



# PRACTICAL GUIDES ON PACKAGING REDUCTION AND MANAGEMENT



## FOOD MANUFACTURING SECTOR



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# About this Guide

Image credit: Meyers Printing



The importance of packaging is multi-faceted. From containing and protecting the products at the point of manufacturing and all the way through the supply chain to the retail stores, service providers or customers, as well as attracting people to purchase a product and providing product information, packaging has been playing an indispensable role in business activities and our daily lives.

Yet, many of these packaging are intended to be used only once or a limited number of times before disposal. In Hong Kong, environmental problems caused by excessive packaging using different materials have been a growing concern. With raising public awareness in environmental protection, **customers are demanding more for products with simpler or less packaging.** Therefore, it is high time to rethink how we could **balance various environmental criteria of product packaging with other functional and commercial considerations** and look at ways of tackling the problem of excessive packaging and reducing the amount of materials we are using to strive towards the goal of carbon neutrality and achieving sustainability.



Image credit: News.rthk

Image credit: Cotton.pink



In May 2013, the former Environment Bureau (now known as Environment and Ecology Bureau) unveiled “Hong Kong: Blueprint for Sustainable Use of Resources 2013 – 2022”, **promulgating the vision of “Use Less, Waste Less”** through various initiatives in policies and legislation, social mobilisation and investing in infrastructure with a view to tackling waste challenges from a resources circulation perspective.



Building on the blueprint released in 2013 and the momentum of previous efforts in waste reduction and recycling, the former Environment Bureau further announced the “Waste Blueprint for Hong Kong 2035” in February 2021, **putting forward a more aggressive vision of “Waste Reduction • Resources Circulation • Zero Landfill”**.

Apart from Hong Kong China, other countries/ regions are also working in unanimous efforts in recent years to promote waste reduction, in particular on packaging management. Examples include:

#### **European Union (EU)**

Requiring member states to provide data on packaging waste generation and recovery since 1994 (latest amendment in 2018), and to comply with essential requirements for all packaging placed on the EU market, for the sake of regulating the responsibility of the producer for packaging materials and cutting down on packaging waste.

**Chinese  
Mainland**

Revising the Requirements of Restricting Excessive Package – Foods and Cosmetics, new requirements for inter-space ratios, package layers and packaging costs were implemented for foods starting from 1 Sept 2023. For example, the packaging of foods must not exceed three layers (other goods not exceeding four layers), while for foods with net content below 30mL or 30g and 50mL or 50g, the packaging interspace ratio should not exceed 75% and 60% respectively. In addition, except for primary packaging, the total cost of all other packaging must not exceed 20% of the retail price.

**Singapore**

Requiring producers of packaged products that are imported or used to report yearly packaging data (including materials, weight and form of packaging) and to develop and implement 3R (reduce, reuse, recycle) plans for packaging.

**South  
Korea**

Banning the use of Polyvinyl chloride (PVC) plastics and requiring manufacturers to grade the recyclability of specific packaging materials, submit the evaluation results and mark the determined grade on the product labels starting from 25 December 2019.

**China's  
Taiwan  
region**

Implementing a ban on the manufacturing, importation, or sale of food packaging containing Polyvinyl Chloride (PVC) starting from July 2023. Also, packaging layers for processed foods should not exceed two layers.

To support the vision and in view of the waste challenge in Hong Kong, it is imperative for the Government, businesses, and the general public to **join forces and work together in the pursuit of simple packaging, waste reduction at source, and promulgating green business and consumption.**

Packaging is part and parcel of the operation of the food manufacturing industry. Proper packaging protects products from damage and facilitates handling of the products during storage and transit before arriving at the hands of end consumers. Nonetheless, there is a higher expectation of consumers and society in environmental aspects regarding the current approach to packaging being practised by the food manufacturing sector. The common packaging uses among food manufacturing sector include single-use plastics, paper, metals and composite materials, etc. Without due consideration on the impact on the supply chain ecosystem, the use of unnecessary **packaging has driven up packaging costs and created inefficiencies in the downstream supply chain.**

As most food products sold at physical stores/ online would have to go through the supply chain before reaching the hands of customers, food manufacturing sector can play a key role in waste reduction in packaging design and various processes. It is very crucial for food manufacturing sector to **reconsider the necessity of different packaging and avoid non-essential packaging, by optimising packaging design through innovative ideas and technology.** In addition, reducing the use of raw materials and making use of recycled, durable, or reusable materials in packaging can help towards reducing a company's carbon footprint.



## How to use this guide?

- + This guide provides practical tips to trade practitioners of the food manufacturing industry on **how to avoid and reduce packaging consumption and achieve sustainable packaging management** in their daily operations.
- + This guide also offers guidance and reference, with tailor-made templates, for food manufacturing companies to prepare packaging reporting and **disclose packaging data in a harmonised structure so as to identify areas of improvement beyond their current practices**. This is in response to the requirements of the Hong Kong Exchanges and Clearing Limited (HKEX) on the Environmental, Social, and Governance Report (ESG Report) of the listed companies for financial years commencing on or after 1 July 2020.
- + With this guide, trade practitioners should be able to have a general picture on the sustainable packaging trend in both Hong Kong China and other places. To get geared up as a responsible company with sustainability placed at the heart of business, trade practitioners should grasp the opportunities to put in place meaningful packaging reduction and management measures. **While demonstrating the corporate commitment to social responsibility, it would help trade practitioners in capturing business opportunities and at the same time safeguarding and enhancing the wellbeing of both the customers and society.**



- +** **Packaging:** Any products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. Packaging mainly comprises primary packaging, secondary packaging, tertiary packaging and service packaging.
- +** **Primary packaging:** Packaging conceived so as to constitute a sales unit to the final user or consumer at the point of purchase.
- +** **Secondary packaging:** Packaging conceived so as to constitute at the point of purchase a grouping of a certain number of sales units whether the latter is sold as such to the final user or consumer or whether it serves only as a means to replenish the shelves at the point of sale. It can be removed from the product without affecting its characteristics.
- +** **Tertiary packaging:** Packaging conceived so as to facilitate handling and transport of a number of sales units or grouped packaging in order to prevent damage during physical handling and transportation.
- +** **Service packaging:** Packaging conceived so as to facilitate the delivery of sales units and for the containment of sales units at point of sale.
- +** **Packaging waste:** Any packaging or packaging materials that the holder disposes of.
- +** **Biodegradable:** Any materials that will decompose back to its basic elements (e.g. water, carbon dioxide and biomass) through the action of micro-organisms over time.
- +** **Compostable plastics:** A subset of biodegradable plastics, defined by the standard conditions and timeframe under which they will biodegrade.

# Scope and Classifications of Packaging

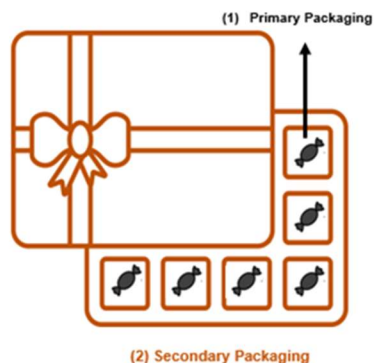
## *in Food Manufacturing Sector*

With reference to the common definitions of “packaging” adopted worldwide, the forms of packaging can be classified into 4 broad types, namely, primary, secondary, tertiary and service packaging. These 4 levels of packaging form are categorised by the use and purpose of the packaging.

There are different kinds of packaging materials used by food manufacturing sectors in Hong Kong. The packaging helps maintain the product quality and integrity and facilitates the handling of the product in an efficient manner. **Plastics, paper and metal are the most commonly found packaging materials** being used by food manufacturing sector as they are economical, light weighed, versatile, and protective in nature.

Before a food product reaches the end consumer, packaging of different types may be applied to it for various purposes in the course of food manufacturing and distribution. These packaging generally include:

- **(1) primary packaging** such as plastic containers, tin cans, etc.
- **(2) secondary packaging** such as carton box, paperboard, shrink wrap, labels, etc.
- **(3) tertiary packaging** such as plastic stretch film, wooden pallets, plastic crates, etc.
- **(4) service packaging** such as plastic bags, paper bags, etc.



To achieve plastic reduction at source, the relevant legislation for the regulation of disposable plastic tableware and other plastic products came into effect on 22 April 2024 with a view to regulating merchants from selling or supplying specified disposable plastic tableware and products in the course of their businesses. The aim of the regulation of disposable plastic tableware is to encourage the general public to use reusable tableware as much as possible and to avoid disposable ones. At present, merchants can still use reusable tableware made from any material. If the use of disposable tableware is unavoidable, merchants may use more environmental-friendly tableware made of non-plastic materials such as disposable tableware made of natural materials like wood, bamboo, plant fibre, etc. These natural materials decompose much faster than plastics and pose less threat to the marine ecosystem and human health.

The second phase of the regulation covers disposable plastic tableware that are commonly used for takeaway such as plastic cups and plastic food containers, as well as certain other plastic products such as multi-pack rings.

For the next phase of work, the Government will work together with trades and promote changes in public habits and green plastic reduction culture through publicity and education; and will implement further regulation only after fully considering the maturity, availability, and affordability of relevant non-plastic alternatives. The trade should prepare early for the upcoming regulatory measures and work together to build a green “plastic-free” culture.

Apart from the aforementioned trade-specific packaging serving important functions from food manufacturing perspectives, adopting suitable green business practices would be an effective mean in reducing the generation of packaging waste at source.

