th March 2023
1pm at GridAKL



Advocacy



Membership



LCA IN NEW ZEALAND

Emissions Reduction Plan (ERP)



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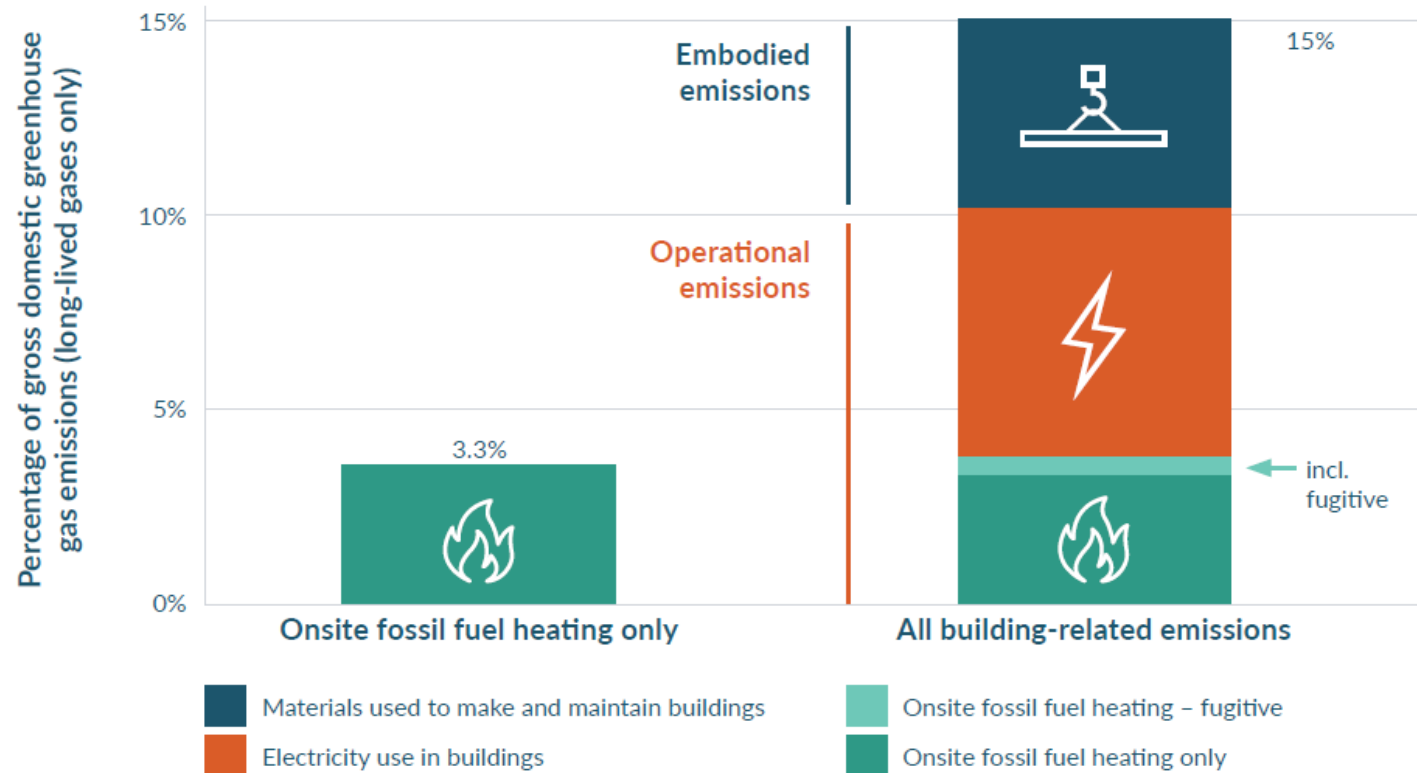
embodied carbon

EMBODIED CARBON

embodied carbon

Ch 12 Buildings & Construction

Figure 12.1. Building- and construction-related emissions as a proportion of Aotearoa New Zealand's gross greenhouse gas emissions (excluding biogenic methane) in 2018⁴



Objective 1: Reduce embodied carbon of buildings

We can reduce the emissions created during the extraction, manufacture, operation and disposal of resources used in buildings through the actions below.

