PRACTICAL GUIDES ON PACKAGING REDUCTION AND MANAGEMENT









LOGISTICS SECTOR

環境保護署
Environmental Protection Department

BUSINESS ENVIRONMENT COUNCIL
商界環保協會

Revision in July 2026

This is a blank page

Table of Contents

About this Guide 4
Glossary 9
Scope and Classifications of Packaging in Logistics Sector 10
Practical Tips for Achieving Sustainable Packaging 15
Frequently Asked Questions 43
Useful Resources 46

Appendix 1 – Summary Checklist on Practical Tips for Logistics Companies 48
Appendix 2 – Packaging Reporting Templates 50
Appendix 3 – A “Step-by-Step” Self-Assessment Tool to Sustainable Packaging Management 54

About this Guide



Image credit: taobaoguru



Image credit: Amazon

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 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: Freepik



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.

Germany	Requiring any party (including fulfilment service providers) who places packaged products on the market to pay a fee for the recycling of their packaging waste since 2019 through registering and buying a packaging license for the product.
Chinese Mainland	Issuing guidelines on the standardisation of express delivery green packaging in late 2020, which aims at speeding up the transformation of green packaging in the delivery industry from product design, material selection, and recycling to proper disposal.
China's Taiwan region	Imposing product packaging restrictions on packaging volume ratio; number of packaging layers; and types of packaging materials of designated products since 2005, for instance, the packaging layers of cosmetics, alcoholic beverages and processed food should be less than 2.
Singapore	Requiring producers of packaged products that are imported or used in Singapore to report yearly packaging data (including materials, weight and form of packaging) and to develop and implement 3R (reduce, reuse, recycle) plans for packaging. First report shall be submitted by 31 March 2022.

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 logistics industry. Proper packaging protects products from damage and facilitate handling of the products during storage and transit before arriving at the hands of end consumers. Nonetheless, there is a growing concern that the current approach on packaging being practised by the logistics sector is running contrary to the environmental principals that fails to

meet the expectation of consumers and the society. The use of excessive packaging, especially single-use plastics for envelopes, parcels, stretch film, and cushioning materials, is an industry-wide practice among logistics companies. Without due consideration on its impact on the supply chain ecosystem, **over-packaging has driven up packaging costs and created inefficiencies in the downstream supply chain.**

Driven by the rapid change of retail landscape and transformation of supply chain, the modern logistics flow is becoming much faster, more complex and on a larger scale, hence putting more pressure on the alarming need for packaging reduction. Unlike the traditional "brick-and-mortar" model which the supply chain is relatively distant from the general public, the problem of over-packaging in supply chain has drawn unprecedented attention in today's society. **Logistics companies should therefore have a better understanding of their clients/ partners' packaging needs and working on this basis with a view to adopting less and smarter packaging while giving the same degree of protection to products.** This can enhance the logistics efficiency and lower the operational cost of all parties.

As most products would have to go through the supply chain before reaching the hands of customers, logistics companies can play a key role in waste reduction in areas where the packaging work is done by the logistics companies themselves. It is very crucial for logistics companies to **reconsider the necessity of different packaging and avoid non-essential packaging, by optimising packaging design through planning 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.

In view of the complexity of the logistics operations, it is recognised that different supply chain functions/ operations are handled by a wide range of sub-sectors in the logistics industry, including courier companies, freight forwarders, third party logistics companies (3PL), postal service providers, port and cargo operators, etc. These companies should make reference to the tips which are relevant to their businesses.



Image credit: China Daily

How to use this guide?

- This guide provides practical tips to trade practitioners of the logistics 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 logistics 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.**

Glossary

- **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

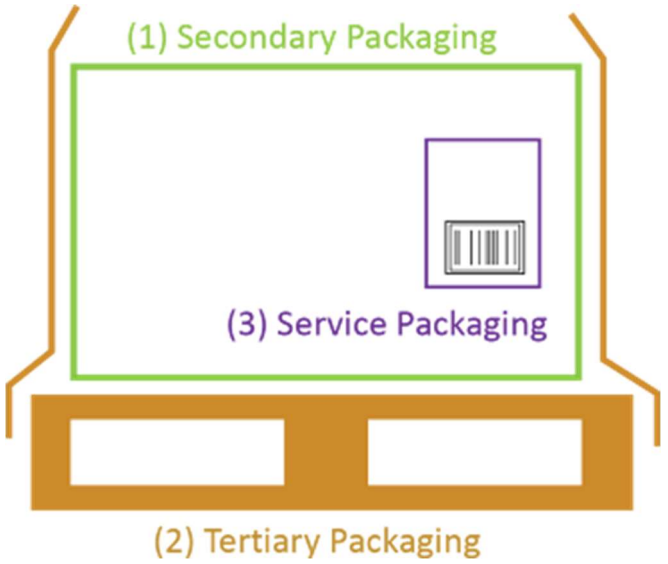
in Logistics Sector

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 logistics companies in Hong Kong. The packaging helps maintain the product quality and integrity and facilitates the handling of the product in an efficient manner. **Paper, wood, and plastics are the most commonly found packaging materials** being used by logistics companies during transportation and storage of goods as they are economical, light weighed, versatile, and protective in nature.

Before a product reaches the end consumer, packaging of different types may be applied to it for various purposes in the course of the logistics process, though not usually present at the point of sale in the eye of end consumer. These packaging generally include:

- **(1) secondary packaging** such as mailer boxes, corrugated boxes, etc.
- **(2) tertiary packaging** such as cardboard, wooden pallets, bubble wrap, plastic stretch film, cushioning material, box-sealing tape, woven bags, bundle straps, etc.
- **(3) service packaging** such as padded envelopes, plastic waybill pouches, etc.



While the aforementioned trade-specific packaging serves important functions from logistics 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 logistics 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 logistics industry:

/ paper

Logistics companies usually use or provide **corrugated paper boxes for packing of individual products** to facilitate storage, transportation and distribution. When the corrugated paper boxes could no longer be used or reused, they would usually be collected for recycling due to their high recycling value.

Example: Corrugated paper box

Ease of recycling: HIGH



Image credit: Freepik

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.** Logistics companies 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.

