



THE
**FASHION
PACT**

**A GUIDE TO INFORM
PACKAGING CHOICES IN
THE FASHION INDUSTRY**

UPSTREAM SOLUTIONS TO ELIMINATE WASTE BY DESIGN

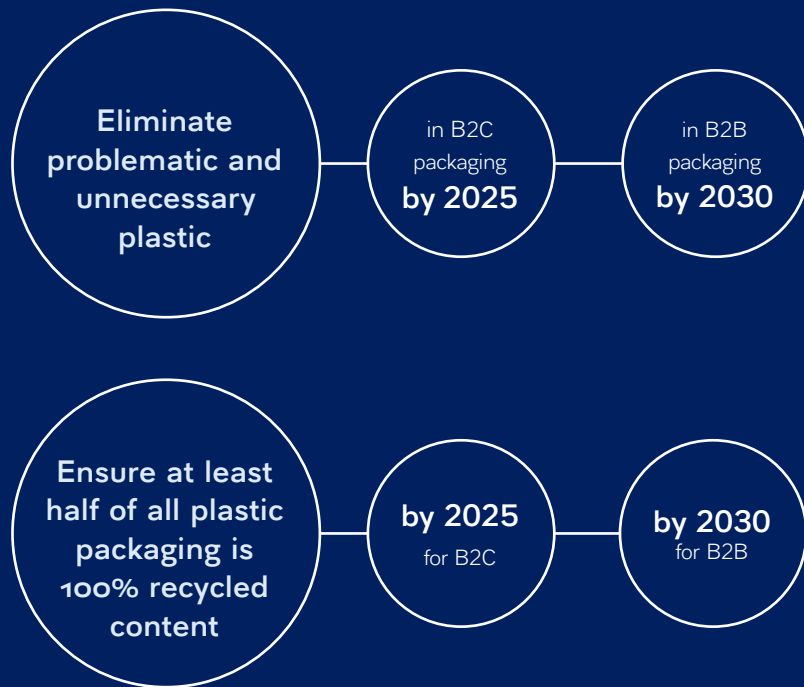
FOREWORD

The Fashion Pact is a global coalition of over 70 leading businesses launched in 2019. It already represents a third of the fashion and textile industry (ready-to-wear, sport, lifestyle and luxury) including suppliers and distributors. All are committed to a common core of key environmental targets as well as driving action in three areas: climate, biodiversity and oceans.

Although the global Covid-19 pandemic has substantially affected the fashion industry, with lingering uncertainty about the potential long-term impacts of this crisis, The Fashion Pact remains committed to its targets and is taking action to make them a reality. Since joining The Fashion Pact, signatories have been making progress toward reducing unnecessary and problematic plastic packaging, including through collaboration on pilot projects, while additional innovative solutions are being explored to further eliminate such plastics at scale.

OUR TARGETS

In the Oceans Pillar,¹ the members of The Fashion Pact have committed to the following ambitious targets for 2025 and 2030, aligned with the Ellen MacArthur Foundation and UNEP's New Plastics Economy Global Commitment:



PURPOSE OF THE PACKAGING GUIDE FOR FASHION

With 2025 and 2030 fast approaching, it is crucial to deliver practical and scalable solutions to make these targets a reality. This guide aims to support The Fashion Pact signatories and other organisations in the fashion industry in eliminating problematic and unnecessary plastic packaging by shifting to an upstream innovation mindset, identifying opportunities to rethink their packaging, product or business model.

Plastic packaging fulfils many important functions in the fashion sector throughout the supply chain, ranging from protection, containment and convenience, to communication and efficiency. Identifying and eliminating problematic or unnecessary plastic packaging can therefore be a complex task, with no single solution that can be applied to all products or business models. To support businesses in making informed choices, this guide presents a decision-making tool that can be used for any plastic packaging in the fashion industry, applying an upstream innovation mindset. This guidance is based on and aligned with the Ellen MacArthur Foundation and UNEP's [Global Commitment](#) as well as the Foundation's [Upstream Innovation framework](#) for packaging, but has been adapted specifically to the fashion industry.

This guide explores practical solutions and case studies for key plastic packaging used in the fashion industry – both in the B2B and the B2C sectors. In our effort to remain concise, we are aware this guide may not address all questions concerning unnecessary packaging. It aims to provide clarity on common definitions for key terms, ensuring all signatories are aligned and working towards the same targets. In addition, it highlights existing design for recycling guidelines for the five plastic packaging items explored.

This guide is intended for sustainability professionals, product designers, packaging engineers from across the supply chain (brands, retailers, suppliers, etc.) and marketing executives, both those who are experienced and new to the idea of a circular economy. We encourage you to share it with your teams and collaborators as a practical tool to reach circular economy targets for packaging, starting with the elimination of problematic and unnecessary plastic packaging.

The Fashion Pact, September 2022

¹ The Fashion Pact (n.d.) [About the Fashion Pact](#).

TABLE OF CONTENTS

2	FOREWORD
5	ABBREVIATIONS & ACRONYMS
6	COMMON DEFINITIONS & GUIDANCE
17	UPSTREAM INNOVATION WHAT / WHY / HOW?
19	DECISION-MAKING TOOL FOR PACKAGING IN THE FASHION INDUSTRY
21	CASE STUDIES
51	REFERENCES

ABBREVIATIONS & ACRONYMS

ABS	Acrylonitrile butadiene styrene	PEFC	Programme for the Endorsement of Forest Certification
APR	Association of Plastic Recyclers	PET	Polyethylene terephthalate
B2B	Business-to-business	PHA	Polyhydroxyalkanoates
B2C	Business-to-consumer	PHB	Polyhydroxybutyrate
FSC	Forestry Stewardship Council	PLA	Poly(lactic acid)
GHG	Greenhouse Gas	PP	Polypropylene
HDPE	High-density polyethylene	PPE	Polyphenylene ether
LCA	Life Cycle Analysis	PS	Polystyrene
LDPE	Low-density polyethylene	PTT	Poly(trimethylene terephthalate)
NIR	Near-infrared	PVA	Poly(vinyl alcohol)
PBAT	Poly(butylene adipate terephthalate)	PVC	Poly(vinyl chloride)
PBS	Poly(butylene succinate)	rPET	Recycled polyethylene
PCR	Post-consumer recycled content	TPC-ET	Thermoplastic polyester elastomers
PE	Polyethylene		

COMMON DEFINITIONS & GUIDANCE

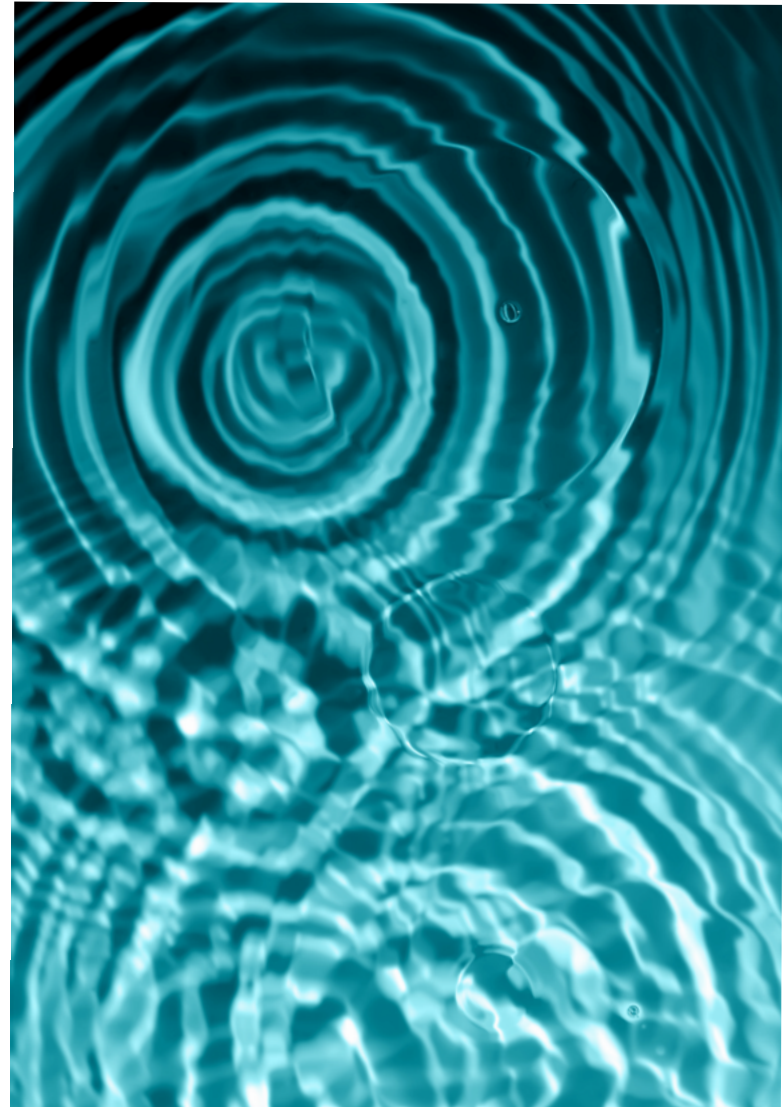
To ensure all signatories are aligned with the same terminology and are reporting on the same targets, The Fashion Pact has adopted the following common definitions. These are based on pre-existing definitions, adding specific clarifications for the fashion industry, where useful.

As The Fashion Pact targets are focused on recycling, this document does not significantly address renewable compostable materials.

CIRCULAR

Circular packaging: Packaging that is designed to fit in a circular economy; it is created and works in accordance with the principles of a circular economy in which waste and pollution are designed out, products and materials circulate and nature is regenerated.²

Transitioning to a circular economy entails decoupling economic activity from the consumption of finite resources. This represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.



² Ellen MacArthur Foundation (n.d.) [Circular economy](#). In *Circular economy introduction: Glossary*.

PLASTIC

Plastics (International Organization for Standardization definition): Material which contains as an essential ingredient a high polymer and which, at some stage in its processing into finished products, can be shaped by flow.³

Notes to entry:

1. Plastics consist mainly in polymers and minor contents of additives.
2. Plastics comprise both thermoplastic and thermoset materials.

