

Zespri Packaging Targets

BASIS OF PREPARATION

OVERVIEW

Sustainability is a major focus for Zespri - it's integral to the business's purpose to help growers, communities, the environment and its consumers thrive.

As part of demonstrating Zespri's commitment to sustainability it has established a sustainability framework and set ambitious targets that align with the company purpose, brand promise and premium product position. Packaging is one of these priority areas and is accompanied by three targets: www.zespri.com/en-NZ/Sustainability-Our-Environment.

Zespri is a signatory to The New Plastics Economy Global Commitment, which unites businesses, governments and other

organisations behind a common vision and targets to address plastic waste and pollution at its source.

This document draws on the International Organisation for Standardization's (ISO) series on Packaging and the environment¹ to define the following packaging targets set by Zespri International:

- Our packaging will be 100% recyclable, reusable or compostable by 2025
- If we use plastic packaging, it will be made from at least 30% recycled plastic by 2025
- We will reduce our packaging footprint per kg of fruit by 25% by 2030.

PACKAGING BOUNDARIES

The term packaging, as applied in this document (i.e 'Zespri's packaging or 'our packaging'), includes Zespri branded and unbranded packaging products and associated components to be

used for the containment, protection, handling, delivery, storage, transport and presentation of Zespri kiwifruit; from post-harvest operator to consumer as illustrated in Figure 1 below.

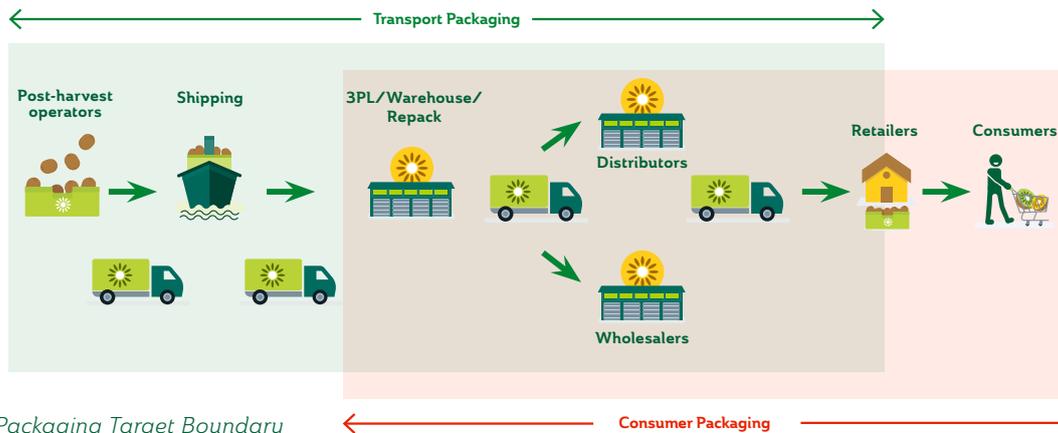


Figure 1. Zespri Packaging Target Boundary

PACKAGING SCOPE

The primary packaging products included in Zespri's packaging targets are listed below.

TRANSPORT PACKAGING - includes all Zespri transport packaging products and components used for the containment, protection, handling, delivery, storage, transport and presentation of Zespri kiwifruit in all of Zespri's markets worldwide (this includes plastic pallet strapping, but excludes wooden shipping pallets).

CONSUMER PACKAGING - includes all consumer-facing packaging products and components used in Zespri's primary markets, which are identified as: Australia, Belgium, Canada, China, France, Germany, Hong Kong, Italy, Japan, Netherlands,

New Zealand, Singapore, South Korea, Spain, Taiwan, United Kingdom, and the United States. To determine the appropriate scope for the consumer portion of Zespri's packaging the principles of materiality were applied².

The focus on Zespri's primary markets enables Zespri to collaborate with its largest customers and distributors, align with recycling infrastructure, and trial solutions which can then be applied across all Zespri's markets.

FRUIT LABELS - All Zespri-branded fruit labels are included in the scope of Zespri's packaging targets with the exception of the packaging footprint.

¹ ISO 21067, ISO 18602, ISO 18603, ISO 18604, ISO 18605, and ISO 18606.

² Materiality is an accounting principle concerning the relevance, size and nature of information reported. The scope of Zespri's consumer packaging described within this document omits approximately 2% of the total packaging weight used across all of Zespri's markets.



