Sustainable Business Network

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Plastic Packaging Masterclass 2020

KEY FINDINGS

In partnership with:

New Zealand King Salmon

thinkstep anz

Foodstuffs NZ

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Introduction

This document provides an update on the key aspects of New Zealand's plastic packaging system from the Sustainable Business Network's Plastic Packaging Masterclass 2020. It outlines where we are now and what we all need to do to contribute to a circular economy for plastic packaging that works in New Zealand.

Plastic Packaging Masterclass 2020 is a part of SBN's Packaging Circular Innovation Programme and is presented in partnership with New Zealand King Salmon, thinkstep and Foodstuffs NZ. This work builds on last year's **2019 Masterclass Series** and on SBN's report, **New Zealand's Plastic Packaging System – an initial circular economy diagnosis.**

The masterclasses are centred around a representative group, or cohort, of leading packaged goods suppliers committed to improving the circularity of New Zealand's packaging. The aim is to help packaged goods suppliers make more informed packaging decisions and navigate towards 2025 packaging commitments. The aims of the commitments is that all plastic packaging is 100% reusable, recyclable or compostable in practice and at scale by 2025.

For more information please contact:
→ **kate@sustainable.org.nz**

What do we know now?

Key updates from our speakers

In the initial session of each masterclass we hear from key stakeholders in New Zealand's plastic packaging system. Below are brief summaries of their 2020 updates. You can also view their full presentations **here.**

Liz Butcher

Senior Policy Analyst
Ministry for the Environment

The Government has an ambitious work programme on plastics. This is in response to the build up of plastic in our environment, as well as the Rethinking Plastics in Aotearoa New Zealand report by the Office of the Prime Minister's Science Advisor.

This work builds on the success of the plastic bag ban, which came into force in July 2019 and built a strong momentum for further change.

In December 2019, the Government committed to four key initiatives including work to:

- Set targets to move away from hard-to-recycle plastics (starting with PVC and polystyrene) and consider the phase-out of more single-use plastic items.
- Investigate options for recycling labelling for packaging.
- Work with local government and industry to develop a more integrated and consistent kerbside collection system.
- Provide a full response to the Rethinking Plastics in Aotearoa New Zealand report.

In August 2020, the Ministry for the Environment released a consultation document Reducing the Impact on our Environment from Plastic, which proposes a phase-out of certain hard-to-recycle plastics and single-use items.

This work is complemented by a wider Resource Efficiency and Waste work programme.

- This includes work to develop a National Plastics Action Plan, which takes forward the 51 recommendations from within the Rethinking Plastics in Aotearoa New Zealand report.

Rachel Barker

CEO
Plastics NZ

- The conversation on plastics has rebalanced slightly. Covid-19 has reminded everyone of the positive aspects of plastics for health and safety applications e.g. use of PPE.
- Change is happening in the NZ system; increased optical sorting will mean more plastics can be reprocessed in NZ. The main focus for kerbside will be Polyethylene terephthalate (PET #1), High-density polyethylene (HDPE #2) and Polypropylene (PP #5) plastics.
- Product stewardship is on the rise for many different types of products, not just those the government has announced as priority products.
- Compostable packaging is viewed as being good for specific use cases. The lack of collection and composting infrastructure has meant compostables have moved into a 'not right now' space for most retail applications.

Guides to look for:

Commerce Commission **Environmental Claims Guidelines**

Plastics NZ & WasteMINZ collaboration: **Best Practice Guidelines for Advertising Compostable Plastics**

Jody Whitten

Founder & CEO
Palletite

- Currently more than 1,000 tonnes of single use and disposable stretch film is used to contain goods on pallets in New Zealand.
- Palletite is a reusable pallet load containment system that is also faster, safer and stronger than this film.
- The pallet load containment units are also fully repairable and fully recyclable at end of life.
- The business model includes three variations of payment: wholesale, lease or subscription. This means no increase in cost.
- Palletize's mission is to accelerate the sustainability and efficiency of our supply chains.

Reference: Throughout this document we will refer to plastic types by their full names once only, along with their assigned number in the New Zealand plastics numbering system.
For a full guide on this system, **click here.**

Key updates from our speakers

Kelly McClean

Sustainable Packaging Project Manager
Foodstuffs NZ

- ‘Elimination’ of problematic packaging is a team sport – collaboration between retailers, suppliers, supply chain and customers.
- Rethinking product design and delivery is powerful.
- We have to start somewhere, build and iterate. Know what is unacceptable and be aware of unintended consequences so these can be avoided.

Marc Gaugler

Materials/Polymers Scientist
Scion

- Bioplastics production capacities continue to be built globally.
- Biocomposites and fibre-based packaging are trending due to their perceived environmental benefits and sustainable messaging.
- Plastic-free claims are ambiguous and don’t always mean that plastic-like products are polymer-free (e.g plant based plastics are still plastic).
- There is significant potential for NZ as a raw material supplier for future packaging solutions, e.g. cellulose-based materials or marine-degradable plastics made from biomass waste.

Kim Renshaw

Projects Manager for Compostable Packaging
Beyond the Bin
The Packaging Forum

- The Packaging Forum has a new work programme for compostable packaging working cross-sector with multiple industry organisations and stakeholders.
- A use-case consultation and research work to understand the scale of the NZ industry and the landscape of projects will be undertaken before the end of March 2021.
- A large home-composting trial will be undertaken in 2021 in conjunction with WasteMINZ to support the existing projects that Scion is working on.
- The programme will work to identify which solutions are scalable and realistic for a working solution for compostable packaging in New Zealand.
- The large number of stakeholders connected to compostable packaging need to work together to enable progress towards this working solution.

Lyn Mayes

The Packaging Forum
NZ Food & Grocery Council

The Packaging Forum’s Soft Plastics Recycling Scheme

- The Soft Plastics Recycling Scheme has seen significant growth in processing capacity, membership and geographic reach.
- It is 100% funded by industry.
- Phased expansion to reflect availability of markets and infrastructure.