Plastic (European Union Single-Use-Plastic Directive definition): A material consisting of a polymer, as defined in point 5 of Article 3 of Regulation (EC) No 1907/2006, to which additives or other substances may have been added, and which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified.⁴

The main plastic types include:⁵

- **Conventional, fossil-based plastics**, such as polyethylene (PE), polypropylene (PP) or polyethylene terephthalate (PET), which are to be recycled and can include recycled content.
- **Bio-based plastics**, made partially or entirely of renewable biological sources rather than fossil resources:
 - **Bio-based non-biodegradable plastics** (e.g., made from sugarcane or corn), such as bio-based PE, PP or PET (so called 'drop-ins'), which can be recycled, and bio-based technical performance polymers such as polytrimethylene terephthalate (PTT) or thermoplastic polyester elastomers (TPC-ET)
 - **Bio-based compostable plastics**, such as starch blends or polylactic acid (PLA). Although PLA could also be considered for recycling, it is currently not recyclable in practice and at scale in Europe or North America. Polyhydroxyalkanoates (PHA) and polyhydroxybutyrate (PHB) are other emergent bio-based plastics made from agricultural residues, but these are currently not considered recyclable or compostable (see boxes).
- **Fossil-based biodegradable plastics**, such as polybutylene adipate terephthalate (PBAT) or polyvinyl alcohol (PVA).

Note: Compostable and biodegradable, non-recyclable plastics used for fashion and textiles are out of the scope of The Fashion Pact's targets (based on current applications in fashion and viability for composting or recycling in practice and at scale).

MATERIAL CHOICE INDUSTRY DISCUSSION

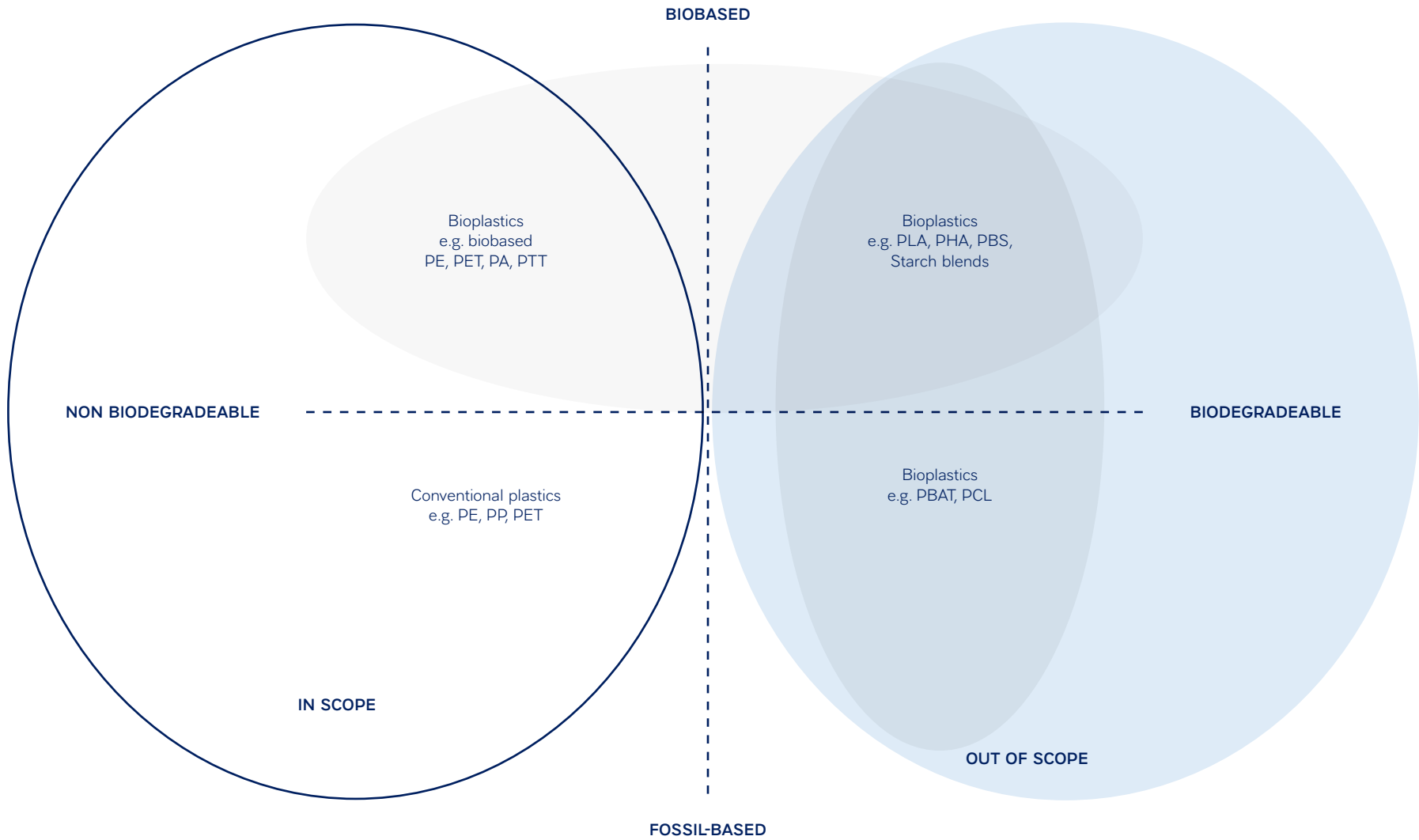
In the fashion industry, choosing recyclable plastic packaging is the preferred after-use option where possible and relevant as there are few targeted applications in fashion for which compostable packaging currently offers a better circular outcome than recycling (see *further explanations on composting p.16*). Material choice is to be considered from a systems perspective, weighing the pros and cons of each solution. For example, it should be evaluated if collection and recycling systems are currently in place for the packaging to be recycled in practice and at scale.

³ International Organization for Standardization (2013) *Plastics — Vocabulary (ISO Standard No. 472:2013)*.

⁴ [Article 3 \(1\) in Directive \(EU\) 2019/904](#) of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment. (2019) *Official Journal of the European Union* L155/8.










⁵ Bio-plastics Europe (n.d.) [Bio-plastics](#).

Figure 1: Material choice



Source: EUBP, scopes added

Figure 2: Main plastic packaging types, applications in fashion & current recycling in practice

	PET bottles (for comparison)	Polyethylene Terephthalate	High collection rates thanks to separate collection schemes (e.g. deposit-refund systems). Stable demand for rPET	 <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Recycling in practice</p>
	HDPE rigids	High Density Polyethylene Hangers, shopping bags, shampoo & detergent bottles	In Europe, recycling rates are linked to supply and demand. HDPE rigids: recycled at relatively high rates but to lower qualities due to material complexity.* Such material complexity is an issue for food contact suitability. HDPE flexibles such as polybags (other than recycled in a closed-loop) are usually not recycled at such a high rate.	
	PP rigids	Polypropylene Hangers	Recycled at relatively high rates but to lower qualities due to material complexity. For hangers, B2C collection for recycling systems are currently not in practice and at scale*	
	LDPE flexibles	Low Density Polyethylene Polybags, squeeze bottles, cling wrap, shrink wrap, rubbish bags	Recycled to some extent	
	Other PET (rigids & flexibles)	Polyethylene Terephthalate	Non-bottle PET is recycled to much lower extent than bottles due to most rPET demand going to recycled bottle PET. Flexible PET recycling schemes are not in place in practice and at scale.	
	PP flexibles	Polypropylene Swiftachs, polybags	Not recycled in practice as mono-stream*	
	PS & EPS	Polystyrene Cosmetic containers, hangers, imitation crystal glassware, drinking cups Expanded polystyrene Protective packaging for fragile items	Too small volumes in consumer packaging and low secondary value to collect and sort as part of recycling stream. Some recycling in B2B packaging and construction materials (insulation)*	
	PVC	Polyvinyl Chloride Cosmetic containers, commercial cling wrap	Not recycled in consumer packaging and is disruptive to other streams (e.g. PET). Issues with phthalates and other additives. Some recycling in non-packaging materials	
	Other polymers and multi- material formats	Multimaterial, flexible films e-commerce mailers, adhesive labels / ABS: Hangers, water cooler bottles / PBAT, PVA, etc: biodegradable or compostable bags	Heterogeneous material group; too difficult and expensive to separate materials, while demand for recycled multi-materials is negligible	

* Except for closed-loop recycling systems where recycling rates can be higher
Source: Adapted from Chemsec, based on PRE, Eurostat, Eunomia, Plastics Europe

PACKAGING

Packaging (product): Product to be used for the containment, protection, handling, delivery, storage, transport and presentation of goods, from raw materials to processed goods, from the producer to the user or consumer, including processor, assembler or other intermediary.⁶

Primary packaging: Packaging designed to come into direct contact with the product.
→ Example: cosmetic container, hang tag, hanger, garment cover.

Secondary packaging: Packaging designed to contain one or more primary packaging, together with any protective materials where required.
→ Example: shopping bag, multi-buy.

Tertiary packaging (distribution packaging, transport packaging): Packaging designed to contain one or more articles or packages, or bulk material, for the purposes of transport, handling and/or distribution.
→ Example: (e-commerce) shipping box or container, master polybag, e.g., to protect from dust or rain.

These different categories can both be used in:

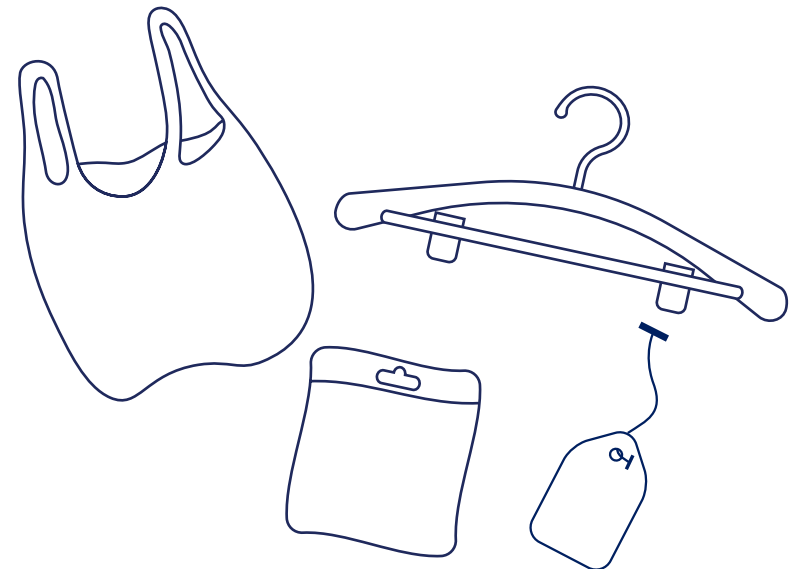
- **B2C, consumer packaging (i.e., retail packaging, sales packaging):** Packaging constituting, with its contents, a sales unit for the final user or consumer at the point of retail.
- **B2B, industrial packaging:** Packaging for raw materials, components and partially manufactured or finished goods for distribution from manufacturer to manufacturer and/or other intermediaries such as processor or assembler.

Note: As part of The Fashion Pact, packaging considered should include primary, secondary, and tertiary plastic packaging.

