

PRACTICAL GUIDES ON PACKAGING REDUCTION AND MANAGEMENT

E-COMMERCE SECTOR

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About this Guide

Image credit: First Atlantic Commerce



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

Image credit: PACKAGINGREVOLUTION.NET



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 e-commerce companies) 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 e-commerce industry from product design, material selection, and recycling to proper disposal. This is to echo with the E-commerce Law promulgated in late 2018 which emphasises on packaging reduction and recovery.
China's Taiwan region	Issuing The Online Shopping Packaging Reduction Guidelines in late 2019 with a three-step packaging reduction plan and time-bound targets set on packaging reduction, use of recyclable packaging materials and packaging recycling and circularity. For online shopping platforms which comply with the principles listed in the guidelines, they will be certified with a packaging reduction label.
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 e-commerce 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 growing concern that the current approach on packaging being practiced by the e-commerce 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 mailers, polybags, and cushioning materials, is an industry-wide practice among e-commerce 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.**

The e-commerce industry has been experiencing steady growth over the years. Compounded by the changes brought by the COVID-19 pandemic which have accelerated the growth of online sales, there is an alarming need for packaging reduction under this “new normal”. Unlike the traditional “brick-and-mortar” model which end customers would seldom be required to handle the extra packaging added to the items, the problem of over-packaging in the e-commerce industry has drawn unprecedented attention in today’s society.

Customers are often frustrated at dealing with the overly packed products. As most products sold on the e-commerce platform would have to go through the fulfilment/distribution network before reaching the hands of customers, e-commerce companies can play a key role in waste reduction. It is very crucial for e-commerce companies to **reconsider the necessity of different packaging and avoid non-essential packaging, by optimising packaging design through innovative ideas and technology, and collaborating with their merchants in packaging need.** In addition, reducing the use of raw materials and making use of recycled, durable, or reusable materials in packaging can help towards reducing the company’s carbon footprint.



In view of the complexity of the e-commerce operations, it is recognised that each e-commerce company may operate differently with its unique supply chain design. These companies should make reference to the tips which are relevant

to their businesses, as well as maintaining close dialogue with their merchants and third-party logistics (3PL) service providers, if any, on their roles to collectively reduce packaging usage in the industry.



How to use this guide?

- + This guide provides practical tips to trade practitioners of the e-commerce 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 e-commerce 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 material 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 E-commerce Sector

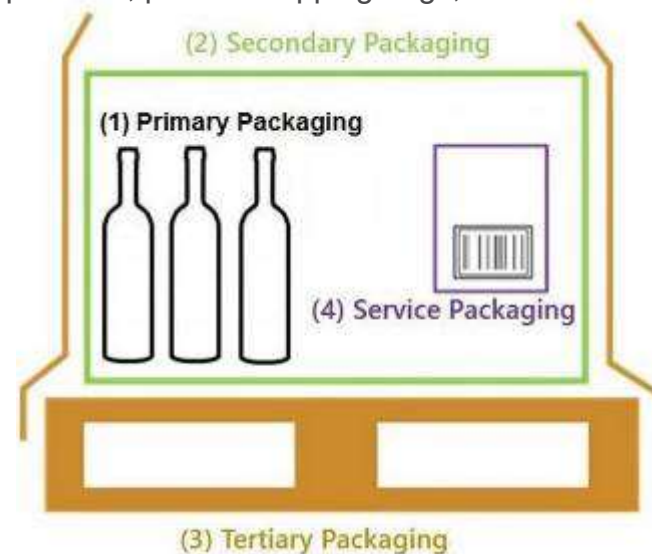
With reference to the common definitions of “packaging” adopted worldwide, the forms of packaging can be classified into 4 broad types, namely, primary, secondary, tertiary and service packaging. These 4 levels of packaging form are categorised by the use and purpose of the packaging.

There are different kinds of packaging materials used by e-commerce 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 and plastics are the most commonly found packaging materials** being used by e-commerce 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 e-commerce process. These packaging generally include:

- **(1) primary packaging** such as plastic bottles, glass jars, metal cans, etc.

- **(2) secondary packaging** such as cardboard, bundle straps, etc.
- **(3) tertiary packaging** such as cardboard, bubble wraps, plastic stretch film, cushioning materials, box-sealing tapes, woven bags, bundle straps, wooden pallets, etc.
- **(4) service packaging** such as padded envelopes, plastic waybill pouches, plastic shopping bags, etc.



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

/ paper

E-commerce companies usually use **corrugated paper boxes for packing of individual products** of the same order 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



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**. E-commerce 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.



PE-HD

(High Density Polyethylene)

Example: Plastic pallet, plastic crate, stretch film



Ease of recycling: HIGH





PE-LD

(Low Density Polyethylene)

Example: Plastic envelop, shrink film, bubble wrap



Ease of recycling: MEDIUM



Image credit: Binrush Stationery



PP

(Polypropylene)

Example: Bundle strap, storage box



Ease of recycling: MEDIUM



Image credit: Amazon



PS

(Polystyrene)

Example: Insulated foam container, cushioning material



Ease of recycling: LOW



Image credit: DACO Corporation



(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 e-commerce 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

