The Truth About Packaging

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Overview & Purpose

June 2023 to May 2024 was the hottest 12-month period on record, with May 2024 reaching +1.52°C above the historical average. May 2024 also marked the 12th consecutive month to set a new global average temperature record and exceed the key Paris Agreement target of 1.5°C above pre-industrial levels.[1]

Many countries around the world have climate change mandates or proposals in place, while many others have announced their intentions to help combat climate change and its impacts.

The New Zealand Government has passed legislation requiring some large financial market participants to make mandatory climate-related disclosures. The new law applies to approximately 200 large financial institutions covered by the Financial Markets Conduct Act (FMC). Affected organisations must publish disclosures for financial years beginning on or after 1 January 2023, in accordance with climate standards set by the External Reporting Board (XRB).[2]

REFERENCE

[1] Copernicus Climate Change Service. (2024, June). *May 2024 marks 12 months of record-breaking global temperatures*. European Centre for Medium-Range Weather Forecasts. https://climate.copernicus.eu/may-2024-marks-12-months-record-breaking-global-temperatures

[2] Ministry for the Environment. (n.d.). *Mandatory climate-related financial disclosures*. New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/mandatory-climate-related-financial-disclosures/

Access to global markets and capital is increasingly dependent on sustainability performance. In fact, over 80% of New Zealand's exports by value go to markets in countries with mandatory climate related disclosures.[3]

Regardless of your personal or business views on sustainability, a company's ability to operate will be impacted by environmental, social and governance (ESG) compliance, either directly or indirectly.

To meet the challenges presented by these requirements, businesses will need to begin implementing strategies to manage their ESG impact. Some are well on their way to compliance, but many are only just beginning.

REFERENCE

[3] Chapman Tripp (2024). *Protecting New Zealand's competitive advantage*. Retrieved from: The Aotearoa Circle Report

Establishing where to start can be time-consuming and require significant investment. However, there are some tangible opportunities that can assist many organisations.

Packaging remains at the forefront of environmental scrutiny, with many materials deemed to be adversely impacting the environment. There is a drive toward more sustainable options, such as recycled materials and plastic alternatives along with innovative design.

Product damage and reduced shelf life can have a significantly negative impact on the environment. Therefore, it is crucial to identify key non-negotiables and carefully consider necessary trade-offs.

In 2020, we released our first edition of *The Truth About Packaging* to provide guidance on key terminology and product material options.

In 2025, we are pleased to share an updated edition, which discusses New Zealand's infrastructure, common packaging materials and terminology.

The following pages include an overview of commonly used terminology and FAQs, as it's important to understand these is before discussing plastics, board and paper.

Commonly Used Terminology

When referring to environmentally safe packaging, buzzwords and terms are often used.

Understanding what these terms mean and how they relate to the New Zealand environment, is key to ensuring you make informed decisions.

BAMBOO

Bamboo is one of the world's fastest-growing plants belonging to the grass family. It is a tall tropical grass with hard, hollow stems.[4] When harvested, bamboo fibres can be used to create textile-based products, such as bags and clothing.

BIODEGRADABLE

Biodegradable means the material is "eaten" by naturally occurring microorganisms such as bacteria, fungi and algae to produce water, carbon dioxide and biomass. The process of biodegradation is highly dependent on the environment.[5]

CIRCULAR ECONOMY

A circular economy is an alternative to the traditional linear economy, where resources are kept in use for as long as possible. The goal is to extract the maximum value from them while in use, then recover and regenerate products and materials at the end of each service life.[6]

REFERENCE

[4] Cambridge Dictionary. (n.d.). *Bamboo*. Cambridge University Press. Retrieved from: https://dictionary.cambridge.org/dictionary/english/bamboo
[5] Collins English Dictionary. (n.d.). *Biodegradable: Definition and meaning*. HarperCollins Publishers. Retrieved from: https://www.collinsdictionary.com/dictionary/english/biodegradable
[6] Ministry for the Environment. (n.d.). *Ōhanga āmiomio – Circular economy*. New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/ohanga-amiomio-circular-economy/

COMPOSTABLE

Composting is the natural process of recycling organic matter, such as food scraps and leaves, into a valuable fertiliser that can enrich soil and plants.[7]