02

PE-HD

(High Density Polyethylene)

Example: Plastic pallet, plastic crate, stretch film

Ease of recycling: HIGH



Image credit: A&T Plastics

04

PE-LD

(Low Density Polyethylene)

Example: Plastic envelop, shrink film, bubble wrap

Ease of recycling: MEDIUM



Image credit: Binrush Stationery

05

PP

(Polypropylene)

Example: Bundle strap, storage box

Ease of recycling: MEDIUM



Image credit: Amazon

06

PS

(Polystyrene)

Example: Insulated foam container, cushioning material

Ease of recycling: LOW



Image credit: DACO Corporation

07

O

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

Example: Products made from polylactic acid plastic (PLA) and biodegradable plastic, etc.

Ease of recycling: LOW



Image credit: Ecolink

**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

Though not commonly used, metal containers are used for higher load capacity.

Example: Metal pallet box, pallet collar

Ease of recycling: HIGH



Image credit: Alibaba

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.

/ wood

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: Wooden pallet

Ease of recycling: HIGH



Image credit: Freepik

Opportunity for reuse

Wooden pallets 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 logistics industry, there are several types of **packaging items made from composite materials,** such as padded envelopes with bubble lining, envelopes composed of card cover and LDPE waybill bags, and waybills made of paper, carbon black and wax.

Example: Padded envelop, waybill

Ease of recycling: LOW

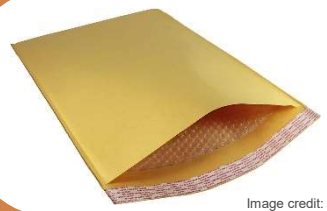


Image credit: Amazon

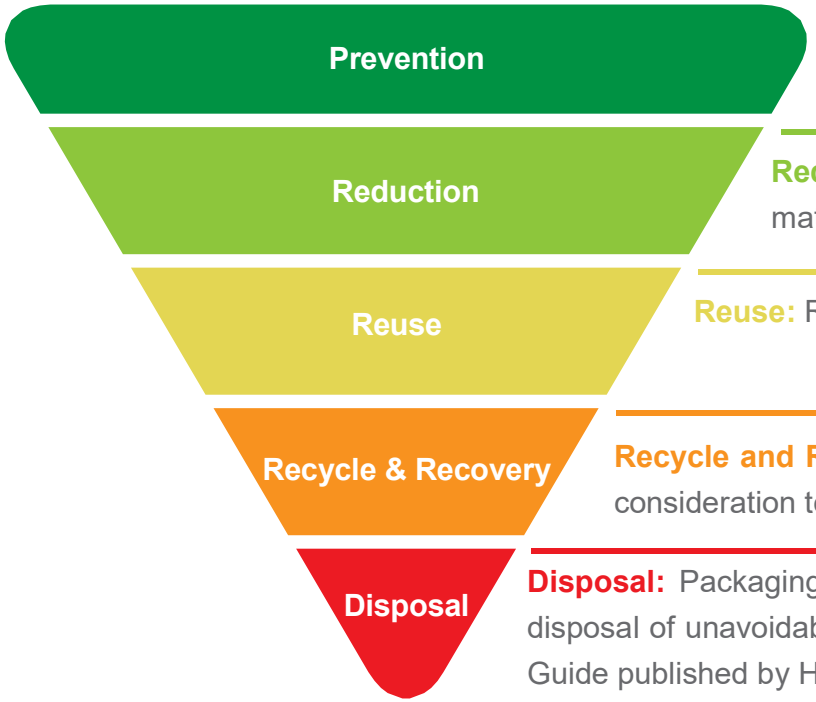
Environmental impacts

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.**



Prevention: Avoid the use of non-essential materials/ components where possible.

Reduction: Reduce the amount (e.g. size, thickness or weight) of packaging material used and adopt environmentally-friendly alternatives.

Reuse: Retain and reuse packaging materials whenever possible.

Recycle and Recovery: Encourage recycling of packaging, always with due consideration to reduce and reuse as well.

Disposal: Packaging report on reduce packaging consumption and proper disposal of unavoidable waste generated, and in line with the ESG Reporting Guide published by HKEX in December 2019.

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 logistics companies 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

While business-to-business (B2B) logistics generally exhibits a higher packaging/ pallet efficiency with a more careful planning for packaging optimisation, it is not unusual for one to experience receiving a large box containing just one or two small items with a lot of filling materials in the business-to-customer (B2C) and customer-to-customer (C2C) logistics of this flourishing era of e-commerce. This is not only a waste of our valuable materials, but may also lead to higher costs and reputational damage.

Therefore, logistics companies are suggested to **practise rightsizing and provide a wider range of sizes of packaging containers** to meet the diverse needs and expectations of retail and business customers. Internally, logistics companies should also step up in packaging optimisation. This could contribute directly to the minimisation of over-packaging such as the use of filling materials, if the box of right size is used. It is understandable that balancing operational efficiency and complexity at the lowest cost is still a common challenge. In face of this, the leading players who are more resourceful in the logistics industry are highly encouraged to **invest more resources in the research and development of data-driven solutions for packaging usage and effective warehouse management,** which is a growing trend in the industry to streamline operation flow and optimise packaging efficiency. When it comes to digitalisation and the use of technology to assist in packaging reduction, the exploration of wider application of electronic shipment documentation to reduce the use of physical waybill usage is also popular among the logistics industry.

/ logistics companies are suggested to practise rightsizing and provide a wider range of sizes of packaging containers



Image credit: FedEx


Image credit: DHL

In addition to preventing non-essential packaging at source, it is of equal importance to **avoid/ minimise the use of single-use plastic packaging materials** such as polystyrene (PS)/ expanded polystyrene (EPS) fillings, polyvinyl chloride (PVC) shrink film and composite plastics so as to increase the packaging recovery rate. Composite packaging, i.e. packaging of multiple materials that are inseparable such as padded envelopes and taped carton, should also be avoided as far as practicable since this could hinder recycling work. The next section highlights some of the practical options and alternatives that could promote the better use of resources.

Experience to learn

Chinese Mainland

- A major logistics company has optimised their size options of carton boxes and practised rightsizing with the aid of algorithms, enabling a reduction of approximately 15% of packaging materials.



Image credit: Cainiao

United States

- Several multinational logistics companies are using their own digital processing platform which enables customers to upload their international shipment documentation electronically, hence eliminating the need to print and physically attach them to the shipments.

Korea

- A major logistics company has implemented a smart packaging solution at its fulfilment centre. It automatically unfolds the box that is most suitable for the product size and bundle, measures empty spaces with the vision scanner, and inserts paper filling materials, thereby preventing excessive packaging.

Germany

- A multinational logistics company has adopted a package density optimisation tool which could maximise carton and pallet utilisation by more efficiently selecting and arranging packages based on size and weight. Similar tools have been deployed to help staff to optimise the stacking of parcels onto pallets and the arrangement of cargo in trucks, shipping containers, and airfreight unit load devices, hoping to improve safety, reduce costs and the use of dunnage materials.