The Food & Grocery Council’s Compostable Products Sub Committee

Food & Grocery brands and supermarkets have asked for a firm position. The Food & Grocery Council’s position is:

- Supports the use of compostable products in a closed loop environment such as festivals, events, food courts and for specific uses such as food caddy liners or produce stickers.
- NOT FOR NOW: Does NOT support the current introduction of compostable plastic packaging and products sold for use in households. This is because the infrastructure is not there for commercial composting and home compost units are not at scale to deal with volume.

Key updates from our speakers

James Ferrier
CEO
Biofab

- Mycelium in packaging is a great example of a true bio-composite. It shows the ability to replace polymers in packaging.
- The more we can learn to mimic natural processes in producing materials, the more easily that material will be able to re-enter natural systems at the end of its life cycle. We need to design products to minimise the potential for "waste" to be generated in a product's lifecycle.
- Producing new materials from renewable sources such as hemp or wood, will create huge opportunities for New Zealand to become less reliant on imported plastics.

Nick Baker
General Manager
Visy

- The recycling Industry in New Zealand needs a system that is understood by consumers! Australasian Recycling Label may be an option that takes the confusion out of recycling.
- Visy has recently upgraded optical sort to include separate streams for coloured HDPE #2, coloured PET #1 and PP #5.
- In future Visy would like to upgrade material recycling facility technology to include object recognition capability, but this requires investment.
- Coloured PET 1, polyvinyl chloride (PVC #3) trays, polylactic acid (PLA #7), Low-density polyethylene (LDPE #4), and polystyrene (PS #6) should be avoided to optimise recyclability.
- Fibre market remains volatile. Fibre that is layered with other materials is difficult to recycle.

Nikki Withington
Sustainable Packaging Consultant
SQ1

- Until we establish different systems (e.g reusable systems) for retail products there will still be need for single use plastics for protecting products and communicating information.
- Brand owners and designers are in immediate need of education and resources to help guide them into using more circular materials. This will make it easier for consumers to feed the packaging into the right end of life streams.
- Packaging materials could be standardised for products by category.
- We need to encourage design for end-of-life i.e. recycling or composting after repetitive reuse where possible, and have information/ instructions clearly communicated on packaging. New Zealand needs to adopt a labelling system like the Australasian Recycling Label, but have it available for all businesses, small to large.
- Petroleum-based plastic packaging (even with high recycled content) is a stop gap solution until we identify/develop replacement renewable biomaterials. Development and testing needs to be underway in parallel to make them commercially viable alternatives to move to. This seems far-fetched at the moment, but will continue to be far-fetched until we bridge the gap.

Where are we on our pathway to 2025?

A snapshot of NZ's progress in 2020: across the packaging system

During the **2019 Plastic Packaging Masterclass Series we created a 'Pathway to 2025'** of key actions and outcomes that would be need to be achieved so New Zealand can meet 2025 commitments.

The following is a snapshot of our progress in 2020:

ACHIEVED AND ONGOING

- Basel Convention on the import and export of hazardous waste came into effect January 2021
- Government response and prioritisation of recommendations from Rethinking Plastics in Aotearoa
- Planned increase of national waste disposal levy

NOW MAINSTREAMED

- Consumer awareness of problematic/unnecessary packaging is influencing businesses to make packaging changes
- Increased onshore reprocessing of household recycled clear PET #1, natural & coloured HDPE #2

Where are we on our pathway to 2025?

IN EARLY ADOPTION

- Collection and recycling of PP #5 throughout New Zealand
- Movement towards use of rigid plastics that hold local recycling value (clear PET #1, natural & coloured HDPE #2 and PP #5)
- Increased use of recycled content in packaging on shelves
- Renewable bio based drop-in materials entering the market
- Initial evidence that policy changes and design guidance are reducing problematic packaging
- Reusable business models appearing on the market
- New Zealand businesses signing up to packaging commitments
- Businesses adopting a circular approach to packaging
- Investment into onshore waste infrastructure

IN THE PLANNING STAGES

- Consumer demand builds for more reuse solutions
- Co-design for regulated product stewardship for packaging
- Specific uses for compostable packaging are identified and compostable packaging best practice is defined (e.g certification)
- Standardisation of kerbside recycling collection
- Innovation funding identified for research into low-carbon circular packaging solutions
- National plastics action plan being developed by Ministry for the Environment
- Data gaps identified for understanding material flows both locally and internationally
- Packaging data should be collated in a central industry database and linked to the unique product identifier the GS1 barcode (the striped barcodes on the back of products) to provide more accurate data on plastic packaging
- Agreed labelling standards for packaging in New Zealand
- Initial investigation into a New Zealand Container Return Scheme

YET TO BE STARTED

- Research and development of independent material choice hierarchy for packaging
- System diagnosis of New Zealand's reusable packaging opportunity
- National plastics data framework

Packaging design for recyclability

STATE OF PLAY IN 2020:

Easy to recycle

Commonly collected by council recycling schemes

1 PET
Polyethylene terephthalate

2 HDPE
High density polyethylene

5 PP
Polypropylene

Notes: (In order of current recycling value)

Clear PET #1 and Natural HDPE #2 – have the highest recycling value onshore and overseas.

PP #5 – Has recycling value with a strong onshore & overseas market.

Coloured HDPE #2 – Has recycling value onshore and overseas but is not as strong as natural HDPE.

Coloured PET #1 – Is being separated out and recycled, however, is essentially worthless and often costs recyclers to get rid of therefore less desired.

Notes:

Consider using recycled feedstock rather than virgin.

We need consistent labelling of materials using resin codes (1, 2, 3 etc rather than PET, HDPE etc).

* Information is based on current market, however this is constantly changing and evolving.