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TARGET DEFINITIONS

OUR PACKAGING WILL BE

100% RECYCLABLE, REUSABLE OR COMPOSTABLE

BY 2025

Progress against this target is measured as 'A' divided by 'B' where:

- A. The total weight of packaging which is recyclable, reusable or compostable.
- B. Total weight of packaging.

RECYCLABLE

Packaging or a packaging component is considered recyclable if it's successful post-consumer collection, sorting, and recycling is proven to work in practice in a specific market. In practice means that there is an existing (collection, sorting and recycling) system in place that is used in practice to recycle the packaging in the market in question (it is not just a theoretical possibility). A packaging product is considered to be recyclable in practice if there is evidence to support it achieving at least a 30% post-consumer recycling rate within the respective market it is consumed.

REUSABLE

Re-useable packaging includes any packaging that has been designed to accomplish a minimum number of trips or rotations in a system for reuse. The number of trips is dependent on the design of the reusable packaging system.

COMPOSTABLE

Packaging or a packaging component is compostable if it is certified to internationally recognised composting standards.

IF WE USE PLASTIC PACKAGING, IT WILL BE MADE FROM AT LEAST

30% RECYCLED PLASTIC

BY 2025

Progress against this target is measured as 'A' divided by 'B' where:

- A. Total weight of recycled material.
- B. Total weight of plastic packaging.

RECYCLED PLASTIC

Recycled plastic content is measured by the proportion (mass) of recycled material used in Zespri's plastic packaging. Recycled material refers to material that has been reprocessed by means of a manufacturing process into a product, a component incorporated into a product, or a secondary (recycled) raw material.

WE WILL REDUCE OUR PACKAGING FOOTPRINT PER KG OF FRUIT BY

25%

BY 2030

PACKAGING FOOTPRINT

Refers to carbon impact (Global Warming Potential) as assessed by a Life Cycle Assessment (LCA) methodology as detailed on the following pages.

The year ended 31 March 2021 establishes the baseline period for this target, with subsequent LCAs replicated annually to track year on year progress towards the achievement of the target.