Image credit: DHL

2 Reduction

(i) Redesigning packaging

Through redesigning packaging, logistics companies can minimise materials used, thus reducing resource consumption and packaging waste.

When it comes to redesigning packaging, **parameters including weight, dimension, thickness, volumetric efficiency, materials, etc. should be carefully considered.** Some might have the mis-conception that using more packaging material 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 requirement, the optimum amount of packaging allowed by the specification could be worked out and employed.

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

Apart from lowering the packaging to product weight ratio, reduction in packaging consumption and enhancement in packaging recyclability could be achieved through **innovative packaging design and procurement.** For example, a simple switch to a tape-free zipper box which is readily available in the market could also contribute significantly to the reduction of tapes and adhesives consumption, hence avoiding the generation of composite packaging waste.

Besides, some logistics companies are using QR codes or near field communication (NFC) tags with a unique identification in product packaging, which could deliver packaging information. As such, the use of paper could be reduced while providing clear recycling information, as well as enhancing users' experience at the same time.



Image credit: Yiside / CHNYIN.com



Image credit: MA Business Ltd

Several questions to be considered

- Have I fully understood the packaging need of my trading partners/ customers?
- Considering all the packaging options and comparing 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 reason that it has long been our operational practice/ habit, but possibly not always necessary?
- Could I use fewer packaging materials while maintaining its function, e.g. using single wall corrugated board instead of double or triple ones, without sacrificing the product protection?

Experience to learn

Chinese Mainland

- A multinational logistics company redesigned its express plastic bags. By reducing the thickness of the bags, the average weight of each bag was reduced by about 3 grams. They successfully reduced the use of plastic by over 4,500 tonnes in 2025.



Image credit: SF Express

United States

- A multinational logistics company provides package testing services to their business customers so as to minimise unnecessary material waste resulting from chronically damaged packaging. They also work closely with customers to meet their sustainability objectives through modifying their packaging designs. On the other hand, they optimise the packaging by making weight, size and content adjustments, e.g. thinner stretch film.

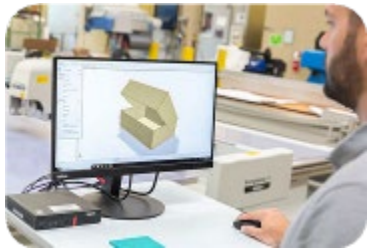


Image credit: Fedex



Image credit: Fedex

2 Reduction

(ii) Using environmentally-friendly alternatives of packaging materials

Logistics companies should always keep in mind that single-use plastics are not the only option available for packaging. Single-use plastic packaging **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 less greenhouse gas emissions. It is increasingly common around the world to include a certain proportion of recycled materials into packaging, such as stretch films/ pallet hood covers containing recycled plastics and paper cartons consisting of recycled fibres.

Apart from seeking to increase the content of recycled materials in packaging, priority should also be given to those recyclable packaging such as paper, polyethylene (PE) plastics, and polyethylene terephthalate (PET) plastics, if packaging is unavoidable. For instance, the use of honeycomb paper wrap is gaining popularity in comparison to traditional styrofoam padding and plastic bubble wrap. Not only can it be easily recycled, but the use of glue or tape can also be avoided owing to its honeycomb-like interlocking structure. Yet, it is certainly preferable to use wastepaper/recyclable materials as wrapping under the best circumstances.

When it comes to sourcing environmentally-friendly packaging materials, the procurement team should give priority to local suppliers so as to reduce carbon footprint along the supply chain. It is anticipated that the suggested initiatives may contribute to a slight increase in short-term costs at the early stage of green transformation. Nevertheless, this should largely be offset by stronger loyalty from eco-conscious trading partners/ customers and better operational performance in the long run where the extra costs incurred should be within an acceptable level.

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



Image credit: Alibaba



Image credit: IndiaMART

Experience to learn

Hong Kong China

- The government-owned post office prints their stamps on Forest Stewardship Council (FSC)-certified paper, which can be recycled easily. For instance, a set of products on the theme of “Green Living” issued in 2011, including stamps, stamp sheetlet, and first day cover, etc, were all printed on FSC-certified paper. In addition, local standing order and other places’ mail order customers could make stamp purchases via the online stamp ordering platform to reduce paper consumption.



Image credit: Hongkong Post

Chinese Mainland

- A multinational logistics company introduced new express bags made with 30% post-consumption recycled (PCR) plastics, with a target to achieve for 100% of its plastic bags containing recycled content by 2030.



Image credit: SF Express

United Kingdom

- An environmentally-friendly packing peanut made of non-EPS materials has been gaining popularity and is being used by a global cosmetics company to keep their products secure against impact during transportation.


Image credit: Lush

Korea

- A major logistics company has adopted an innovative design for their carton boxes, which is named the “One-touch box”. The box can reduce tape use by 50% as its bottom part requires no tape usage. They have also changed all their filling materials and tape to paper materials to enhance recyclability.


Image credit: CJ Logistics


Image credit: CJ Logistics

United States

- The adhesive on postal service stamps of a federal-managed postal service company is a special recycling compatible adhesive that allows stamps affixed to letters to be recycled with other paper products.
- Several multinational logistics companies purchase paper and cardboard from suppliers with sustainable forestry certification.

2 Reduction

(iii) Green supply chain management

Logistics companies should recognise the complexity of the packaging ecosystem, where a packaging may come into the hands of different stakeholders along its lifecycle, including designers, material suppliers, product/ brand manufacturers, importers, logistics service providers, third-party logistics service providers, retailers, and end customers. Yet, these stakeholders do not usually share the same set of vision, need, and priority. For instance, brand owners may concern about product protection and costs the most, while logistics service providers would put more focus on the easy handling and storage of products. However, end customers may look for the environmental friendliness of the packaging. Nonetheless, packaging design and specification decisions may usually be made by a small group of stakeholders, without adequate consideration of the expectations further downstream. Therefore, maintaining close dialogue with importers/ trading partners/ customers to understand their expectations is required to address the potential conflicting interests in the packaging ecosystem effectively. Ideally, **the logistics sector should collaboratively explore solutions with suppliers (including importers) in minimising packaging materials** without compromising the required level of protection in handling and shipping processes. The Logistics sector should also provide their customers with the information regarding whether the packaging of the products complies with the green packaging or eco labeling requirements of their places of origin. By doing so, meaningful packaging reduction and management could be achieved in the long run.