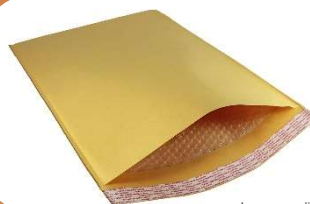


Image credit: Amazon



Environmental impacts

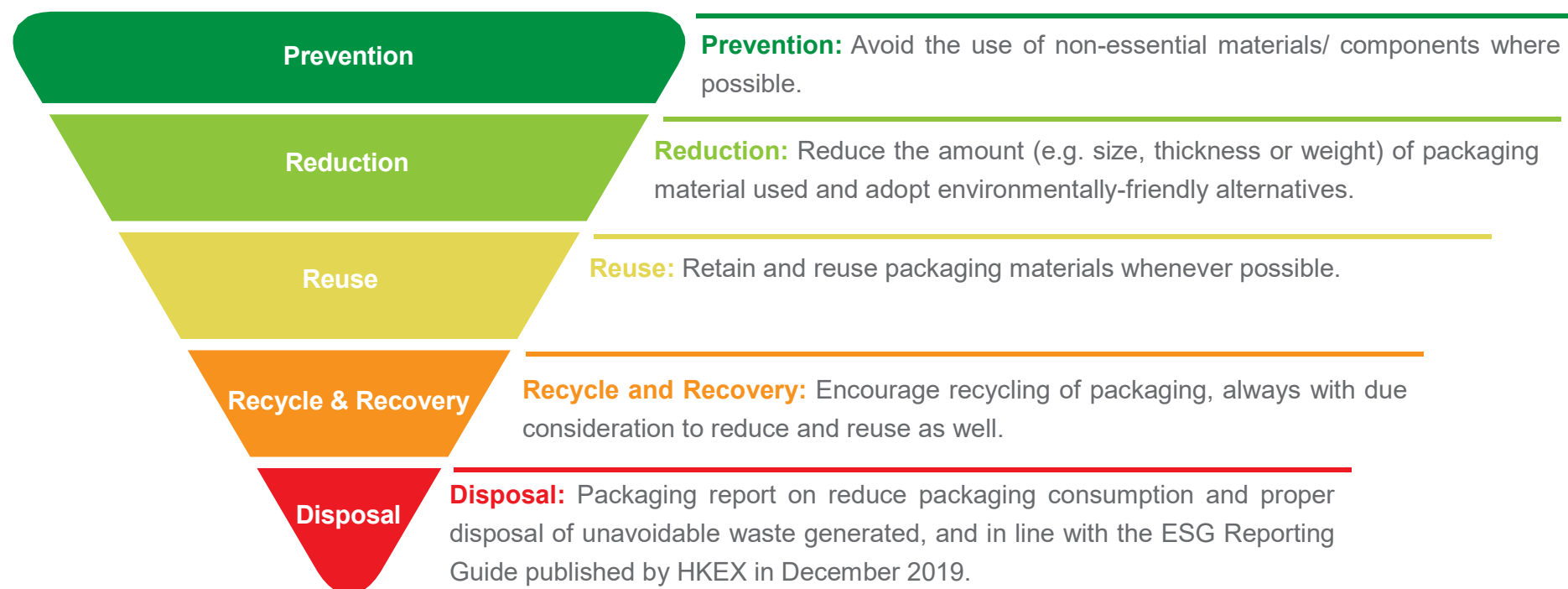
Burden on landfill due to low recyclability, other impacts depend on the materials composed of and could be similar to the impacts mentioned above.

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.**



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 e-commerce 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

In this flourishing era of online shopping, it is not unusual for one to experience receiving a large parcel containing just one or two small items with a lot of filling materials. In view of this trend of over-packaging, this is not only a waste of our valuable materials, but may also lead to higher costs and reputational damage to both the e-commerce companies and merchants.

Therefore, e-commerce companies and their merchants are suggested to **practise rightsizing and use a wider range of sizes of packaging containers** to meet the diverse needs and expectations of customers. E-commerce companies are also encouraged to constantly review if there are any mismatches between their merchants' product catalogues and the packaging containers they or their 3PL service providers have in stock. Whenever the packaging containers cannot fulfil packaging needs, rectification actions such as provision of larger mix of packaging containers need to be taken appropriately. 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 e-commerce 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.

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. In addition, businesses should avoid using plastic shopping bags during sales and should allow customers to choose not to use plastic bags or to specify the quantity required in placing an online order. If plastic shopping bags are provided upon request by customers, businesses must comply with the regulations of the Plastic Shopping Bag Charging Scheme.

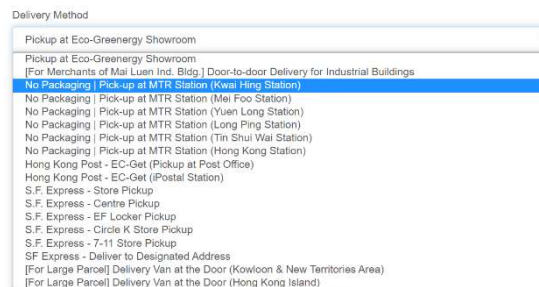
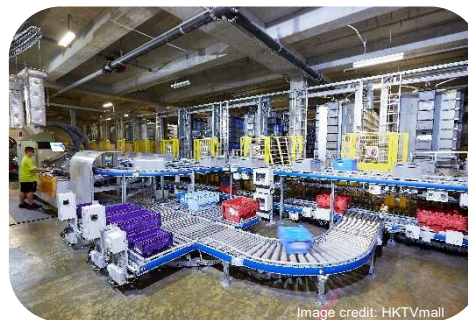
/ e-commerce companies and their merchants are suggested to practise rightsizing and use a wider range of sizes of packaging containers

Packaging design could influence a customer's first impression on the e-commerce company and the product during unboxing. Loads of unnecessary packaging would impose a negative image to customers. In fact, studies have shown that there is a strong correlation between green packaging and positive branding. For such consideration, it is for the good of both the e-commerce companies and their merchants to adopt more sustainable packaging features that distinguish them from other competitors. The next section highlights some of the practical options and alternatives that could promote the better use of resources.

Experience to learn

+ Hong Kong China

- A major e-commerce company deploys an automated picking and warehousing system at their logistics centre. They also provide packaging materials with different size options to avoid oversized packaging.
- A local online retailer provides an option on “No Packaging” for order delivery in their website in which customers could choose self-pickup at designated MTR stations.



+ Chinese Mainland

- The logistic arm of a major e-commerce 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.





Experience to learn

+ United Kingdom

- A well-known online fashion and cosmetic retailer has signed up to the “New Plastics Economy Global Commitment” since 2019, which is a global treaty that brings together key stakeholders for a vision of circular economy for plastics. As part of this, they are committed to eliminating the use of unnecessary packaging materials. For instance, they use a broad size range of bags and boxes to ensure the next-smallest packaging option being adopted. Resulted from this initiative, they have cut the average carbon footprint of their mailing bags and boxes by 27% and 33% respectively.



Image credit: ASOS

+ United States

- An online cosmetic retailer provides customers with sustainable options to select “Less Packaging” at the checkout page. Customers can also opt-out of the pouch and any extra packaging when ordering on the website. With these green business practices being put in place since 2019, the company has already shipped 500,000 orders with reduced packaging.

Reduction

(i) Redesigning packaging

Sometimes, multiple packaging materials including a carton box, box-sealing tape, filling materials, a padded mailer, as well as a plastic bag, could be found containing only a single item ordered online. This may make one wonder whether every packaging material is essential for product protection. For such reason, through redesigning packaging, e-commerce companies and their merchants 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 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 merchants on the packaging requirement of different products, the optimum amount of packaging allowed by the specification could be worked out and employed. By using the right and high-quality packaging, products are less prone to damage while wastage of filling materials could be avoided substantially. This is especially feasible for large-scale e-commerce companies and merchants who might have access to the packaging data of their products.

