

Massey University of New Zealand – Te Kunenga ki Pūrehuroa

COMMITTED TO SUPPORTING THE DEVELOPMENT OF LIFE CYCLE THINKING IN NEW ZEALAND

Massey University is committed to facilitating the use of Life Cycle Assessment (LCA) in New Zealand to support robust decision-making and to underpin good economic and environmental outcomes.

The University is also committed to the Carbon Neutral Government Programme, under the leadership of Associate Director, Sustainability, Policy and Comms, Dr Allanah Ryan. A goal of the Massey Climate Action Plan (CAP) is to be Net Zero Carbon by 2030. We have a five-pronged programme to embed reduction of greenhouse gas emissions into all areas of the University's business and business case development, to build and operate low carbon buildings, set targets for low-carbon mobility/transport, develop a transition plan towards sustainable agriculture, and divert 90% of our waste from landfill by 2030.

As part of our CAP we work closely with external partners to share our knowledge and to research practical solutions to meet the challenges of climate change. Two areas of focus that play off our strengths include low carbon cities and climate smart farming.



Massey University hosts the New Zealand Life Cycle Management Centre (NZLCM Centre), a collaboration between Massey University, AgResearch, Landcare Research, Plant & Food Research and SCION to build capability in Life Cycle Management through education, training and research. The University offers tertiary education courses in Life Cycle Thinking at undergraduate level, Life Cycle Assessment (LCA) at post-graduate level, and offers supervision for PhD scholars specialising in Life Cycle Management research. It also offers a professional development short course in LCA for business decision-makers.

BENEFITS OF LCHANZ MEMBERSHIP

LCHANZ membership provides an invaluable forum to network with professionals working in LCA research and application, and to share information about Massey's courses and research projects. As other tertiary institutes also start to offer courses in LCA and LCM, it would be good to see LCHANZ develop targeted networking opportunities for students across the different educational institutions working in this field.

LEADING LCA TEACHING AND RESEARCH

The NZLCM Centre was established at Massey University in 2010 with MAF (now MPI) funding as a means of developing LCA and LCM capabilities in New Zealand.

A suite of postgraduate courses has been developed to support a growing demand for people with LCA and LCM skills, and Massey University graduates with a Master's in Environmental Management or a Master's in Sustainable Development Goals are being employed in research, universities, local government and business consultancy. The University also teaches sustainable production and consumption at undergraduate level, including life cycle thinking and carbon footprinting, as part of a Bachelor of Science undergraduate programme with a specialisation in environmental science.

The NZLCM Centre's research focusses on the development of LCA techniques to support decision making; contributing to development of international consensus, guidelines and standards in environmental footprinting; and application of these techniques across different economic sectors. We are interested in a broad range of outcomes; topics we have addressed include setting climate targets, assessing absolute (rather than just relative) sustainability, developing dynamic LCA methods (to assess variability over time), accounting for biogenic carbon sequestration, and applying LCA in the context of the circular economy to support environmental improvements along supply chains.



Current work includes the application of climate targets and dynamic modelling in assessment of the building sector, LCA of the NZ avocado sector, and development of nutritional LCA techniques to support consumers in choosing more sustainable foods.

Past achievements include setting up and managing the International Standards Organisation (ISO) International Review Group for environmental footprinting standards; supervising more than twenty Master's and PhD LCA students through to successful completion; and co-organising many NZ LCA conferences, seminars and workshops over the last 12 years with LCA NZ.



DEMONSTRATING OUR ENVIRONMENTAL CREDENTIALS – AN LCA OPPORTUNITY FOR NZ

For example, international interest in the environmental impact of food has grown over the past 20 years as public concern has mounted over climate change and how to take action. This has been challenging for New Zealand's agricultural industry in its traditional US and European markets. Environmentally responsible production practices mean New Zealand products shipped by sea to Northern Hemisphere markets may still have lower environmental impacts than more local products. LCA is a good way to address this in a scientific way.

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