Designing plastic packaging for recycling

Plastic packaging materials must be identified and sorted in the plastic recycling stream to then be effectively recycled. According to the [RecyClass recycling methodology](#), a packaging containing more than 50% of non-plastics (by weight) likely belongs to another recycling path (e.g., paper, aluminium, glass or combined cardboard materials).⁷

Packaging design plays an important role in ensuring materials circulate and remain in use. For example, in a circular economy, plastic packaging should be entirely made of plastic where possible and relevant (i.e., mono-material); or if made from a combination of materials, non-plastic materials should not be welded together and can be separated to ensure materials can be recycled.⁸



⁶ International Organization for Standardization (2016) *Packaging – Vocabulary – Part 1: General terms (ISO Standard No. 21067-1:2016)*; [EU Directive 2019/904](#); European Parliament and Council [Directive 94/62/EC](#) of 20 December 1994 on packaging and packaging waste (1994) *Official Journal of the European Communities* L 365/10.

⁷ RecyClass (n.d.) [Recyclability: Methodology](#). Plastics Recyclers Europe.

⁸ Ibid.

PROBLEMATIC OR UNNECESSARY

The following list of criteria and guidance can help identify problematic or unnecessary plastic packaging.⁹ Fulfilling a single criterion in this list is enough to consider an item problematic or unnecessary.

1. It is not reusable or recyclable



See definitions of 'reusable' on p.12, and 'recyclable' on p.13 for further detail.

2. It contains, or its manufacturing requires, hazardous chemicals that pose a significant risk to human health or the environment (applying the precautionary principle)

Hazardous chemicals are chemicals that show intrinsically hazardous properties: persistent, bio-accumulative and toxic (PBT); very persistent and very bio-accumulative (vPvB); carcinogenic, mutagenic, and toxic for reproduction (CMR); endocrine disruptors (ED); or equivalent concern, not just those that have been regulated or restricted in other regions.¹⁰

Although compliance with health and safety standards is to be ensured by plastic producers, brands and retailers can encourage their suppliers to align with these requirements when buying packaging from third parties. For further guidance on chemicals to substitute in the textile industry, please visit Chemsec's [Substitute It Now \(SIN\) List](#), [Marketplace](#) or [Zero Discharge of Hazardous Chemicals \(ZDHC\)](#) to find safer alternatives to hazardous chemicals. Alternatives are to be considered in compliance with international and local regulations in places where products are put on the market, such as [REACH](#) in the EU.

3. It can be avoided (or replaced by a reuse model) while maintaining utility

A plastic packaging or plastic item is considered avoidable (from being put on the market) if it does not have a clearly identified technical function, i.e., for:

- protection,
- transportation,
- hygiene and safety,
- ensuring product integrity,
- providing information required by regulation,
- or if a viable alternative exists or can be developed for the necessity.¹¹

¹¹ Ministère de la Transition écologique et solidaire (2019) [National Pact on Plastic Packaging](#).

Companies are encouraged to perform an analysis of avoidable packaging in their portfolio, identifying opportunities for substitutions with more circular alternatives. This list may vary from one company to another based on the business model and viability of alternatives.

4. It hinders or disrupts the recyclability of other plastic items

Packaging that can potentially hinder or disrupt the recyclability of other plastic items including, for example, those inducing cross-contamination of compostable and recyclable material streams (e.g., plastic films such as single-use carrier bags), materials that are collected with other materials (e.g., PP with PE) or made with inks that bleed, insoluble adhesives, etc. To avoid such disruptions, it is necessary to consider the specificities of current recycling systems in place, and to strive towards standardisation (e.g., as water bottles are all made from PET).



See the relevant [case study's](#) design for recyclability sections in this document for further guidance.

5. It has a high likelihood of being littered or ending up in the natural environment

As there is currently no study identifying which packaging used in the fashion industry is most likely to be littered or end up in the environment, this needs to be considered on a case-by-case basis when evaluating a portfolio. In general, items frequently found in the environment include single-use shopping bags, small plastic packaging prone to escaping collection systems and packaging of products unpacked on the go or away from home.

⁹ Ellen MacArthur Foundation (2020) [New Plastics Economy Global Commitment: Commitments, Vision and Definitions](#); Ministère de la Transition écologique et solidaire (2019) [National Pact on Plastic Packaging](#).

¹⁰ ZDHC (n.d.) [Roadmap to Zero](#). ZDHC Foundation.

SINGLE-USE PLASTIC

Single-use plastic product: A product that is made wholly or partly from plastic and not conceived, designed or placed on the market to accomplish, within its life span, multiple trips or rotations by being returned to a producer for refill or re-used for the same purpose for which it was conceived.¹²

Note: The Fashion Pact's initial target on elimination of plastic packaging was reworded in 2021, moving away from the term 'single-use' to 'problematic or unnecessary' to be more encompassing and aligned with the Ellen MacArthur Foundation and UNEP's Global Commitment's widely adopted targets on plastic packaging.

REUSABLE

Reusable packaging: Reusable packaging is designed to be used multiple times for its originally intended purpose or as part of a dedicated system for reuse. Reusable packaging is brought back into the economy through the cleaning of the entire intact packaging.¹³

Explanatory notes:

Attention should be paid to the intended use and function of the packaging in order to verify whether it is being reused for the same purpose or a secondary use. In the latter case, the packaging is not considered as reusable packaging.¹⁴

A package is considered reusable if the design of the packaging enables it to accomplish a number of trips or rotations in normally predictable conditions of use.¹⁵

For example, in the fashion industry:

- An e-commerce shipping bag that gets sent back by the user for several future-use cycles for the same purpose is considered reusable.

- A plastic hanger designed to be used only once for the display of a garment (e.g., garment-on-hanger) or hangers said to be 'designed durable' cannot be considered reusable if there is no system in place to ensure reuse. If the hanger is given away to the customer with every purchase, there is no incentive or system for customers to reuse these between garments, and no guarantee that these will be reused for the garments themselves, rather than being discarded. In addition, B2C recycling systems for hangers currently do not exist in practice and at scale.



See examples of reuse solutions for hangers [p.28](#).

A reusable packaging is to be designed for recycling so that, when reaching the end of its use-cycle after going through a number of reuse cycles, materials remain in use in the economy.



For further detail on this definition, see the Ellen MacArthur Foundation's [Global Commitment: Commitments, Vision and Definitions document](#), p.9-10.

Removing roadblocks to scale-up reusable packaging in the fashion industry

If reuse models are already in place for certain packaging types in the fashion industry, such as for B2B services for hangers, other reuse solutions remain incremental or are still to be scaled. Different solutions and innovation opportunities can be explored to overcome roadblocks to scaling reusable packaging in fashion in both B2B and B2C, such as:

B2B:

- Standardising reusable packaging in the supply chain, while allowing for brand differentiation; investing in regional, shared sorting and cleaning infrastructure to reduce costs and increase efficiency.
- Collaborating with a turn-key provider who provides the reusable packaging as a service.

¹² [EU directive 2019/904](#)

¹³ Ellen MacArthur Foundation, *Circular economy introduction: Glossary*; International Organization for Standardization (2013) *Packaging and the environment — Reuse (ISO Standard No. ISO 18603:2013)*.

¹⁴ [ISO 18603:2013](#)

¹⁵ Ibid

B2C:

- Facilitating easy returns and logistics (e.g., with a subscription service, deposit or reward scheme) or sharing packaging and infrastructure with others can reduce costs of reverse logistics and benefit the system's efficiency.
- IT automation, such as tagging and tracking packaging to reduce losses, gathers insights and increases the system's efficiency.



For further guidance on solutions for reusable packaging, see the Ellen MacArthur Foundation's [Upstream Innovation: A guide to packaging solutions](#), p.76-115.

'In practice' means that within each of these regions, the recycling system (end-to-end system from consumer to recycled material) effectively recycles a significant share of all packaging of that type put on the market, e.g., at least 30% post-consumer recycling rate is achieved. See the [recyclability assessment methodology on the next page for further guidance](#).

This definition does not ask for all plastic packaging to be proven to be recyclable in every market where products are sold by 2025/2030. The definition does ask for clear proof points that recycling is happening in practice and at a scale, demonstrating replicability, and indicating that the packaging design (which is entirely within the producer's control) is not a barrier to making recycling work in practice.¹⁷



For the full definition notes and explanations, see Ellen MacArthur Foundation's [Global Commitment document](#), p.11-14.

RECYCLABLE

Recyclable packaging: Packaging is considered recyclable if successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale.¹⁶

Note: Packaging for which the only proven way of recycling is recycling into applications that do not allow any further use cycles (for example plastics-to-roads) cannot be considered 'recyclable packaging'.

'At scale' implies that proof of function is more than a lab test, a pilot or a single small region. Recycling of a certain packaging type needs to be proven to work in practice in a significant geographical area in terms of population size, ideally across different country and city archetypes, e.g., over 400 million inhabitants in a region or globally. This indicates that the recycling in practice is replicable, and that the design of the packaging is not the barrier to realising recycling in practice in other countries.

Explanatory notes:

High quality recycling processes and recycled materials are essential in a circular economy, in which the aim is to keep materials at their highest utility at all times.¹⁸ This maximises the value retained in the economy, the range of possible applications for which the material can be used, and the number of possible future life cycles. It therefore minimises material losses and the need for virgin material input.

Maximising the quality and value of materials during recycling is made possible through a combination of packaging design and high- quality collection, sorting, cleaning, and recycling technologies and systems.

Useful Resources: Design for recycling guidelines by organisations such as [Recyclclass](#) in the EU, [SUEZ.circpack@](#) (same guidelines as Recyclclass for plastics) or the [APR](#) in the US bring technical and in-depth analysis of design for recycling prerequisites.