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

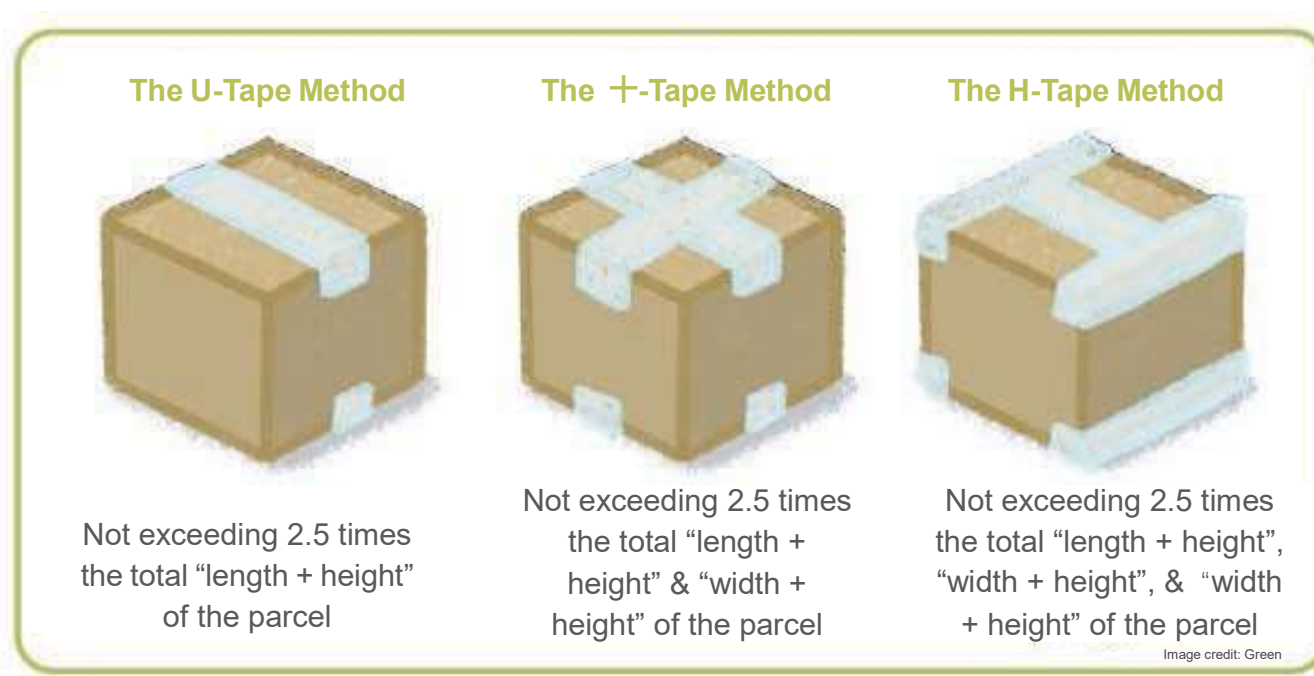


Several questions to be considered

- + Have I fully understood the packaging need of my items/ merchants?
- + 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?

After considering the above questions, e-commerce companies and merchants should start to **review their existing packaging practices and explore ways to lower the packaging to product weight ratio**. For instance, this could be achieved by reducing the thickness of packaging materials and to avoid adding non-essential packaging layers as far as practicable. In fact, with reference to the packaging reduction guidelines published by China's Taiwan region in 2019, it is suggested that the weight of packaging materials should not exceed 10% of the total weight of the parcel. In particular to the recommendation on tape usage, the length of the box-sealing tape should be less than 2.5 times the sum of length and height of the parcel.

Moving one step forward, e-commerce companies and merchants are encouraged to **deliver orders in their original packaging form** if the items have already been well-packed with their primary or tertiary packaging (e.g. in original carton box). If not feasible, they should seek to minimise the usage of packaging materials as far as possible.



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 instance, a multinational e-commerce collaborated with their merchants to redesign the packaging for online fulfilment. They work together to design an easy-to-open packaging that is 100% recyclable, and at the same time ready to ship without adding packaging boxes or other materials during fulfilment. Table 1 on the right shows two successful transformation examples.

Nonetheless, not every sustainable packaging design requires such advanced and tailor-made efforts. For example, a simple switch to 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.

Besides, some e-commerce companies and their 3PL service providers 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.

Table 1:
Comparison of packaging before and after green transformation

Standard packaging
before Redesign



Image credit: Amazon/ Philips



Image credit: Amazon/ Tide

Sustainable packaging
after Redesign



Image credit: Philips



Image credit: Amazon/ Tide



Image credit: Yiside / CHNYIN.com



Image credit: MA Business Ltd



Experience to learn

+ Chinese Mainland

- The logistic arm of a major e-commerce company has partnered with various leading consumer brands. They use tape-free zipper boxes for part of their delivery parcels originating from their warehouse. Overall, close to 50% of their paper packaging is tape-free.



+ United States

- A multinational e-commerce company has been working to reinvent and simplify packaging options with a science-based approach that combines lab testing, machine learning and materials science. Since 2015, by identifying the necessity of additional packaging and the most suitable packaging options, they have reduced the weight of outbound packaging by 36% and eliminated more than 1 million tons of packaging materials as of 2020.



+ New Zealand

- A well-known footwear and apparel brand, which runs their business largely through online retail, designs their packaging with simplicity in mind. The dedicated design of the Forest Stewardship Council (FSC)-certified recycled cardboard reduces the need for using adhesives and single-use plastics.



(ii) Using environmentally-friendly alternatives of packaging materials

E-commerce companies and their merchants 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 polybags and plastic mailers containing recycled plastics, and paper cartons consisting of recycled fibres.

Apart from seeking to increase the content of recycled materials in the 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 packaging 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.



Image credit: Alibaba



Image credit: Empack Madrid

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 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

Experience to learn

+ Hong Kong China

- A major e-commerce company has switched to using reusable and recyclable materials for the transportation of certain goods since 2021. For instance, instead of using plastic air column bags, honeycomb cushioning paper packaging has been adopted along with paper packaging bags and protective sleeves.
- A local green group has launched a programme named “Green Online Store” charter to engage online shopping platforms in collaborative efforts. Over 30 local online retailers have signed up to the charter and pledged to reduce packaging by adopting used and recyclable packaging for online order delivery.
- A local online retailer reuses packaging materials, e.g. bubble wrap, received from their packaging supplier as far as possible. In case they run out of these used packaging, honeycomb cushioning paper packaging would be used to minimise the usage of sealing-tape and plastic bubble wrap.



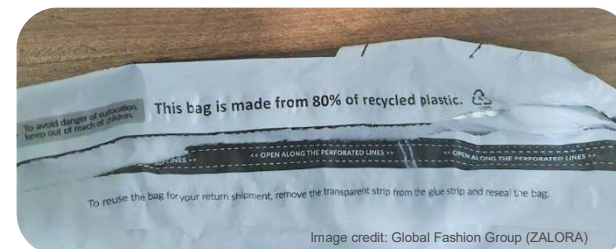
Image credit: HKTvmall



Experience to learn

+ Singapore

- A well-known online fashion retailer has made their delivery plastic sleeves with 80% recycled plastics since 2020, thus avoiding the use of around 600 tons of virgin plastics.