/ the logistics sector should collaboratively explore solutions with suppliers (including importers) in minimising packaging materials

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

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

- ☑ Logistics service
- ☑ Warehouse
- ☑ Distribution centre
- ☑ Processing centre

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

- ☑ Logistics service
- ☑ Warehouse
- ☑ Distribution centre
- ☑ Processing centre

Experience to learn

Hong Kong China

- A well-established logistics company offers sustainability solutions to their customers including recycled materials reporting and carbon analysis service for transportation of materials to strengthen collaborated efforts.
- A major port operator conducted a series of waste audits to evaluate the composition and quantities of waste inside their tenant area with a view to fostering dialogues with their tenants to promulgate packaging reduction and recycling efforts. They have also set up a waste monitoring system at refuse collection points to record and review the weight of refuse generated by their tenants.



Image credit: Waste audit conducted by Modern Terminal Limited

Chinese Mainland

- A major logistics company has launched a strategic project in which their partners along the supply chain are engaged to explore solutions for green supply chain collectively. Packaging design competitions, for instance, have been organised to brainstorm creative ideas regarding packaging reduction and circularity, in hope of expedite the green transformation in the packaging ecosystem.



Image credit: JD Logistics (Chinese only)

United States

- A multinational logistics company conducts quarterly audits of packaging suppliers to ensure branded packaging meets all specifications and guidelines.
- A federal managed postal service company provides free service for large business customers to measure and manage carbon impacts along their supply chains via their carbon accounting service. The system calculates their shipping or mailing items' greenhouse gas emissions based on their characteristics, such as product type, size, weight, processing activity, distribution and transportation.

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 short-lived plastics or cardboard packaging to durable, multi-trip packaging (e.g. collapsible plastic totes), which is a part and parcel of a **closed-loop supply chain system** (also known as reverse logistics). Once the packaging has been shipped and distributed to a receiver, the logistics company should develop a return system to encourage receivers to return the packaging for reuse once it is no longer needed by the receivers.

There are a few common approaches when it comes to reverse logistics as summarised in Table 2 below.

/ logistics industry is on the shift from using short-lived plastics or cardboard packaging to durable, multi-trip packaging

Table: 2
Commonly adopted reverse logistics channels

Reverse logistics channels	Mode of operation
1. Direct pickup from trading partners/ customer locations	e.g. pickup of returned packaging right after delivery to the door
2. Scheduled pickup from trading partners/ customer locations	e.g. pickup of returned packaging by appointment
3. Trading partners/ customers drop off directly at collection points	e.g. drop off at collection service centre/ service locker of the logistics company

By working towards creating a “closed-loop” supply chain, **the value of resources could be maximised and less waste would be generated.** While there are certainly challenges when compared to the traditional logistics models, logistics companies are strongly encouraged to get prepared as soon as possible for the good of the industry and the environment. More resourceful logistics companies should explore the feasibility proactively through research and development as well as experience sharing with their peers. Trial programmes, especially for those trading partners/ customers with subscription or repeated services, could be explored and launched to help facilitate the design of reverse logistics systems and the management of reusable packaging operations.

Table 3:
A summary of considerations for a closed-loop supply chain system

- ☑ Environmental and economic cost factors
- ☑ Comparison of reusable against single-use packaging
- ☑ Ownership and responsibility
- ☑ Inventory management
- ☑ Routing and scheduling for reusable packaging collection
- ☑ Purchasing/ leasing, pooling, cleaning, and repairing (Quality of packaging material)
- ☑ Deposit scheme/ Discount to incentivise end customers/ Penalty
- ☑ Performance measurement

While it would take some time to develop a closed-loop supply chain system, **logistics companies are encouraged to adopt reusable packaging in parallel to achieve cost-effective and lean supply chain operation.** For example, logistics companies may consider first using reusable alternatives to plastic film such as pallet lid-and-strap systems and durable nets with hooks. Apart from these, logistics companies may refer to Table 4 below for commonly reusable packaging items and consider their application to their operations.

Table 4:
List of commonly reusable items

☑ Carton box (whenever possible before recycling)  Image credit: Freepik	☑ Padding and filling material  Image credit: Freepik
☑ Plastic container box  Image credit: Tai Hing Cheung	☑ Pallet straps  Image credit: The Cary Company
☑ Transport cage   Image credit: Better Storage	☑ Pallet net  Image credit: Maxpack
☑ Wooden and plastic pallet   Image credit: Freepik	

Experience to learn

Hong Kong China

- A well-established logistics company has been working to replace carton boxes and wood pallets with more durable materials, such as logistics carts, plastic boxes, and plastic pallets.
- A well-established logistics company reuses inbound paper cartons and filling materials for different operational purposes internally. They also provide consultancy services by co-creating sustainable solutions with customers on reusing and recycling packaging materials such as polybags, paper cartons, and filling materials.
- The government-owned post office uses reusable rack and trolley on handling, transfer and delivery of bulk mail items.


Image credit: CN Logistics


Image credit: Hongkong Post

Chinese Mainland

- A multinational logistics company has introduced several types of reusable packaging, including reusable woven bags, medical temperature-controlled boxes, reusable express boxes, etc. In 2025, the company has cumulatively achieved over 1.6 billion reuse cycles for its packaging, effectively reducing carbon emissions along the transportation chain.
- As part of the strategic project of a major logistics company which aims to entrench sustainability into their supply chain, they have introduced the use of reusable delivery boxes across 30+ cities in the Chinese Mainland, with over 16 million accumulated uses in 3 years.



Image credit: SF Express



Image credit: JD Logistics

Experience to learn

Chinese Mainland (cont'd)

- A major logistics company has invested in 1 million reusable bags equipped with Radio Frequency Identification (RFID) to reduce the use of traditional woven bags in the transit network. These traceable bags are more durable than the traditional ones and could be used over 100 times.


Image credit: ZTO Express

Germany

- A multinational logistics company has introduced a reusable and recyclable solution for pallet transportation, which durable pallet nets with hooks are applied to hold goods on the pallet to reduce the use of plastic film.