**This practical guide aims to enhance public education and offer tips to the trade practitioners of the food manufacturing industry on the prevention, reduction, reuse and recovery of packaging, with a view to facilitating the integration of the corporate ESG goals into their businesses.**

The following shows examples of different types of packaging generated by the food manufacturing industry:

## / paper

Food manufacturing sector often use **corrugated paper boxes for packing of individual products** to facilitate storage, transportation, and distribution. Paperboards are also commonly use in multi-pack products. When the corrugated paper boxes and paperboards could no longer be used or reused, they would usually be collected for recycling due to their high recycling value.

Example: Cereal box, egg holder



Ease of recycling: HIGH



### Environmental impacts

Manufacturing of paper may cause deforestation, high energy consumption that leads to high carbon emissions, wastewater discharge that leads to water pollution.

## / plastics

Plastic packaging is often **single-used**. Food manufacturing sector use plastic packaging to cover and protect goods because it is lightweight and water resistant. Whenever possible, plastic packaging should be arranged for proper recycling.



PET

Polyethylene terephthalate

Example: Plastic box, mooncake tray



Ease of recycling: HIGH



PE-HD

High Density Polyethylene

Example: Cereal bags, health supplement bottles



Ease of recycling: HIGH





**PE-LD**

Low Density Polyethylene

Example: T-shirt bag, shrink film, frozen food bag, rice bag



Ease of recycling: MEDIUM



Image credit: ULMA Packaging



**PP**

Polypropylene

Example: Plastic tray, yogurt cups



Ease of recycling: MEDIUM



Image credit: Greiner Packaging



**PS**

Polystyrene

Example: Mooncake boxes



Ease of recycling: LOW



Image credit: Amazon



**O**

(All other resin and multi-materials not otherwise defined) \*

Example: Products made from polyvinyl alcohol (PVA), polyamide (PA) and biodegradable plastic, etc.



Ease of recycling: LOW



Image credit: pmarket

*\*Businesses should be cautious on the application of biodegradable plastics as their degradability and composability depend on specific conditions in practical environment. It is still premature to pursue biodegradable and compostable plastics as packaging alternatives at this stage, as they may eventually harm the wildlife and ecosystems if treated improperly without suitable recycling and treatment infrastructures. For such reason, while some other places' experiences of these application are cited in this Guide as reference, this has no implication on the suitability in the context of Hong Kong China.*



## Environmental impacts

Most plastics are made from fossil fuels. Extraction of fossil fuel may lead to deforestation or fossil fuel leakage, the process is energy-intensive that leads to high carbon emissions, marine and soil contamination caused by microplastics, burning of plastics leads to toxic substances and air pollutant emissions.

## / metal

Metal containers are commonly used for canned food. Other metal packaging includes aluminium foil for confectionery packaging.

Example: Tin can, aluminium foil



Ease of recycling: HIGH



Image credit: container supply



Image credit: Ammar machinery



## Environmental impacts

Raw material mining may lead to deforestation, biodiversity loss or soil erosion, the processing is energy-intensive that leads to high carbon emissions.

## / glass

Glass is one of the recyclable materials which is mostly used as primary packaging for seasoning products.

Example: Seasoning bottles



Ease of recycling: HIGH



Image credit: Amazon



### Environmental impacts

When considering their contribution to climate change through energy use and damage from mining, the total environmental impact of glass container is much higher than that of plastic container if it is disposed of after a single use, which is a common phenomenon.

## / wood

Wood boxes are commonly used for containing multiple products and marketing purposes. Pallets are **used for bulk transportation of boxes of products**. Boxes of the products are placed and stacked on the pallet, then wrapped to fix position to reduce damage.

Example: Wood box, wooden pallet



Ease of recycling: HIGH



Image credit: Packaging of the world



### Opportunity for reuse

Wooden pallet and other wooden packaging can be reused after basic repairment. At the end of their lifespan, most wooden packaging can be recycled as energy source through heating, landscape mulch, animal bedding, soil enhancement, wood particle board or pressed wood pallets.

## / composite

In the food manufacturing industry, there are several types of **packaging items made from composite materials**, such as candy wrapper composed of aluminium foil, PE or PP film.

Example: Candy wrapper, composite cans, snacks packaging



Ease of recycling: LOW



Image credit: Adobe Stock



Image credit: Mondi



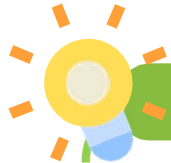
Image credit: Takasaki Japan



### Environmental impacts

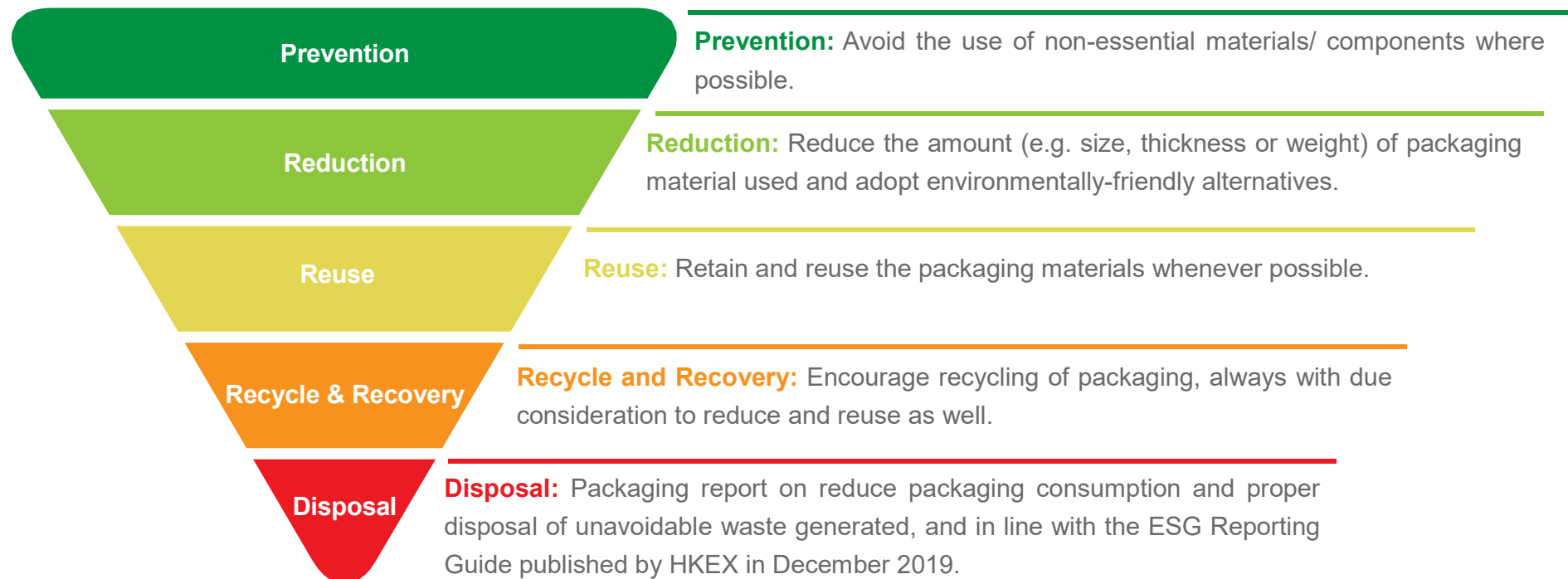
Burden on landfill due to low recyclability, other impacts depend on the materials composed of and could be similar to the impacts mentioned above.

# Practical Tips for Achieving Sustainable Packaging



## Waste management hierarchy in application

The “waste management hierarchy” is a globally recognised conceptual framework designed to guide and prioritise waste management decision and is a useful tool to consider different strategies for reducing packaging. Different levels of the hierarchy are interlinked and may affect each other and should not be viewed in isolation. **Measures moving up along the waste hierarchy would save costs, raw materials, natural resources and energy and reduce the overall impact on the environment.**



With reference to the waste management hierarchy, some practical tips for reducing packaging consumption and generation of packaging waste are set out below to assist food manufacturing sector in balancing the benefits amongst environmental protection, cost reduction, corporate image, as well as expectations from customers and other stakeholders. A summary checklist of practical tips is given in **Appendix 1**.

## **1 Prevention – Avoiding/ Eliminating non-essential packaging**

To cater to customer needs and the trade's operational requirements, single-use packaging is frequently used for food products, alongside secondary packaging for streamlined shelf management in retail shops, bulk purchases by customers, and enhanced branding aesthetics. Despite the convenience offered by these kinds of packaging, their disposal lead to the wastage of our valuable resources, potentially escalating costs, and causing reputational harm. Thus, the leading players who are more resourceful in the food manufacturing sector are highly encouraged **to invest more resources in research and development to avoid the use of non-essential packaging.**

**Food manufacturing sector could actively seek alternative materials to avoid or reduce the use of hard-to-recycle plastic packaging,** such as polyvinyl chloride (PVC), polystyrene (PS), polyvinyl alcohol (PVA), and polyamide (PA). They could also explore opportunities to reduce unnecessary packaging layers from their food products, such as secondary packaging for bulk purchases and promotion purposes.

With respect to secondary packaging, **food manufacturing sector is encouraged to consider implementing multi-buy promotions that align with green initiatives.** For example, there is a freedom of choice to combine purchases at the same unit price, rather than offering pre-packaged multi-pack bundles at discounted prices. This approach not only eliminates the need for using secondary packaging but also appeals to environmentally conscious consumers who appreciate the flexibility of choosing their own product combinations. Additionally, this strategy can lead to increased sales growth for food products, particularly among loyal customers.