+ India

- A multinational e-commerce company has replaced the use of plastic cushioning materials such as bubble wrap and air pillows with paper cushions across its operations in India since 2020.



+ United States

- A multinational e-commerce company invented a recyclable paper padded mailer, which is made of paper and a water-based cushioning material. The cushioning material could be removed easily in the same way that print inks are removed during paper recycling process. As of the end of 2019, more than 100 million of these recyclable paper padded mailers have been shipped to their customers. They aim to further reducing the use of traditional bubble wrap padded mailers by expanding the green measure to North America and Europe markets.



Reduction

(iii) Green supply chain management

E-commerce 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, importers, merchants, 3PL service providers, and end customers. Yet, these stakeholders do not usually share the same set of vision, need, and priority. For instance, merchants may concern about product protection and costs the most, while 3PL service providers would put more focus on the easy handling of fulfilment orders. However, end customers may look for the environmental friendliness of the packaging. Therefore, maintaining close dialogue with importers, merchants and 3PL service providers to understand their expectations and operational practices is required to address the potential conflicting interests in the packaging ecosystem effectively.

When it comes to the practical application of this collaborative role, e-commerce companies are recommended to **make good use of their market advantage to urge downstream 3PL service providers to practise lean logistics**. As a matter of course, e-commerce companies should offer supports to the logistics partners to enhance synergies among the infrastructure of both parties. **Regular packaging audits of suppliers (including importers) and merchants should also be conducted** to understand their sustainable packaging performance and potential areas for improvement, and to 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.

/ e-commerce companies should communicate closely with their suppliers (including importers) and merchants on their desired packaging specifications and green features

Table 2:

Action items for green supply chain management on packaging reduction

A. Communicate the ESG commitment to the following stakeholders:

- ☒ Packaging manufacturers
- ☒ 3PL service providers
- ☒ Merchants
- ☒ Customers

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

- ☒ Logistics service
- ☒ Warehouse
- ☒ Fulfilment centre

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

- ☒ Logistics service
- ☒ Warehouse
- ☒ Fulfilment centre

At the same time, if orders are directly fulfilled by e-commerce companies, **they should communicate closely with their suppliers (including importers) and merchants on their desired packaging specifications and green features.** For more eco-conscious merchants which are currently adopting sustainable packaging practices, e-commerce companies could encourage them to seek third-party certification so as to provide their customers with added assurance on the green packaging.



Experience to learn

+ Chinese Mainland

- A major e-commerce company has engaged and come to an agreement with a global cosmetics brand on using environmentally friendly packaging in the second half of 2018. They pledged to decrease the use of plastic packaging materials in all of their brands by switching to FSC-certified sustainable paper and zipper carton boxes or paper adhesives.

+ Singapore

- A well-known online fashion retailer engaged their packaging vendors which supply plastic sleeves made of recycled plastics to seek certification on the “Recycled Content Standard”. This third-party certification provides its customers the assurance of the recycled content by verifying the traceability of the material along the supply chain.



Image credit: Zalora

+ United States

- A multinational e-commerce company has been collaborating with their partners/ merchants, structural packaging designers, testing professionals and material suppliers to reduce the need for additional packaging for order fulfilment under the programme of “Frustration-Free Packaging Programme”. As of June 2021, more than 2 million of products were qualified under this programme.



Image credit: Amazon



Image credit: Amazon

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 e-commerce company should develop a return system to encourage receivers to return the packaging for reuse once it is no longer needed by the receivers.

In most circumstances, e-commerce companies could adopt one of the following four reverse logistics channels or more when appropriate:

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

Table 3:
Commonly adopted reverse logistics channels

Reverse logistics channels	Mode of operation
1. Direct pickup from customer locations	e.g. pickup of returned packaging right after delivery to the door
2. Scheduled pickup from customer locations	e.g. pickup of returned packaging by appointment
3. Customers drop off directly at collection points	e.g. drop off at service centre/ Online-to-offline (O2O) store/ service locker of the e-commerce company
4. Return by customers by mail or through logistics service providers	e.g. drop off to courier companies for their handling of return-delivery

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, e-commerce companies are strongly encouraged to get prepared as soon as possible for the good of the industry and the environment. More resourceful e-commerce companies should explore the feasibility proactively through research and development as well as experience sharing with their peers. Trial programmes, especially for those customers with recurring orders, subscription models, or in-store pickup orders could be explored and launched to help facilitate the design of reverse logistics systems and the management of reusable packaging operations.

Table 4:
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, **e-commerce companies are encouraged to adopt reusable packaging in parallel to achieve cost-effective and lean supply chain operation for the fulfilment of orders.** For example, e-commerce companies may consider first using reusable boxes for the delivery and hand in individual items to the customers thus avoiding additional secondary and tertiary

packaging. Well-conditioned carton boxes and filling materials could also be reused as far as practicable upon customer's consent. Apart from these, e-commerce companies may refer to Table 5 below for commonly reusable packaging items and consider their application to their operations.

Table 5:
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

Meanwhile, it is noteworthy that many e-commerce companies might be troubled by the high return rate, since their customers could neither see nor try the products before the purchase. Yet, a single-use packaging design mindset does not help with the handling of these returns. Instead, it may add friction to customer experience and increase proneness to damage as customers have to source their own packaging for return. Therefore, the use of double-sealed mailers or zip-locked bags could ensure the reusability of the packaging upon return shipment.

Experience to learn

+ Hong Kong China

- A major e-commerce company has utilised reusable plastic containers for delivery since 2017 to reduce the use of packaging materials such as carton boxes, box-sealing tapes, and stretch film. Reusable plastic containers have also been used in the automated packing system as compared with carton boxes previously used in manual pick packing, which mechanises and automates the labour-intensive logistics process. In addition, they have been promoting the concept of “bring your own bag” through their O2O stores to encourage packaging reduction among their customers.
- A local online retailer reuses the original carton boxes of their imported goods as packaging for delivery orders. Upon eligible purchase by their customers, they also collect the primary packaging (e.g. beverage containers and shampoo bottles) of their brand partners during delivery and send back to their brand partners for further handling and reuse.
- A local online retailer offers their customers to opt for packaging-free or used packaging when purchasing selected products, e.g. tea seed powder. Extra portion would also be given to further incentivise customers for a switch to this sustainable online shopping practice.



Image credit: Old Old Maru (Chinese only)



Experience to learn

+ India

- A multinational e-commerce company delivers 40% of their orders originating from India's fulfilment centres in their original product packaging. Reusable protective containers are used to contain these products.