United States

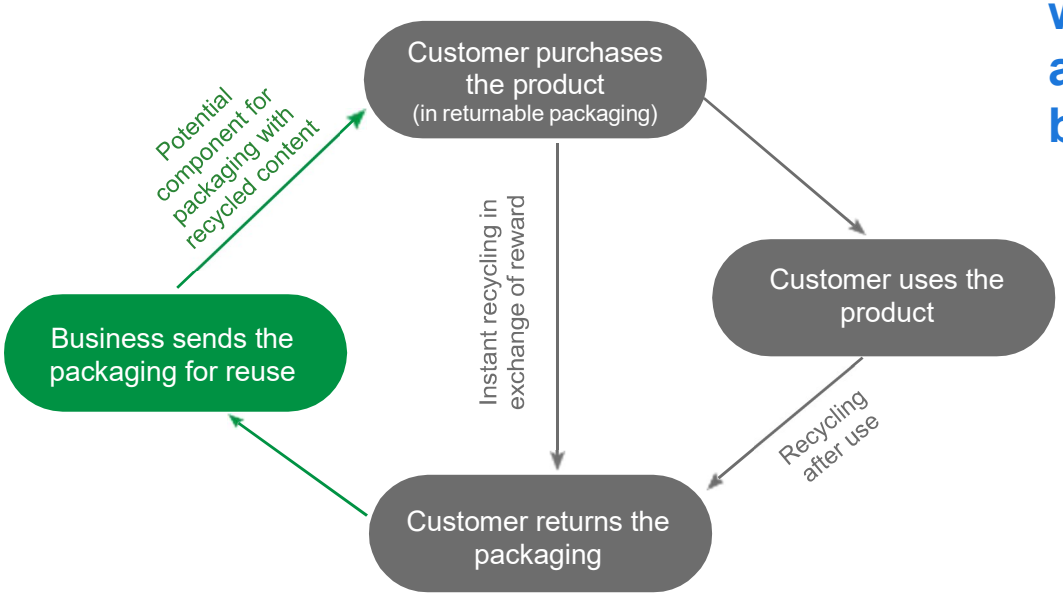
- Several multinational logistics companies offer reusable envelope/ pack which includes two adhesive sealing strips. The recipient can use the second strip to seal the package again and reuse it for a second trip.
- A multinational logistics company has eliminated the core on stretch film and replaced it with a reusable core at selected locations, which saves roughly 800,000 cardboard cores each year. Apart from that, they are also working with a supplier to implement a reusable modular crate which can be configured to accommodate high value item of different sizes to replace single-use packaging.
- A multinational logistics company has established programmes to reuse wooden pallets in their select European operations. The wooden pallets would then be recycled until they can no longer be repaired or used.



Image credit: Fedex

4 Recycling and Recovery
Setting up recycling facilities

While recycling facilities are quite popular across the territory, it is relatively uncommon to find one in the service centre of a logistics company. **Setting up suitable recycling facilities is a good way to draw sustainability awareness and bring circular economy into the business practice directly in collaboration with the customers.** Not only could customers be given the opportunities to recycle their unwanted packaging materials at the collection point instantly, but regular customers could also be encouraged to bring their recyclable packaging from their homes to the collection points or service centres for reuse and recycling. In fact, by setting up suitable recycling facilities in service centres, business can improve brand loyalty and demonstrate its commitment to environmental protection.



For port and cargo operators, setting up recycling facilities in their venues is particularly important since a considerable amount of packaging waste is usually generated from the daily operations. Port operators should also assist in the recycling of dunnage as far as possible, if it cannot be reused. To further encourage their tenants/ users on packaging reduction and recycling, port and cargo operators may further explore the arrangement of back charging on packaging waste disposal.

/ setting up recycling facilities is a good way to draw sustainability awareness and bring circular economy into the business practice

Experience to learn

Hong Kong China

- A well-established logistics company has collaborated with their global luxury retail customers to recycle materials such as hangers, plastics, paper products and waste garments. They also set up recycling boxes to collect inbound paper cartons and fillings for second life and further usage while ensuring the protection of customers' sensitive information at all times.
- A logistic company partners with a local integrated environmental service company has offered to-door pickup and delivery services of recyclables (e.g. plastic and glass bottles) with booking via the mobile application, thus expanding the geographical coverage and efficiency of the recycling service.
- A major port operator provides recycling facilities in its tenant area for customers to recycle packaging materials such as cling wrap and carton boxes.
- The government-owned post office recycled over 380 tons of wooden pallets used by bulk mailers internally from 2021 to 2022.


Image credit: CN Logistics



Image credit: Modern Terminals Limited (Chinese only)


Image credit: Zeek

Experience to learn

Chinese Mainland

- A major logistics company has teamed up with their peers and downstream express-courier partners to unify their efforts on recycling. They took the pledge to set up 50,000 recycling stations nationwide for unwanted cardboard boxes, anticipating recycling of over 100 million boxes annually.



Image credit: Cainiao Network

United States

- A multinational logistics company provides paper shredding and recycling service which allows customers to bring any documents to their offices for shredding securely and confidentially and then recycling.
- A federal managed postal service company provides recycling bins at many of their post offices for customers to discard the mail for recycling. They have also begun sending undeliverable marketing mail to their partners to upcycle the recycled paper into home insulation material since 2020.



Image credit: USPS

With reference to the waste management hierarchy, apart from the above experience to learn, the following example also shows how logistics companies 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: top-obaly.cz

Prevention:

- Could you practise rightsizing and providing a wider range of sizes of carton boxes?
- Could you consider not to use polystyrene (PS)/ expanded polystyrene (EPS) fillings?

Reuse, Recycle and Recovery:

- Could you set up recycling facilities to collect used paper cartons and fillings from customers for reuse/ recycling?
- Could you use packaging with on-pack recycling labels or add on-pack recycling labels to encourage customers to recycle?

Reduction:

- Could you reduce the use of virgin materials through redesigning packaging (e.g. carefully considering the parameters of the packaging)?
- Could you reduce the number of padding and filling material?
- Have you checked to see whether it is possible to include recycled content in the packaging (e.g. carton box)?

5 Guidance for Packaging Reporting and Management

While it is anticipated that the sustainable packaging initiatives suggested in previous chapters would help logistics companies in identifying existing gap 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 logistics companies 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 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. service centres, warehouses, 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 trading partners/ customers to 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.

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



Packaging sold/ consumed at service centres

(e.g. own brand envelopes, padded envelopes, mailer boxes, cushioning materials, box-sealing tapes)



Image credit: THIMM

Packaging filled at reception points of goods

(e.g. stretch film, plastic envelopes, box-sealing tapes, waybill)



Image credit: SABIC

Packaging consumed at warehouses/ distribution centres/ processing centres

(e.g. carton boxes, wooden pallets, shrink film, woven bags)



Image credit: Freepik.com

Scenario of reporting scope

Import services:

Company A is a third-party logistics service provider of an international perfume brand. Company A handles the import of perfumes from other places and distributes them to the retailers in Hong Kong China. The perfumes arrive at Company A's warehouse with their original product packaging, with added tertiary packaging such as wooden crates and cushioning materials, during the handling and transfer in other places. Company A then unpacks the shipment and performs sorting, and subsequently re-pack the perfume for local distribution. Tertiary packaging such as carton boxes, stretch film have been added by Company A, while the cushioning materials have been reused, which are remained intact in the international shipment.