**/ food manufacturing sector are suggested to avoid or reduce the use of hard-to-recycle materials and non-essential packaging**



## Experience to learn

### + France

- A multinational food manufacturer collaborated with supermarkets to launch their first-ever bulk delivery system in 2022, allowing customers to buy large quantities of confectionery without consuming individual plastic packaging, as well as mix and match their favourite flavour of snack at the same time. By 2030, all group stores with an area larger than 400 square meters shall dedicate 20% of their space to bulk sales.



Image credit: Mars Wrigley

### + Indonesia

- A multinational food manufacturer has piloted a project to install refillable vending machines for its own-brand products. Customers can use their own reusable containers when purchasing specified products.



Image credit: Nestlé

### + Italy

- A multinational pasta manufacturer has excluded the plastic window from their packaging. It aims to eliminate the use of unnecessary plastics and enhance the recyclability of their packaging. Around 126 tonnes of unnecessary plastic were avoided per year.



Image credit: Barilla



## Experience to learn

### + United Kingdom

- A renowned supermarket group eliminated single-use plastic lids across its own-brand dairy products in 2022. This removal saved 71 million pieces, equivalent to 220 tonnes of plastic per year.



Image credit: Sainsbury

### + United States

- A multinational food manufacturer removed their signature plastic “shaker” bag from its own-brand frozen food products in 2022. The company encourages customers to use reusable containers in place of single-use plastic. A total of 410 tonnes of plastic could be saved annually.



Image credit: Kraft Heinz

## 2

## Reduction

### (i) Redesigning packaging

Through redesigning packaging, food manufacturing sector can minimise materials used, thus reducing resource consumption and packaging waste.

When it comes to redesigning packaging, **parameters including weight, dimensions, thickness, materials, etc. should be carefully considered.** Some might have the misconception that using more packaging materials can help ensure product integrity and safety. In fact, **packaging reduction needs not be at the expense of product protection.** With adequate stress tests on the packaging and communication with trading partners/ customers on the packaging requirements, the optimum amount of packaging allowed by the specifications could be worked out and employed.

Moreover, it is suggested that food manufacturing sector frequently review and understand the packaging needs of products to minimise packaging and assure suitable shelf life for products at the same time. Innovative packaging design solutions such as flexible film vacuum packaging and creative dimension design could achieve the goals of minimising packaging as well as meeting the market's needs, without sacrificing product protection.



Image credit: SEALPAC



Image credit: Tetra Pak®

**/ packaging reduction needs not be at the expense of product protection**



## Several questions to be considered

- + Have I fully understood the packaging needs of my trading partners/ customers?
- + Considering all the packaging options and comparing them with other similar examples, have I over-packaged my products, which deliver little functional and marketing benefits, but possibly cost more?
- + Have I over-packaged my products solely due to the fact that it has long been our operational practice/ habit, but possibly not always necessary?
- + Could I use fewer packaging materials while maintaining their function, e.g. using lightweight PET materials for product packaging, without sacrificing product protection?



## Experience to learn

### + Germany

- A renowned packaging company has provided an innovative packaging solution for frozen meat products. The flexible film vacuum packaging could extend the shelf life of products and save up to 75% of the plastic used by thinning the plastic packaging.



Image credit: SEALPAC

### + Ireland

- A renowned dairy product food manufacturer launched a new packaging in 2020 for its dairy product, combining a thermoformed polypropylene cup with a new packaging named cardboard-plastic pot. This could reduce the use of plastics by thinning the container and saving 240 tonnes of plastic annually.



Image credit: Nomadic Dairy

### + Italy

- A renowned chocolate manufacturer introduced their new 'Eco-designed boxes' in 2021 for 16-piece, 24-piece, and 30-piece boxes, reducing approximately 6,000 tonnes of plastic consumption from September 2021 to August 2023. Upon extending the eco-box implementation to the entire product portfolio, approximately 10,000 tonnes of plastic consumption reduction could be achieved.



Image credit: Ferrero Rocher

## Experience to learn

### + Chinese Mainland

- A multinational food manufacturer eliminated 450 tonnes of plastic use through their Extra Light Weighting Project and avoided 580 tonnes of virgin plastic by decreasing packaging materials for their chocolate bars.

### + Netherlands

- A multinational confectionery manufacturer reduced the thickness of PP film for wrapping chewing gum and candy packs for transportation from 30 to 25  $\mu\text{m}$ , reducing 8 tonnes of plastic consumption annually.

### + Chinese Mainland and Hong Kong China

- A multinational food corporation has standardised the packaging of cup noodles sold in Chinese Mainland and Hong Kong China in 2021 according to its Japan version by reducing the diameter of the container from 101 mm to 96 mm while keeping a similar portion size. The new packaging saved 5.2% and 12.8% of paper and plastic consumption, respectively, for the container, as well as 7.7% of shrink wrap consumption and 7.3% of aluminium foil for the container cover. For the secondary packaging for transportation (i.e., carton box), the reduced diameter also facilitated a 16.7% reduction in paperboard consumption. In addition, the reduced diameter of the container added value to the product by allowing customers to enjoy the same flavour and portion size with less water and achieving the 'less salt' effect of the product.





## Experience to learn

### + Sweden

- A multinational packaging company has provided innovative packaging solutions for dairy and liquid food. They developed the 65-ml tetrahedron packaging, which could be combined as a cube for easy transportation and handling. This design could significantly reduce the secondary packaging of dairy and liquid foods.



Image credit: Tetra Pak®

### + United States

- A renowned snack manufacturer redesigned its packaging for bulk packaging and avoided the consumption of around 3,500 tonnes of plastic since 2019.



Image credit: Frito Lay

### + Switzerland

- A multinational food production company has conducted a research and development project to understand the packaging needs of their chocolate products in 2017. Through experiments on exposing their products to various moisture, oxygen, and lighting conditions, the company collected packaging and product information to establish a “shelf-life prediction tool”. With scientific and market research, data driven solutions were developed to minimise packaging and assure suitable shelf life for products at the same time, reducing the amount of packaging used by 1,500 tonnes annually.



Image credit: Nestlé

### (ii) Using environmentally-friendly alternatives of packaging materials

Food manufacturing sector should be aware that single-use plastics are not the only option available for packaging. Single-use packaging of plastic and other materials **could be replaced with alternatives made of more environmentally-friendly materials such as packaging with recycled content. This helps reduce carbon footprint** as recycled materials generally require less energy and resources than virgin materials in the manufacturing process, and thus generating less greenhouse gas emissions. It is increasingly common around the world to include a certain proportion of recycled materials in packaging, such as rPET and recycled soft plastics, metal, recycled paper fibres, etc.

New developments in recycled content packaging have significantly improved the quality and application of packaging, and reduced the consumption of raw materials and resource wastage. Food manufacturing sector is encouraged to strike a

balance between market considerations and promoting sustainable packaging by **continually reviewing new packaging improvements and increasing the use of recycled content in their packaging**, where applicable to Hong Kong's context.

If the adoption of recycled material is yet to be implemented, **priority should be given to packaging materials with higher recyclability**, such as aluminium cans, glass containers, mono-material packaging, or paper cardboard for multi-packs, as much as possible. Not only can they be easily recycled, but the product's shelf life could also be extended, and stronger loyalty from eco-conscious customers could be gained.

**/ it is increasingly common around the world to include a certain proportion of recycled materials in packaging**



## Experience to learn

### + Australia

- A renowned snack brand has launched their new wrappers with 90% recycled plastic, which was certified by the International Sustainability and Carbon Certification (ISCC). The new packaging could save up to 1,200,000 m<sup>2</sup> of wrappers annually.



Image credit: Kit Kat

### + Hong Kong China

- A renowned Japanese food manufacturer has replaced its plastic packaging film with paper-based packaging, reducing the use of virgin plastics.



Image credit: OMUSUBI

### + Chinese Mainland and Hong Kong China

- A multinational food corporation has replaced their expanded polystyrene-based and polypropylene-based cup noodles containers with paper-based containers since 2009 and 2010 in Chinese Mainland and Hong Kong China respectively. The outer paper sleeve was also removed to further reduce material usage. The new packaging has reduced 64% and 88% of plastic consumption respectively for each container sold in Hong Kong China and Chinese Mainland.



Image credit: Nissin Foods



## Experience to learn

### + United Kingdom

- A renowned supermarket brand had trialled paper packaging in collaboration with instant noodles snack food brand since 2023. The transformation began with 500,000 chicken & mushroom pots to be made from FSC-certified paper. The switch would be further extended to the full series of product if the trial is successful, and 4,000 tonnes of virgin plastic consumption is expected to be avoided annually.



Image credit: Unilever & Tesco

### + United States

- A renowned canned soup manufacturer has announced their goals to reduce packaging in 2020. They committed to a 100% transition to recyclable or industrially compostable designs and materials, as well as increased use of post-consumer recycled content by 2030.



Image credit: Campbell's

- A renowned food manufacturer re-evaluated their use of materials in packaging and adopted packaging with post-consumer recycled and post-industrial recycled content in both paper-based and plastic-based corrugated packaging. Around 35% of the packaging is made of recycled materials.



## Experience to learn

### + United States

- A renowned chocolate manufacturer replaced their secondary packaging with 100% recycled materials. The transition reduced 5,000 tonnes of carbon emissions and saved over 14,000 trees.