CORNSTARCH

Cornstarch packaging is made using polylactic acid, extracted from cornstarch to produce a plastic-like material.[8]

DEGRADABLE

Degradable materials will in a period of time, break down into smaller particles when exposed to heat, oxygen or visible or ultraviolet light.[9]

FRAGMENTATION

This refers to the act or process of breaking something or causing it to break into small pieces or parts.[10]

REFERENCE

[7] Natural Resources Defense Council. (n.d.). *Composting 101.* NRDC. Retrieved from: https://www.nrdc.org/stories/composting-101#whatis
[8] Green Compostables. (n.d.). *Cornstarch packaging: Eco-friendly option*. Retrieved from: Cornstarch Packaging: Eco-Friendly Option - GreenCompostables.com
[9] ScienceDirect. (n.d.). *Biodegradable material.* Retrieved from: https://www.sciencedirect.com/topics/engineering/biodegradable-material#:~:text=biomass%20and%20water.-%E2%80%A2,specified%20time%20under%20specified%20conditions
[10] Oxford University Press. (n.d.). *Fragmentation. Oxford Advanced Learner's Dictionary.* Retrieved from: https://www.oxfordlearnersdictionaries.com/definition/english/fragmentation#:~:text=%2F□fræ%C9%A1men□te%C9%AA%CA%83n%2F,country%20into%20small%20independent%20states

GREENHUSHING

A term that is the opposite of greenwashing and refers to a company's refusal to publicise the sustainability of its products or services for fear of facing criticism.[11]

GREENWASHING

This is when a superficial or insincere display of concern for the environment is shown by an organisation. This is often a performative action to conceal or gloss over the environmental damage that is caused.[12]

LIFE CYCLE ASSESSMENT (LCA)

LCA is an analytical tool for the systematic and quantitative evaluation of the environmental impacts of a product or service system through all stages of its life. Applying this life cycle approach to environmental assessments means we recognise the impacts at each of these points, allowing us to balance trade-offs and make positive contributions to the economy, the environment and society.[13]

REFERENCE

[11] Earth.Org. (n.d.). *'Greenhushing' on the rise: What is it and why does it matter?* Retrieved from: https://earth.org/greenhushing/
[12] Collins English Dictionary. (n.d.). *Greenwash: Definition and meaning*. HarperCollins Publishers. Retrieved from: https://www.collinsdictionary.com/dictionary/english/greenwash
[13] Life Cycle Association of New Zealand. (n.d.). *Introduction to LCA*. Retrieved from: https://lcanz.org.nz/lca-guidance/lca-intro/

POLYLACTIC ACID (PLA)

PLA is made from lactic acid, typically produced by fermenting sugar or starch from vegetable sources such as corn and is then processed to form a polymer. Products made from PLA include food packaging and coffee cups (which may use PLA for the lid or cup lining). PLA based plastics can be broken down by microbial action.[14]

PRODUCT STEWARDSHIP

When a producer, brand owner, importer, retailer or consumer accepts responsibility for reducing a product's environmental impact, we call this product stewardship. Regulated product stewardship schemes apply to products that have been declared 'Priority Products' by the Ministry of Environment and are covered by regulations in the WMA. This restricts the sale, management and disposal of these products.[15]

rPET

Related to Polyethylene Terephthalate (PET), rPET refers to a product being made from recycled PET plastic.[16] This is commonly used on products to highlight the recycled nature of its base materials.

SECONDARY MICROPLASTICS

These are plastics that originate from the fragmentation of larger plastic items.[17]

REFERENCE

[14] Green Compostables. (n.d.). *PLA bioplastics: What are they?* Retrieved February 14, 2025, from https://www.greencompostables.com/blog/pla-bioplastics
[15] Ministry for the Environment. (n.d.). *About product stewardship in Aotearoa New Zealand*. New Zealand Government. Retrieved February from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/product-stewardship/about-product-stewardship-in-new-zealand/
[16] Heritage Paper. (n.d.). *Understanding PVC and RPET*. Retrieved from: https://www.heritagepaper.net/understanding-pvc-and-rpet/
[17] Royal Society Te Apārangi. (n.d.). *Plastics in the environment: Evidence summary* (p. 24).
Retrieved from: https://www.royalsociety.org.nz/assets/Uploads/Plastics-in-the-Environment-evidence-summary.pdf

Frequently Asked Questions

Q What happens when biodegradable or compostable waste enters landfill?