Focus area 1: Reduce embodied carbon of construction materials

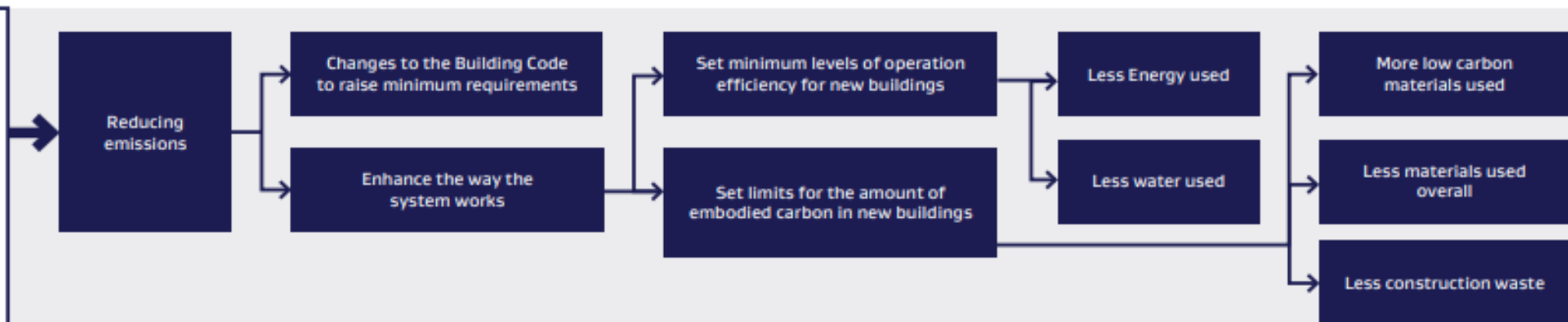
Actions in this focus area put in place requirements and support for people to measure or reduce their buildings' embodied carbon.

Action 12.1.1: Progress regulatory change to reduce embodied emissions of new buildings

Helping New Zealand reach its climate change goals for reducing emissions and improving resilience to future climate events

These enhancements will:

- have lasting impact
- be a once in a generation system change not a series of quick fixes
- deliver the Building and Construction Sector's part of the Emissions Reduction Plan
- Deliver the Sector's part of the National Adaptation Plan



MBIE's commitments

We will consult on the changes and listen to what is said by the public and the Sector

We will be transparent about the impact of changes on the Sector and consumers

We will talk to iwi and Maori early and listen to what is important to them

We will make sure we understand the current economic needs of the sector

Future state:

What will it look like in 2050

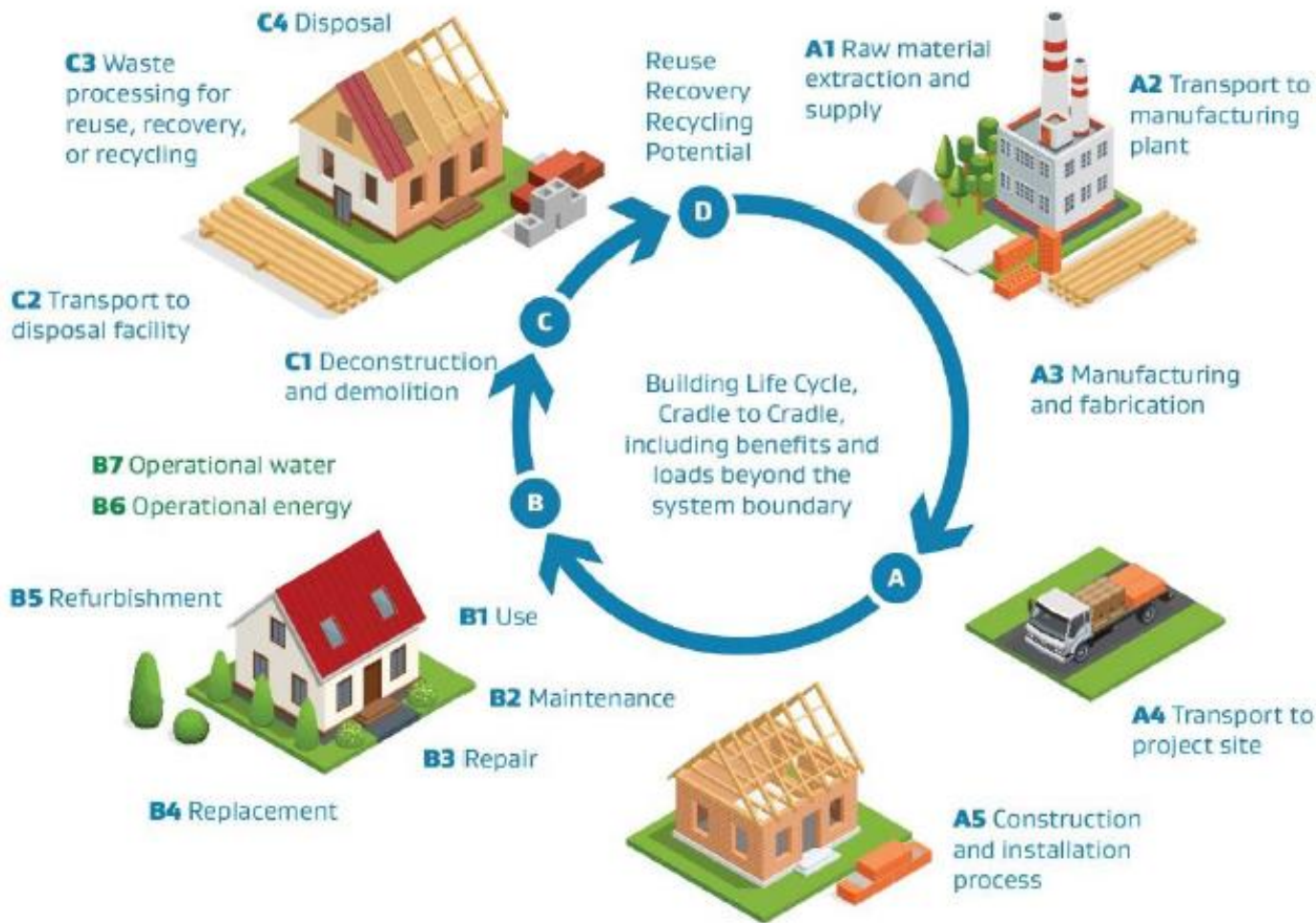
New Zealand's buildings are using as little energy and water as possible. They are warmer, drier and better ventilated, and provide a healthier place for us all to work and live.

The wellbeing of New Zealanders has improved, they're leading healthier lives, and respiratory illnesses from cold and damp houses is uncommon. People also have more money in their pockets due to lower energy bills.

Our infrastructure finds it easier to respond to demand for water, due to our lower use. This means we cope better with water shortages than we ever have before. The efficiencies from the Sector have made it easier for the grid to become more renewable meaning less emissions for the energy we do use.

Energy Efficiency and carbon cost are core considerations for the Sector and designs now meet an emissions budget as well as other regulatory requirements. Reusing buildings and recycling materials is an established part of a Sector that is well on the way to having a fully-fledged circular economy well supported by local supply chains.

BfCC Technical Methodology



Level of Data Quality	Material or product specification and quantity data	Material or product embodied carbon data
Highest (preferred) 5	As-built information for material/product specifications and quantities, that include allowances for site waste	EN 15804 compliant EPD for specific product used in building
	Detailed Schedule of Quantities, reflecting amounts and specifications of materials included in the building contract	New Zealand sector EN 15804 compliant EPD for product type
4	Quantities take-off from a BIM model used in the design process	Global EN 15804 compliant EPD for product type
3	Rough estimates of material quantities and material types at early stage/concept design	Embodied carbon data for product type from non-EN 15804 compliant EPD, or other databases
2	Benchmarked material quantity data from similar building types	Default values
1 Lowest (to be avoided)		

LCA and Circular Economy



MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Request for Proposals

Impacts, Barriers, and Enablers for a Circular Economy
PROCOM0000078

RFP released: 5 April 2023
Deadline for Questions: 5 May 2023
Deadline for Proposals: 1 June 2023 at 2.00 pm

Ministry of Business, Innovation and Employment
15 Stout Street
PO Box 1473
Wellington 6140

New Zealand Government

The cover page features a white background with a colorful geometric pattern of overlapping triangles in shades of green, blue, and yellow at the bottom. A horizontal line with a multi-colored dash is positioned above the title.