16 Ellen MacArthur Foundation (2020) [New Plastics Economy Global Commitment](#).

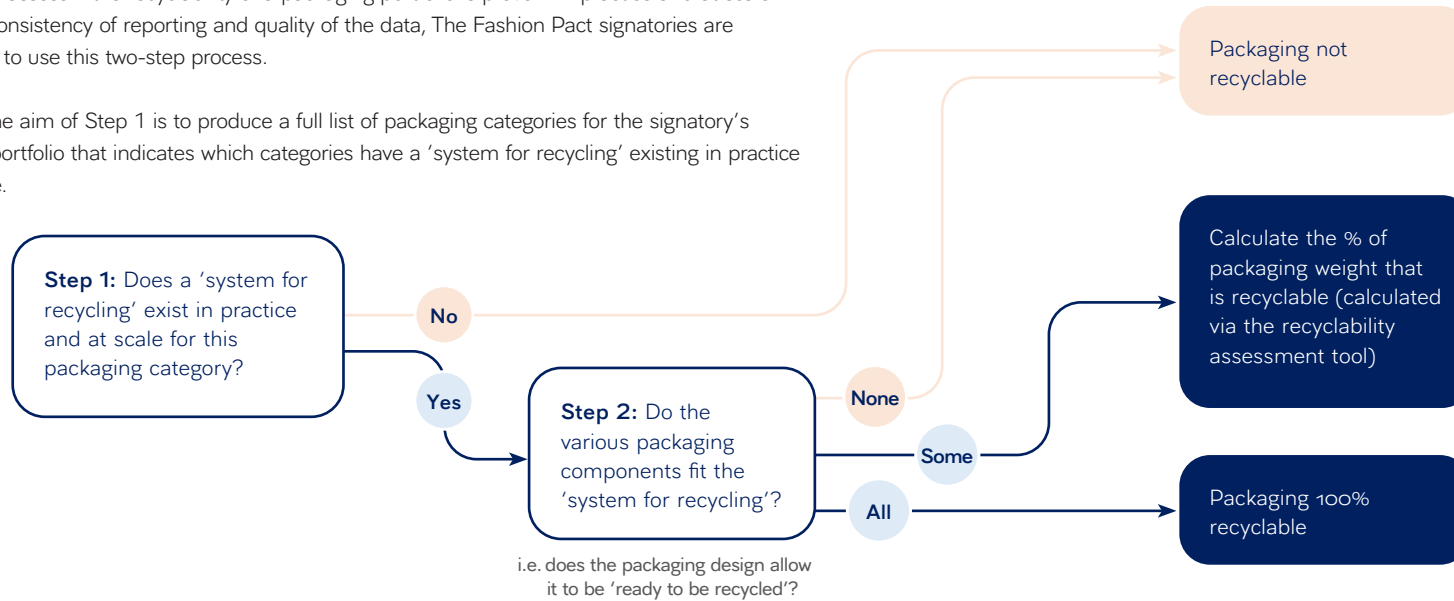
17 RecyClass (n.d) [Recyclability: Methodology](#).

18 Ellen MacArthur Foundation, [New Plastics Economy Global Commitment](#).

Suggested recyclability assessment methodology

The following test and threshold developed by the Ellen MacArthur Foundation can help an organisation assess if the recyclability of a packaging portfolio is proven 'in practice and at scale'. To ensure consistency of reporting and quality of the data, The Fashion Pact signatories are encouraged to use this two-step process.

STEP 1: The aim of Step 1 is to produce a full list of packaging categories for the signatory's packaging portfolio that indicates which categories have a 'system for recycling' existing in practice and at scale.



To assess if a 'system for recycling' exists in practice and at scale, signatories are asked to assess if the packaging category achieves a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants.¹⁹

A possible alternative, especially relevant for more local players, is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold (this 'market' can be any size, for example, it could be a specific stadium or event, or a country).²⁰

Note: Brands and retailers can contribute to the improvement of this Step 1, for instance through extended producer responsibility (EPR) or another collective approach, by collaborating with policymakers such as municipalities, etc.

¹⁹ Regions can be any geographic area (countries, states, provinces, ...), anywhere in the world, independent of where an organisation is based.

²⁰ The above thresholds are not intended to be achieved today, but aim to define an ambitious yet realistic target to reach by 2025/2030.

Packaging categories can be defined by combinations of materials, packaging formats and, where relevant, customer type (B2C versus B2B), and/or other criteria. The main rule of thumb is that packaging items that are not treated by the same 'system for recycling' or are treated as separate 'streams' of materials in certain 'systems for recycling' should be split into different categories.

A '**system for recycling**' is an entire end-to-end system from consumer to recycled material, including collection, in some cases sorting, and reprocessing (which could include washing, drying, shredding, etc.) into recycled materials. This can be a formal or an informal system, as long as it works in practice and at scale.*

STEP 2: If no 'system for recycling' exists in practice and at scale for a certain packaging category, packaging in that category does not meet the definition of 'recyclable packaging' at this moment in time. However, this packaging may be considered under a company's percentage of packaging as 'designed for recycling'.

If a 'system for recycling' does exist in practice and at scale for a certain packaging category, it is important to move to Step 2, which looks deeper into the detailed **design (size, colourants, additives, glues, inks, etc.) of that specific packaging and its components**. In order to assess if the different packaging components fit that system. In other words, it assesses if the different packaging components, once they enter the system, are likely to successfully run through the 'system for recycling' and end-up actually being recycled.²¹

If, for example, a 'system for recycling' exists in a country in practice and at scale for LDPE polybags, it should not be assumed that every single LDPE polybag can be considered recyclable in this geographic area. Size, colourants, additives, labels, glues, inks, caps/lids etc. could all hinder the recycling of a specific polybag.



For more guidance on how to interpret 'in practice and at scale' and the full recyclability assessment methodology, please consult Ellen MacArthur Foundation's [Global Commitment](#) document, p.66-69 and 75.

* 'Recyclable in practice and at scale', i.e., reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players, is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold – see more details on the 'recyclable' definition p.13.

21 Ellen MacArthur Foundation (2021) *New Plastics Economy Global Commitment: Reporting guidelines*.

POST-CONSUMER RECYCLED CONTENT

The Fashion Pact's recycled content commitment aims to increase the use of post-consumer recycled content.²²

Post-consumer recycled content: Proportion, by mass, of post-consumer recycled material in a product or packaging.

Note: ISO 14021 clarifies 'post-consumer material' as material generated by households or by commercial, industrial and institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

Explanatory notes:²³

- While a circular economy encourages that pre-consumer waste is kept in the system, the priority is to avoid such pre-consumer waste as part of an efficient production process. This definition therefore excludes pre-consumer recycled content.²⁴
- Transparency on the nature of the recycled content (i.e., post-consumer versus pre-consumer) is to be ensured whenever possible.
- As referred to in ISO 14021, the percentage of recycled material (by weight) shall be mentioned when a claim of recycled content is made, separately stating the percentage of recycled content used in products and packaging, without aggregating it.
- Amounts and quality of packaging made from recycled content should be in line with relevant food contact and health and safety regulations in countries where packaging is put on the market.
- Various verification systems from different assurance bodies exist to verify or certify the use of recycled content.

22 International Organization for Standardization (2016) *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling) (ISO Standard No. 14021:2016)*.

23 Ellen MacArthur Foundation (2020) *New Plastics Economy Global Commitment*.

24 International Organization for Standardization (2016) *Environmental labels and declarations*.

Key actions to enable material circulation in the fashion industry

Brands, retailers and their suppliers have an important role to play in ensuring packaging from the fashion industry gets collected and recycled in practice. Key action steps that can be taken to enable material circulation include:

- Tracing types and amounts of plastic packaging used
- Designing or purchasing packaging (from product or transport suppliers)
 - made out of a minimum % of recycled content,
 - which are also recyclable, to ensure materials remain in use in the economy.



For further information, see ReCyclclass and SUEZ.circpack@ design for recycling guidelines (same guidelines for plastics); [APR design for recycling guidelines](#); or the [Walmart Recycling Playbook](#).

- Implementing zero-waste collection and a recycling system of plastic packaging in own operations, e.g., of B2B packaging in stores and warehouses. If possible, packaging is collected as a clean, separated plastic material stream, ensuring high-quality recycled material output.
- Encouraging/working with local authorities to implement the collection and recycling of B2C packaging to ensure it can be recycled in practice and at scale. For example, Extended Producer Responsibility (EPR) schemes are a proven way to increase collection for recycling rates for packaging.

Notes:

1. ISO 14021's usage of term clarifies post-consumer material as material generated by households or by commercial, industrial and institutional facilities in their role as end users of the product that can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

2. 'At scale' implies that there are significant and relevant geographical areas, as measured by population size, where the packaging is composted in practice.



For further explanatory notes on this definition, see p.15-17 of the [Global Commitment definitions document](#).

The term 'compostable' should be preferred to 'biodegradable' when applicable, as biodegradable indicates that a material is able to be broken down into carbon dioxide, water, and biomass by the natural action of microorganisms, but the term by itself does not define how quickly this process will occur, or a specific set of conditions that are required for biodegradation to take place in practice.²⁶

'Compostable' packaging often refers to industrial compostable packaging, i.e., that is certified to compost in a controlled, time-framed process in an industrial facility, with a collection system in place. Home and collective composting can be alternatives where industrial facilities are not in place, although the process remains subject to the variability of householders' skills and experience, with a non-standardised final product.

Note: Compostable and biodegradable, non-recyclable plastics used for fashion and textile are out of the scope of The Fashion Pact's targets (based on current applications in fashion and viability for composting or recycling in practice and at scale).

COMPOSTABLE

Compostable packaging: packaging or a packaging component can be considered industrially compostable if it is compliant with relevant international compostability standards, such as ISO 18606, EN13432, ASTM D-6400 and AS4736, and if successful post-consumer collection, sorting, and composting of the packaging is proven to work in practice and at scale.²⁵

²⁵ Ellen MacArthur Foundation, *New Plastics Economy Global Commitment*; Ellen MacArthur Foundation (2020) *Upstream Innovation*.

²⁶ Bio-plastics Europe (n.d.) *Bio-plastics*.

Compostable plastics are not a blanket solution in fashion

Compostable plastics are plastics that are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste but can fit in a circular economy for targeted applications such as packaging in contact with food. This packaging allows biological nutrients to return to the soil in areas where relevant collection and composting infrastructure are in place to ensure the packaging is composted in practice. In the fashion industry, the use of compostable packaging is to be evaluated, carefully weighing the pros and cons, and chosen only if it achieves a better systemic outcome than recycling. It also must be ensured that compostable plastics (e.g., films) do not contaminate or hinder the recyclability or compostability of other items. As such, designing or purchasing recyclable packaging is preferred over composting in most cases in the fashion industry, as there are few targeted applications for which compostable packaging currently offers a better circular outcome.