A Landfills are not designed to promote biodegradation. Biodegradable or compostable plastics placed in a landfill may break down through anaerobic digestion, similar to other organic waste. However, it is unclear if this always happens or how long it may take.[18]

Q Can I put my compostable packaging in my personal compost?

A There are two types of composting: commercial and home composting. Each provides a different environment breaking down specific materials at different rates. In New Zealand, there is no official composting standard, but we do recognise the Australian and European home composting standards.[19]

Q Is using biodegradable and compostable packaging the only way to help?

A Moving to biodegradable or compostable packaging is not the only option for consumers. Recycling requires energy and composting doesn't necessarily break down in landfill. Reducing your use of products or reusing them as much as possible can help. This reduces the total amount of waste entering the environment and landfill.

REFERENCE

[18] Parliamentary Commissioner for the Environment. (n.d.). *Biodegradable and compostable plastics in the environment* [PDF file]. Retrieved from: https://www.pce.parliament.nz

[19] BioPak New Zealand. (n.d.). *Commercial composting vs home composting*. Retrieved from: https://www.biopak.com/nz

Waste Hierarchy

The waste hierarchy framework prioritises waste management practices, with waste reduction and consumption minimisation being the priority.

Ask yourself and other key stakeholders in your business: Where does your business sit in the waste hierarchy?

The waste hierarchy helps identify where you can have the most meaningful impact. You may be surprised by the incremental improvements you can achieve through identifying the hidden opportunities within your operation. The Snell team have a depth of expertise guiding our customers through this complex and ever-evolving area.

Waste Minimisation Hierarchy
Most to least effective methods

Every year, New Zealanders generate
17.5 million tonnes of waste

From that, 12.6 million tonnes are destined to landfill, meaning we only recycle 28% of the total waste generated by our country.[20]

The Ministry for the Environment has a waste strategy in place with a vision for 2050: By 2050, Aotearoa New Zealand will be a low-emissions, low-waste society built upon a circular economy.[21]

Packaging is a significant contributor to waste, with around 352 thousand tonnes going to landfills each year. According to the Packaging Council of NZ, New Zealanders consume about 735 thousand tonnes of packaging annually recycling only about 58% of it.[22]

REFERENCE

[20] Radio New Zealand. (2022, March 29). *Government plans to shake up New Zealand's 'inadequate' waste recycling.* RNZ. Retrieved from: https://www.rnz.co.nz/news/national/463243/government-plans-to-shake-up-new-zealand-s-inadequate-waste-recycling

[21] Ministry for the Environment. (n.d.). *Aotearoa New Zealand waste strategy.* New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/aotearoa-new-zealand-waste-strategy

[22] Reclaim. (n.d.). *Why recycle?* Retrieved from: https://www.reclaim.co.nz/why

As outlined in the Government waste work program, areas of investment include reuse, recovery and recycling of materials. The Government has announced investment of $50 million over four years in projects that find ways to use less plastic and make what we do use reuseable or recyclable through the Plastics Innovation Fund.[23]

Another programme called Te Pūtea Whakamauru Para - The Waste Minimisation Fund, focuses on accelerating Aotearoa New Zealand's transition towards a low-emissions and low-waste circular economy.[24]

The fund invests in a wide-range of projects from multi-million-dollar infrastructure investments to smaller hapū/community-centred projects.

For businesses looking to better manage waste, it is critical to understand the impact, opportunities and non-negotiables of packaging materials.

REFERENCE

[23] Ministry for the Environment. (n.d.). *Work programme on waste*. New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/work-programme-on-waste

[24] Ministry for the Environment. (n.d.). *Waste minimisation fund*. New Zealand Government. Retrieved from: https://environment.govt.nz/what-you-can-do/funding/waste-minimisation-fund/

All About Plastic

Benefits of Plastic Packaging

Since the 1950s plastic has been a part of our everyday life. We see plastic products everywhere as they have become an essential part of how we live. However, recent years have seen a shift away from using plastic due to concerns about its environmental impact. There is a wealth information circulating about plastic, but what is the truth behind this staple of modern life?