Possible to recycle in some places

Sometimes recycled

4 LDPE
Low density polyethylene

Notes:

Soft flexible plastics are able to be recycled via the Soft Plastics Recycling Scheme, check out (www.recycling.kiwi.nz/).

Rigid LDPE #4 plastics are not currently being recycled and will be sent to landfill.

Difficult to recycle

Not often recycled

3 PVC
Polyvinyl chloride

6 PS
Polystyrene

7 OTHER

Notes:

Multi-layer materials will essentially not be recycled and sent to landfill.

PVC #3, PS #6, & Other #7 are at risk of contaminating recycling streams and are currently being sent to landfill by council collections.

Current Government initiatives

Proposed phase out of selected plastic packaging

The New Zealand Government has proposed to phase out:

- All PVC food and beverage packaging.
- All polystyrene food and beverage packaging.
- All other expanded polystyrene packaging.
- All oxo-degradable plastic products.

Public consultation ended in December 2020.

Regulated product stewardship for plastic packaging.

As part of the wider plan to reduce the amount of rubbish ending up in landfills or polluting the environment, the Government has declared six priority products (including plastic packaging) for regulated product stewardship under the Waste Minimisation Act.

The next stage is to work with stakeholders to co-design options for regulated product stewardship schemes. For plastic packaging this has not yet started but progress will be joined up with the work on proposed phase out of selected plastic packaging in 20/21.

New import and export requirements

The Ministry for the Environment has introduced amendments to the Imports and Exports (Restrictions) Prohibitions Order (No 2) 2004 (Imports and Exports Order) to meet the proposed Basel Convention amendments. Under these amendments, imports and exports of most mixed plastic waste will require a permit but imports and exports of separated plastic waste suitable for recycling, and mixtures of PET, PE and PP, will not require a permit as long as all materials are destined for separate recycling. This will increase the difficulty of exporting mixed plastic bales.

$124 million investment in new on-shore recycling and reprocessing infrastructure.

This will include plastic recycling and processing plants, weighbridges for improved waste data collection and improved material and community resource recovery plants.

NZ Container Return Scheme

The project team for the NZ container return scheme has delivered its final report and recommendations. These have been evaluated by the Scheme Design Working Group. The Technical Advisory Group has also now provided its final advice to Ministry officials. If implemented, a container return scheme is expected to have some impact on the amount and composition of beverage container recyclate collected at kerbside but also to improve the overall quality of recyclate.

Contact: Ministry for the Environment
⟶ Plastics.Consultation@mfe.govt.nz

Standardisation of Kerbside Recycling

WasteMINZ made the **following recommendations to the Government for the standardisation of kerbside recycling nationwide.** These recommendations provide some good insight into how to design packaging for New Zealand's recycling infrastructure:

- Plastics PET, 1, HDPE, 2 and PP, 5 grocery packaging only, must be clean and presented without lids.
- Clean aluminium beverage cans and steel food cans.
- Aerosol cans will not be accepted in kerbside recycling.
- Clean glass food and beverage bottles and jars only. Must be presented without lids.
- Clean paper, paperboard and cardboard.
- No shredded paper, till receipts or composite materials such as coffee cups or liquid paperboard containers.
- No items smaller than 50mm in diameter (e.g. bottles caps, bread bag tags, small pill bottles...)
- No containers larger than 3 litres.
- No lids, triggers or pumps (including large lids e.g. ice cream container lids).
- It is recommended that there is system specific messaging about the squashing of containers. If a local authority has a crate system, they may want to ask their resident to lightly squash bottles and cans. If a local authority has a wheelie bin system and an automated MRF, they may want to ask their residents to not squash items.

Contact: Sarach Pritchett
⟶ sarahp@wasteminz.org.nz

Masterclass workshop

SESSION OUTPUTS

Note: this is a summary of conversations by attendees and is not attributable to any one organisation's plans or actions.

Masterclass Activity: Discussion on data

Using data to help make better packaging decisions.

Data is crucial to understanding what, where and how much packaging we currently use, identifying how it currently fits into the NZ packaging system. It provides the starting point for where to strategically direct our efforts to meet packaging commitments.

During Masterclass 2020, participants focused on identifying where packaging data currently exists across the NZ packaging system, where it is missing and how they may play a role in increasing our system wide knowledge in the data they can capture.

Thanks to Kelly McClean (Foodstuffs), Barbara Nebel (thinkstep) and Richard Manaton (GS1) for facilitating this discussion.

Key takeaways:

New Zealand currently has limited packaging data available. However, this isn't unique to packaging with Ministry for the Environment acknowledging that data capture and interpretation could be improved across the entire waste system.

What could good data enable across the New Zealand packaging system?

- Allow the setting of clear, informed goals and targets towards 2025 packaging commitments at a systems level with greater confidence, e.g. % of recycled content.
- Improve transparency throughout the system from packaging production through to end of life. Understanding these material flows will help us to drive change across the system, track progress and be more effective at reducing environmental impact.
- Support standardisation of packaging across different product categories.
- Make more informed packaging decisions low impact packaging based on Life Cycle Assessments (LCA).

Two distinctive data steps were identified:

1. **Data Capture & Validation** – Credible and up-to-date data capture of packaging material flows e.g. material type, location, volumes. This should be available to a range of stakeholders in the supply chain. The data needs to be real time/ synchronised data capture to ensure changes in product packaging initiated by a packaged goods supplier are captured and published to trading partners/customers.
2. **Assessment** – Interpretation of data. This can include labelling and environmental impact evaluation e.g. Life cycle assessments. This informs decision making and communication. Assessment is reliant on robust data capture and management.

Masterclass Activity: Discussion on data

There are multiple stakeholders who can contribute to the capture, sharing and management of packaging data. We asked masterclass attendees the roles they might play in this data capture:

Governance & Infrastructure

Workshop question: To enable good data capture, what does the packaging system need from governance and infrastructure?