+ United Kingdom

- A well-known online fashion and cosmetic retailer has used double-sealed mailers since 2019 to lower the carbon footprint of return shipments. In addition, these recyclable outer mailing bags are made from materials with 90% recycled content.
- A start-up company has developed a wool-based insulated packaging, which could be reused up to four times. This temperature-controlled packaging has been welcomed by many global consumer goods companies which had heavily depended on the use of polystyrene traditionally in their e-commerce fulfilment process, especially to those in the online food market industry.



Image credit: ASOS



Image credit: Woolcool



Image credit: Woolcool

+ Finland

- A start-up company produces a range of fully recyclable mailing bags to create a circular system for online retailers to ship their orders in mailing bags. The start-up encourages consumers to return the prepaid empty bag through mail in exchange for a discount on their next purchase. These mailing bags would then go through quality check and get cleaned before being sent back to online retailers for reuse, which typically last 20 uses. They could be recycled eventually at the end of life.



Image credit: RePack

Recycling and Recovery

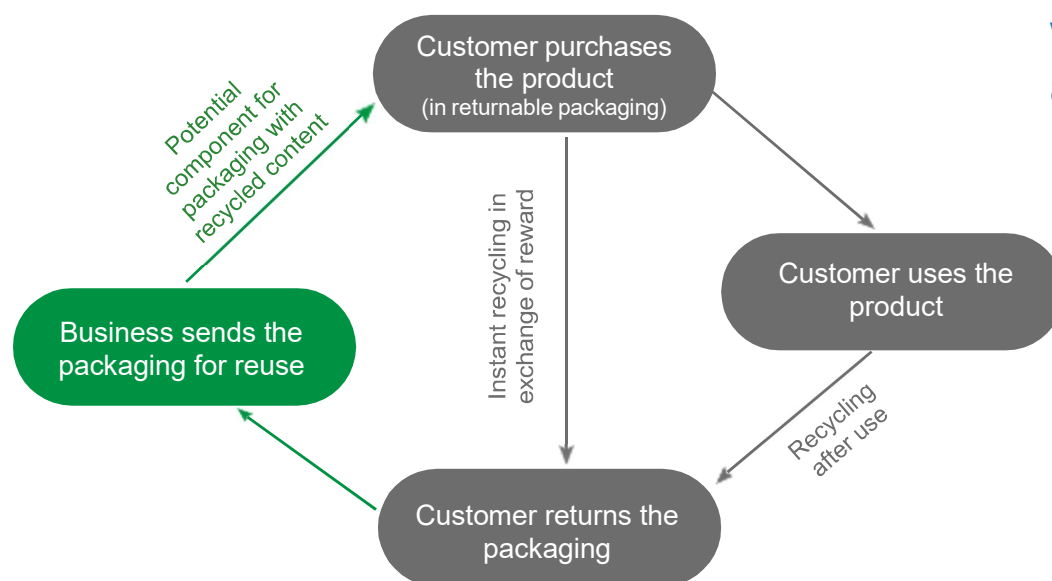
Setting up recycling facilities

While recycling facilities are quite popular across the territory, it is relatively uncommon to find one in the service centre/ O2O store of an e-commerce 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 service centres/ O2O stores of e-commerce companies for reuse and recycling. In fact, by setting up suitable recycling facilities in service centres/ O2O stores, business can improve brand loyalty and demonstrate its commitment to environmental protection.

To further encourage customers unboxing their packaging with care and to promote resource circularity, e-commerce companies could consider incentivising customers (e.g. provision of loyalty point rebates) upon receiving clean and well-conditioned reusable packaging materials at their service centres/ O2O stores.

Subject to the availability of resources and capacity of the e-commerce company, they could also consider extending their recycling service to door or setting up mobile collection points. Hence, unwanted packaging materials could be instantly collected from customers when the items are delivered to their door through the 3PL service providers.

/ 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 local online retailer provides to-door recycling service for used packaging materials and selected recyclables during delivery upon eligible purchase. Well-conditioned packaging materials such as bubble wrap will be reused while recycled paper will be sent to a local recycler in support of their upcycling business.
- A major e-commerce company collects unwrapped cardboards and used bundling plastic materials in their internal operation for local recycling. In September 2022, a pilot trial has been commenced with designated recycling bins being set up at five of their offline supermarkets.

Plastic packaging materials including bubble wrap, airbags and plastic wrap and bags would be collected from customers, and subsequently sent to the EPD's Community Recycling Network. Externally, they have partnered with their merchant to launch a recycling scheme for milk powder cans since 2021. Collection points for cans of formula milk have been established at their O2O stores. As a reward, participating parents could earn e-vouchers of their e-commerce platform. All collected cans were sent to a certified recycler and re-processed into useful raw material.





Experience to learn

+ Chinese Mainland

- The logistics arm of a major e-commerce company has set up 5,000 recycling stations nationwide to collect unwanted cardboard boxes. It is estimated that over 13 million of boxes were collected and recycled in the event of “Double 11 Shopping Festival 2018”.



Image credit: Alibaba/ Cainiao (Chinese only)

+ United States

- A multinational e-commerce company collects corrugated cardboards at their facilities for recycling. They also practise on-site plastic film recycling at more than 168 fulfilment centres across their network. It is noteworthy that not only do they recover resources, but they also extend their efforts towards resource circularity by working with their recyclers and suppliers to convert these recycled packaging into new packaging, such as recycled paper packaging and polybags.

With reference to the waste management hierarchy, apart from the above experience to learn, the following example also shows how e-commerce 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: Euroconsumers

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?

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?

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 components (e.g. carton box)?

Guidance for Packaging Reporting and Management

While it is anticipated that the sustainable packaging initiatives suggested in previous chapter would help e-commerce companies and their merchants 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 e-commerce companies, being the backbone of the e-commerce platform, to take up the leading role and 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. service centres, fulfilment centres, distribution and sorting 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 self-operated fulfilment centres to the end customers should be taken into account. On the other hand, the already-added packaging by the merchants (before arriving at the self-operated fulfilment centres) should not be included in the reporting scope. For e-commerce companies outsourcing their delivery operation to 3PL service providers, the associated packaging should not be reported as well.

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

ii Identify source of packaging consumption

Packaging consumed at self-operated service centres/ O2O stores

(e.g. carton boxes, box-sealing tapes, packing peanuts, bubble wrap, air column cushion bags, plastic bags)



Image credit: Binrush Stationery

Packaging consumed at self-operated fulfilment centres/ distribution and sorting centres

(e.g. waybills, wooden pallets, carton boxes, box-sealing tapes, bubble wrap, plastic bags)



Image credit: THIMM

Packaging consumed during self-operated delivery operation

(e.g. woven bags, stretch film, bundle strap, wooden pallets)



Image credit: SABIC

Primary and secondary packaging consumed for self-manufactured own-brand products

(e.g. aluminium cans of beer, plastic rings of beer, plastic bottles of shampoo)



Image credit: Freepik

It is understood that each e-commerce company might operate differently with their unique supply chain design. To avoid confusion, e-commerce companies should follow the overriding principle – **“to report whatever brand-new packaging they add to the orders they fulfil and products they manufacture”**.