KEY POINTS TO CONSIDER

- UK-based research shows that it takes 91% less energy to recycle one pound of plastic than it does paper[25]
- A plastic bag can carry 2,500 times its own weight and is resistant to changes in weather.[25] Hot, cold, wet and dry temperatures won't damage plastic as much as it will paper or cardboard
- Plastic packaging can support the safe distribution of food over long distances and can help to minimise food waste by keeping food fresh for longer. Plastic packaging can be beneficial at reducing food waste[26]
- Plastic products are often more re-useable than their paper alternatives.

REFERENCE

[25] Northern Ireland Assembly. (n.d.). *Comparison of environmental impact of plastic, paper and cloth bags*. Retrieved from: https://www.niassembly.gov.uk/globalassets/documents/raise/publications/2011/environment/3611.pdf

[26] The Conversation. (2020, March 10). *Why some plastic packaging is necessary to prevent food waste and protect the environment*. Retrieved from: https://theconversation.com/why-some-plastic-packaging-is-necessary-to-prevent-food-waste-and-protect-the-environment-117479

Issues Around the Use of Plastic Packaging

1. When biodegradable plastics break down in landfill via anaerobic digestion, they release some methane and carbon dioxide, which are greenhouse gases[18]

2. Plastics numbered 3-7 are difficult to process in New Zealand due to the lack of significant local processing facilities[27]

3. The New Zealand Government has standardised all curbside plastic recycling. As of February 2024, only plastics numbered 1, 2 and 5 will be accepted. These changes aim to reduce the likelihood of contamination in recycling waste from materials that cannot be recycled.[28]

REFERENCE

[18] Parliamentary Commissioner for the Environment. (n.d.). *Biodegradable and compostable plastics in the environment* [PDF file]. Retrieved from: https://www.pce.parliament.nz

[27] Ministry for the Environment. (n.d.). *Phasing out hard-to-recycle and single-use plastics*. New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/plastic-phase-out/

[28] 1News. (2022, August 4). *What can go in your recycling bin? Govt pledges to end confusion*. Retrieved from: https://www.1news.co.nz/2023/03/29/what-can-go-in-your-recycling-bin-govt-pledges-to-end-confusion/

COMMON PLASTIC PRODUCTS

- Plastic cutlery
- Plastic containers
- Beverage bottles
- Plastic bag, liners and wrappers
- Plastic cups, plates and bowls.

PLASTIC PRODUCTS CAN BE

- Recyclable
- Compostable
- Reusable
- Oxo-fragmentable
- Degradable.

Banned Plastic Products

In June 2021, the Government set out a plan to remove problematic and some single-use plastics from use. This included:

- Hard-to-recycle food and drink packaging made from PVC and polystyrene and some degradable plastic products (e.g., oxo- and photo-degradable).[29]

REFERENCE

[29] Ministry for the Environment. (n.d.). *Phasing out hard-to-recycle and single-use plastics.* New Zealand Government. Retrieved from: https://environment.govt.nz/what-government-is-doing/areas-of-work/waste/plastic-phase-out/

The Three Stages of Prohibition

Tranche 1

From 1 October 2022, it became illegal to provide, sell or manufacture the following plastic products in Aotearoa New Zealand:

- Single-use plastic drink stirrers (all plastic types)
- Single-use plastic cotton buds (all plastic types)
- Plastics with pro-degradant additives (subset of plastic type 7)
- Certain PVC food trays and containers (plastic type 3)
- Polystyrene takeaway food and beverage packaging (plastic type 6)
- Expanded polystyrene food and beverage packaging (plastic type 6).[30]

Tranche 2

From 1 July 2023, the following products were banned or phased out, including single-use:

- Plastic produce bags
- Plastic plates, bowls and cutlery
- Plastic straws, with exceptions for disabled people and medical use
- Plastic produce labels.[31]

Tranche 3
Future Plastic Phase-Outs

Materials considered for the third tranche include:

- All PVC food and beverage packaging
- All polystyrene food and beverage packaging.[32]

REFERENCE

[30] Ministry for the Environment. (n.d.). *Guidance on plastic products banned from October 2022*. New Zealand Government. Retrieved from: https://environment.govt.nz/publications/plastic-products-banned-from-october-2022/

[31] Ministry for the Environment. (n.d.). *Guidance on single-use plastic products banned or phased out from July 2023.* New Zealand Government. Retrieved from: https://environment.govt.nz/publications/plastic-products-banned-from-july-2023/

[32] Ministry for the Environment. (n.d.). *Future plastic phase-outs. New Zealand Government*. Retrieved from: https://environment.govt.nz/publications/future-plastic-phase-outs/

Plastic Recycling in New Zealand

Your curbside bins are the most common form of plastic recycling. While businesses can arrange for their plastic recycling to be picked up commercially, items like pallet wrap and plastic film can be collected by Reclaim and Waste Management with bins and cages available for use.