The Circular Economy and Bioeconomy chapter in the ERP signals that:

'Moving to a circular economy with a thriving bioeconomy is essential to meeting our emissions budgets and our 2050 targets. In addition to helping us reduce emissions, it will create new opportunities (including new jobs such as in resource recovery, bioproducts and design), drive innovation, reduce the amount of waste we produce, and can result in cost savings for households and businesses. This transition will require us to change the way that we think about– and use– resources.'

'Approximately 45 per cent of global emissions come from making products. Of these emissions, up to 80 per cent are created in the design stage. Moving to a more circular economy is an opportunity to rethink how we design and use our resources to meet our material needs, such as shelter, mobility, and nutrition.'

LCA and Circular Economy



GROWING INNOVATIVE INDUSTRIES IN NEW ZEALAND

Advanced Manufacturing Industry Transformation Plan

MARCH 2023



PRIORITY 3. CREATING A LEADING SUSTAINABLE CIRCULAR NET-ZERO EMISSIONS SECTOR

INITIATIVE 10 Map emissions and waste streams profile

Initiative: Undertake a comprehensive investigation into the emissions and waste streams profile of Aotearoa New Zealand's advanced manufacturing sector as well as opportunities and barriers to achieving net-zero circular advanced manufacturing.

Outcome sought: Understand at a granular level the advanced manufacturing sector's emissions and waste streams profiles, and opportunities and barriers for reduction to inform ITP actions and initiatives.

Government agencies including MBIE, Stats NZ, EECA and MfE to investigate the emissions and waste stream profile of the advanced manufacturing sector, working with business and industry associations.

Identify opportunities and barriers to decrease emissions and to move waste streams into high value co-products.

Ensure linkages are made between this initiative and the Emissions Reduction Plan, Circular Economy Strategy and the revised Waste Strategy.

Use this information as a baseline to help develop, measure and inform action.

Review and update the information.

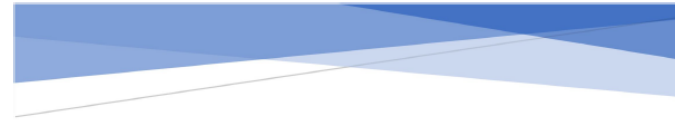
Food LCAs

Updating the carbon footprint for selected New Zealand agricultural products: an update for milk

Andre Mazzetto, Shelley Falconer and Stewart Ledgard
August 2021



Report for the Ministry for Primary Industries (MPI)
RE450/2021/055



UPDATING THE CARBON FOOTPRINTS FOR SELECTED NEW ZEALAND AGRICULTURAL PRODUCTS

an update for apples, kiwifruit and wine

Sarah McLaren¹, Brent Clothier², Andrew Barber³, Sam McNally², Louise Bullen¹, Andre Mazzetto⁴, Stewart Ledgard⁴

1 – Massey University

2 – Plant and Food Research

3 – Agrilink

4 – Agresearch



Food LCAs



May 2023

LCA of assessment of New Zealand-farmed King salmon

This is a summary of a wider LCA study - for the full report go to: salmon-lca.thinkstep-anz.com

To understand the sustainability of New Zealand-farmed King salmon, Fisheries New Zealand, Aquaculture New Zealand and the New Zealand Salmon Farmers Association asked sustainability firm thinkstep-anz to carry out a Life Cycle Assessment (LCA) study with a focus on carbon.

What is a Life Cycle Assessment (LCA)?
LCA is a science-based approach that measures the environmental impacts of a product over its entire life cycle. Data from an LCA can help businesses understand, manage and communicate their environmental impacts.

This study follows ISO 14044 and the Fish and Fish Products Product Category Rules (PCR).

Three international independent experts have critically reviewed the full LCA study.

Summary

- New Zealand-farmed salmon sold domestically has a lower carbon footprint than beef, lamb and cheese.
- It has a similar carbon footprint to eggs, poultry and other farmed fish protein and oysters. NZ mussels have a lower carbon footprint.
- Producing feed has the largest impact on salmon's carbon footprint.
- Exporting salmon by air significantly increases the total carbon footprint.

75% of the world's King salmon is farmed in New Zealand

NZ\$312 million total revenue (estimated) for 2022

We compared the carbon footprint of NZ-farmed King salmon with other dietary proteins

Part 01: life cycle assessment
We first assessed the environmental impact of New Zealand-farmed King salmon over its life cycle.