Images credit: Hershey's

- A health supplement manufacturer replaced their plastic mailers with kraft recycled and compostable paper mailers and switched their shipping boxes and padding materials to recycled or recyclable materials. About 300,000 single-use plastic mailers were removed from the supply chain per year.



Image credit: Thorne

### + Spain

- A packaging solution company has developed a production line for mono-material packaging, providing sustainable packaging solutions for snacks, frozen food, and other food products. Unlike composite materials, mono-materials are easy to recycle, and the energy consumption during the manufacturing process could be lowered.



Images credit: Walki Plasbel

The food manufacturing industry consumes and generates a considerable amount of packaging, which may ultimately be disposed of as packaging waste after consumption by end-consumers, the packaging along their supply chain should not be overlooked. Food manufacturing sector should engage their packaging suppliers to incorporate environmental requirements into their products. For instance, they could require suppliers to use recyclable and reusable materials for packaging, multi-packing, and transportation, or even smaller and lighter packaging that fits better with the size of food products. The food importers or distribution agents could provide their customers with the information regarding whether the packaging of the products complies with the green packaging or eco labelling requirements of their places of origin. Apart from the above, food manufacturing sector could adopt different green criteria for the procurement process **through communication with their importers/ suppliers to ensure packaging materials provided are durable, reusable, recyclable, and adding value to products.**

Other than having good procurement practices, food manufacturing sector should also engage their own logistics providers/ suppliers' logistics providers in setting up a closed-loop supply chain of packaging resources, with a view to minimising the use of tertiary packaging and switching to reusable packaging, such as aluminium cans, glass containers, and reusable plastic containers. A return service on the packaging is another feasible practice for suppliers and logistics providers to adopt in reverse logistics. Food manufacturing sector could establish mechanisms to collect used packaging, such as aluminium cans, plastic containers, glass containers, and shrink wrap, and return them to packaging manufacturers/ suppliers for future reuse or transform into recycled material for new packaging production. Packaging waste could be effectively reduced at source by applying this practice.

**Table 1:**  
**Action items for green supply chain  
management on packaging reduction**

**A. Communicate the ESG commitment to the following stakeholders:**

- ☒ Packaging manufacturers
- ☒ Trading partners
- ☒ Customers

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**B. Provide guidelines/ trainings to the staff of self-operated:**

- ☒ Warehouse
- ☒ Logistics service

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**C. Set tender specifications with sustainable packaging requirements for third-party service provider:**

- ☒ Packaging manufacturers
- ☒ Logistics service
- ☒ Warehouse

**/ food manufacturers sector is highly encouraged to communicate with packaging suppliers/ manufacturers to ensure products provided are durable, reusable, recyclable, and adding value to products**

## Experience to learn

### + Chinese Mainland and Hong Kong China

- A multinational food corporation has prioritised efficiency and environmental considerations, and set up a packaging supply chain system in the Greater Bay area to supply packaging materials for their food manufacturing factories within the area. The close-distance packaging supply has reduced the need for extra packaging for product protection, thus reducing carbon emissions throughout the packaging supply chain.



Image credit: Nissin Foods

### + Japan

- A frozen food manufacturer established 'Containers and Packaging Selection Guidelines' in 2020 to set initiatives in three aspects, including reduce, replace, and recycle for plastic packaging consumption reduction. The guidelines recommended the use of films and trays with limited thickness and recycled materials (e.g. rPET) where possible. In addition to the guidelines, the company also set up the 'Container/ Packaging Selection Checklist' to examine if the materials, size, thickness, etc. of the packaging comply with the environmental-friendly initiatives at the product development stage.



## Experience to learn

### + United Kingdom

- A renowned snack manufacturer collaborated with their packaging partners and committed to making 100% reusable, recyclable, or compostable plastic packaging. The packaging is also well labelled to facilitate recycling.
- A renowned supermarket brand collaborated with their suppliers to reduce packaging to a minimum and aim to deliver their packaging in 100% sustainable paper and cardboard by 2025.



Image credit: Tesco

### + United States

- A renowned snack manufacturer collaborated with recycling businesses to launch a programme named 'Off the Eaten Path Composting Programme'. The manufacturer piloted industrially compostable packaging, which is primarily made from plant-based materials. Customers are encouraged to sign up for the programme online, send the packaging to be composted, by mail in the packaging using the provided prepaid shipping label, or locate a local composting drop-off location via the online database. As of May 2022, around 192,000 used snack bags were returned to the recycling business for composting.



Image credit: Terracycle

## 3

## Reuse

### Using reusable packaging materials

When it comes to reusable packaging, there is an ongoing discussion among the industry on the shift from using single-use packaging to reusable options. **Food manufacturing sector should adopt reusable food packaging systems**, which commonly featured a container return scheme with supporting policies to encourage reusables, the cooperation of business partners to take used containers back such as glass containers and metal cans, investment in reverse logistics and associated infrastructure, standardisation of containers, as well as measures to ensure convenience, efficiency, and public awareness. Adopting reusable food packaging systems sets up a closed-loop supply chain, puts circular economy into practice, and reduces packaging costs in a long-term. It is also the easiest and most economical way to motivate the public to cultivate the habit of reuse and achieve packaging waste reduction.

Apart from the above, food manufacturing sector is also encouraged to **constantly review environmental initiatives with respect to the reusability of their packaging**, including secondary packaging such as shrink wrap and multipack holders.

Innovative ideas on reusable secondary packaging not only fulfil sustainability needs but, at the same time, act as an important reputation building and marketing opportunity. For instance, industry-leading companies could establish goals for the proportion of products sold in reusable models with an achievement timeframe. This could set an industry reference and have an influential impact on driving the industry towards resource circulation and waste reduction.



Image credit: Nestlé

**/ food manufacturing industry is on the shift from using single-use packaging to reusable options**



## Experience to learn

### + France

- A multinational food manufacturer launched their reusable stainless steel containers for their cocoa, coffee, and cereal products in 2020. Empty containers will be collected from the consumer's home or dropped off by the consumer in physical stores. The containers will then be cleaned, refilled, and put back in the Loop platform's circular system.



Image credit: Nestlé

### + Italy

- A renowned chocolate manufacturer designated a webpage to suggest ideas for customers to reuse their chocolate box, giving the packaging box a second life. For instance, the transparent box is suggested to be used as a tea box, a jewellery box, or a sewing box.



Image credit: Ferrero Rocher

### + Hong Kong China

- A lunch box provider offers reusable containers for schools. The containers will be collected after usage to be cleaned, disinfected, and reused.



Image credit: Four Seas Murray Catering



## Experience to learn

### + Japan

- A renowned food manufacturer identified that packaging derived from raw materials accounts for a significant portion of their plastic consumption. As such, they replaced their single-use packaging with reusable containers such as plastic crates for raw materials (e.g. onions) used at the production plant.



Before the switch: onions as raw material (plastic bags)



After the switch: onions as raw material (returnable containers)

Image credit: Nissui

### + United States

- A multinational food manufacturer partnered with a recycling business to launch a first-of-its-kind home delivery service for foods and household goods in 2019 with reusable packaging. The container featured double-walled is made of steel and reusable, and is collected from consumer's home for cleaning, refilling, and reusing.



Image credit: Nestlé

## Recycling and Recovery

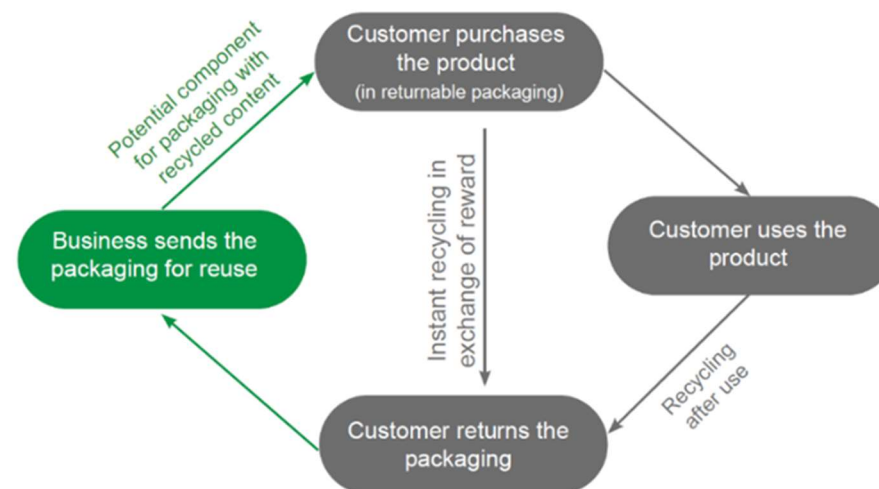
### Setting up recycling facilities

**Setting up suitable recycling facilities and system is a good way to raise customers' sustainability awareness and bring circular economy into business practices directly in collaboration with consumers.** Not only could consumers be given opportunities to recycle their unwanted packaging materials at the collection point instantly, but regular customers could also be encouraged to bring the recyclable packaging from their homes to the collection points for reuse and recycling. In fact, by setting up suitable recycling facilities and system, business can improve brand loyalty and demonstrate its commitment to environmental protection.

Besides, food manufacturing sector could consider setting up a closed-loop model of food packaging recycling, or even partnering with logistics and waste management companies for recycling infrastructure investment. Subject to the availability of resources and capacity of the food manufacturing sector, recycling services could be extended to door delivery, and unwanted packaging materials could be instantly collected from consumers, creating a convenient and smooth recycling system.