Scenario of reporting scope

Company A hosts an e-commerce platform based in Hong Kong. They operate their own fulfilment centre and have their own vehicle fleet for order delivery. Table 6 shows some order examples generally handled by Company A and their associated reporting requirements.

Table 6:
Examples of orders

Orders	Examples
Order W¹	<div><div>Merchant</div><div>Inventory had been shipped to fulfilment centre ahead</div><div>Delivery handled by merchant No packaging added by Company A</div><div>Fulfilment Centre</div><div>Delivery handled by Company A R: Wrapping paper, box-sealing tapes, waybill stickers NR: Recycled carton box, reusable plastic crate</div><div>Customer</div></div> <p>It happened that the involved merchants had already shipped their inventory to Company A's fulfilment centre ahead of time, of which all items of Order W were all ready to be fulfilled instantly. Some wrapping paper was used by Company A to protect the fragile items and a recycled carton box in perfect condition was used to contain all items collectively. Some box-sealing tapes and waybill stickers were used as well.</p>
Order X¹	<div><div>Merchant</div><div>Notification sent to the merchant</div><div>Delivery handled by merchant. No packaging added by Company A</div><div>Fulfilment Centre</div><div>Delivery handled by Company A R: Waybill stickers NR: Reusable plastic crate</div><div>Customer</div></div> <p>Since the items were not available in Company A's fulfilment centre, they sent a notification to the merchants and asked them to ship the requested items to their fulfilment centre. Since all items received were easily stackable and came with their original packaging placed by the merchants, no additional packaging was needed by Company A except the use of some waybill stickers.</p>

¹ To deliver Order W and Order X to the door of customers, Company A used a **reusable plastic crate** to hold all items and reused the crate afterwards.



Scenario of reporting scope

Table 6:
Examples of orders (cont'd)

Orders	Examples
Order Y	<div><div>Merchant</div><div>Direct fulfilment by the merchant Delivery handled by merchant. No packaging added by Company A</div><div>Customer</div></div> <p>No action should be required by Company A since Order Y was fulfilled directly by their merchants.</p>
Order Z	<div><div>Factory (self-manufactured own-brand products)</div><div>Inventory had been shipped to fulfilment centre ahead Delivery handled by Company A R: Plastic bottles, carton box</div><div>Fulfilment Centre</div><div>Delivery handled by Company A R: Stretch film, waybill stickers, plastic bag NR: Recycled carton box</div><div>O2O Store / Customer</div></div> <p>All items of Order Z were Company A's self-manufactured own-brand products, including 100 units of plastic bottles with orange juice. Company A had already arranged shipment of that batch of orange juice ahead of time from the factory to their fulfilment centre, with the usage of some brand-new carton boxes. The customer requested to pick up items of Order Z at their O2O store. Company A, therefore, shipped the items to their O2O store, in which stretch film and waybill stickers were being used. At the O2O store, the customer used a recycled carton box provided by Company A and purchased an additional plastic bag.</p> <p>Legend: R = To be reported NR = Not to be reported</p>

It might seem complicated when an e-commerce company could be handling thousands of fulfilment orders in a typical day. However, in practical application, **their procurement and inventory records should serve as the key sources to packaging disclosure**, but not on an order-by-order basis. Practitioners of e-commerce companies are therefore recommended to refer to Step 4 on Page 43-46 to obtain packaging consumption data in an efficient and reliable manner.

iii

Packaging is ubiquitous in e-commerce operations. It facilitates the handling of products and protects products from their merchants 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 7.

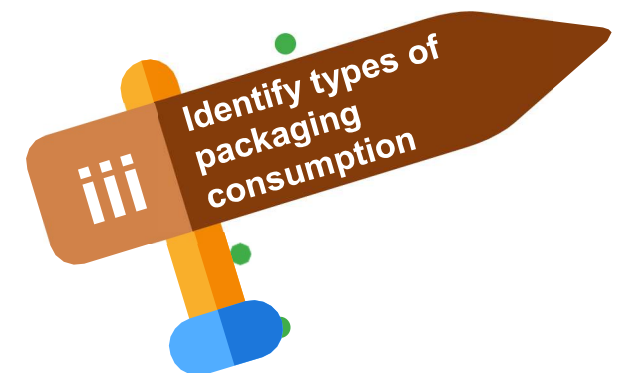
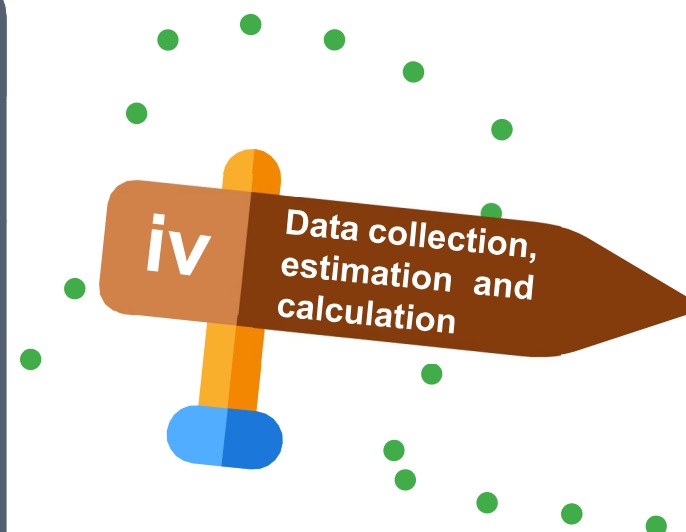


Table 7:
Commonly found packaging material and forms

Paper/ cardboard	<ul style="list-style-type: none"> • Carton boxes • Mailer boxes 	<ul style="list-style-type: none"> • Cardboard • Other paper packaging
Plastics	<ul style="list-style-type: none"> • Carrier bags • Polybags • Labels/ stickers (e.g. waybill sticker) • Tote boxes • Plastic envelopes • Plastic pallets • Bundle strap • Stretch film • Shrink film • Vacuum packs 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Metal pallet boxes • Pallet collars 	<ul style="list-style-type: none"> • Other metal packaging
Wood	<ul style="list-style-type: none"> • Wood pallets • Crates 	<ul style="list-style-type: none"> • Other wood packaging
Composite	<ul style="list-style-type: none"> • Padded envelopes • Envelopes with waybill bag 	<ul style="list-style-type: none"> • 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. Approach 1 should be a universal approach for e-commerce companies to obtain the packaging data of their general business, whereas Approach 2 is designed for relevant e-commerce companies which extend their business to manufacturing their own-brand products.