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ZESPRI PACKAGING FOOTPRINT LIFE CYCLE ASSESSMENT METHODOLOGY

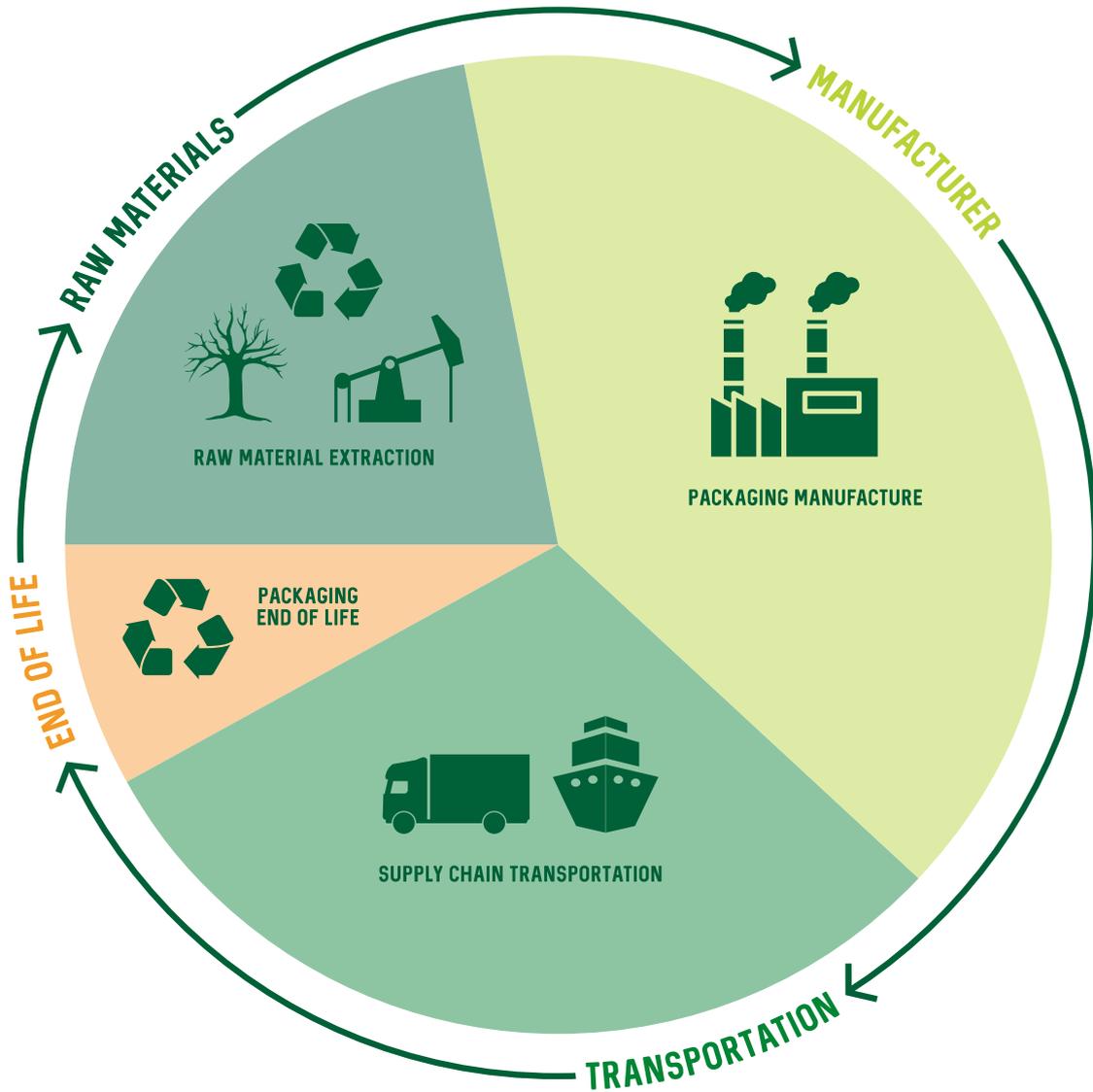


Figure 2. Stages of Zespri's packaging lifecycle

<p>RAW MATERIALS</p> <ul style="list-style-type: none"> Extraction and manufacture of raw materials Transport of raw materials to pack manufacturing site 	<p>MANUFACTURE</p> <ul style="list-style-type: none"> Manufacture of packaging components Transport of packaging components to location of use
<p>TRANSPORTATION</p> <ul style="list-style-type: none"> Transport of packaging components from the ports to export markets Transport through the markets to end consumer 	<p>END OF LIFE</p> <ul style="list-style-type: none"> Packaging manufacture waste Packaging component disposal through the supply chain

Table 1. Zespri packaging lifecycle stages

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A Life Cycle Assessment (LCA) is a process that quantifies potential environmental impacts across the entire life cycle of an item, from the extraction of raw materials through to the end-of-life treatment.

The goal of Zespri's packaging LCA is to:

- Identifying opportunities for the environmental impact reduction of Zespri's packaging, while avoiding the shifting of environmental burdens to other point along the supply chain; and

- Track progress towards Zespri's packaging target of reducing its packaging footprint per kg of fruit by 25% by 2030.

Zespri's LCA methodology draws on the principles of global standards ISO 14040 and ISO 14044. These standards set out the general principles of LCA, and ISO 14044 provides further details on the requirements for undertaking an LCA.

LIFE CYCLE ASSESSMENT SCOPE

The LCA considers packaging used in Zespri's global supply chain for kiwifruit grown both in New Zealand and globally, where Zespri's packaging items are applied (refer to Zespri's packaging boundary – Figure 1).

The functions of Zespri's packaging are:

- To facilitate the transportation, sale and consumption of Zespri kiwifruit.
- To ensure Zespri's fruit quality and safety standards are upheld.

SYSTEM BOUNDARIES

Zespri's packaging footprint represents the cradle-to-grave carbon emissions associated with all phases of Zespri's packaging product life cycles including: raw material production, manufacturing, transportation and end of life disposal.

Excluded from the scope of Zespri's packaging footprint are:

- Activities associated with fruit production on orchard.
- Energy and machinery required for packing and repacking fruit in third-party packhouse facilities.
- Operational activities associated with distributors and retailers.
- Fruit storage and consumption by consumers.

FUNCTIONAL UNIT AND AVERAGE PACKAGING CARBON FOOTPRINT

The functional unit for this study is the packaging carbon emissions associated with one kilogram of kiwifruit delivered to the consumer.