**/ setting up recycling facilities and system is a good way to raise sustainability awareness and bring circular economy into business practices**

Unlike other sectors, food packaging includes considerable types of packaging, where different materials have different recycling methods and criteria. Thus, apart from providing suitable recycling facilities and systems, food manufacturing sector should state the material type and recycling method clearly on the packaging. By providing recycling information on the packaging, customers could conduct accurate sorting and enhance recycling efficiency.





## Experience to learn

- Numerous food manufacturers have placed recycling logos on their product packaging to facilitate easy recycling by customers. For companies that have less capacity to develop a close-looped packaging system, recycling labels could assist their customers in sorting and recycling the packaging in an appropriate manner, which fosters the sustainability of society.



Image credit: Bakery and Snacks



Image credit: Campbell's

## + Hong Kong China

- A multinational food manufacturing company has partnered with a local charity to implement a “Type 5 PP Plastic Recycling Campaign” since 2020. The company installed PP plastic recycling facilities in different residential and commercial areas. After a 3-year operation, the campaign collected over 3,000 kg of PP plastic, which was upcycled into daily necessities such as cloth hangers and meal boxes.



Images credit: Nestlé



## Experience to learn

### + Hong Kong China

- A renowned health supplement company has set up recycling points at their retail stores to facilitate customers returning their product boxes and glass bottles for recycling. It facilitated a closed-loop supply chain and reduced the carbon footprint of the company.



Image credit: Meiriki-jp

### + Japan

- A renowned food manufacturer collaborated with a recycling solution provider to launch a pilot project for used plastic collection in Togane City in 2022. The project aimed to check the condition and quantities of plastic containers collected and further verify if the recycling technology of the solution provider would be applicable. The ultimate goal of the project is to develop a resource recycling scheme.



Image credit: Calbee



## Experience to learn

### + China's Taiwan region

- A health supplement company has set up recycling facilities at their retail stores to collect used plastic bottles from customers. Incentives are provided to customers who return their unwanted packaging. The collected plastic bottles were then recycled by their recycling business partner and remoulded into other products, such as stationery.

### + United Kingdom

- A renowned food manufacturer partnered with a supermarket chain to launch a trial project on soft plastic recycling. The soft plastics returned to the supermarket store by customers were collected in the laboratory and converted into plastic pellets, and remoulded into recyclable snap pots for new food product packaging. The trial project is expected to recycle around 22 tonnes of plastic.



Image credit: Kraft Heinz

With reference to the waste management hierarchy, apart from the above experience to learn, the following example also shows how food manufacturing sector can start considering ways to reduce packaging consumption and generation of packaging waste. This can help relieve the waste disposal burden of landfills.



Image credit: Confectioneryworld

### Reuse, Recycle and Recovery:

- + Could you incentivise your customers to choose refillable options and bring their own containers?
- + Could you set up collection points or recycling facilities (e.g. reverse vending machines) to recycle used food packaging?
- + Could you upcycle packaging materials into useful products?

### Prevention:

- + Could you explore/ invest in the research and development of in-store refillable initiatives?
- + Could you remove any unnecessary layers/ components of food packaging?

### Reduction:

- + Could you redesign traditional packaging and use thinner and lighter packaging materials?
- + Could you explore the use of creative packaging/ innovative technology?
- + Could you include a higher percentage of recycled content for food packaging?

## Guidance for Packaging Reporting and Management

While it is anticipated that the sustainable packaging initiatives suggested in previous chapters would help food manufacturers in identifying existing gaps and potential opportunities to packaging reduction, we understand that some packaging exists for a practical reason as certain level of packaging is necessary and vital to business operation. Therefore, it is high time for food manufacturers to **explore ways in managing these unavoidable packaging in a more systematic manner.**

With reference to experience in other places and in line with the ESG Reporting Guide published by HKEX in December 2019, packaging reporting is an effective mean to facilitate gathering of information by companies for **self-review and identifying opportunities for reducing packaging consumption and packaging waste generation**, which may help companies to minimise unnecessary cost.

Also, **investors and other stakeholders are now more willing to allocate capital in sustainable investments** and thus expecting more information from companies on how they manage ESG related risks, including how to minimise non-essential packaging.

**In this chapter, a step-by-step guidance will be provided to assist companies to disclose their packaging consumption in their ESG Reports, Sustainability Reports or Annual Reports in a more systematic and standardised manner.** To be an environmentally-responsible industry practitioner, it is advisable for companies to follow the guidance in **reporting the quantities of different types or forms of packaging materials consumed under a specific period of time.**



### Do you know...?

Under the requirement of HKEX, Hong Kong listed companies are required to report on ESG matters on an annual basis and regarding the same period covered in their Annual Reports. Under Section Aspect A2: Use of Resources – KPI A 2.5 of the “Appendix C2 (formerly known as Appendix 27) ESG Reporting Guide” published by HKEX, companies are required to disclose information on total packaging material used for finished products. The information required to comply is:

+ Total packaging material used and intensity

+ If possible, issuers should provide a breakdown of materials by type

# Step-by-step guidance for packaging reporting and management

## i Define reporting boundary

- i Companies should firstly determine the scope for packaging reporting, it would be a better approach to follow the reporting period and boundaries of their ESG Reports, Sustainability Reports or Annual Reports.

It is important that packaging materials consumed in different operating units, e.g. warehouses and distribution centres, etc. should be included and reported.

- ii When defining the sources of packaging consumption within the reporting boundary, products made of any materials of any nature to be used for the protection, handling, and delivery from the factories to the end customers should be taken into account. On the other hand, the already-added packaging of inbound items from other places should not be included in the reporting scope.

## ii Identify source of packaging consumption

Therefore, packaging generated from the following operation points should be measured:

### Packaging consumed at factories

(e.g. food containers, bottle caps, labels)



Image credit: New Food Magazine

### Packaging consumed at warehouses and distribution centres

(e.g. paperboards, carton boxes, box-sealing tapes, stretch films)



Image credit: THIMM

### Packaging consumed during self-operated delivery operation

(e.g. waybills, stretch film, bundle strap, plastic crates, wooden pallets)



Image credit: IndiaMART



## Scenario of reporting scope

Food manufacturers may own and operate self-manufactured food products and partner with retail companies for retail sales. Some might import food products and further distribute them to customers with their own vehicle fleet for order delivery. Table 2 shows some examples of scenarios for various types of food manufacturers and their associated reporting requirements.

**Table 1: Examples of Food Manufacturing Companies**

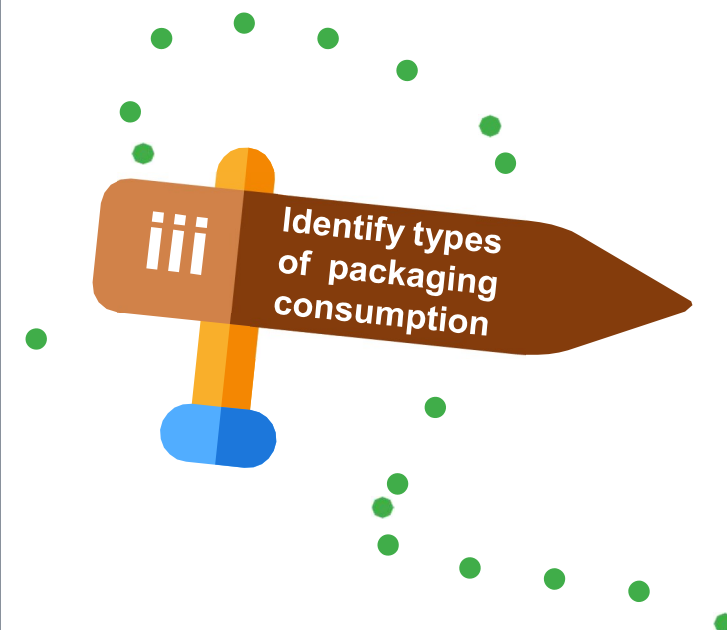
Company	Examples			
A	<pre> graph LR     A[Factory (Self-manufactured canned food)] -- "R: Tin can, container cap, container label" --&gt; B[Fulfilment Centre inside Factory]     B -- "R: carton boxes, waybill stickers&lt;br/&gt;NR: Reusable plastic crates" --&gt; C[Retail points]     </pre>			
	<p>Company A owns and operates a factory that manufactures canned food locally and partners with various retail points, including supermarkets and convenience stores for sales of their products. Company A packaged their food products in brand-new <b>tin cans</b> with <b>container caps</b>, as well as <b>labels</b> to display product information. All canned products were delivered to various retail points in brand-new <b>carton boxes</b> and <b>reusable plastic crates</b>. Some <b>waybill stickers</b> were used as well.</p>			
B	<pre> graph LR     A[Supplier] -- "Frozen food and seasoning products shipped to Warehouse of Company B ahead&lt;br/&gt;Delivery handled by Supplier&lt;br/&gt;No packaging added by Company B" --&gt; B[Warehouse of Company B]     B -- "R: Wrapping paper, plastic bags, box-sealing tapes, waybill stickers&lt;br/&gt;NR: Recycled carton boxes" --&gt; C[Customers]     </pre>			
	<p>Company B is a frozen food retailer that imports packaged frozen meat, frozen pastries and cooking sauce for local retail sales, of which the products came with their original packaging placed by the suppliers. For individual order, new <b>wrapping paper</b> is used to protect products, and a brand-new <b>plastic bag</b> is used to contain all items collectively. For mass order, new <b>wrapping paper</b> is used to protect the products and a <b>recycled carton box</b> is used to contain them. Some <b>box-sealing tapes</b> and <b>waybill stickers</b> were used as well.</p>			
C	<pre> graph LR     A[Factory (Self-owned operation of health supplement bottling)] -- "R: plastic bottles, caps, labels, shrink wrap" --&gt; B[Fulfilment Centre inside Factory]     B -- "R: waybill stickers&lt;br/&gt;NR: reusable plastic crates" --&gt; C[Retail points]     </pre>			
	<p>Company C is a packaging partner of a global health supplement brand that operates a factory locally for product bottling and partners with retail chains for sales of the health supplements. Company C bottles health supplement pellets in brand new <b>plastic bottles</b> with <b>caps</b> and <b>labels</b>. A new <b>shrink wrap</b> is used for 4-bottle packs. The products were delivered to retail points with <b>waybill stickers</b> and <b>reusable plastic crates</b>.</p>			

**Legend:**  
**R = To be reported**  
**NR = Not to be reported**

It might seem complicated when a food manufacturing company could be handling thousands of orders in a typical day. However, in practical application, **their procurement and inventory records should serve as the key source for packaging disclosure**, but not on an order-by-order basis. Practitioners of food manufacturing companies are therefore recommended to refer to Step 4 to obtain packaging consumption data in an efficient and reliable manner.