Other disposal options that lead to a more circular approach include the Soft Plastics Recycling Scheme which turns soft plastic materials into new plastic products.

Currently, most of New Zealand's large regions have access to the Soft Plastics Recycling Initiative.[33] As a result, grocery bags, bread bags, bubble wrap, plastic liners, plastic wrappers of products such as biscuits, chips or anything that has a soft plastic sheath is recycled.[34] These items are then recycled into innovative fence posting, construction materials, buckets, ducting, slides and plastic sheets.[35]

REFERENCE

[33] Soft Plastics Recycling. (n.d.). *Store locator.* Retrieved from: https://www.recycling.kiwi.nz/store-locator#:~:text=In%20the%20North%20Island%20you,Coromandel%2C%20Wairarapa%20and%20Wellington%20regions.

[34] Soft Plastics Recycling. (n.d.). *FAQs.* Retrieved from: https://www.recycling.kiwi.nz/faqs

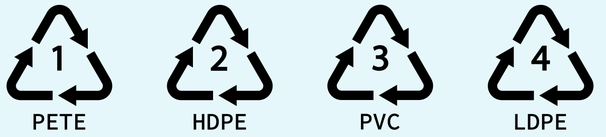
[35] Soft Plastics Recycling. (n.d.). *Our partners | Purchase products*. Retrieved from: https://www.recycling.kiwi.nz/partners

More than

86% of New Zealanders

have access to soft plastic recycling bins, with 250 participating stores involved in the initiative.[36]

In New Zealand, plastics numbered 1,2 and 5 can be recycled. Your packaging should have a plastic identification code printed on it to help the user understand what type of plastic has been used. Recycling capabilities vary depending on your local council. To get a better understanding of what plastic you can recycle refer to the interactive map Plastics New Zealand have created on their website.[37]



REFERENCE

[36] The Packaging Forum. (2024). *TPF annual report 2024* [PDF file].
Retrieved from: https://www.packagingforum.org.nz/wp-content/uploads/2024/08/2024_TPF-Annual-Report_final-1.pdf
[37] Plastics New Zealand. (2022, January). *Plastic collection interactive map* [PDF file].
Retrieved from: https://www.plastics.org.nz/images/documents/Environment/Circular_Design_Economy/Maps/PNZ_Plastic_Collection_Interactive_Map_Jan_2022.pdf

New Zealand Infrastructure

Plastic recycling in New Zealand is split into curbside and commercial options. Curbside recycling is the easiest option for domestic waste as it is collected from your house and sorted into separate types of plastics. Check your local council's website for more information. At a commercial level, Reclaim can collect plastic from businesses, sort it and then have the plastics recycled.[38] Envirowaste, Waste Management and Green Gorilla are all other major operators that collect and sort plastic waste.

If you are seeking recycling services for a business, your local council may provide only basic collection services and you may wish to consider independent collection services. We observe that not all companies pay the same attention to recycling assurance and encourage you to seek verification that your recyclables are being recycled. Visit How to Recycle? - Residential | Reclaim - New Zealand[39] to find out how to recycle in your local council area.

REFERENCE

[38] Reclaim. (n.d.). *Recycling services | Commercial | Auckland | Christchurch | Wellington*. Retrieved from: https://www.reclaim.co.nz/recycling-services

[39] Reclaim. (n.d.). *How to recycle? – Residential*. Retrieved from: https://www.reclaim.co.nz/residential

Composting

There are eight industrial facilities in New Zealand and eight collection partners that currently accept certified compostable packaging. Compostable packaging is not accepted in council kerbside food waste collections or privately provided green waste collection bins.[40]

New Zealand currently lacks specific policies, regulations and systems required to process compostable products. At present, there is a reliance on international standards, such as AS4736 or EN13432. However, labelling or certification is not compulsory.[41]