Attendees of the masterclass identified a need for all stakeholders including government to access product packaging data from centralised databases such as GS1 and others, with established open standardised data that includes measures for:

- Material type
- Weight
- Colour
- Recycled content
- Contamination
- Reuse
- Industry
- Source
- End market (local or overseas)
- Location
- Average product lifetime of all packaging used in NZ

Government should ensure global standards are applied to the recording of packaging data. This will help to ensure the data collected provides credible information across the system.

Government needs to ensure all packaging in the NZ system including imports and exports are able to be captured (including raw resins). It was suggested that Statistic New Zealand could be involved along with other global standards organisations.

Government needs to provide clear educational material as a trusted source to inform material choice and end-of-life options for a New Zealand setting.

*In the Government's Response to Rethinking Plastics Report it is indicated that the Ministry for Environment and Statistics New Zealand are working to improve data collection across the waste sector with a high priority in early 2021.

Masterclass Activity: Discussion on data

Packaged goods suppliers

Workshop question: To enable good data capture, what does the packaging system need from packaged goods suppliers?

- Packaged goods suppliers need to know what packaging they have. An initial step for an organisation may be to do a packaging audit. This involves identifying where across your supply chain you are using packaging, how much of it you are using and what packaging is problematic. Once you know what problematic packaging you have and where it is, you can prioritise where to focus resources and efforts to have the greatest impact.
- It would be valuable to the system if data was accurate and comparable across all packaged good suppliers.
- Work is currently underway in the grocery sector with manufacturers/retailers and GS1 NZ (NZ barcode providers) to capture packaging data. This was supported by masterclass attendees. This could also help with automation of packaging data being captured.
- Consumer education via clear and concise labelling of packaging information on pack so consumers can dispose of packaging correctly at the end of life.
- Collect and share packaging performance data e.g amounts of waste/product loss/ food waste/ damaged packaging to understand any relationships between loss of product and material types at a system level.
- There is currently a gap of data available for reuse models. Those operating reuse models could provide this insight e.g supply data captured via customer transactions, not only volume of single use displaced.

Ellen MacArthur Foundation uses the following 5 points to determine if packaging is problematic:

1. It is not reusable, recyclable or compostable in practice and at scale
2. It contains, or its manufacturing requires, hazardous chemicals that pose a significant risk to human health or the environment (applying the precautionary principle)
3. It can be avoided (or replaced by a reuse model) while maintaining utility
4. It hinders or disrupts the recyclability or compostability of other items
5. It has a high likelihood of being littered or ending up in the natural environment.

Masterclass Activity: Discussion on data

Packaging suppliers

Workshop question:
To enable good data capture, what does the packaging system need from packaging suppliers?

- The packaging industry groups could play a key role by helping to minimise intellectual property issues and provide aggregated data where needed.
- The packaging industry plays an important role in ensuring transparency so their customers know:
  - What materials/ resin type/s (e.g. PET #1) is the packaging they are supplying?
  - What are the raw materials that go into the packaging (e.g petrochemical vs sugar cane vs fibre)?
  - What are the end-of-life options are for that material?
- The packaging industry needs to capture, aggregate and feed data into a national database to help understand the material flows.
- Develop relationships with infrastructure suppliers e.g recyclers to share information two ways about what packaging is in demand and what markets are available both on shore and overseas.
- Collect and share data on the environmental impact of the products being supplied, e.g Life Cycle Analysis data of one format/ material vs another.
- For plastic packaging ensure the recycling code is present on all components. This provides data to customers and recyclers.
- Share data/information from market research on things like consumer behaviour, perception and awareness to help understand where consumer education is needed and what infrastructure is available to packaging trends.

Science, design and innovation

Workshop question:
To enable good data capture, what does the packaging system need from science, design and innovation?

- Support development of baseline packaging data in a national database.
- Research into way of collecting data, and understanding.
- Create open sourced life cycle assesments so businesses can make more informed decisions not just on material types but also on packaging models e.g reusable vs single-use.
- Use the whole of life, life cycle analysis and circular economy approach to new materials innovation. Collate data to be able to inform how this fits in the NZ system.
- Research into environmental impact at a system level and research into how circular economy thinking could be applied at a national level.

Where are the gaps/challenges?

Data for reusable packaging systems:

- There is currently a gap of data available for reuse models. There is a need for investment into identifying how reusable packaging could play a role as well as independent life cycle analysis for reusable packaging to understand the potential benfits gained. Those operating reuse models could help to provide insights e.g supply data captured via customer transactions, not only volume of single use displaced.

Too much or too little:

- Masterclass attendees spoke of the delicate balance between having not enough data and too much data for decision making.

Masterclass activity: Reusable packaging in New Zealand

Unlocking reusable packaging opportunities across the supply chain.

During the masterclass participants imagined what Aotearoa could look like if we operated as a reusable economy. They identified where reuse is currently operating and where the opportunities lie, looked at who the key stakeholders would be to implement the vision and what roles they may play.

Thanks to Anna Dawson (Plastic Free Solutions) and Kayleigh Appletone & Carys Templer (Waiheke Resources Trust) for facilitating this discussion.

Workshop question: Imagine the whole of NZ using reusable packaging systems. What could that look like?

- Returning to past practices (e.g. milk bottle doorstep pickup).
- Businesses incentivised to operate and engage in reuse schemes.
- All packaging in standardised containers/ materials with kerbside collection for washing and refilling.
- Public education campaigns on waste and circular economy to create a driving consumer market for reuse.
- Fewer legislative barriers.
- Reusable packaging designed for durability and circular and regenerative end of life.
- Advancement in the use of digital platforms, barcodes, QR codes and RFID chips to enable smarter more elegant reusable systems that fit into today's fast paced society.
- Centralised washing infrastructure employing locals to stimulate jobs in a circular economy.
- More subscription schemes like Loop in NZ.