**Table 3:**  
**Commonly found packaging material and forms**

<b>Paper/ cardboard</b>	<ul style="list-style-type: none"> <li>• Carton boxes</li> <li>• Cardboard</li> </ul>	
<b>Plastics</b>	<ul style="list-style-type: none"> <li>• Bottle caps</li> <li>• Bundle strap</li> <li>• Box-sealing tapes</li> <li>• Flat pockets</li> <li>• Labels/ stickers (e.g. waybill sticker)</li> <li>• Plastic bottles</li> <li>• Plastic crates</li> </ul>	<ul style="list-style-type: none"> <li>• Wax paper</li> <li>• Other paper packaging</li> </ul>
<b>Metals</b>	<ul style="list-style-type: none"> <li>• Aluminium foils</li> <li>• Metal cans</li> </ul>	<ul style="list-style-type: none"> <li>• Plastic liners</li> <li>• Plastic pallets</li> <li>• Plastic trays</li> <li>• Shrink wrap</li> <li>• Stand-up pouches</li> <li>• Stretch film</li> <li>• Other plastic packaging</li> </ul>
<b>Glass</b>	<ul style="list-style-type: none"> <li>• Jam bottles</li> <li>• Seasonings bottles</li> </ul>	<ul style="list-style-type: none"> <li>• Metal pallet boxes</li> <li>• Other metal packaging</li> </ul>
<b>Wood</b>	<ul style="list-style-type: none"> <li>• Wooden pallets</li> <li>• Wooden boxes</li> </ul>	<ul style="list-style-type: none"> <li>• Other glass packaging</li> </ul>



- iii** Packaging is ubiquitous in food manufacture and distribution operations. It facilitates the handling of products and protects products from the point of manufacturing all the way through the supply chain to end customers. To fit different natures of products and functions, there are wide varieties of packaging and the most commonly found packaging materials and forms are listed in Table 3.

- iv Data collection is an important step and requires collaborative efforts. Companies should establish strong collaboration with relevant departments and stakeholders to collect accurate and reliable data for reporting purpose.

To understand the quantities of different forms of packaging materials consumed within the reporting period, companies may adopt the following two approaches. Approach 1 is anticipated to be universal across all food manufacturing companies, whereas Approach 2 should also be adopted at the same time if self-manufactured own-brand products sales is part of the business.



## 1 Approach 1: Data obtained from procurement and inventory record

The following data should be obtained for calculation of packaging consumption:

Items	Description	Data source
<b>A</b>	Quantity of each type of packaging materials/ forms at the beginning of the reporting period	Stock-taking exercise, inventory report, etc.
<b>B</b>	Quantity of each type of packaging materials/ forms procured/ received during the reporting period	Purchase orders/ reports, invoices from suppliers, import/ delivery records, etc.
<b>C</b>	Quantity of each type of packaging materials/ forms remained at the end of the reporting period	Stock-taking exercise, inventory report, etc.

$$\left[ \begin{array}{l} \text{Total consumption amount} \\ \text{of each type of packaging} \\ \text{materials/ forms} \end{array} \right] = A + B - C$$

## 2

## Approach 2: Data obtained from packaging materials used on self-manufactured own-brand or sold products

- + Calculate the average weight of packaging per stock keeping unit (SKU) then multiply by the total number of products sold during the reporting period with reference to sales record.
- + Company should identify components of the packaging according to different materials and forms, and record the weight of each material and form.

### Example (1): Sales of self-manufactured own-brand tomato soup



Image credit: Amazon

<i>Product name/ code</i>	<i>Packaging material</i>	<i>Packaging form*</i>	<i>Weight of the packaging material per unit of product (g)</i>	<i>Number of products sold during the reporting period</i>	<i>Total quantity of packaging consumed (kg)</i>
			(A)	(B)	<i>(C) = (A) x (B) / 1,000</i>
Tomato Soup – (Pack of 12)	Plastics	Shrink wrap	5	2,000	10
	Paper	Cardboard	100		200
	Metals	Tin cans (12 nos.)	360		720
	Composite	Can label (12 nos.)	10		20
Sub-total					950

\* Companies can select appropriate items to report, subject to data availability

V Calculating the packaging consumption data helps engage your stakeholders to learn about the environmental commitment of your companies. Companies can consider reporting the total packaging material used during the reporting period or the intensity of packaging material use<sup>note</sup>.

Breakdown of packaging materials consumed by type (e.g. plastics, paper, glass, metals) would be more preferable. This will establish the data for comparison, benchmarking and drive actions on packaging reduction. For samples of packaging reporting templates, please refer to **Appendix 2**.

**Note:**

Intensity of packaging material use = PA/U

PA = Total packaging materials used (in weight)

U = Company specific metrics (e.g. units of product, production volume, monetary units such as revenue or sales)



## 6

## Tips on publicity and customer education

Most of the packaging materials can be easier to recycle if they are made from a single material. For composite packaging materials such as composite cans, crisp packets, and candy wrappers which cannot be easily recycled, inaccurate sorting will interfere with the recycling process, affecting the recycling efficiency. As food packaging includes various types of materials, some customers are not aware of how to differentiate the recyclability of various packaging and are not used to the habit of clean recycling. **Food manufacturers could leverage the public's motivation for packaging recycling through activities that are fun and daily-life related.**

**/ food manufacturers could leverage the public's motivation for packaging recycling through activities that are fun and daily-life related**

For instance, regular carnivals/ product promotion activities, smart redemption programmes, design competitions, and mobile education tours are good ways to convey the importance of recycling. Moreover, developing an interactive impact calculation platform is also an effective way for public to easily realise the benefits of clean recycling.



Image credit: Nestlé



## Experience to learn

### + Hong Kong China

- A multinational food manufacturer partnered with a local charity to organise a workshop on recycling, reusing and upcycling of Type 5 PP plastic. The programme “Type 5 PP Plastic Recycling Campaign 2022 - 2023” provided information and ideas to the public on utilising the PP container before disposal. It encourages citizens to clean and recycle the used plastics appropriately. In addition, a reward programme was also rolled out in 2022 to encourage public recycling of PP containers of food products. The first 50 participants who completed the registration and recycling of 5 pieces of PP containers would be rewarded with a HKD100 dollar e-promotion code.



Images credit: Nestlé

- A multinational food manufacturer collaborated with feature characters to launch a promotional campaign named ‘We Love Our Planet’ in 2022 to encourage the clean recycling of yoghurt cups made of PP.



Image credit: Nestlé

## Experience to learn

### + Japan

- A frozen food manufacturer designed the eco-mark “Mirai-no Umie” to promote corporate environmentally-friendly initiatives among customers through the packaging. Products with environmentally-friendly efforts made on packaging will be labelled with an eco-mark with a description (e.g. plastic usage (with a percentage reduction) has been reduced in this tray).



Image credit: Nissui



### + Chinese Mainland

- A multinational food manufacturer rolled out a campaign on social media in 2021 to promote the use of the newly launched reusable packaging for confectionery.



Image credit: Foodtalks

- A multinational food manufacturer collaborated with a renowned e-commerce platform in 2022 to establish ‘simple packaging’ zone during promotional sales, with a view to encouraging customers to support sustainable packaging.



Image credit: Mars

# Frequently Asked Questions

The following frequently asked questions are designed to assist trade practitioners with answers about packaging reduction, reporting and management.

## Q1 Why is packaging reporting important?

Packaging waste constitutes significant part of Municipal Solid Waste (MSW) in Hong Kong and has caused increasing environmental concerns. To achieve waste minimisation in the territory, local companies should share the responsibility towards sustainable packaging waste management. On the other hand, consumers and investors are increasingly concerned about company's environmental and financial responsibility, packaging reporting would be an important initiative for companies to gather information for self-review, thereby identifying areas of improvement beyond current practices.

## Q2 Is packaging reporting mandated by law?

Packaging reporting is not mandatory at this stage. However, in order to facilitate companies in gathering information for self-review and identifying areas of improvement to achieve sustainable packaging waste management which may help companies to minimise unnecessary costs. We strongly encourage companies to practise packaging reporting on an annual basis for self-assessment.