The November 2023 report drafted by the University of Auckland for the Ministry for the Environment provides a comprehensive overview of compostable products in New Zealand.[42]

REFERENCE

[40] Ecoware. (n.d.). *Report: Compost infrastructure in Aotearoa, New Zealand*.
Retrieved from: https://www.ecoware.co.nz/blogs/news/report-compost-infrastructure-in-aotearoa-new-zealand
[41] Ministry for the Environment. (n.d.). *Compostable packaging position statement* [PDF file]. New Zealand Government.
Retrieved from: https://environment.govt.nz/assets/publications/compostables-packaging-position-statement.pdf
[42] Ministry for the Environment. (n.d.). *Compostable products in Aotearoa New Zealand*. New Zealand Government.
Retrieved from: https://environment.govt.nz/publications/compostable-products-in-aotearoa-new-zealand

Composting Facilities in New Zealand are Generally Classified as:

GREENWASTE PROCESSING FACILITIES

These facilities process garden waste, bark and wood chip to make compost or mulch and generally don't have a resource consent or an appropriate composting process to accept food waste or compostable packaging.[43]

INDUSTRIAL COMPOSTING FACILITIES

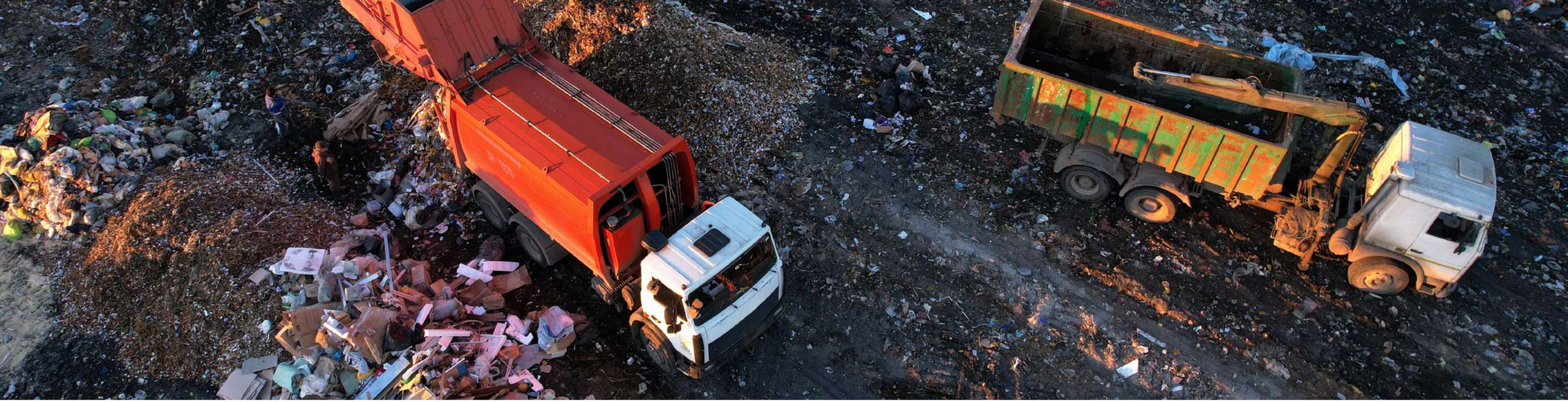
These facilities process complex waste streams such as food waste, waste from abattoirs or fish processing facilities, sludge etc. and are more likely to be able to process compostable packaging. However, resource consent conditions can vary and may not allow for compostable packaging.[44]

A list of these facilities can be found here: NZ Facilities that Accept Compostable Packaging public | WasteMINZ[43]

REFERENCE

[43] WasteMINZ. (n.d.). *NZ facilities that accept compostable packaging.* Retrieved from: https://www.wasteminz.org.nz/nz-facilities-that-accept-compostable-packaging

[44] Ministry for the Environment. (n.d.). *About biodegradable and compostable plastics*. New Zealand Government. Retrieved from: https://environment.govt.nz/guides/about-biodegradable-compostable-plastics/



Landfill

Many people believe that plastic will eventually breakdown if it is left out in the weather for a long enough time. When rubbish is out of sight, it is often no longer considered a problem for the public. However, your plastics could end up in landfill, where a variety of materials are left to breakdown.