Masterclass activity: Reusable packaging in New Zealand

Workshop questions:

Where is reuse currently operating in New Zealand?
Where are the opportunites for reuse across the supply chain?

Refill at home:

Users refill their reusable container at home (e.g. with refills delivered through a subscription service).

- Sodastream
- Ethique – concentrate bars 'just add water' to own container
- Handwash/other personal hygiene bulk refills, canned tomato sauce to refill plastic bottle

Refill on the go:

Users refill their reusable container away from home (e.g. at an in-store dispensing system).

- GoodFor
- Ecostore's supermarket refilleries
- New World BYO container for deli
- Common bulk refills e.g handwash/ other personal hygiene, canned tomato sauce to refill plastic bottle
- Oaklands milk vending machines
- Various reusable cup offerings e.g IdealCup, KeepCup

Return from home:

Packaging is picked up from home by a collection service (e.g. by a logistics company).

- Woop

Return on the go:

Users return the packaging at a store or drop-off point (e.g. in a deposit return machine or a mailbox).

- Associated Bottlers Co (swap-a-crate)
- LPG gas bottles
- Again Again
- Reusabowl
- Globelet
- Wanakup
- Cupcycling
- DISHrupt
- Good to Go
- Silver Service
- Aotea Brewing
- Ecostore packaging recall programme

B2B:

In addition to the four business to consumer reuse models, a wide range of business-to-business (B2B) reuse models exist. These can range from individual companies reusing their own transport packaging, to industry-wide reuse systems based on interconnected operators managing a shared set of standardised, reusable packaging.

- Palletite
- Foodcap
- Pallet, crates, drums, bags etc reused in house for transportation of bulk goods. Check out this example by Foodstuffs NZ and CHEP.

Masterclass Activity: Reuseable packaging in New Zealand

Workshop Questions:

Where is reuse currently operating in New Zealand?
Where are the opportunites for reuse across the supply chain?

Organisations advocating for reuse in New Zealand.

- Throwaway takeaways
- Sustain Aotearoa

Opportunities:

- Universal standardisation of packaging formats for reuse.
- Centralised washing/ redistribution stations.
- Logistics infrastructure e.g return to store/ kerbside collections/ drop off locations.
- Universal Rfid/ QR/ barcoding technology to track reusable packaging.
- Product stewardship – reuse mandatory.
- In store sterilisation at retailers for refill/ BYO container schemes to combat H&S.
- Financial/ legislative changes to enable reuse.
- Education campaigns to drive consumer demand for reuse.
- Membership/ subscription services like Loop in NZ?
- Pharmaceuticals/ Construction/B2B packaging.
- Reverse logistics for e-commerce packaging.
- Design for end of life e.g material choice to be recyclable/ compostable.

What do businesses need to progress reusable systems in NZ?

- Life cycle assessments (LCA's) - LCA is a technique that quantifies the environmental impacts of a product or system, typically from the cradle to the grave. There are limited LCA costing studies comparing the costs of reusable packaging systems vis-à-vis single-use packaging systems that are open sourced in the scientific literature. Publicly available LCA's will help businesses to be able to understand theconsidering reusable packaging formats.
- Centralised washing infrastructure – to enable a truly efficient reuse economy brands need a cost effective and efficient solution to cleaning and redistribution of reusable packaging.
- Storage.
- B2B reuse opportunities recognised and incentivised.
- Health & safety guidance.
- Logistical rules and policies.
- R&D /innovation investment.
- Real life models/ case studies to learn from.
- Wholesale opportunities.
- Increase consumer demand through public education.
- Take back systems.
- Local & global logistics system.

Masterclass Activity: Achieving circulation for flexible packaging

Addressing the flexible packaging challenge

During the masterclass, participants began to address flexible packaging and answer the following questions:

What is flexible packaging?

Flexible packaging is any package or any part of a package whose shape can be readily changed.

Common examples are pouches and sachets.

Thanks to Rachel Barker (PlasticsNZ) for helping to facilitate this discussion.

Why is it used? What functions does it perform, what benefits does it provide?

- Durable barrier protection and product safety.
- Ability to heat/cook food within.
- Efficiency with current manufacturing processes.
- Consumer recognition – they are familiar with formats.
- Consumer convenience – accessible opening and resealing.
- Communication – visibility on shelf, a platform for branding and providing information to consumers.
- Enables product visibility.
- Breathability function.
- Lightweight enabling efficient transportation.

Workshop question: What is the challenge?

How could we still provide the benefits of flexible packaging via:

Eliminate

- Offer alternative packaging formats specifically for online sales.
- Encourage movement away from ‘snack packs’ e.g. expand plastic free lunch box initiatives in schools.
- Where feasible move away from multi-layered laminates and mixed plastic configurations e.g. rigid caps with flexible packaging.

Innovate

- Use single substrate films e.g just HDPE #4.
- Reduce pack sizes via more concentrated formulas.
- Reduce the number of packs by offering bulk purchases.
- Increase reuse via refillable models.
- Down gauging/ light weighting e.g using less plastic by reducing the thickness of packaging
- Consistent messaging on pack for end of life/use instructions e.g. soft plastics recycling scheme.

Masterclass Activity: Achieving circulation for flexible packaging

Circulate

- Develop and expand flexible packaging and reprocessing infrastructure.
- Investigate chemical recycling options.
- Develop end markets for materials.
- Develop ‘easy clean’/sterilising options to enable quality reprocessing.
- Smart tracking of materials throughout the whole of life.
- Replace flexible formats with reusable or rigid packaging where feasible.

Key pathways forward identified were:

1. Understanding the problem, developing a vision and associated best practice to achieve that.

Knowledge and pathways for rigid plastics is widely known and this has seen movement towards clear PET #1 and natural HDPE #2 for example.

However, there is limited knowledge about the material composition and associated implications of flexible packaging.