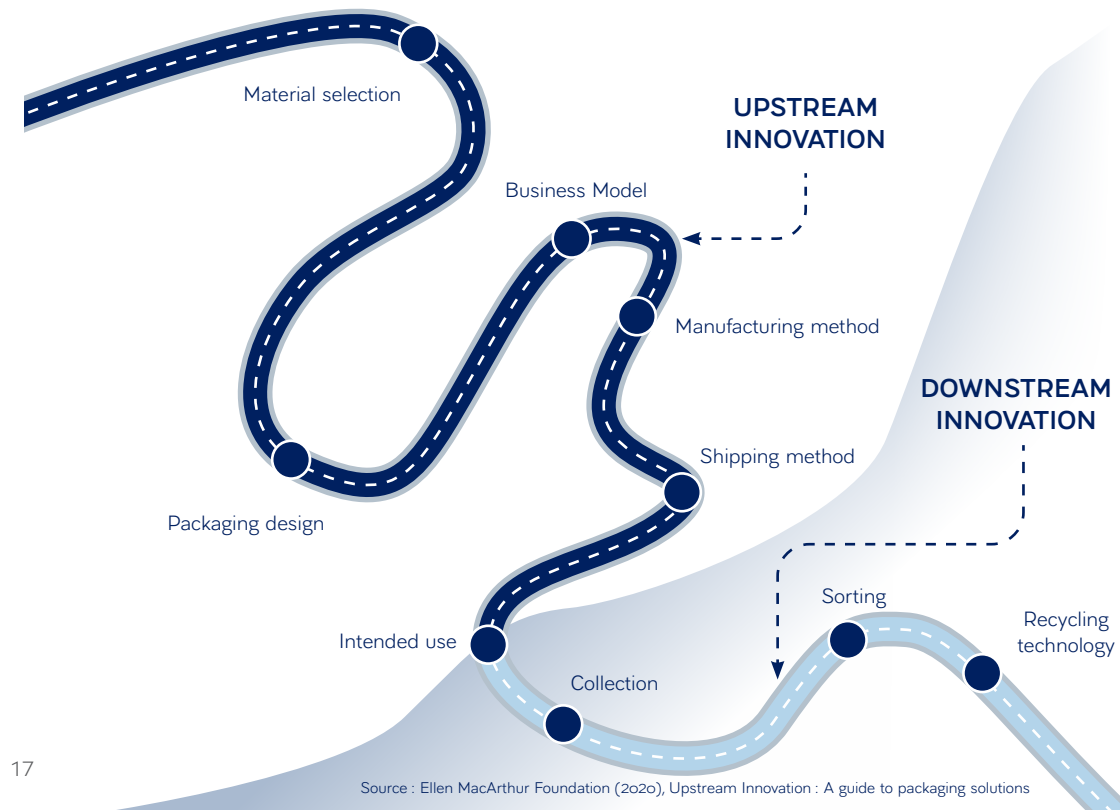
For further detail, see the [Global Commitment definitions document](#), p.14.

UPSTREAM INNOVATION WHAT / WHY / HOW?

WHAT?

In a circular economy, upstream innovation means that rather than working out how to deal with a pile of waste, we work out how to prevent the waste from being created. Upstream innovation is about rethinking products and services at the design stage.

Upstream innovation requires rethinking not just the packaging but often also the product and the broader business model to identify new ways of delivering value to users, while designing out waste.



WHY?

By redesigning products, materials, and services, it is possible to tackle plastic pollution by preventing waste from being created in the first place, which also helps reduce carbon emissions. Applying an innovation mindset allows brands to deliver the real-world solutions customers want and capture untapped business opportunities.

plastics, and downcycling to lower-value applications does not allow plastics to maintain value in the economy for several use cycles. When packaging (both reusable and single use) can no longer serve its function, the material should be circulated through recycling. Whilst such processes involve numerous downstream elements (such as collection, sorting etc.), upstream innovation (such as material selection, and packaging design) is key to ensuring the technical, practical and economic viability of the system.

HOW?

These are three strategies to achieve a circular economy for plastic packaging:²⁷

1. Always begin by trying to eliminate the packaging.



To achieve a circular economy, we need to curb the growth of the number of materials that exist.

2. Secondly, if packaging is essential, consider how redesigning the product, packaging, or business model might enable reuse.



Reuse not only offers a new range of solutions to plastic pollution, but also the potential to unlock significant business benefits. For example, reuse can help to cut costs, adapt to individual needs, optimise operations, build brand loyalty, improve user experience, and gather intelligence on consumers.

3. Thirdly, if the packaging can't be eliminated or reused, how might the materials at least be circulated?



In a circular economy, plastics remain in circulation at their highest quality and value possible. As such, landfilling and energy recovery do not fit in a circular economy for

²⁷ Ellen MacArthur Foundation (2020) *Upstream Innovation*.

DECISION-MAKING TOOL FOR PACKAGING IN THE FASHION INDUSTRY

The following tool, based on the Ellen MacArthur Foundation's Upstream Innovation [framework for packaging](#), aims to provide guidance on key questions to consider when rethinking packaging, product or business models to eliminate problematic or unnecessary packaging in the fashion industry. The same questions can be applied to any type of plastic packaging.

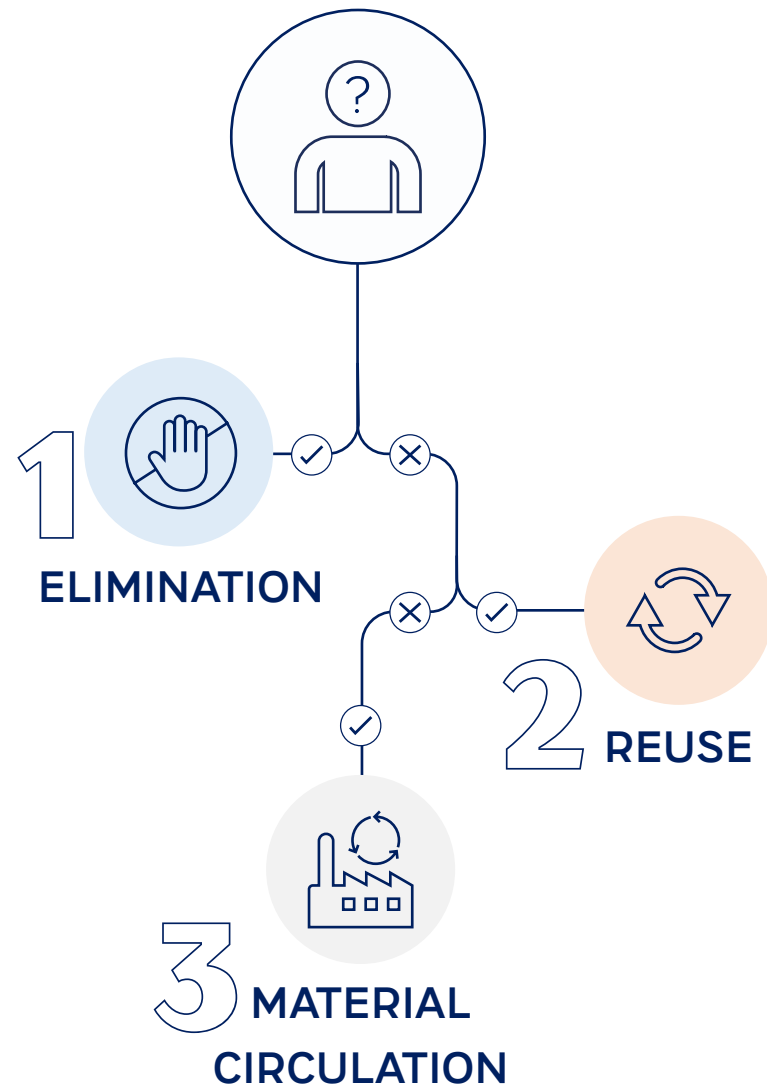
This tool can support organisations that are in conversation with a wide range of stakeholders, from sustainability or marketing professionals and product designers to packaging engineers from brands, retailers and suppliers across the supply chain as well as distribution centre operations.



For concrete examples of how this framework can be applied to specific packaging, see the Case Studies section of this document, [p.21](#).

HOW TO USE THIS TOOL

1. Choose a specific packaging.
2. With this packaging in mind, run through each of the questions in the 'Strategy 1– Elimination' column, considering what solutions could be explored when rethinking packaging, product or business model. Answering 'Yes' to any of the questions indicates an area where action could be taken to eliminate problematic or unnecessary (plastic) packaging.
3. Repeat the process for 'Strategy 2- Reuse' and 'Strategy 3–Material Circulation' columns.²⁸



²⁸ For each of these strategies, it is important to ensure that the solution chosen does not result in unintended consequences, such as an increase in waste production.

1 ELIMINATION



Always begin by trying to eliminate the need for the packaging

Direct elimination

Is there unnecessary packaging that could be removed without adverse effects? Consider the following:

- Can protection of products be ensured without/with less packaging?
- Do multi-buys need to be held together?
- Can seals or other loose components be integrated into the main packaging?

Innovative elimination

Could rethinking the product, the packaging itself or the business model eliminate the need for single use?

Consider the following:

- Can the product be modified to change the packaging requirements?
- Can the functionality of the packaging be integrated into the product itself (e.g., QR code)?
- Can changes along the supply chain eliminate the need for packaging?

2 REUSE



If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

B2C reuse

Is it possible to replace single-use packaging with a reusable alternative?

Consider the following:

- Can packaging for reuse improve customer loyalty through deposit and reward schemes?
- Can a subscription service facilitate easy returns for users?
- Can digital technology such as tagging and tracking packaging provide useful insights on customer behaviour?
- Can sharing packaging and infrastructure with others reduce costs of reverse logistics and benefit the system's efficiency?

B2B reuse

Could moving towards standardised reusable packaging in the supply chain be an option? Consider the following:

- Can tagging the packaging benefit the efficiency of the system as a whole?
- How might data enable assets to be pooled across sites, businesses or sectors?
- How might similar infrastructure requirements reduce supply chain costs for all?
- Instead of owning the packaging, could a turn-key service provider be an option?

3 MATERIAL CIRCULATION



Ensure all packaging and plastic components are designed so that the materials can be circulated

Plastics recycling

Is all packaging compatible with recycling in practice and at scale? Consider:

- Can packaging be redesigned to fit with established recycling streams (material, colours, labels, inks etc. in line with design for recycling guidelines)?
- Does it hinder the recycling of other packaging?
- Can the packaging drive demand for recycled content?
- Can the packaging be collected before it reaches the user?

Substitution

Can substituting a non-plastics material ensure material circulation?

Consider:

- Can paper substitute hard-to-recycle plastic films or foams to improve recycling rates?
- Is the material used responsibly sourced and regenerative?²⁹

²⁹ That is, can the materials used in the solutions be sourced in a way that does not damage ecosystems, cause losses to biodiversity service provisions, or impede human health or worker rights?

CASE STUDIES

EXPLORING SOLUTIONS FOR KEY PLASTIC PACKAGING ITEMS

Based on the Upstream Innovation framework laid out in the previous section, the following case studies aim to show how this tool can be applied concretely to rethink the plastic packaging items most frequently used in the fashion industry. These include:

- Polybags
- Hangers
- E-commerce shipping bags
- Swiftachs (hang tag fasteners)
- Garment stickers

These have been identified as priority items by The Fashion Pact signatories when eliminating problematic and unnecessary plastic packaging from their portfolios (acknowledging that the list can vary from one company to another).

The decision-making tool can be applied to any plastic packaging in a portfolio to explore further opportunities to eliminate waste by design.

ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

There is no silver bullet that can be applied for all plastic items as choices vary depending on a company's business model, supply chain, logistics, warehousing processes, product delivery, location of production and use. Each solution comes with trade-offs which must be carefully evaluated according to the company's product, priorities and targets. Solutions should always be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences where possible, such as environmental spillovers, and ensuring that garment waste is not increased.

