Using a life cycle approach to understand reusable packaging systems in Aotearoa LCANZ Summit | 30 March 2023 | Kelly McClean reuseaotearoa.org.nz





Packaging Waste Must Be Curbed! Needed - Firm Government The One-Trip Package Pasto of the outrage Action

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At the heart of the report and likely soon to be enshrined in the Government's new Resource Management Bill is the concent of sustainable resource management"

JANUARY FEBRUARY 1990

General principles and exhortations to industry and local authorities obviously won't work. won't work, What's needed is a Government propared to live up to the "green" ideas in has publicly exposed and to act to ensure that "outstaneble recourse management" actually comes about: As we argue in our afficie on packaging wate times at 11 up in greenment acquide waste (page 21), the Government should be giving close attention to the resource conservation policies being adopted by Envertments oversess - among them, backaping taxes, container deposit levies and compulsory recycling tohemes. Worth cone dening ton are the movies

being made by the Italian Government t compel manufacturers to phase out all non-biodegradable packaging meterial, Inducing shopping begs, Sweden has taken similar action with a recent ban on all packaging material mede from polyvicyal chloride (PVC).

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CONSUMER 3



What is Reuse Aotearoa?

Reuse Aotearoa is an independent organisation dedicated to building the momentum and capability to scale reusable packaging systems in New Zealand.

Drawing on evidence-based research, it focuses on understanding and telling the story of reuse, and fostering collaboration to bring reusable packaging systems to life and grow their strength and presence across the motu.



Overview

Reusable packaging is more than product or materials - it is part of a wider system that, by design, encourages cyclical participatory action and connection.

Reuse models require different life cycle considerations to single-use packaging solutions and it is important these are well understood to avoid any unintended consequences.

Life cycle thinking can support development of best practice in this space.



How does Reuse Aotearoa work?

- Reuse Aotearoa is a Limited Liability social enterprise. Funding comes from project grants, academic research and paid consulting contracts.
- We are not a membership organisation and do not operate reusable packaging businesses.
- We employ experienced researchers and have founders who are able to work in both a voluntary and remunerated basis as required.
- We also have an independent advisory committee who meet bi-monthly to progress our strategic direction and ensure accountability



Operations



Hannah Blumhardt

Lead researcher

co-Founde



Kelly McClean

co-Founde



Matt Peryman _

Researcher

circular design strategist



What have we been working on?











A circular economy for the wellbeing of Aotearoa New Zealand







Why reusable packaging?



packaging and why is mportant toronto

Reusable packaging is an alternative to single-use packaging.

Although single-use packaging can have features of value e.g. convenience, light-weight protection, shelf-life extension, food waste prevention and branding, there are drawbacks:

- Uses significant raw material resources 36% of all plastic and 55% of all paper globally
- Major contributor to consumer waste streams and plastic pollution
- Takes resourcing to manage at end-of-life

There is a gap in knowledge regarding reusable packaging in NZ and how/where to scale

Reuse and the waste hierarchy



Avoid unnecessary resource use and waste by designing waste out

Reduce the quantity, toxicity and ecological footprint of consumption

Reuse or repurpose products and components for the same purpose, or repurpose them for another use that does not reduce their value or require further processing

Recycle/compost – recover and process materials to make the same or different materials of similar value when reuse is no longer possible

Recover value (eg, energy) from materials that cannot be reused or recycled

Treat the waste with processes to remove or reduce potential harm before disposing of the waste safely on land set aside for that purpose

Ministry for the Environment, 2021



Reuse and the circular economy

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems





Returnable packaging

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* APOSTLE HOT SAUCE *

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Country Mill

Pasteurised Whole Mile

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LOVE





Transit / supply chain packaging



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Barriers to reuse systems



- Uneven playing field single-use packaging costs are externalised
- Waste and recycling services advantage and/or subsidise infrastructure to manage single-use packaging

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- Making progress requires collaboration, shared infrastructure and services.
- The lack of an organised, collective approach reduces economies of scale & drives up costs

This means reusable packaging is not seen as realistic by businesses or government – consequently it's heavily under-resourced, under-promoted & poorly understood.

Recommendations

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TAKING ACTION

3.1 Recommended actions for councils to support the growth of reusable packaging





Reuse vs recycling

- Waste and recycling infrastructure (and supporting industry) is well established in NZ
- Scaling reuse systems requires capital investment in vessel fleet, technology, logistics etc.
- Similarly to recycling activity, reuse is driven by people
- Mapping of circular systems like recycling and reuse require life cycle thinking and exploration of assumptions





Transportation



Baling / storage

Recycling infrastructure examples



Sorting facility







Upcoming research priorities

- Kaupapa Māori understandings of reuse
- Infrastructure mapping and cataloguing
- Life cycle assessment



- New Zealand context
- Targeted application where/how
- Interested in systems design what does best practice look like?
- Minimising impacts carbon, water & energy use



Reuse considerations - life cycle thinking

- Closed loop vs open loop
- Material selection, weight and safety
- Design for durability and longevity
- Local and/or predictable supply
- Consumer behaviour and return rates
- Transportation mode and distances
- Washing/sterilisation processes
- End-of-life





Community event washing



Commercial washing facility

Thank you!

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