Part 02: protein comparison
We then compared the impacts of producing farmed King salmon with other popular dietary proteins.

Part 03: ways to reduce impact
We identified what the New Zealand-farmed King salmon industry can do to reduce its environmental impacts.

The environmental performance of New Zealand-farmed King salmon

Aquaculture New Zealand | Fisheries New Zealand | thinkstep anz

Carbon footprint of different dietary proteins on the global market - production to retail only

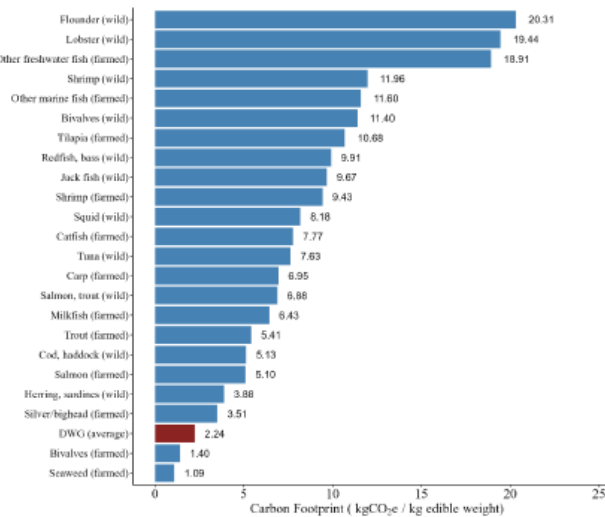
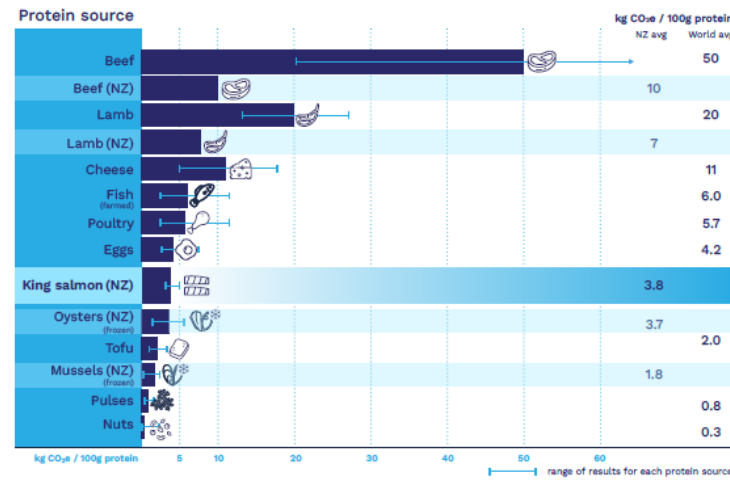


Figure 3 – Carbon footprint (in kg CO₂e / kg edible weight) for different seafoods from different origins (wild or farmed – in blue) compared to the deepwater fleet (DWG) weighted footprint (in red). Data are a meta-analysis of multiple studies by Gephart et al. (2021).

Carbon footprint of fish from the New Zealand Deepwater Trawl Fleet: A preliminary study

Andre Mazzetto and Stewart Ledgerd
May 2023



Report for Deepwater Group (DWG)
RE450/2022/056



LCA in the news



SCOOP > BUSINESS



Keeping It Light – The Comparative Small Carbon Footprint Of New Zealand Wild-caught Seafood

Friday, 23 June 2023, 10:36 am
Press Release: [Seafood New Zealand](#)

The average carbon footprint of wild-caught fish harvested and processed at sea by New Zealand's deepwater fishers is estimated to be one of the smallest among animal-based protein sources.

This is evidenced in a study by Crown Research Institute AgResearch senior scientists Dr Stewart Ledgard and Dr André Mazetto, released this month by Seafood New Zealand's Deepwater Council.

& Series Topics Pacific

fish have

New Zealand-farmed king salmon sold domestically 'has a significantly lower carbon footprint than beef, lamb and cheese'

Gerhard Uys · 10:43, Jun 26 2023



footprint to tofu acc
...enture New Zealand.

Thank you!

Emily Townsend

president@lcanz.org.nz

LCANZ Life Cycle Association New Zealand