The carbon footprint of Zespri's packaging is measured in terms of Global Warming Potential (GWP). GWP indicates the potential magnification of the natural greenhouse effect leading to global warming, induced by the emission of greenhouse gases. It is expressed in terms of CO₂ equivalents.

Global warming is considered a key driver of climate change, in turn posing risks to the earth's ecosystems. The GWP is measured using the IPCC AR5 GWP100 impact assessment method, excluding biogenic carbon.

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DATA SOURCES

The GaBi Envision Packaging Calculator (GaBi), an online LCA tool provided by Sphera, was utilised to calculate the environmental impacts associated with raw material extraction, manufacturing, transportation and end of life treatment of every packaging item included in the scope of Zespri's packaging boundaries (see Figure 1).

The environmental impact outputs (GWP) calculated by GaBi was collated with Zespri sales data to determinate annual pack quantities and calculate the packaging footprint of the combined packaging items.

The GaBi calculator requires a number of key inputs to calculate the GWP of a packaging item, most notably;

- The packaging specifications, including its weight and material composition
- The transport distances travelled by the packaging
- End of life method assumptions.

Supporting data inputs for these calculations came from a mix of primary and secondary data sources as summarised under each lifecycle stage below.

PACKAGING SPECIFICATIONS - The individual packaging specifications (including material type, weight, recycled content, manufacturing process, and thickness) are collected directly from Zespri's packaging manufacturers and suppliers.

TRANSPORT DISTANCES TRAVELLED - The methods for determining transport distances along the packaging supply chain vary per transport leg depending on the availability of data.

The data sources use to inform transport distances by mode through Zespri's packaging lifecycle include primary data from Zespri's packaging manufacturers, and its global shipping routes and departure plan. Where primary data was unavailable, estimated average distances were applied on a market-by-market basis.

Figure 3 displays the transport legs travelled by transport packs and consumer packs, starting with the extraction of the raw materials through to the customer/retailer for transport packs, and to the consumer for consumer packs. Transport of the disposed packs to waste treatment facilities was excluded.

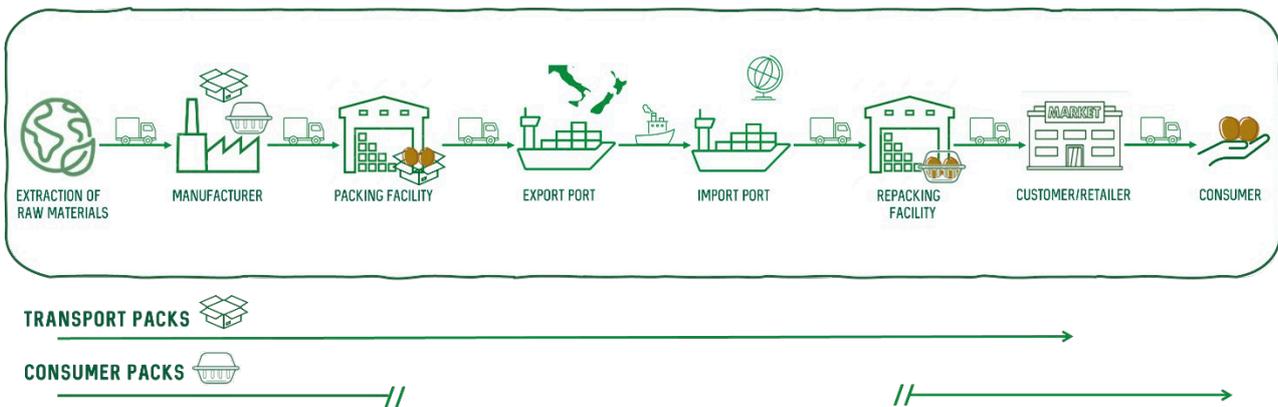


Figure 3. Transport distances for Zespri consumer and transport packs

END OF LIFE METHOD ASSUMPTIONS - End of life treatments consist of three treatment methods: sanitary landfill, incineration with energy recovery and mechanical recycling. Composting was not considered in this study due to a lack of data. For each market and packaging material, we estimated the proportion of use between the three possible treatment methods, adding up to 100%.

The source data used to inform these end-of-life treatments specific to Zespri's packaging materials and markets was collected from a range of secondary sources including scientific, governmental and NGO publications.