Even if your biodegradable or compostable items make it there, they will most likely not have the right environment to break down. The extent to which a biodegradable or compostable item will break down depends on the amount of air, water and microbial activity.[45]

REFERENCE

[45] Ministry for the Environment. (n.d.). *About biodegradable and compostable plastics*. New Zealand Government. Retrieved from: https://environment.govt.nz/guides/about-biodegradable-compostable-plastics/#:~:text=The%20majority%20of%20New%20Zealanders%20do%20not%20have,compostable%20plastics%20into%20soft%20plastic%20or%20kerbside%20recycling

End of Life Options in New Zealand

At Snell, we are pleased to connect our customers with information and businesses that can assist with end-of-life recycling options for their products.

PLASTIC TECHNOLOGIES

PCR – Post-Consumer

Post-consumer recycled content refers to a finished good that is used then recycled. Standard post-consumer recycled content includes copy paper, shipping boxes, empty plastic bottles and aluminium cans. This method of recycling is ideal and practical for sustainability.[46]

PIR – Post-Industrial

Post-industrial waste refers to the waste generated from the manufacturing process that led to the creation of the source material. For example, when plastic is blown into bottles, scrap is left behind that doesn't make it to the final bottle. When scraps are saved, repalletized and used again, they are referred to as post-industrial waste.[46]

REFERENCE

[46] EcoEnclose. (n.d.). *Post-consumer vs post-industrial recycled content*. Retrieved from: https://www.ecoenclose.com/blog/post-consumer-vs-post-industrial-recycled-content/

Mechanical Recycling

A method of processing by which plastic is recovered from plastic waste without intentionally changing the basic polymeric structure of the material. Plastic waste undergoes sorting processes in specialised sorting facilities to separate different plastic streams. After cleaning and grinding the sorted plastic waste, the material is recovered by melting and reshaping (e.g. regranulating) processes (pellets, flakes or powders), to be used in the manufacture of plastic parts and products.[47]

Chemical Recycling

The process of converting polymeric waste by changing its chemical structure and turning it back into substances that can be used as raw materials for the manufacturing of plastics or other products. There are different chemical recycling technologies, e.g. pyrolysis, gasification, hydro-cracking and depolymerisation.[48]

REFERENCE

[47] Plastics Europe. (n.d.). *Mechanical recycling*. Retrieved from: https://plasticseurope.org/glossary/mechanical-recycling

[48] Plastics Europe. (n.d.). *Chemical recycling*. Retrieved from: https://plasticseurope.org/sustainability/circularity/recycling/chemical-recycling

All About Board & Paper

Benefits of Board & Paper Packaging

Cardboard is commonly used as protective packaging for products. However, its use has increased significantly in the food industry.

Board is considerably more rigid than paper but cannot hold the same amount of weight as plastic due to its rigid nature.

Paper has a wide reach, whether that be in your office or at home. The general thought is that paper is more environmentally friendly than plastic as it can be recycled. Often, the combined carbon footprint and environmental impact of manufacturing the material is not considered.

THE STRENGTHS OF BOARD

1. Board is easily recyclable in New Zealand with approximately half of all the collected material being processed locally
2. New Zealand has capacity to recycle only 50% of the total paper and board consumption, with the other 50% sent offshore for processing[49]
3. It provides a rigid option for protecting products while in transit
4. It offers a platform for marketing your brand and products.

REFERENCE

[49] The Rubbish Trip. (n.d.). *Fixing our fibre problem: Paper and cardboard does not belong in landfill.* Retrieved from: https://therubbishtrip.co.nz/be-a-tirading-kiwi/fixing-our-fibre-problem-paper-and-cardboard-does-not-belong-in-landfill/#:~:text=NZ%20only%20has%20capacity%20to,paper%20and%20cardboard%20recycling%20offshore

Please note, these statistics were sourced prior to the OJI mill closure announcements.

COMMON BOARD PRODUCTS

- Cardboard boxes
- Cardboard cups
- Cardboard bowls and plates
- Cardboard straws.