For Company A, they should report the quantity/ weight of the carton boxes and stretch film that they used in Hong Kong China, while the tertiary packaging such as wooden crates and cushioning materials from other places will not be counted. Since the cushioning materials from other places are being reused in Hong Kong China, Company A is not required to report them even though they are used in Hong Kong China's operation.

Local and export services:

Company B is a courier company with service centres in Hong Kong China. Besides receiving inbound shipping, Company B also provides local and other places' courier services to retail customers. A customer can bring in its goods to a service centre and purchase mailer boxes, box-sealing tape, and plastic envelopes from Company B. Waybill stickers will then be added and the package will be transferred to their distribution centres for further sorting and processing. Tertiary packaging such as woven bags and bundle strap might be added before shipping to local or other places' recipient.

For Company B, they should report the quantity/ weight of the mailer boxes, box-sealing tape, and plastic envelopes that they sold to customers, as well as the tertiary packaging added before shipping. Whichever packaging being added after receiving the goods from customers should also be counted, no matter whether the items are shipped to local or other places' recipients.

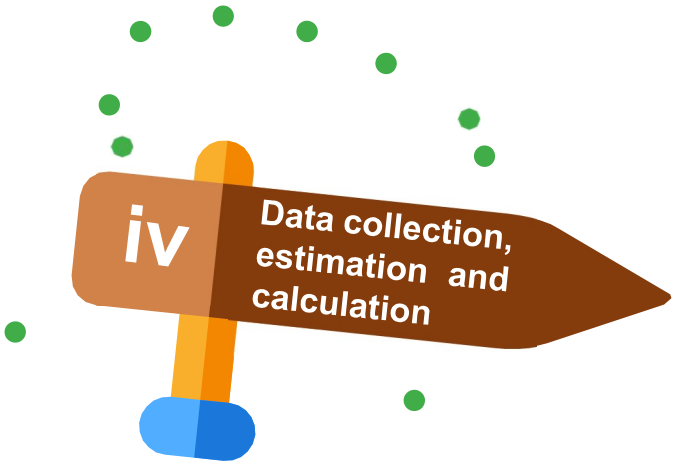
iii



Packaging is ubiquitous in logistics 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 5.

Table 5:
Commonly found packaging material and forms

Paper/ cardboard	• Carton boxes • Mailer boxes	• Cardboard • Other paper packaging
Plastics	• Carrier bags • Polybags • Labels/ stickers (e.g. waybill sticker) • Tote boxes • Plastic envelopes • Plastic pallets • Bundle strap • Stretch film • Shrink film • Vacuum packs	• Shrink hoods • Packing peanuts • Bubble wraps • Air column cushion bags • Foam sheets • Polystyrene (PS)/ EPS foams • Box-sealing tapes • Woven bags • Other plastic packaging
Metals	• Metal pallet boxes • Pallet collars	• Other metal packaging
Wood	• Wood pallets • Crates	• Other wood packaging
Composite	• Padded envelopes • Envelopes with waybill bag	• Waybill • Other composite packaging



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. It is recognised that different supply chain functions are handled by a wide range of sectors in the logistics industry, including courier companies, freight forwarders, third party logistics companies, postal service providers, port, cargo operators, etc. As such, these companies may adopt one of the following suggested approaches whichever best fits the nature of their businesses or both where required. Approach 1 is anticipated to be universal across all packaging-consuming logistics companies, whereas Approach 2 should also be adopted at the same time if packaging 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
A	Quantity of each type of packaging materials/ forms at the beginning of the reporting period	Stock-taking exercise, inventory report, etc.
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.
C	Quantity of each type of packaging materials/ forms remained at the end of the reporting period	Stock-taking exercise, inventory report, etc.

[Total consumption amount of each type of packaging materials/ forms = A + B - C]

2 Approach 2: Data obtained from sales of packaging for various consumption

- Calculate the average weight of packaging per stock keeping unit (SKU) then multiply by the total number of packaging 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: Sales of postal supplies at Service Centre A



Packaging material	*Packaging form**	*Weight of the packaging (g)*	*Number of packaging sold during the reporting period*	*Total quantity of packaging consumed (kg)*
		(A)	*(B)*	*(C) = (A) x (B) / 1,000*
Plastics	e.g. Plastic envelope (Envelope A)	5	10,000	50
	e.g. Plastic envelope (Envelope B)	7	10,000	70
	e.g. Box-sealing tape (48 mm x 100 m)	200	10,000	2,000
			Sub-total	2,120
Paper	e.g. Mailer box (Box A)	100	10,000	1,000
	e.g. Mailer box (Box B)	150	10,000	1,500
			Sub-total	2,500

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

- 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 materials used during the reporting period or the intensity of packaging materials use[note].

  Breakdown of packaging materials consumed by type (e.g. plastics, paper, 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 recycled if they are made from single material. However, some customers are not used to recycling while others do not know the correct way to do so. Logistics companies are suggested to **use packaging with on-pack recycling labels** to give customers clear illustration on the correct way of recycling. The on-pack recycling labels should be as informative and as clear as possible. Providing tips and guidance to customers on the proper handling of common packaging materials generated during the postal activities is a measure that aims to raise the public awareness, level of knowledge and motivation in package recycling.

Logistics companies can adopt different ways to convey such information, for instance at service centres, via mobile applications, or social media. In addition, **guidelines on green packaging should be affixed at the service centres of courier companies and postal service providers** to educate the customers on lean packaging and cost saving by avoiding purchasing non-essential packaging materials.

/ logistics companies are suggested to use packaging with on-pack recycling labels



Image credit: Creative Commons Attribution



Image credit: Pintertest

Experience to learn

Hong Kong China

- A government-owned post office provides green tips on its website page – “Packing properly. Pack green.” Practical recommendations are given on ways to avoid over-packaging, such as by using old newspapers as filling materials and reducing the use of adhesive tape.

United States

- A federal managed postal service company has partnered with a non-profit organisation to adopt a labelling system that helps customers to learn how to properly recycle. They also provide practical tips and ideas on its website page – “You can help” to encourage customers to reuse and recycle their mail.