CASE 1: POLYBAGS

POLYBAG

A polybag³⁰ is a clear, typically low-density polyethylene- (LDPE) based plastic bag that protects a garment during transit from manufacturing sites to distribution centres and onwards to retail stores and consumers' homes (through e-commerce). These bags may have specific closures, such as adhesives or plastic strips and are often printed with inks displaying warning labels and branding. Often, paper-based stickers are placed on the bags displaying product information and bar codes.



30 Holding, A., & Gendell, A. (2019) *Polybags in the Fashion Industry: Evaluating the Options*. Fashion for Good and The Sustainable Packaging Coalition.

What is not included in this definition: Any other kind of plastic packaging, such as e-commerce mailing bags and retail shopping bags.

WHY FOCUS ON POLYBAGS?

It is estimated that around 180 billion single-use plastic polybags are produced each year by the fashion industry to package garments. Fewer than 15% are currently collected for recycling.³¹ Polybags provide protection from dust, dirt, moisture, scratches, tearing and punctures during processing, packaging, transportation to the distribution centre, shipping and storage (including in wholesale and retail environments). The transparency of the bags allows the garment and its hang tags to be viewed for organisational and inventory management purposes. Polybags are used by nearly all brands and retailers along the supply chain, although they are sometimes removed before the item gets to the consumer, going unnoticed. Although polybags' environmental impact can seem relatively low compared to the cost of damaged garments should use of the bags be eliminated, there is an increasing demand from consumers and retailers to adopt more circular alternatives. Main solutions include eliminating the need for the polybag altogether, using master polybags encasing several garments or switching to reusable polybags.³²

ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

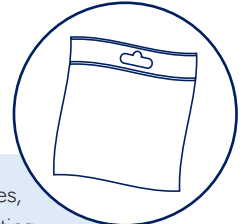
Different solutions and innovation opportunities can be explored to eliminate single-use polybags depending on business models, supply chains, logistics, warehousing processes and local conditions. Each solution comes with trade-offs, which must be evaluated carefully depending on a company's product, priorities and targets. Solutions should be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences, such as environmental spill-offs and ensuring that garment waste is not increased with associated higher costs and loss of natural resources and emissions.



For more information on polybags, please see Fashion for Good's whitepaper, [Polybags in the Fashion Industry](#).

31 Bio-plastics Europe (n.d.) *Bio-plastics*.

32 RecyClass (n.d.) *Recyclability: Methodology*.



ELIMINATION

Always begin by trying to eliminate the need for packaging

1

Are there unnecessary polybags in my portfolio which do not provide an essential function and could be removed without adverse effect?

Yes

No

Could rethinking the product, the packaging itself or the business model eliminate the need for polybags?

E.g. consider if different folding techniques or packing guidelines can help reduce or eliminate the need for the polybag, while keeping the garment, label or hang tag in place? Can digital innovation provide product information differently? Can innovative solutions such as non-toxic protection spray, or techniques such as ironing of the garment eliminate the need for polybags? Can one 'master polybag' encasing multiple products replace individual polybags? Can changes be made along the supply chain or in B2C logistics to eliminate the need for polybags?

Yes

No



ELIMINATE

2



REUSE



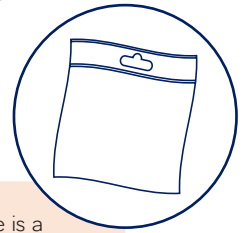
THE FRAMEWORK APPLIED

Picture Organic Clothing figured out that polybags were not necessary for beanies, caps, wetsuits, underwear, backpacks, water bottles, leggings and tote bags, resulting in 21% elimination of polybag use for winter 2020/21 – an equivalent of 2.5 tons of plastic and 170,895 polybags. Ralph Lauren enables consumers to choose a reduced packaging option when ordering on their website, such as packaging without garment polybags or hangers. To make this possible, Ralph Lauren updated their customer service website, changed their packing process and trained customer service employees and distribution centres on the new procedure.

Rethinking the bigger packaging system can also reduce or eliminate polybags.

New folding techniques, such as those used by prAna, and outdoor retailer REI allowed them to successfully eliminate most single-use individual polybags. This was done by, for example, lining large shipping boxes with a single PE master polybag, while rolling certain garments and tying them with a small piece of undyed recyclable fibre-based string. This strategy can be particularly relevant for brick-and-mortar retail channels where garments are removed from their polybag before sale, with no specific need for individual units. Similarly, Calzedonia switched to plastic-free B2B shipments of hosiery multipacks. Educating the entire supply chain about prAna's packaging guidelines was key in keeping garments folded and undamaged with the label or hang tag in place. Similarly, Amazon's 'Frustration Free Packaging' programme guidelines provide strict guidance on packaging requirements for vendors, eliminating unnecessary components and ensuring packaging recyclability. Ensuring **manufacturing factories and distribution centres are cleaned regularly** could also be explored as an option to reduce the need for product protection from dust.

In addition, **technological solutions** can be explored as a different means for **providing product information**. For example, Fashion for Good's Organic Cotton Traceability Pilot embedded scannable digital markers in products, removing the need for a hangtag, and Lush removed packaging from its stores by using an augmented reality recognition app.



REUSE 2

If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

Is it possible to replace single-use polybags with a reusable alternative B2C?
 E.g. consider if reuse could be facilitated by moving manufacturing sites or distribution centers closer to points of sale? Could easy return of reusable polybags be facilitated and high return rates ensured by deposit/reward schemes? Can the customer experience be enhanced? Can sharing packaging and infrastructure or using a service provider reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No

Could moving towards standardised reusable packaging in the supply-chain be an option?
 E.g. consider if rethinking the supply chain allows for a reusable packaging alternative, while preventing damage or losses? Can sharing packaging and infrastructure with others reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No

REUSE

3

MATERIAL CIRCULATION



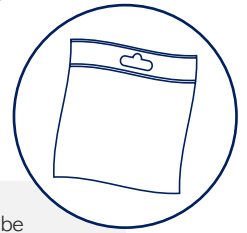
THE FRAMEWORK APPLIED

There are few examples of **reusable alternatives** to polybags at scale, but reuse is a viable solution, especially where manufacturing sites are located close to end markets due to shorter transport distances. **Burberry** is exploring a polybag reuse scheme at their Hong Kong LFC. In the US, start-up **Returnity** is offering a reusable shipper to brands and retailers eliminating the need for polybags in the supply chain. Moving towards **standardised reusable** packaging and **sharing infrastructure** could reduce costs and make reuse a viable alternative.

As polybags are currently not recyclable in practice and at scale in many geographies, the specific market context where packaging is sold must be considered when thinking about recyclability and making decisions about which solutions to prioritise.

To ensure polybags are designed for recycling, Rossignol stopped printing on their polybags to ensure these are compatible with recycling protocols. The Fashion Pact signatories are also experimenting with vegetable ink on packaging or removing lamination from branded packaging.

When designed for recycling, increasing post-consumer recycled content in recyclable polybags can also drive demand for recycled plastic and reduce reliance on fossil fuels. Various signatories of The Fashion Pact including **Karl Lagerfeld** and **Adidas** have already moved to 100% recycled content polybags. **BESTSELLER's** polybags are 100% recycled PE-certified by Global Recycling Standard, saving an estimated 1,750 metric tonnes of virgin plastic per year. **Cadel Deinking x Fashion for Good** is producing new high-quality LDPE polybags from post-consumer polybag waste by de-inking and removing adhesives as part of **Fashion for Good's Circular Polybag Pilot**.



MATERIAL CIRCULATION

Ensure all packaging and plastic components are designed so that the materials can be recycled

3

Are all polybags compatible with recycling in practice and at scale?

E.g. make sure the polybags are designed to fit with established recycling streams (adapting material, colours, labels, inks, glues) and ensure that it does not hinder the recycling of other packaging*. Consider if the packaging can drive demand for post-consumer recycled content? Can material usage be reduced without adverse effects i.e. to fit products more tightly or by reducing thickness/weight, whilst still allowing easy packing?

Can the polybag be collected for recycling at an earlier point in the supply chain, before it reaches the user to create a cleaner recycling system?

Yes

No

Can substituting polybags to a non-plastics material ensure material circulation?

E.g. consider if food-industry by-products or paper can substitute the hard to recycle plastic films to improve recycling rates? Make sure the material used is responsibly sourced and regenerative.

Yes



MATERIAL CIRCULATION

THE FRAMEWORK APPLIED

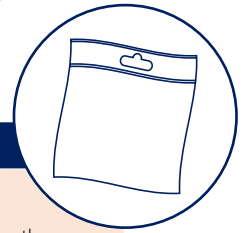
In cases where the polybag cannot be eliminated altogether, material usage can be reduced by **adjusting thickness or using smaller bags that fit garments more tightly**, as long as it does not impact its packing or recyclability.

To lower the loss of material value and ensure polybags are recycled, their **removal and collection for recycling can be shifted to an earlier point** in the supply chain before it reaches the user who may not be able to recycle them at home. This can, for example, be applied back-of-store in retail, by wholesale dealers or in distribution centres for e-commerce. [Surfdome and Patagonia's Plastic Cutback initiative](#) enables the collection of B2B polybags used for transport as a clean, single material stream which can be recycled into new packaging. By partnering with recycler Terracycle since 2011, [The North Face](#) had collected and recycled 4.1 million LDPE polybags from back-of-store retail in 2018. Similar initiatives are led by brands such as [Lululemon](#), [Nike](#), [ASOS](#) or [First Mile x Fashion for Good](#).

Rolling garments and other items tightly with a small piece of undyed, recycled and certified responsible (e.g., FSC) paper band can eliminate the need for individual polybags, such as those used during transit. [H&M Group](#) tested removing inner polybags from its e-commerce supply chain by shipping orders in FSC certified recyclable paper.

In 2020, [Ralph Lauren](#) piloted a programme with selected suppliers to reduce the number of polybags used in transporting products, testing 14 alternatives to polybags, including recycled content bags, biobased bags and bags with lower impact at end of life. [Ganni](#) switched spare button polybags inside clothing to FSC-certified paper bags. In addition, various brands such as [BESTSELLER](#) partnered with environmental organisations such as Canopy (initiatives [CanopyStyle](#) and [Pack4Good](#)) to help eliminate the use of paper and cardboard packaging sourced from ancient and endangered forests and endangered species habitats.

*See p.21 for design for recyclability guidelines for polybags.



HOW MIGHT WE ENSURE POLYBAGS ARE DESIGNED FOR RECYCLING?

As polybags are currently not recyclable in practice and at scale in many geographies, it is important to consider the specific market context where packaging is sold when thinking about recyclability and making decisions about which solutions to prioritise.* If no ‘system for recycling’ currently exists in a region in practice and at scale for polybags but is likely to be set-up in the near future, these can be designed so they are ready to be recycled when collection and infrastructure is in place.