Current barriers and emerging opportunities for increasing circularity for flexible packaging are not clear. Flexible packaging format decisions are therefore made in isolation, with limited knowledge and with no common ‘direction of travel’ towards a more circular system.

Best practice guidance is required in terms of material selection from a holistic environmental perspective from carbon emissions implications to recyclability.

A starting point would be gaining an understanding of usage data on current flexible packaging types and overlaying life cycle analysis data to determine current ‘better’ performers from an environmental perspective.

2. Closing the loop on flexibles.

Where we are seeing evidence of closed loop systems (packaging back into packaging) for rigid packaging, there is a vision identified to achieve that for flexibles. Technical advances would be required to enable recycled content to be incorporated while still maintaining functionality, as well as, advances in processing and recycling.

Greater standardisation and simplification would inevitably be needed. Incentives and regulations would be required to fund and enforce the transition.

A current solution for soft/flexible plastics is the soft plastics recycling scheme. Consumer drop off locations have expanded enabling flexible packaging to be recycled into fence posts by Future Post. **Check out where the scheme is currently operating here.**

Masterclass Activity: Compostable packaging

Masterclass Activity: Making the right decision on compostable packaging.

This session was run by Kim Renshaw who is project manager for The Packaging Forum's Compostable Technical Advisory Group. The session focused on setting the scene for identifying the appropriate use of compostables within the packaging system. The scene was set through providing international position statements (listed below) and challenges to the use case.

International Views

Bio-based and Biodegradable Industries Associtaion UK: "Compostable packaging does not provide nutrients but helps bring food waste cleanly to treatment and then to soil."

Australasian Bioplastics Association: "Compostable bioplastics have a role to play in the circular economy through the replacement of conventional plastics in problematic packaging and as food waste bags, garbage bags and bin liners."

Wrap/APCO: "One of the most commonly cited situations where certified compostable plastics could be particularly useful is for packaging that is likely to be so contaminated with food that it cannot be mechanically recycled and where it can facilitate the collection of food waste."

Netherlands Case Study:
Findings – The focus for packaging should be on:

1. Prevention first – eliminate any unnecessary packaging.
2. Reusability second where possible making packaging reusable.
3. Recycling third.
4. Finally, compostable plastic as an interesting solution if the compostable packaging meets sustainability criteria.

In 2019's 'Innovate' Masterclass participants created an initial decision tree to answer the question 'Should I use compostable Packaging?'. This year participants tested different forms of packaging to understand the use case.

We discussed what sort of packaging should be composted, what shouldn't, and what was a 'maybe'. This work will feed in to The Packaging Forum's work programme on compostable packaging and will be tested with industry stakeholders.

Focus groups will follow through The Packaging Forum's Compostable Packaging Work Programme. Anyone is invited to take part in their home composting trial in 2021.

Contact Kim Renshaw for more information.
→ kim@beyondthebin.org.nz

Update on compostable packaging in New Zealand

The Food & Grocery Council has made a stance on compostable packaging sold for use in households as '**not for now**'. It's reasoning is that at present the infrastructure is not there for commercial composting and home compost units are not currently at the scale needed to deal with potential volumes.

To address and progress solutions **The Packaging Forum is leading a compostable technical advisory group** with the aim to remove the challenges compostable packaging faces in New Zealand. Their team is working with a range of stakeholders in a systems approach to arrive at a national solution. They have identified the following barriers that need to be adressed:

- No agreed compostability standard for NZ conditions
- No agreed labelling standard
- Limited collection network
- Variation of compostable products and facility requirements
- Confusion with conventional (non-compostable) materials
- Contamination
- Organic certification requirements for facilities

The group ran a **recent survey of New Zealand's compostable packaging stakeholders** where they identified that over 100 compostable packaging projects have been completed in the last five years, with another 81 in progress and 85 more planned. This demonstrates a clear need for co-ordinated action on compostable packaging.

Sharing the success stories

Sharing the success stories

Foodstuffs NZ

One of the New World initiatives already making waves is 'Food in the Nude': A drive to remove unnecessary plastic packaging on fresh produce to create a more sustainable offering of 'nude' fruit and vegetables. After all, nature provided bananas and oranges with their own coverings, so do we need more?

First debuted in 2016, 36 out of 42 stores in the South Island now are 'nude', and according to New World, it's driven a positive impact on sales, with some soaring by up to 300% in certain stores - spring onions, silverbeet and celery in particular.

Foodstuffs also looked at data from the last 10 years and can confirm that food waste has not increased in stores running 'Food in the Nude'. It's a win win!

Food in the Nude is achieved through innovative vertical misting units that ensure produce hydration and quality, collaboration with suppliers to eliminate plastic sleeves and wide-spread adoption of reusable crates in the supply chain. Customers can support this mahi by bringing in their reusable produce bags.

New World says that over one year, 'Food in the Nude' had stopped 3.4 tonnes of plastic from being produced in the first place - the now naked spring onions saved around 1,400kg or 1.4 tonnes alone. Glen Stevenson, retail support manager - operations for Foodstuffs South Island, told Newshub: "It's been a team effort with stores, growers and customers all willing to do things differently. The growers have switched out sleeves for tags and our produce managers have enthusiastically embraced the vision."

Foodstuffs have recently trialled and rolled out many initiatives aligned with their 2025 packaging commitments:

- Ran a plastic-free Little Garden campaign
- Lightweight pallet wrap has resulted in a 30% reduction - saving 205T of LDPE #4 annually.
- Eliminating individual single-use plastic bags from uniform orders
- Seeing some excellent new supplier products coming through that design out waste and water e.g. concentrates, double rolls, durable reusables
- 15 New World stores joined RefillNZ free water refill network
- Reusable crate expansion in supply chain logistics – over 18.5 million crate circulations per year
- Introducing a 70% recycled and Forest Stewardship Council certified paper bag option to 'Alison's Pantry' at New World and PAKn'SAVE
- Successfully trailled a new fibre alternative to polystyrene bin - potential to eliminate 102T of polystyrene foam from the seafood supply chain
- Introducing home compostable fibre net bags for onion and citrus pre-pack
- Completing transition to rPET punnets and clamshells
- Private Label pilot of the Australasian Recycling Label's PREP tool
- Running supplier workshops and adding a packaging sustainability section to the Foodstuffs eXchange supplier website

Sharing the success stories

New Zealand King Salmon

As a partner in the New Zealand Plastics Packaging Declaration, New Zealand King Salmon have committed to the goal of using 100% reusable, recyclable or compostable packaging by 2025.