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.

$$[\text{Total consumption amount of each type of packaging materials/ forms} = A + B - C]$$

2 Approach 2: Data obtained from sales of self-manufactured own-brand 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 orange juice



Image credit: PARKnSHOP

<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>
Orange Juice - 500ml	Plastics	Plastic bottle	10	10,000	100
		Bottle cap	2		20
		Label	1		10
Sub-total					130

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

Example (2): Sales of self-manufactured own-brand beer



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
Beer - 500ml (Pack of 4)	Paper	Carton Box	120	5,000	600
		Cardboard dividers	80		400
	Plastics	Bottle caps (4 nos.)	8		40
	Glass	Glass bottles (4 nos.)	1,040		5,200
Sub-total					6,240

* 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 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. E-commerce companies are suggested to **use packaging with on-pack recycling labels** to give customers clear illustration on the correct way of recycling, especially when the packaging mix of online shopping is diverse. 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 online shopping activities is a measure that aims to raise the public awareness, level of knowledge and motivation in package recycling. E-commerce companies can adopt different ways to convey such information, for instance at self-operated service centres/ O2O

stores, service centres of 3PL service providers, via mobile applications, email confirmation or social media. In addition, **guidelines on green packaging should be disseminated to their packaging teams and merchants** to encourage and raise their awareness on lean packaging and cost saving by avoiding the usage of non-essential packaging materials.





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



Image credit: How2Recycle

It is understandable that cost may not be the only consideration affecting e-commerce companies and their merchants' decision on adopting green packaging. In fact, they are most often uncertain about customers' acceptability of receiving packaging materials which have been reused (e.g. recycled carton boxes), hence leading to delayed action. In view of this, e-commerce companies could provide the following choices for eco-conscious customers to opt for sustainable packaging methods on the shopping cart/ checkout page.

Table 8:
Recommended options provided to engage with eco-conscious customers

Options	Examples
 Less packaging/ package-free for delivery	Opt-out paper inserts, pouches, advertisement materials, bubble packs, paper bags and plastic bags
 Items packed with 100% recyclable packaging	Paper, zipper carton boxes and easy-to-recycle plastics such as PE and PET plastics
 Items packed with the packaging of environmentally-friendly alternatives (a small extra fee might be required depending on merchants' preference)	Materials with recycled content, natural materials such as bamboo, hay and straw, as well as paper with sustainable forestry certification
 Items packed with reusable packaging (deposit required)	Reusable containers and bags

On the area proximate to these options, e-commerce companies are highly encouraged to provide their customers a reminder note on how choosing these packaging options can contribute to the environment. To this end, this is effective in educating customers that packaging does not solely serve for product protection on a one-off basis, but the circularity of packaging resources matter as well.

To go the extra mile, incentives such as rebates, loyalty points, awards or gifts could also be offered to customers who support sustainable packaging.

For merchants who are willing to switch to more environmentally-friendly packaging materials, e-commerce companies could consider reducing their commission fee or promoting their search ranking and visibility on the e-commerce platform. A labelling scheme or green merchant rating system could also be established to differentiate eco-friendly merchants from the ordinary ones.

Experience to learn

+ Hong Kong China

- Over 30 local green online retailers provide options for their customers to choose used packaging and recyclable packaging on the shopping cart page (or use environmentally-friendly packaging by default unless specified by customers).



Image credit: Green Sense

+ China's Taiwan region

- The Environmental Protection Administration (EPA) of Taiwan partnered with eight major e-commerce platforms and two recyclers from 2021 to 2022 to encourage the use of reusable boxes/ bags. After the customers receive the parcels and return the reusable boxes/ bags through different means, such as instant return at store, return by post, drop off at service point and scheduled to-door pickup, customers could enter into a prize draw organised by the EPA.



Image credit: Environmental Protection Administration (Chinese only)

+ United States

- A multinational e-commerce company has partnered with a non-profit organisation to provide on-pack recycling labels that assist customers to practice recycling properly. The e-commerce company has also published recycling instructions organised by package type on their website and ship confirmation emails so as to help their customers dispose of the packaging responsibly.



Image credit: Amazon/ How2Recycle/ Georgia-Pacific

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, fulfilment centre, distribution and sorting centre, etc.) and identify the packaging materials consumed by their companies for reporting, including secondary packaging (e.g. cardboard, bubble strap, etc.), tertiary packaging (e.g. cardboard, padded envelopes, filling materials, wooden pallets, etc.) and service packaging (e.g. plastic shopping bags, etc.) used in their operations. For companies which extend their business to manufacturing their own-brand products, they should also include the primary and secondary packaging (e.g. plastic bottles, etc.) consumed for their self-manufactured own-brand products.

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 service centres/ O2O stores, 2) Packaging consumed at self-operated fulfilment centres/ distribution and sorting centres, 3) Packaging consumed during self-operated delivery operation, 4) Primary and secondary packaging consumed for self-manufactured own-brand products, and 5) 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 e-commerce industry for implementing practicable measures to promote and encourage reducing the use of packaging materials. Think big, start small!

Q7 The original packaging materials of the goods of our merchants are out of our control, what could we do?

Businesses are suggested communicating with their merchants and collectively explore solutions for minimising use of packaging materials while maintaining the necessary level of protection for handling and shipping. If you own your own-brand product lines, you are encouraged to improve the packaging design and minimise the generation of packaging waste.

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

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/>
- + Green marketing strategies: how do they influence consumer-based brand equity? – M. Sadiq Sohail**
https://www.researchgate.net/publication/317419085_Green_marketing_strategies_how_do_they_influence_consumer-based_brand_equity
- + 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>
- + Polybags in the Fashion Industry: Evaluating the Options – Fashion for Good & Sustainable Packaging Coalition**
https://fashionforgood.com/wp-content/uploads/2019/12/FashionforGood_Polybags_in_the_Fashion_Industry_Whitepaper-1.pdf
- + 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 E-commerce Companies

The following is a quick start of key practical tips for the e-commerce 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 E-commerce 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, merchants, and 3PL service providers.			
2.	Exploring/ investing in the research and development of data-driven solutions to optimise packaging efficiency.			
3.	Avoiding the use of single-use plastic packaging materials (e.g. EPS fillings, PVC shrink film, composite plastics, etc.).			
4.	Avoiding the use of packaging of multiple materials that are inseparable (e.g. padded envelopes, taped carton).			