Image credit: United States Postal Service



Image credit: How2Recycle

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, customers 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 scope of operations at different venues (e.g. service centre, point-of-receipt of goods, warehouse, distribution centre, processing centre, etc.) and identify the packaging materials consumed by their companies for reporting, including secondary packaging (e.g. mailer boxes, corrugated boxes, etc.), tertiary packaging (e.g. cardboard, wooden pallets, etc.) and service packaging (e.g. padded envelopes, plastic waybill pouches, etc.) 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 sold/ consumed at service centres, 2) Packaging filled at reception points of goods, 3) Packaging consumed at warehouses/ distribution centres/ processing centres and 4) any other places relevant to the operations of the companies.

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 logistics industry for implementing practicable measures to promote and encourage reducing the use of plastic packaging materials. Think big, start small!

Q7 The original packaging materials of the goods of our trading partners/ customers are out of our control, what could we do?

Businesses are suggested communicating with their trading partners/ customers and collectively explore solutions for minimising use of packaging materials while maintaining the necessary level of protection for handling and shipping. On-site assistance and advice on packaging optimisation could also be provided to their retail customers.

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 at their working centres 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

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

Other Places

- **Guidance for the compilation and reporting of data on packaging and packaging waste – European Commission**
  https://apambiente.pt/sites/default/files/_Residuos/FluxosEspecificosResiduos/ERE/Guidance_for_the_compilation_and_reporting_of_data_on_packaging.pdf

- **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

- **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

- **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

Other Places

- **A Guide to Evolving Packaging Design – Waste & Resources Action Programme**
  https://www.proseworks.co.uk/Downloads/Wrap-design-guidance.pdf
- **A review of factors affecting closed-loop supply chain models – Ehsan Shekarian**
  https://www.sciencedirect.com/science/article/pii/S0959652619346931
- **Design Guidelines for Sustainable Packaging – Sustainable Packaging Coalition**
  https://s3.amazonaws.com/gb.assets/SPC+DG_1-8-07_FINAL.pdf
- **German Packaging Act (VerpackG) – German Federal Environment Agency**
  https://verpackungsgesetz-info.de/en/
- **Joint Guidelines on the Standardisation of Express Delivery Green Packaging – The State Administration for Market Regulation of the People's Republic of China (Chinese version only)**
  http://www.gov.cn/zhengce/zhengceku/2020-08/09/content_5533459.htm
- **Packaging Partnership Programme (with packaging benchmarks) – National Environment Agency of Singapore**
  https://www.nea.gov.sg/programmes-grants/schemes/singapore-packaging-agreement
- **Rethinking Packaging – A DHL perspective on the future of packaging in the logistics industry – DHL Customer Solutions & Innovation**
  https://www.dhl.com/content/dam/dhl/global/core/documents/pdf/glo-core-rethinking-packaging-trend-report.pdf
- **Reusable packaging in supply chains: A review of environmental and economic impacts, logistics system designs, and operations management – Monireh Mahmoudi & Irandokht Parviziomran**
  https://www.researchgate.net/publication/339792047_Reusable_packaging_in_supply_chains_A_review_of_environmental_and_economic_impacts_logistics_system_designs_and_operations_management
- **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 Logistics Companies

The following is a quick start of key practical tips for the logistics 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 Logistics Companies				
Practical Tips		Yes	No	Follow-up Actions if the answer is "No"
Prevention				
1.	Practising rightsizing and providing a wider range of sizes of packaging containers to your staff, retail customers and business customers.			
2.	Exploring/ investing in the research and development of data-driven solutions to optimise packaging efficiency.			
3.	Exploring/ investing in the wider application of electronic shipment documentation.			
4.	Avoiding the use of single-use plastic packaging materials (e.g. EPS fillings, PVC shrink film, composite plastics, etc.).			
5.	Avoiding the use of packaging of multiple materials that are inseparable (e.g. padded envelopes, taped carton).			
Reduction				
6.	Redesigning traditional packaging and using thinner and lighter packaging materials with adequate stress tests.			
7.	Exploring the use of creative packaging (e.g. tape-free zipper boxes)/ innovative technology to enhance packaging recyclability and reduce the use of materials.			
8.	Replacing single-use packaging with alternatives containing recycled content.			
9.	Replacing hard-to-recycle packaging with recyclable packaging (e.g. paper, PE plastics, PET plastics) if the packaging is unavoidable.			
10.	Maintaining close dialogue with packaging manufacturers/ trading partners/ customers to simplify the packaging design.			

Summary Checklist on Practical Tips for Logistics Companies

	Practical Tips	Yes	No	Follow-up Actions if the answer is "No"
	Reuse			
11.	Exploring the feasibility of operating a closed-loop supply chain system via research and development and trial programme, etc.			
12.	Setting up areas to collect used but well-conditioned packaging for reuse purposes (e.g. carton boxes, filling materials).			
13.	Adopting reusable packaging as far as practicable (e.g., plastic container boxes, plastic pallets, pallet straps).			
	Recycling and Recovery			
14.	Setting up recycling facilities in backend operation areas and service centres to recycle unwanted packaging (e.g. recycling bins, recycling cages).			
15.	Arranging regular material collection services for different recyclables.			
	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 the companies' ESG/ Sustainability/ Annual Report.			
	Publicity and Customer Education			
18.	Using packaging with on-pack recycling labels to facilitate recycling by end customers.			
19.	Providing tips and guidance to customers on the proper handling of packaging materials generated (e.g. at service centres, via mobile applications).			
20.	Affixing guidelines on green packaging at the service centres to educate the customers on lean packaging and cost saving.			