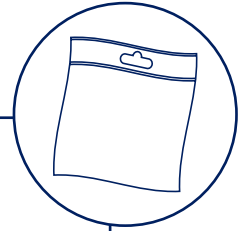
Designing polybags for recycling after use allows organisations to close the loop by keeping materials in use. The following guidance describes the main design ‘do’s’ for polybags, based on RecyClass Design for recycling guidelines for packaging.

Note: This guide focuses on the green table of Recyclas’ traffic-lights system, which gathers the preferred design features that guarantee the best recyclability and quality of the recyclate. The green colour coding is given, considering each material individually. If materials are not separated before collection (for example after mixed collection of B2B plastic in store or warehouse), the recycling of certain materials can be challenging. For example, a mix of PE/PP/paper induces limited compatibility for recycling (PP can be problematic for PE), unless using NIR sorting technology.

Note: Certain polybags are made from PP flexibles, which are currently not recycled in practice and at scale (currently too expensive compared to demand for secondary raw material) – unless recycled in a closed loop. See Recyclas’ design for recycling guidelines for more details.

* ‘Recyclable in practice and at scale’, is defined as reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold. For more details on the ‘recyclable’ definition, see p.13.

Optimise—full compatibility for reprocessing if:			
Main Body		PE flexibles, e.g., LDPE	Paper Note: In a lot of countries the combination of cardboard and plastic is not allowed in the collection system
	Material	Mono-material Incorporate post-consumer recycled and/or renewable content if compatible with recycling	Mono-material: only use paper fibres, certified responsibly sourced (e.g., FSC), incorporate post-consumer recycled content
	Colour	Unpigmented, transparent for transparent films/ light or translucent for coloured films	/
	Size	> A4 or > 50 x 50 mm once compacted	/
	Barrier /coating	Barrier in the polymer matrix; SiOx and AlOx without additional coatings	No coating or lamination
	Additives	Additives that do not increase the density higher than 0,97 g/cm ³	
Attachments	closure, liner, seals	PE	/
Decoration	inks	Non-toxic inks, according to EUPIA guidelines)	Water-based inks
	Labels	PE	Hotmelts with softening point
	Adhesives	Water soluble or water-resealable at < 60° C	> 68°C, layer thickness > 120µm
	Direct printing	Laser-marked print; Printed production or expiry date + for coloured films: printing covering < 50% (temporary solution)	/



COMPOSTABLE PLASTICS ARE NOT A BLANKET SOLUTION IN FASHION

Note: Compostable and biodegradable plastics used for fashion and textile, including polybags, are out of the scope of The Fashion Pact's targets based on current applications in fashion and viability for composting or recycling in practice and at scale.

Compostable plastics are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste, but can fit in a circular economy for targeted applications – such as for packaging in contact with food, allowing biological nutrients to return to the soil – where collection and composting infrastructure are in place. In the fashion industry, the use of compostable packaging and plastic items is to be evaluated carefully weighing the pros and cons and only chosen if it allows organisations to achieve a better systemic outcome than recycling.

For further guidance on polybags, please see:

- [The Fashion for Good Polybag Whitepaper](#) on sustainable alternatives for polybags, such as on materials compatible with recycling or composting p.22—27, on the impact of material choices for polybags p.28-32 and on key actions p.33-37
- [The Ellen MacArthur Foundation, Upstream Innovation: A guide to packaging solutions](#) for guidance on what 'good' looks like for recycling and composting for packaging p.126, 138-143, 148-150 and p.161
- [The Circular Polybag Pilot, Fashion for Good](#), by signatories of The Fashion Pact, on recycled content polybags made from hard-to-recycle contaminants (outcomes upcoming)
- [The European Outdoor Group, Single Use Plastic project](#) report: pilot of a dedicated recycling stream for outdoor industry polybags.
- The full [Recyclclass Design for Recycling Guidelines](#) (aligned with [SUEZ.circpack@](#) on plastics), including traffic-lights colour-coded tables of design aspects to aim for/avoid by material, such as for [natural](#) or coloured PE flexible film.
- [SUEZ.circpack@ Design for Recycling Guidelines](#), such as for paper
- [The APR Design@ Guide](#) by material, such as for [PE film Design guidance](#)
- The [Walmart Recycling Playbook](#)

ELEMENTS TO CONSIDER BEFORE SUBSTITUTING PLASTIC TO ALTERNATIVE MATERIALS, SUCH AS PAPER⁷

Substitution is to be considered from a system perspective, ensuring that the most appropriate (packaging) material is used for a given application, and does not result in unintended consequences:

- **Ensure substitution allows to more easily achieve recycling (or composting) in practice and at scale, with the relevant collection and recycling infrastructure in place.** The packaging must also be **designed to fit in the recycling (or composting) stream.** For example, paper is widely collected globally (e.g. kerbside collection) but disparities remain from one geography to another.
- **Ensure that a packaging made from the alternative material is distinguishable from its plastic counterpart,** to support appropriate disposal (e.g. for films).³
- **Consider potential unintended consequences, such as environmental impact and trade-offs** to switching to an alternative material. For paper-based alternatives, this can for example result in increased carbon emissions or water usage. Overall, recycled and bio-based LDPE have been evaluated to have the lowest GHG emissions, contrarily to materials such as PVA or paper. Evaluate how environmental impacts can be reduced and mitigated, such as by **considering responsible sourcing**, e.g. procurement of recycled content or virgin fibre from responsibly managed sustainable forests (e.g. FSC or PEFC certified).

CASE 2: HANGERS

SINGLE-USE PLASTIC HANGERS

Single-use plastic hangers are typically made from PS, PP, ABS, or a K-resin body, with a plastic or metal hook, pliers or clips. For increased functionality, non-slip coating made from soft rubber (such as PVC, EVA, or silicone) and coloured size markers or dividers can be added. SUP hangers remain a predominant choice in the fashion industry – from ready-to-wear to luxury brands – due to their many features, including affordability, their discreet and lightweight yet rigid and sturdy nature, and their ability to carry a garment’s weight while respecting its form. In B2B, SUP garment-on-hangers (GOH) are mainly used to save time for retail employees when unpacking, hanging garments directly on racks, and keeping apparel crease-free during transit from manufacturing factories to distribution centres and retail stores. Similarly, in B2C sales, GOH are often used when products are shipped directly from vendors, such as in e-commerce. They are particularly useful for delicate materials such as silk, for garments made out of starch (e.g., cotton) or slinky and stretchy materials (e.g., Lycra, jersey). After transit, SUP hangers are sometimes replaced by more aesthetic, higher-quality hangers for display in store (e.g., hangers made of wood), such as in luxury or high-end retail.



WHY FOCUS ON SINGLE-USE PLASTIC HANGERS?

Widely applied in fashion, most SUP hangers are discarded after one short use – often even before display hanging in-store after transit. Each year, approximately 8 billion SUP hangers are discarded globally; just 15% are recycled, and the remainder mostly ending up in landfills.³³ Many SUP hangers are made of materials that are currently not recyclable. When left with the user in-store or through e-commerce, they are not always collected for recycling. If they are collected, there is not always a relevant local system in place to recycle them in practice and at scale.

As consumers are increasingly calling for brands and retailers to, where possible, move away from SUP hangers, businesses are exploring upstream innovation alternatives. Rethinking the hanger, the product itself, the supply chain or delivery model can eliminate the need for SUP while keeping the product’s integrity or the hanger’s aesthetics and functionality. With only 12% of hangers currently reused by stores, there is a clear opportunity to scale-up reuse models in this area, by for example, introducing closed-loop systems and working with reusable hanger suppliers, or sharing reuse infrastructure with others.³⁴

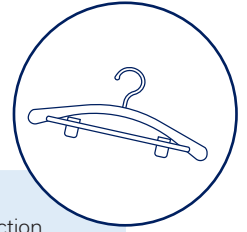
Note: The Fashion Pact’s initial target on elimination of plastic packaging was reworded in 2021, moving away from the term ‘single-use’ to ‘problematic or unnecessary’ to be more encompassing and aligned with the Ellen MacArthur’s Global Commitment’s widely adopted targets on plastic packaging.

ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

Different solutions and innovation opportunities can be explored to eliminate single-use hangers depending on business models, supply chains, logistics, warehousing processes and local conditions. Each solution comes with trade-offs, which must be carefully evaluated depending on a company’s product, priorities and targets. Solutions should be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences, such as environmental spillovers, and ensuring that garment waste is not increased with associated higher costs and loss of natural resources and emissions.

33 Plank, M. (2019) *Are Sustainable Hangers All They’re Cracked Up To Be?* Common Objective.

34 RecyClass (n.d) *Recyclability: Methodology*.



ELIMINATION

Always begin by trying to eliminate the need for packaging

1

Are there unnecessary hangers in my portfolio which do not provide an essential function and could be removed without adverse effect?

E.g. consider if this is the case for flat-packed items like underwear?

Yes

No

Could rethinking the product, the packaging itself or the business model eliminate the need for single-use hangers?

E.g. consider if switching or adapting the garment material can allow it to be more resistant to creases or damage? Can changes be made along the supply chain or in B2C logistics to eliminate the need for the hanger itself?

Yes

No



ELIMINATE



2 REUSE



THE FRAMEWORK APPLIED

For some garments, single-use plastic hangers don't provide an essential function and can be removed without adverse effects. This can be the case for **flat-packed garments that do not require transit hangers**. Etam Group is working on eliminating its transport and logistics hangers, and ASOS removed 70,000 plastic hangers from its Design brand. In addition, eliminating hangers can improve space utilisation and efficiency in both transit and display in-store. It can be explored whether certain garments could be stored and then displayed in a practical, attractive way in retail without hangers using **folding techniques**, like those used for sweaters. **Ironing in-store** after unpacking can be another alternative, where relevant.

Rethinking the product itself by designing it using innovative technology and considering material choice could also allow the garment to be more resistant to creases or damage, where possible.

Rethinking its business model and packaging, Ralph Lauren enables consumers to choose a reduced packaging option when ordering on their website, such as without hangers. To make this possible, they updated their customer service website, changed their packing process and trained customer service employees and distribution centres on the new procedure. In addition, Superdry Plc reduced plastic wrapping of boxed hangers (used to protect varnish), reducing it to only protect the corners of the hangers that come into contact with other hangers within the box.

REUSE

If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

2

Is it possible to replace single-use hangers with a reusable alternative B2C?

E.g. consider if reuse could be facilitated by moving manufacturing sites or distribution centers closer to points of sale? Could easy return of reusable hangers be facilitated and high return rates ensured by deposit/reward schemes? Can the customer experience be enhanced? Can sharing packaging and infrastructure or using a service provider reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No

Could moving towards standardised reusable packaging in the supply-chain be an option?