Summary Checklist on Practical Tips for E-commerce Companies

Practical Tips		Yes	No	Follow-up Actions if the answer is “No”
Reduction				
5.	Redesigning traditional packaging and using thinner and lighter packaging materials with adequate stress tests.			
6.	Fulfilling orders in their original packaging form for well-packed items.			
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 merchants and 3PL service providers to simplify the packaging design.			
11.	Carrying out regular packaging audits on merchants as well as understanding their desired packaging specifications and green features.			
Reuse				
12.	Exploring the feasibility of operating a closed-loop supply chain system via research and development and trial programme. etc.			
13.	Setting up areas to collect used but well-conditioned packaging for reuse purposes (e.g. carton boxes, filling materials).			
14.	Adopting reusable packaging as far as practicable (e.g., plastic container boxes, plastic pallets, pallet straps).			
15.	Adopting double-sealed mailers or zip-locked bags for orders with a high tendency on return shipment.			

Summary Checklist on Practical Tips for E-commerce Companies

Practical Tips		Yes	No	Follow-up Actions if the answer is “No”
Recycling and Recovery				
16.	Setting up recycling facilities in backend operation areas and service centres/ O2O stores to recycle unwanted packaging (e.g. recycling bins, recycling cages).			
17.	Arranging regular material collection services for different recyclables.			
18.	Incentivising customers upon receiving clean and well-conditioned reusable packaging materials.			
19.	Extending recycling service to door or setting up mobile collection points to promote instant collection of unwanted packaging materials.			
Packaging Reporting and Management				
20.	Performing statistical analysis and recording the total packaging materials used on a yearly basis.			
21.	Publishing waste reduction plans and achievements in the companies' ESG/ Sustainability/ Annual Report.			
Publicity and Customer Education				
22.	Using packaging with on-pack recycling labels to facilitate recycling by end customers.			
23.	Providing tips and guidance to customers on the proper handling of packaging materials generated (e.g. at service centres/ O2O stores, via mobile applications).			
24.	Disseminating guidelines on green packaging to educate the packaging teams and merchants on lean packaging and cost saving.			
25.	Providing choices for customers to opt for package-free or sustainable packaging methods on the shopping cart/ checkout page.			
26.	Offering incentives to both customers (e.g. via rebates) and merchants (e.g. via reduction in commission fee) to drive sustainable packaging actions.			

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. E-commerce companies, therefore, should support recycling of various packaging materials with a view to encouraging their staff, merchants, 3PL service providers 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. Bubble wrap					
Sub-total						
Paper	e.g. Corrugated box					
	e.g. Waybill paper					
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						
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. Orange Juice - 500ml	Plastics	Plastic bottle	10	10,000	100
		Bottle cap	2		20
		Label	1		10
Sub-total					130
e.g. Beer – 500ml (Pack of 4)	Paper	Carton box	120	5,000	600
		Cardboard dividers	80		400
	Plastics	Bottle caps (4 nos.)	8		40
	Glass	Glass bottles (4 nos.)	1,040		5,200
Sub-total					6,240
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 e-commerce 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
<div>Sample Question</div> <p>Does the current mix of packaging containers sufficient to offer wider choices for your staff, merchants, and 3PL service providers to practise rightsizing?</p>	Yes	Company Procurement Manager	<p>1. Early Feb - To consult Operation Manager and frontline staff on the suitability of the packaging container</p> <p>2. Early Feb - To conduct survey with merchants and 3PL service providers on the suitability of the packaging container provided/ sold</p> <p>3. Early April - To review on the suitable sizes and search for suppliers offering environmentally-sound products</p> <p>4. Late April - To provide briefing/ guidelines to frontline staff, merchants, and 3PL service providers by Operation Manager and Sustainability Manager on sustainable packing strategies</p> <p>5. Early May - Implementation</p> <p>6. Early June - Evaluation</p>
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 e-commerce operation could save your costs in the long run?			
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 customers, merchants and 3PL service providers 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 identify any well-packed items which could be fulfilled in their original packaging form?			
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				
Merchants				
Have you maintained close dialogue with your merchants on optimising packaging design and specification? For example, is there a procedure to specify the packaging material requirements jointly with merchants?				
Could you conduct regular packaging audits on your merchants to understand their sustainable packaging performance and potential areas for improvement?				
Could you encourage your merchants to seek third-party certification on the packaging materials used, so as to provide your customers with added assurance on the green packaging?				
Could you partner with global brand merchants (e.g. fast-moving consumer goods) on sustainable packaging initiatives to demonstrate collaborative efforts?				
// Add rows for other ideas applicable to your business in influencing merchants on sustainable packaging //				
Distribution warehouse/ Fulfilment centre/ Logistics service				
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 operations/ influencing your third-party service operators on sustainable packaging //				

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
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 merchants/ customers with recurring orders, subscription models, or in-store pickup orders 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 e-commerce company so as to facilitate the advancement of your industry?			
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?			
Could you adopt double-sealed mailers or zip-locked bags for orders with high tendency on return shipment?			
<i>// Add rows for other ideas applicable to your business in using reusable packaging materials //</i>			
Recycling and Recovery - Setting up recycling facilities			
Could you set up recycling facilities in backend operation areas (e.g. fulfilment centres) and service centres/ O2O stores to recycle unwanted packaging, e.g. recycling bins, recycling cages?			
Could you start installing recycling facilities in new service centres/ fulfilment centres/ O2O stores first and progressively extend to existing service centres/ fulfilment centres/ O2O stores?			
Could you incentivise customers upon receiving clean and well-conditioned reusable packaging materials to further encourage them to unbox their packaging with care and to promote resource circularity?			
Could you offer to-door pickup recycling service or set up mobile collection points to promote instant collection of unwanted packaging materials?			
<i>// Add rows for other ideas applicable to your business in establishing a collection system //</i>			

Guiding Questions	Y/ N/ NA	Who is responsible for?	Timeline/ targets/ progress update
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/ O2O stores, via mobile applications, or social media?			
Could you disseminate guidelines on green packaging to educate the packaging teams and merchants on lean packaging and cost saving?			
Could you enhance the interface of the website which allows customers to opt for sustainable packaging methods on the shopping cart/ checkout page?			
Could you incentivise your customers who support sustainable packaging by offering rebates or loyalty points?			
Could you incentivise your merchants by reducing their commission fee or promoting their search ranking and visibility on the e-commerce platform to encourage them to switch to more environmentally-friendly packaging materials?			
Could you explore the possibility of establishing a labelling scheme or green merchant rating system to differentiate eco-friendly merchants from the ordinary ones?			
// 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 consumed 1) at self-operated service centres/ O2O stores, 2) at self-operated fulfilment centres/ distribution and sorting centres, 3) during self-operated delivery operation, 4) for self-manufactured own-brand products, 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?			

Guiding Questions	Y/ N/ NA	Who could provide you on this information?	Timeline/ targets/ progress update
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 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
<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>			
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 10 selected merchants)?			
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 //			