This is a large-scale project, with many salmon products requiring different packaging specifications for distribution in New Zealand and around the world. “The key is to prioritise where we can make changes, both big and small, and use up the packaging we have in stock so we can move onto new solutions”, says Victoria English, Product Development Manager.

“We work closely with our suppliers as well as an independent packaging specialist to help us look at non negotiable parameters such as shelf-life and product presentation, as well as balancing the need for functionality like easy-peel packaging with sourcing locally-made options.”

With 50% of their salmon exported to overseas markets, the team are also looking at how to tackle recycling abroad. “Recycling policies are different in each country and what is recyclable here might not be recyclable in Thailand or North America”. New Zealand King Salmon have recently become members of APCO which means they can use the widely-known recycling logos on a number of products which are now recyclable in kerbside recycling programmes in New Zealand and Australia.

Their internal Plastics and Packaging Sustainability group meet regularly to look specifically at reviewing packaging and the use of plastic across the business.

Some recent wins include:

- The introduction of a new software system which calculates the packaging weight of their products giving an overview of how much they have used, the percentage in different packing products and the money spent. This means they can prioritise which products to cut down on packaging and waste. They now have a baseline in order to measure improvements in future years.

- The removal of plastic interleave from their food service Regal packs and from a premium smoked salmon product. This will save $11,000 in material cost per annum and 27,883m2 of plastic per year from going into the environment.

- Moving to a plant based rollstock for their wood-roasted portions and nibbles, resulting in a saving of approximately 38,450kg of petrochemical based material from being produced.

- An increase in cardboard carton usage with a corresponding decrease in polybin usage, in a drive to reduce the use of polystyrene.

- The removal of plastic from a factory process saving approximately $7,400 worth of material and 936kg of plastic going to landfill.

- The removal of a material which is unrecyclable and soon to be banned in New Zealand. Although only used in small amounts, the result is that they will send 63kg less petroleum-based plastic to landfill every year. The material that they are now using is 30% plant-based and the remainder is able to be recycled.

Check New Zealand King Salmon’s sustainability report here.

Sharing the success stories

Farmland Foods

The Farmland team has given their top-selling products fresh new looks, including changing the packaging trays to now be made from NZ sourced recycled #1 RPET plastic. The new looks apply to Country Pride Ham & Chicken Luncheon 200g, Shaved Ham 200g along with the Just Cut 100g range and the new Lunch Club 100g range.

With consumer demand growing for environmentally sustainable products and packaging, the recyclable trays will be diverting more than 1.5 million packets per year from landfill, making a true step towards a circular economy where resources can be used again and again.

Steven Young, Brand Manager, says: “We’re proud to be the first pre-packaged small goods company in New Zealand to use NZ sourced recycled #1 rPET plastic, putting our stamp on creating a sustainable future for NZ.”

Woop

As a team Woop are committed to reducing their impact on the environment and as a values-led business they are very passionate about it. Woop want to make sure that they are doing more than just their part and take responsibility to continually improve.

One hundred percent of their packaging is now recyclable or compostable, and they take responsibility for that through our Back to Base programme. But Woop's commitment to sustainability goes further than that. They see locally sourced ingredients, portion control to avoid food waste, and delivery emissions offsetting as essential parts of their sustainability focus too.

Woop found their sachets were the most challenging, as they aren’t able to be recycled through kerbside recycling. However, by partnering with Future Post Woop are now able to recycle them.

Woop have now been able to find an end-of-life recycling solution for all of our packaging. This took a lot of research.

Vitaco – Aussie Bodies

In 2020 Aussie Bodies, one of Vitaco’s core brands, underwent a significant product and brand relaunch.

With the knowledge Vitaco gained through attending the SBN Plastics Masterclasses, such as choosing plastics with the highest recycling value, the need for a more circular economy and understanding the importance the consumers place on recyclable packaging, it was critical for them to use this as an opportunity to reduce their environmental footprint.

After a lot of careful consideration, and with the collaboration of their packaging partners, Vitaco made the decision to move all of the Aussie Bodies protein powder range into natural HDPE plastic containers and lids. Part of the decision process was to also move to a label structure that would not contaminate the recycling streams. The changes were rolled out in May 2020 and have resulted in almost 10,000kg of packaging now able to be close-loop recycled. As part of the brand refresh, all Aussie Bodies packaging now includes the Australasian Recycling label, so consumers are well informed of what to do with their waste.

Who's who and where to go for help

Who's who and where to go for help

Sustainable Business Network
→ sustainable.org.nz

Industry bodies

Packaging Forum
→ recycling.kiwi.nz/about-us

Packaging NZ
→ packaging.org.nz/page/6/who-we-are

Plastics NZ
→ plastics.org.nz/about-us

WasteMINZ
→ wasteminz.org.nz/about

Government & policy updates

Ministry for the Environment
→ mfe.govt.nz/waste

Sign up to a packaging commitment

New Plastics Economy Global Commitment (NPEC)

The New Plastics Economy Global Commitment unites businesses, governments, and other organisations behind a common vision and targets to address plastic waste and pollution at its source.

Signatories include companies representing 20% of all plastic packaging produced globally, as well as governments, NGOs, universities, industry associations, investors, and other organisations.