ISSUES AROUND THE USE OF BOARD PACKAGING

- Proper disposal of board is key. Although easy to do, some people remain unaware of the current options
- Some items, like coffee cups, have plastic liners to make them watertight which means they are unrecyclable. Cups or takeaway food packaging labelled as compostable or biodegradable can't be recycled and must go to a commercial composting system. These are limited in New Zealand.[50]

REFERENCE

[50] Auckland Council. (2023, May 12). *4 recycling mistakes you might not know you're making*. OurAuckland. Retrieved from: https://ourauckland.aucklandcouncil.govt.nz/news/2021/12/recycling-mistakes-you-might-not-know-you-re-making/

COMMON PAPER PRODUCTS

- Paper bags
- Paper cups
- Paper bowls & plates
- Paper void fill.

ISSUES AROUND THE USE OF PAPER PACKAGING

- The energy used to create a paper bag is more than four times that of a plastic bag. Additionally, the chemicals and fertilisers used in the production of paper bags cause additional harm to the environment[51]
- Production of paper bags generates 70% more air pollutants and requires 50 times more water than plastic bags[25]
- The process to recycle paper is extensive: it requires collecting, sorting, washing, purifying, flattening, drying, colouring and bleaching before it can be packaged and sent out again. Paper bags are larger than plastic, causing them to take up more space in landfills[52]
- Paper packaging is not suitable for jobs that involve heavy or sharp products and can wear and tear due to moisture and tensile strength limitations.

REFERENCE

[51] National Geographic. (n.d.). *Sustainable shopping—Which bag is best?* Retrieved from: https://education.nationalgeographic.org/resource/sustainable-shoppingwhich-bag-best/

[25] Northern Ireland Assembly. (n.d.). *Comparison of environmental impact of plastic, paper and cloth bags*. Retrieved from: https://www.niassembly.gov.uk/globalassets/documents/raise/publications/2011/environment/3611.pdf

[52] ReuseThisBag.com. (n.d.). *The truth about paper bags*. Retrieved from: https://www.reusethisbag.com/articles/the-truth-about-paper-bags#:~:text=Paper%20bags%20are%20bigger%20than,per%2Dbag%20impact%20on%20landfills.

Board Recycling in New Zealand

There are a variety of options for disposing of board in New Zealand. The most common option is placing your board to be put into curbside recycling. Commercial operations are also available to collect larger quantities of board from businesses.

OJI Full Circle provide a collection service for board products so they can turn these items back into new products. They are closing the loop to reduce the need for virgin material.[53]

JJ's Waste & Recycling offers the same service.[54]

Reclaim can arrange for board to be made into new product.[55]

BOARD PRODUCTS CAN BE

- Recyclable
- Biodegradable
- Compostable
- Degradable.

REFERENCE

[53] OjiFS. (n.d.). *Fullcircle recycling - New Zealand*. Retrieved from: https://ojifs.com/recycling
[54] JJ's Waste & Recycling. (n.d.). *Cardboard recycling services*. Retrieved from: https://jjswaste.co.nz/services/cardboard-recycling/
[55] Reclaim. (n.d.). *Cardboard recycling | Commercial | Christchurch | Wellington | Auckland*. Retrieved from: https://www.reclaim.co.nz/cardboard-recycling

Paper Recycling in New Zealand

As with plastic and board, paper collection is done through curbside collection or by commercial businesses that collect waste from businesses. The paper is then sold to make other products. Around 555,000 of the 830,000 tonnes of paper and cardboard products produced every year is sent for recycling. This includes paper and cardboard from households and businesses.

Almost half of our paper and cardboard recycling is reprocessed in New Zealand with the rest exported.[56] This increases the carbon footprint of a material that is often perceived as environmentally friendly.

PAPER PRODUCTS CAN BE

- Recyclable
- Biodegradable
- Compostable
- Degradable.

REFERENCE

[56] Ministry for the Environment. (n.d.). *Paper and cardboard.* New Zealand Government. Retrieved from: https://environment.govt.nz/what-you-can-do/campaigns/recycle/kerbside-recycling-paper-and-cardboard/#:~:text=Vietnam%20for%20recycling.-,Amount%20recycled,cardboard%20from%20households%20and%20businesses.

Your Decision

As *The Truth About Packaging* demonstrates, there are an increasing number of choices regarding packaging product material options. Due to the rate of change in this area, we will seek to periodically update this document.

For businesses ready to discuss the connection between packaging product material alternatives and meeting your Environmental, Social and Governance (ESG) objectives, contact the Snell team via our website.

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