### Q3 Which types of packaging should be covered in the packaging reporting of our company?

Companies should identify their own scope of operations at different venues (e.g. factory, warehouse, retail shops etc.) and identify the packaging materials consumed by their companies for reporting, including the primary packaging (e.g. plastic bags and containers, composite cans, aluminium foil) of self-manufactured products, secondary packaging (e.g. paperboard, shrink wrap) and tertiary packaging (e.g. carton boxes, wooden pallets) used in their operations.

### Q4 We found some of the packaging materials challenging to maintain an accurate inventory for reporting, what could we do?

We understand that the operational challenges of stock-taking different types of packaging from all sources. Therefore, companies are advised to report as many types and forms of packaging as practicable (use estimation if needed) generated from the following operation points: 1) Packaging consumed at self-operated factories, 2) Packaging consumed at self-operated distribution centres, and 3) Packaging filled/ consumed during self-operated delivery operation.

### Q5 Where shall we disclose our packaging data?

For Hong Kong listed companies, you shall disclose your packaging consumption data on your ESG Report under the requirement of HKEX. For non-listed companies, you are also encouraged to disclose your packaging data on your website or your ESG/ Sustainability/ Annual Report.

**Q6** We found some of the sustainable packaging initiatives challenging to implement, what could we do?

Businesses are suggested starting with a trial/ in phases and progressively expand for wider impacts. As a key stakeholder in achieving packaging reduction, the government will continue to collaborate with the food manufacturing sector for implementing practicable measures to promote and encourage reducing the use of plastic packaging materials. Think big, start small!

**Q7** The original packaging materials from our suppliers are out of our control, what could we do?

Businesses are suggested communicating with their importers/ suppliers and collectively explore solutions for minimising use of packaging materials while maintaining the necessary level of protection for handling and shipping. You are encouraged to improve the packaging design and minimise packaging waste generation for various product lines.

**Q8** We wish to recycle the packaging waste generated from my operations, what can we do?

Businesses should identify suitable outlets for recyclable materials. For larger businesses, it is suggested to set up suitable recycling facilities and engage a recycler to collect different types of recyclables regularly for proper recycling.

Please find more on the Hong Kong Collector/ Recycler Directory:

[https://www.wastereduction.gov.hk/en/quickaccess/vicinity.htm?collection\\_type=collector&material\\_type=all&district\\_id=0](https://www.wastereduction.gov.hk/en/quickaccess/vicinity.htm?collection_type=collector&material_type=all&district_id=0)

# Useful Resources

## 1 Packaging Reporting and Management

### Hong Kong China

- + **How to Prepare an ESG Report – A Step-by-Step Guide to ESG Reporting – HKEX**  
[https://www.hkex.com.hk/-/media/HKEX-Market/Listing/Rules-and-Guidance/Environmental-Social-and-Governance/Exchanges-guidance-materials-on-ESG/step\\_by\\_step.pdf](https://www.hkex.com.hk/-/media/HKEX-Market/Listing/Rules-and-Guidance/Environmental-Social-and-Governance/Exchanges-guidance-materials-on-ESG/step_by_step.pdf)

### Other Places

- + **Guide on Mandatory Packaging Reporting – National Environment Agency of Singapore**  
<https://www.nea.gov.sg/docs/default-source/default-document-library/mpr-resource-slides-as-of-24-march-2021772abdb897c84ae0955da370215eeb74.pdf>

## 2 Packaging Reduction and Management

### Hong Kong China

- + **A Practical Guidebook to a Circular Economy: Collaborating with Value Chain Partners for a Resilient Business**  
[https://ccsg.hku.hk/pslb/wp-content/uploads/2023/10/Practical-Guidebook-1\\_ENG.pdf](https://ccsg.hku.hk/pslb/wp-content/uploads/2023/10/Practical-Guidebook-1_ENG.pdf)

- + Bill passed for regulating disposable plastic tableware and other plastic products and enhancing existing producer responsibility schemes – Press Release, The Government of the Hong Kong Special Administrative Region**  
<https://www.info.gov.hk/gia/general/202310/18/P2023101800622.htm?fontSize=1>
- + Hong Kong Collector/ Recycler Directory – Environmental Protection Department, HKSAR**  
[https://www.wastereduction.gov.hk/en/quickaccess/vicinity.htm?collection\\_type=collector&material\\_type=all&district\\_id=0](https://www.wastereduction.gov.hk/en/quickaccess/vicinity.htm?collection_type=collector&material_type=all&district_id=0)
- + Waste Blueprint for Hong Kong 2035 – Environment and Ecology Bureau, HKSAR**  
[https://www.eeb.gov.hk/sites/default/files/pdf/waste\\_blueprint\\_2035\\_eng.pdf](https://www.eeb.gov.hk/sites/default/files/pdf/waste_blueprint_2035_eng.pdf)

#### Other Places

- + Recycling Food Packaging & Food Waste in Plastics Revolution – European Economic and Social Committee**  
<https://www.eesc.europa.eu/sites/default/files/files/qe-03-20-534-en-n.pdf>
- + Reuse – rethinking packaging – Ellen MacArthur Foundation**  
<https://ellenmacarthurfoundation.org/reuse-rethinking-packaging>
- + Sustainable Packaging Guidelines – Australian Packaging Covenant Organisation**  
<https://apco.org.au/sustainable-packaging-guidelines>

# Appendix 1 – Summary Checklist on Practical Tips for Food Manufacturing Companies

The following is a quick start of key practical tips for the food manufacturing sector to consider in achieving sustainable packaging. This list is non-exhaustive and is prepared based on the best practices collected locally and from other places.

Summary Checklist on Practical Tips for Food Manufacturing Companies				
Practical Tips		Yes	No	Follow-up Actions if the answer is “No”
Prevention				
1.	Investing more resources in avoiding the use of non-essential secondary packaging.			
2.	Exploring/ investing in the installation of refilling vending machines.			
3.	Avoiding packaging multi-packs to promote green initiatives and encouraging multi-buys.			
Reduction				
4.	Redesigning traditional packaging and using thinner and lighter packaging materials with adequate stress tests.			
5.	Exploring the use of creative packaging (e.g. packaging with creative dimension design) or innovative technology (e.g. flexible film vacuum packaging) to enhance packaging recyclability and reduce the use of materials.			
6.	Simplifying the glossy effect of packaging.			
7.	Replacing single-use packaging with alternatives containing recycled content.			
8.	Exploring/ investing in easy to recycle materials such as mono-material for packaging.			
9.	Maintaining close dialogues with suppliers/ trading partners/ customers to simplify the packaging design.			

## Summary Checklist on Practical Tips for Food Manufacturing Companies

Practical Tips		Yes	No	Follow-up Actions if the answer is “No”
Reuse				
10.	Operating a closed-loop platform to collect used packaging, such as metal cans, from customers for cleaning and refilling.			
11.	Adopting reusable packaging as far as practicable (e.g. metal cans, plastic crates, wooden pallets).			
12.	Incentivising customers to choose the refill options and bring their own containers.			
Recycling and Recovery				
13.	Setting up recycling facilities to recycle used packaging (e.g. recycling points, recycling bins, recycling factories).			
14.	Incentivising consumers upon receiving clean and well-conditioned reusable packaging materials.			
15.	Upcycling recycled packaging materials into useful products.			
Packaging Reporting and Management				
16.	Performing statistical analysis and recording the total packaging materials used on a yearly basis.			
17.	Publishing waste reduction plans and achievements in companies' ESG/ Sustainability/ Annual Report.			
Publicity and Customer Education				
18.	Organising education/ environmental campaigns to raise public awareness.			
19.	Providing tips and guidance to customers on the proper handling of packaging materials generated (e.g. displaying at recycling bins).			
20.	Developing an online tool to educate customers on clean packaging and energy savings.			

### Remark:

As a general principle, excessive and non-essential packaging should be avoided as far as practicable. In case the use of packaging materials is unavoidable, careful considerations should be adopted in choosing the suitable packaging to reduce waste generation. In addition, it is worth understanding that reuse and recycling could extend the life of packaging. Food manufacturing companies, therefore, should support recycling of various packaging materials with a view to encouraging their suppliers, business partners, logistics service providers, and customers to develop green habits..

## Appendix 2 – Packaging Reporting Templates

Report templates on types of packaging materials consumed during the reporting period: (Approach 1)

Company:				
Venue:				
Business Nature of the Venue:				
Reporting Period:	From		To	

Data obtained from procurement and inventory record

Packaging material	Packaging form*	Quantity of packaging in storage at the beginning of the reporting period (tonnes)	Quantity of packaging purchased/ obtained during the reporting period (tonnes)	Quantity of packaging in storage at the end of the reporting period (tonnes)	Remarks	Total quantity of packaging consumed (tonnes)
		(A)	(B)	(C)		(D) = (A) + (B) - (C)
Plastics	e.g. plastic liners	5	10	4	made of HDPE	11
	e.g. plastic box					
	e.g. shrink wrap					
Sub-total						
Paper	e.g. carton boxes					
Sub-total						
Metal						
Sub-total						

<i>Packaging material</i>	<i>Packaging form*</i>	<i>Quantity of packaging in storage at the beginning of the reporting period (tonnes)</i>	<i>Quantity of packaging purchased/ obtained during the reporting period (tonnes)</i>	<i>Quantity of packaging in storage at the end of the reporting period (tonnes)</i>	<i>Remarks</i>	<i>Total quantity of packaging consumed (tonnes)</i>
		(A)	(B)	(C)		(D) = (A) + (B) - (C)
Wood						
Sub-total						
Glass						
Sub-total						
Composite						
Sub-total						
Others						
Sub-total						
Grand Total (PA)						
Company specific metrics (e.g. units of product, production volume, monetary units such as revenue or sales) (U)						
Intensity of packaging material use = PA/U						