Signatories commit to three actions to realise this vision. Eliminate all problematic and unnecessary plastic items. Innovate to ensure that the plastics we do need are reusable, recyclable, or compostable. Circulate all the plastic items we use to keep them in the economy and out of the environment.

→ newplasticseconomy.org/projects/global-commitment

New Zealand Plastic Packaging Declaration

Local and international businesses commit to using 100% reusable, recyclable or compostable packaging in their New Zealand operations by 2025 or earlier.

This recognises the role that business can play to improve the plastic system in New Zealandand align New Zealand's efforts with a global movement on plastic packaging.

→ mfe.govt.nz/news-events/new-zealand-plastic-packaging-declaration

Useful resources

Office for the Prime Minister's Chief Science advisor

- Rethinking Plastics in Aotearoa New Zealand

Ministry for the Environment

- Government response to Rethinking Plastics report
- Recommendations for standardisation of kerbside recycling to Ministry for the Environment

Sustainable Business Network

- Full outputs from 2019 Masterclass Series
- New Zealand Plastic Packaging Guidance 2019
- New Zealand's Plastic Packaging System - An Initial circular economy diagnosis
- Covid-19 and plastic packaging webinar

WasteMINZ

- Compostable packaging work and resources
- Truth about plastics recycling report
- Recommendations for the standardisation of kerbside recycling

Australian Packaging Covenant Organisation (APCO)

- Packaging Recyclability Evaluation Portal (PREP)

Ellen MacArthur Foundation

- Upstream Innovation guide to packaging solutions
- Reuse thinking packaging resource

WRAP UK

- Plastics Resource library
- Design tips for making rigid plastic more recyclable

Marx Design

- Open source packaging stewardship briefing document

Commerce Commission

- Environmental Claims Guidance

Scion

- Compostable packaging certification

Definition of terms

One of the issues we need to work on is use of the terminology around recycling and reprocessing.

Here are the definition of terms used in the New Plastics Economy Global Commitment, which should form a reference point for all those making these commitments:

Reuse of packaging
Operation by which packaging is refilled or used for the same purpose for which it was conceived, with or without the support of auxiliary products present on the market, enabling the packaging to be refilled.

Reusable packaging
Packaging which has been designed to accomplish or proves its ability to accomplish a minimum number of trips or rotations in a system for reuse.

Material recycling
Reprocessing, by means of a manufacturing process, of a used packaging material into a product, a component incorporated into a product, or a secondary (recycled) raw material; excluding energy recovery and the use of the product as a fuel.

Recyclable packaging
A packaging or packaging component is recyclable if its successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale.

Post-consumer recycled content
Proportion, by mass, of post-consumer recycled material in a product or packaging.

Composting
Aerobic process designed to produce compost.

Compostable packaging
A packaging or packaging component is compostable if it is in compliance with relevant international compostability standards and if its successful post-consumer collection, (sorting), and composting is proven to work in practice and at scale.

Renewable material
Material that is composed of biomass from a living source and that can be continually replenished. When claims of renewability are made for virgin materials, those materials shall come from sources that are replenished at a rate equal to or greater than the rate of depletion.

Renewable content
Proportion, by mass, of renewable material in a product or packaging.

Closed loop
The packaging is collected and recycled, then used to manufacture the same type of packaging. For example, bottle-to-bottle, cardboard-to-cardboard, or cup-to-cup.

Open loop
The product is collected and recycled into other products.

Bio based 'drop-in' materials
Bio based, non-biodegradable 'drop-in' plastics such as bio-PP, bio-PE and bio-PET are chemically identical to their petrochemical counterparts. In theory, they should be sorted out in the same mono streams as conventional plastics, e.g. Ecostore sugar cane HDPE.

Definition of terms

Types of plastics used in packaging:

						
PET	**HDPE**	**PVC**	**LDPE**	**PP**	**PS/EPS**	**OTHER**
Polyethylene Terephthalate	High Density Polyethylene	Poly Vinyl Chloride	Low Density Polyethylene	Polypropylene	Polystyrene / Expanded Polystyrene	Other (includes PLA – Poly Lactic Acid)
Soft Drink Bottles, Mineral water, Condiment/Food Jars, Food containers (trays, punnets and clam shells).	Milk Bottles, Cleaning Products, Personal Care.	Packaging/ Wraps (e.g. on plastic takeaway containers), Flexible Packaging/Bags, Sleeves on PET bottles.	Stretch film (such as Cling Film), shrink wrap, bubble wrap, zip-lock bags, grocery bags, squeezable bottles, coating of milk cartons.	Takeaway and ready meal (microwaveable) containers, Refrigerated Food Containers, Medicine Bottles, Bottle Caps.	Styrofoam Cups, Takeaway food containers (e.g. sushi packs), Meat Trays, Protective Foam Packaging, CD Cases, Small Hard-wearing Bottles.	Various (e.g. PLA water bottles).

Attendees Masterclass 2020

3R
Auckland Council
The University of Auckland
BioFab
Ceres
Chantal Organics
CustomPak
Ecobags
Ecoslice
Ecostore
ECP
Ethical Matters
Eunomia
Farmland Foods
Foodstuffs NZ
Go Well
Griffin's
GS1
HealthPost
Hi-Tech Packaging
Life Health Foods
Made Possible
Marx
Ministry for the Environment
New Zealand King Salmon
Packaging Forum
New Zealand Food and Grocery Council
Packaging NZ
Palletite
Pharmapac
Plastic Free Solutions
Plastics NZ
Reclaim
rPET Tech
Sanford
Soft Plastics Recycling Scheme
Scion
Sealed Air
SQ1
The Better Packaging Co
thinkstep
Torpedo 7
Transcontinental Packaging
Unitech
Visy
Waiheke Resources Trust
Westpac
Woop

Sustainable Business Network

sustainable.org.

Thanks to our partners

New Zealand King Salmon

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