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. Logistics companies, therefore, should support recycling of various packaging materials with a view to encouraging their staff, trading partners and consumers 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. Stretch film*	*40*	*60*	*20*	*made of HDPE*	*80*
	e.g. Box-sealing tape					
	e.g. Sticker					
					Sub-total	
Paper						
					Sub-total	
Metal						
					Sub-total	

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)*
Wood						
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 packaging for various consumption

Packaging material	*Packaging form**	*Weight of the packaging (g)*	*Number of packaging sold during the reporting period*	*Total quantity of packaging consumed (kg)*
		(A)	*(B)*	*(C) = (A) x (B) / 1,000*
Plastics	*e.g. Plastic envelope (Envelope A)*	*5*	*10,000*	*50*
	e.g. Plastic envelope (Envelope B)	*7*	*10,000*	*70*
	e.g. Box-sealing tape (48 mm x 100 m)	*200*	*10,000*	*2,000*
			Sub-total	*2,120*
Paper	*e.g. Mailer box (Box A)*	*100*	*10,000*	*1,000*
	e.g. Mailer box (Box B)	*150*	*10,000*	*1,500*
			Sub-total	*2,500*
Metal				
			Sub-total	
Wood				
			Sub-total	

Packaging material	*Packaging form**	*Weight of the packaging (g)*	*Number of packaging sold during the reporting period*	*Total quantity of packaging consumed (kg)*
		(A)	*(B)*	*(C) = (A) x (B) / 1,000*
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

Appendix 3 – A "Step-by-Step" Self-Assessment Tool to Sustainable Packaging Management

The following self-assessment tool helps trade practitioners in the logistics 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			
Step 1: Review your current packaging and practices against the below guiding questions.			
Step 2: Check if they are relevant to your business and packaging? Consider if there are any additional questions you would like to include.			
Step 3: Consider which responsible parties (e.g. within your business or supply chain) could provide the information to complete your packaging reviews.			
Step 4: Consider if better improvement opportunities are available, or could be further explored.			
Step 5: 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**
Sample Question **Does the current mix of packaging containers sufficient to offer wider choices for your staff, merchants, and 3PL service providers to practise rightsizing?**	**Yes**	**Company Procurement Manager**	**1. Early April - To consult Operation Manager and frontline staff on the suitability of the packaging container** **2. Early April - To review on the suitable sizes and search for suppliers offering environmentally-sound products** **3. Late April - To provide briefing/ guidelines to frontline staff by Operation Manager and Sustainability Manager on sustainable packing strategies** **4. Early May - Implementation** **5. Early June - Evaluation**
Prevention - Avoiding/ Eliminating non-essential packaging			
Does the current mix of packaging containers sufficient to offer wider choices for your staff, merchants, and 3PL service providers to practise rightsizing?			

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
Do you have the capacity and resource to explore/ invest in the research and development of data-driven solutions to optimise packaging efficiency? To what extent a data-driven logistics operation could save your costs in the long run?			
Do you have the capacity and resources to explore/ invest in the wider application of electronic shipment documentation which is a popular way to reduce packaging generation?			
Could you avoid the use of single-use plastic packaging materials, e.g. EPS fillings, PVC shrink film, composite plastics, etc.?			
Could you avoid the use of packaging of multiple materials that are inseparable, e.g. padded envelopes, taped carton?			
// Add rows for other ideas applicable to your business in eliminating non-essential packaging //			
Reduction - Redesigning packaging			
Have you fully understood the packaging need of your trading partners/ customers so that opportunities for packaging reduction could be identified?			
Could you redesign traditional packaging and use thinner and lighter packaging materials? Have you conducted adequate stress tests to ensure product safety is maintained with just-enough packaging?			
Could you explore the use of creative packaging (e.g. tape-free zipper boxes)/ innovative technology to enhance packaging recyclability and reduce the use of materials?			
// Add rows for other ideas applicable to your business in redesigning packaging //			
Reduction - Using environmentally-friendly alternatives of packaging materials			
Could you eliminate the use of hard-to-recycle packaging, e.g. styrofoam padding?			
Could you adopt relatively easy-to-recycle packaging (e.g. paper, PE plastics, PET plastics) for unavoidable packaging?			
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
Reduction - Green supply chain management				
Packaging manufacturers/ Trading partners/ Customers				
Have you maintained close dialogue with your stakeholders on optimising packaging design and specification? For example, is there a procedure to specify the packaging material requirements jointly with packaging manufacturers/ trading partners/ customers?				
Could you partner with global brand partners (e.g. fast-moving consumer goods) on sustainable logistics packaging initiatives to demonstrate collaborative efforts?				
// Add rows for other ideas applicable to your business in influencing packaging manufacturers/ trading partners/ customers on sustainable packaging //				
Logistics service/ Warehouse/ Distribution centre/ Processing centre				
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 the 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 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 service provider for your internal monitoring?			
	Considering your previous answers, are there any opportunities to further engage with your third-party service provider in packaging reduction and management?			
// Add rows for other ideas applicable to your business in managing warehouses/ influencing your warehouse operators on sustainable packaging //				
Reuse - Using reusable packaging materials				
Could you explore the feasibility of operating a closed-loop supply chain system?				
Do you have the capacity and resources to invest in the research and development of a closed-loop supply chain system? Could this be adopted in phases, e.g. launching trial programme with your trading partners/ customers with subscription or repeated services for gradual full function?				
Could you organise experience sharing activities with your peers on operating a closed-loop supply system if you are the more resourceful logistics company so as to facilitate the advancement of your industry?				

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
Could you set up areas in your facilities to collect used but well-conditioned packaging for reuse purposes, e.g. carton boxes, filling materials?			
Could you adopt reusable packaging as far as practicable, e.g. plastic container boxes, plastic pallets, pallet straps?			
// Add rows for other ideas applicable to your business in using reusable packaging materials //			
Recycling and Recovery - Setting up recycling facilities			
Could you set up recycling facilities in backend operation areas and service centres to recycle unwanted packaging, e.g. recycling bins, recycling cages?			
Could you start installing recycling facilities in new service centres first and progressively extend to existing service centres?			
// Add rows for other ideas applicable to your business in establishing a collection system //			
Tips on publicity and customer education			
Could you use packaging with on-pack recycling labels to facilitate recycling by end customers?			
Could you provide tips and guidance to customers on the proper handling of packaging materials generated, e.g. at service centres, via mobile applications, or social media?			
Could you affix guidelines on green packaging at the service centres to educate the customers on lean packaging and cost saving?			
// Add rows for other ideas applicable to your business in raising public awareness, level of knowledge and motivation in package recycling //			

B. Questions for Packaging Reporting

Guiding Questions	Y/ N/ NA	Who could provide you on this information?	Timeline/ targets/ progress update
Note 1: *Refer to "Guidance for packaging reporting and management" for the non-exhaustive list of packaging materials and forms* ***Note 2:*** *All packaging being 1) sold/ consumed at service centres, 2) filled at reception points of goods, 3) consumed at warehouses/ distribution centres/ processing centres, 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?			

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
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 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
You have now identified several opportunities to reduce your packaging and packaging waste. You should develop an action plan and track your progress.			
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 5 selected clients)?			
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 adhesive tape consumption 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?			
// Add rows for other opportunities you identified to reduce your packaging and packaging waste //			