\* Companies can select appropriate items to report, subject to data availability

## Report templates on types of packaging materials consumed during the reporting period: (Approach 2)

Company:				
Venue:				
Business Nature of the Venue:				
Reporting Period:	From		To	

Data obtained from sales of self-manufactured own-brand products

Product name/ code	Packaging material	Packaging form*	Weight of the packaging material per unit of product (g)	Number of products sold during the reporting period	Total quantity of packaging consumed (kg)
			(A)	(B)	(C) = (A) x (B) / 1,000
e.g. Tomato Soup – (Pack of 12)	Plastics	Shrink wrap	5	2,000	10
	Paper	Cardboard	100		200
	Metals	Tin cans (12 nos.)	360		720
	Composite	Can label (12 nos.)	10		20
Sub-total					950
Sub-total					
Sub-total					
Grand Total (PA)					
Company specific metrics (e.g. units of product, production volume, monetary units such as revenue or sales) (U)					
Intensity of packaging material use = PA/U					

\* Companies can select appropriate items to report, subject to data availability

# Appendix 3 – A “Step-by-Step” Self-Assessment Tool to Sustainable Packaging Management



The following self-assessment tool helps trade practitioners in the food manufacturing sector to understand their packaging portfolio along the supply chain and business cycle, so as to identify the scope for packaging management and assess the factors that they could consider in working out improvement options to reduce packaging.

A "Step-by-Step" Self-Assessment Tool to Sustainable Packaging Management			
Instruction for completion			
<b>Step 1:</b> Review your current packaging and practices against the below guiding questions.			
<b>Step 2:</b> Check if they are relevant to your business and packaging? Consider if there are any additional questions you would like to include.			
<b>Step 3:</b> Consider which responsible parties (e.g. within your business or supply chain) could provide the information to complete your packaging reviews.			
<b>Step 4:</b> Consider if better improvement opportunities are available, or could be further explored.			
<b>Step 5:</b> Identify opportunities to reduce your packaging and packaging waste. Develop an action plan and track your progress.			
A. Questions for Sustainable Packaging Tips			
Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
<div>Sample Question</div> <p>Does the packaging (all levels together) use the minimum amount of material to maintain the necessary level of protection, safety, and hygiene for the product? Could any components/ layers of the packaging be eliminated, e.g. shrink wrap for multipacks?</p>	Yes	Company Sustainability Manager	<p>1. Early April - To assess the feasibility with Company Product Manager</p> <p>2. Early April - To decide with Company Product Manager on what packaging could be eliminated</p> <p>3. Mid April - To provide briefing to manufacturing staff on the changes by Company Sustainability Manager</p> <p>4. Early May - Implementation</p> <p>5. Early July - Evaluation</p>

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
<b>Prevention – Avoiding/ Eliminating non-essential packaging</b>			
Does the packaging (all levels together) use the minimum amount of materials to maintain the necessary level of protection, safety, and hygiene for the product? Could any components/ layers of the packaging be eliminated, e.g. shrink wrap for multipacks?			
Do you have the capacity and resources to explore/ invest in the research and development of packaging-free initiatives (e.g. refilling vending machine)?			
// Add rows for other ideas applicable to your business in eliminating non-essential packaging //			
<b>Reduction – Redesigning packaging</b>			
Have you fully understood the packaging need of your customers so that opportunities for packaging reduction could be identified?			
Could you redesign traditional packaging and use thinner and lighter packaging materials?			
Could you explore the use of creative packaging (e.g. packaging with creative dimension design) or innovative technology (e.g. flexible film vacuum packaging) to enhance packaging recyclability and reduce the use of materials?			
// Add rows for other ideas applicable to your business in redesigning packaging //			
<b>Reduction – Using environmentally-friendly alternatives of packaging materials</b>			
Could you adopt recycled materials (e.g. recycled plastics) as packaging materials?			
Could you include a higher percentage of recycled content in your packaging?			
Are there any opportunities to use sustainable materials that have been certified as being from responsible sources, e.g. by the Forest Stewardship Council (FSC) or the Programme for the Endorsement of Forest Certification (PEFC)?			
Could you give priority to local suppliers when sourcing environmentally-friendly packaging materials so as to reduce carbon footprint along the supply chain?			
// Add rows for other ideas applicable to your business in using environmentally-friendly alternatives of packaging materials //			

Guiding Questions		Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
<b>Reduction – Green supply chain management</b>				
<b>Suppliers</b>				
Have you developed a green procurement policy which covers the packaging performance of packaging suppliers? For example, is there a procedure to specify the packaging material requirements jointly with the supplier?				
Could you conduct regular packaging audits on your suppliers to understand their performance on sustainable packaging and potential areas for improvement?				
Could you encourage your suppliers to seek third-party certification on the packaging materials used, so as to provide your customers with added assurance on the green packaging?				
Are there any opportunities to improve the packaging design (e.g. simplifying the design and using a higher percentage of recycled content and/or content with higher recyclability in primary and secondary packaging), or have steps been taken to reduce packaging waste to a minimum?				
// Add rows for other ideas applicable to your business in influencing suppliers on sustainable packaging //				
<b>Logistics service</b>				
Self-operated	Have you provided guidelines/ trainings to support your staff in implementing sustainable packaging strategies?			
	Have you established an internal task force to review packaging strategies regularly?			
	Have you identified any feasible ways for packaging reduction and management?			
Third-party service provider	Have you set tender specifications with sustainable packaging requirements for your third-party logistics service provider?			
	Have you provided guidelines to support/ oversee your third-party service provider in implementing sustainable packaging strategies?			
	Is the packaging consumption data available from your third-party logistics service provider for your internal monitoring?			
	Considering your previous answers, are there any opportunities to further engage with your third-party logistics service provider in packaging reduction and management?			
// Add rows for other ideas applicable to your business in managing logistics operations/ influencing your third-party logistics service provider on sustainable packaging //				
<b>Reuse – Using reusable packaging materials</b>				
Could you explore the feasibility of operating a closed-loop supply chain system?				
Could you adopt reusable packaging as far as practicable, e.g. metal containers?				
Could you incentivise your customers to choose refillable options and bring their own containers?				
Could you set up areas in your facilities to collect used but well-conditioned packaging for reuse purposes, e.g. metal containers, carton boxes, paperboards?				
// Add rows for other ideas applicable to your business in using reusable packaging materials //				

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
<b>Recycling and Recovery – Setting up recycling facilities</b>			
Could you set up recycling facilities to recycle used packaging (e.g. recycling points/ recycling bins/ recycling factory)?			
Could you upcycle packaging materials into useful products (e.g. remoulded plastic containers)?			
// Add rows for other ideas applicable to your business in establishing a collection system //			
<b>Tips on publicity and customer education</b>			
Could you provide more information on the recyclability and percentage of recycled content of the packaging for your products?			
Could you provide tips and guidance to customers on the proper handling of packaging materials generated, e.g. displaying at recycling bins?			
Could you incentivise your customers by offering rebates to encourage them on clean recycling?			
// Add rows for other ideas applicable to your business in raising public awareness, level of knowledge and motivation in package recycling //			
<b>B. Questions for Packaging Reporting</b>			
Guiding Questions	Y/ N/ NA	Who could provide you on this information?	Timeline/ targets/ progress update
<b>Note 1:</b> Refer to "Guidance for packaging reporting and management" for the non-exhaustive list of packaging materials and forms			
<b>Note 2:</b> All packaging being filled/ consumed 1) at factories, 2) at warehouse and distribution centres, and 3) for self-operated delivery operation, should be included in the reporting scope if available			
Could you identify the reporting period?			
Could you define the boundary and activities in your company related packaging reporting?			
Could you identify the packaging materials and forms that should be reported for the operation in your company?			
Are there any records of packaging quantity in storage at the beginning of the reporting period? (e.g. stock-taking record)			
Are there any purchase records of packaging during the reporting period? (e.g. receipt and delivery note)			
Are there any records of packaging quantity in storage at the end of the reporting period? (e.g. stock-taking record)			
Could you identify ways to obtain/ estimate the packaging materials used for each self-manufactured own brand product?			
Could you identify the company specific metrics for calculating the intensity of packaging material use? (e.g. units of product, production volume, monetary units such as revenue or sales)			
// Add rows for other ways you can identify the source of packaging consumption //			

### C. Checklist for Packaging and Packaging Waste Reduction Plan

Guiding Questions	Y/ N/ NA	Implementation details	Status/ achievements
<b><i>You have now identified several opportunities to reduce your packaging and packaging waste. You should develop an action plan and track your progress.</i></b>			
Could you identify any opportunities to reduce your packaging and packaging waste?			
Have you assessed the scope of your reduction plan (e.g. start with 3 product lines)?			
Have you set any time-bound goals/ targets on packaging consumption, the recycling rate of packaging waste or other packaging-related issues (e.g. 30% reduction of paperboards compared to the previous reporting period)?			
Have you planned any actions to achieve the abovementioned goals/ targets?			
Have you assigned roles and responsibilities to your team(s) for the abovementioned goals/ targets and actions?			
Have you developed any monitoring and evaluation mechanisms to track the progress?			
Have you set a regular interval to evaluate and modify your reduction plan if the progress is not satisfactory?			
<i>// Add rows for other opportunities you identified to reduce your packaging and packaging waste //</i>			