E.g. consider if rethinking the supply chain allows for a reusable packaging alternative, while preventing damage or losses? Can sharing packaging and infrastructure with others reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No



REUSE

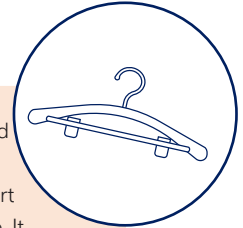
3



MATERIAL CIRCULATION



THE FRAMEWORK APPLIED



Switching to reusable hangers can provide many benefits including an improved customer experience in-store and reduced costs. For example, rethinking the supply chain, Zara's 'single hanger project' uses one single hanger to transport garments from textile suppliers to its stores and for subsequent display in store. It unifies materials and types of hangers to improve traceability and implement a reuse circuit in all their operations. Target is another major retailer that has had a reuse model in place for clothing, towel and curtain hangers since 1994.

Rather than owning the hangers and operating private reuse systems, brands and retailers can work with a hanger supplier or **third-party service provider**. Such managed reuse schemes are gaining significant traction in B2B given the lack of B2C collection and recycling schemes as they reduce the burden of reuse for brands and retailers. The shared system increases efficiency and reduces carbon emissions along with the costs of reverse logistics, transport and import fees. Turn-key services providers collaborating with major brands and retailers globally include Mainetti, Braiform (who reused over 9 billion hangers, working with Nordstrom, Michael Kors, Walmart, C&A and more), Arch & Hook, Hangerlogic and SML Group.

As B2C hangers are currently not recyclable in practice and at scale in many geographies, the specific market context where packaging is sold must be considered when thinking about recyclability and making decisions about which solutions to prioritise.

Both single-use and reusable plastic hangers are to be **designed for recycling** at the end of their use cycle, to ensure materials are kept in circulation. This includes moving away from materials commonly identified as problematic and those that do not have a dedicated recycling stream in place.* Icebreaker eliminated plastic hooks on base layer boxes used in hanging displays for the boxes to be more-easily recycled. Stella McCartney is working with luxury Hong Kong department store Lane Crawford on a hanger recycling scheme.

* 'Recyclable in practice and at scale', is defined as reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold. For more details on the 'recyclable' definition, see p.13.



MATERIAL CIRCULATION

Ensure all packaging and plastic components are designed so that the materials can be recycled

3

Are all hangers compatible with recycling in practice and at scale?

E.g. Make sure the hangers are designed to fit with established recycling streams (adapting material, colours, glues etc.) and ensure that it does not hinder the recycling of other packaging*. Consider if the packaging can drive demand for post-consumer recycled content? Can material usage be reduced without adverse effects?

Can the hangers be collected for recycling at an earlier point in the supply chain, before it reaches the user to create a cleaner recycling system?

Yes

No

Can substituting hangers to a non-plastics material ensure recycling?

E.g. consider if food-industry by-products or cardboard can substitute the hard to recycle plastic hangers to improve recycling rates? Make sure the material used is responsibly sourced and regenerative.

Yes



**MATERIAL
CIRCULATION**

THE FRAMEWORK APPLIED

Similarly, SML Group's recycled fibreboard hanger with a polypropylene hook can be reused and dismantled for recycling after use. In addition, **reuse and recycling services** such as First Mile allow hangers (e.g., for coats) to circulate and remain in use for longer, recycling hangers into new hangers in a closed loop once they can't be reused anymore.

Burberry, Moncler and Zara's hangers are made out of recycled plastic, and Eralda uses **100% recycled cardboard hangers** and swatch cards for their product development seasonal collections. Rethinking the supply chain, Arch & Hook's reusable and recyclable BLUE@ hanger is made of river and recycled plastic. Such upcycled models reduce the use of virgin plastic, but still need to ensure that the plastic's quality is not compromised so the hanger can be recycled at the end of its use cycle.

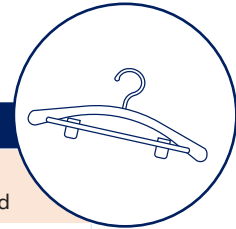
If eliminating the need for hangers is not an option, explore if the hanger's material usage can be reduced while keeping its functionality (e.g., remain sturdy, resist transit and carry the relevant weight) and recyclability.

In addition, retailers can set up bins next to the till to **collect hangers before they reach the user**. Recycling rates can be improved in this way by creating a closed loop.

Substituting SUP hangers with non-plastic materials such as **food industry by-products** or paper-cardboard fibres can be considered if it allows organisations to achieve a better systemic outcome and recycling. Materials are to be **sustainably sourced**, such as with certified paper (e.g., FSC). For example, recycled board paper fibre hangers, as provided by US manufacturer Ditto, UK brand Norman (used by brands including Mud Jeans and VF Corporation), Greenhook (already used by luxury brands), are customisable, lightweight yet sturdy, and work with most GOH schemes. Chloé is introducing hangers made from recycled paper with a recyclable metal hook.



For design for recyclability guidelines for hangers see [p.32](#).



HOW MIGHT WE ENSURE HANGERS ARE DESIGNED FOR RECYCLING?

Designing hangers for recycling after use can close the loop by keeping materials in use. The following guidance describes key design aspects to follow for hangers, based on SUEZ.circpack® and RecyClass Design for recycling guidelines for packaging. It is recommended to aim for:

- Mono-material hangers (avoid mixed materials e.g., plastics with flocked velvet, ocean plastic composites)
- If not designed with mono-material (e.g., metal hook, glues), ensure components are easily dismantlable)

Note: This guide focuses on the green table of Recyclclass' traffic-lights system, which gathers the preferred design features that guarantee the best recyclability and quality of the recycle. The green colour coding is given, considering each material individually. If materials are not separated before collection (for example after mixed collection of B2B plastic in store or warehouse), the recycling of certain materials can result in limited compatibility for recycling, unless using NIR sorting technology.

OPTIMIZE – Full compatibility for reprocessing if:				
	PE (rigid) – HDPE	PP (rigid)	PS (rigid)	Paper & cardboard
Material	Monolayer Incorporate post-consumer recycled content	Mono-material, density < 1g/cm ³ Incorporate post-consumer recycled content	Mono-material Incorporate post-consumer recycled content	Mono-material: only use paper fibres, certified responsibly sourced (e.g. FSC), Incorporate recycled content
Colour	All colours (excluding carbon black)	All colours identifiable by NIR (excluding carbon black)	Clear or lightly tinted colours	/

OPTIMIZE – Full compatibility for reprocessing if:				
	PE (rigid) – HDPE	PP (rigid)	PS (rigid)	Paper & cardboard
Additives	Additives that are unavoidable in processing (stabilizers, antioxidants, lubricants, nucleating agents, peroxides) and density remains < 0,97 g/cm ³		Additives that are unavoidable in processing (stabilizers, antioxidants, lubricants, nucleating agents, peroxides) and in formulation (SBS copolymer) with density remains between 1 and 1,07 g/cm ³	/
Barrier		SiOx coating	/	/
Coating	/	/	/	None (Coating not recyclable but not conflicting)
Inks	No inks (limited compatibility if using non-toxic inks, according to EUPIA guidelines)			Water based inks
Closure systems	HDPE; LDPE; LLDPE; MDPE	PP	PS; OPS; PBT/PS; PS with PE insert; PS with EVA insert	/
Liner, seals	HDPE; LDPE; LLDPE; MDPE	PP	/	/
Labels	HDPE, LDPE, LLDPE, MDPE; PP (smaller than 50% of the surface)	/	PS; PS/OPS (same density as main material)	Hotmelts with softening point > 68°C, layer thickness > 120µm
Adhesives	/	/		
Print	Direct printing: Laser marked; production or best-before date	Direct printing: Laser marked	Laser marked - Minimal printing	/

COMPOSTABLE PLASTICS ARE NOT A BLANKET SOLUTION IN FASHION

Note: Compostable and biodegradable plastics used for fashion and textile, including polybags, are out of the scope of The Fashion Pact's targets based on current applications in fashion and viability for composting or recycling in practice and at scale.

Compostable plastics are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste, but can fit in a circular economy for targeted applications – such as for packaging in contact with food, allowing biological nutrients to return to the soil – where collection and composting infrastructure are in place. In the fashion industry, the use of compostable packaging and plastic items is to be evaluated carefully weighing the pros and cons and only chosen if it allows organisations to achieve a better systemic outcome than recycling.

Although various closed-loop recycling systems are already in place for B2B hangers, it is not the case for B2C hangers, which are currently not recyclable in practice and at scale in most geographies. It is therefore important to consider the specific market context where packaging is sold when thinking about recyclability and making decisions about which solutions to prioritise. If no system for recycling currently exists in practice and at scale for hangers but is likely to be set-up in the near future, these can already be designed so they are ready to be recycled when collection and infrastructure is in place.

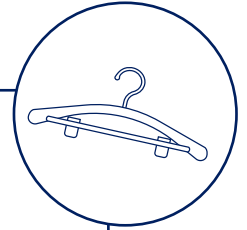
For further design for recycling guidance, please see:

- The full [Recyclclass Design for Recycling Guidelines](#) (aligned with SUEZ.circpack® on plastics), including traffic-lights colour-coded tables of design aspects to aim for/avoid by material
- [SUEZ.circpack® Design for Recycling Guidelines](#), such as for paper
- The [APR Design® Guide](#) by material
- The [Walmart Recycling Playbook](#)

ELEMENTS TO CONSIDER BEFORE SUBSTITUTING PLASTIC TO ALTERNATIVE MATERIALS, SUCH AS PAPER³⁵

Substitution can be considered from a systems perspective, ensuring that the most appropriate packaging material is used for a given application, and does not result in unintended consequences. In making this assessment, the following points can be considered:

- **Ensure substitution allows recycling (or composting) to be more easily achieved in practice and at scale**, with the relevant collection and recycling infrastructure in place. The packaging must also be designed to fit in the recycling (or composting) stream. For example, paper is widely collected globally (e.g., kerbside collection) but disparities remain from one geography to another.
- **Ensure that a packaging made from the alternative material is distinguishable from its plastic counterpart** to support appropriate disposal (e.g., for films).³⁶
- **Ensure that there are no potential unintended consequences, such as environmental impact and trade-offs** to switching to an alternative material. Paper-based alternatives, for example, can result in increased carbon emissions or water usage. Overall, recycled and bio-based LDPE have been evaluated to have the lowest GHG emissions, contrary to materials such as PVA or paper. Evaluate how environmental impacts can be reduced and mitigated by **considering responsible sourcing**, e.g., procurement of recycled content or virgin fibre from responsibly managed sustainable forests (e.g., FSC or PEFC certified).



³⁵ Ellen MacArthur Foundation (2020) *Upstream Innovation*.

³⁶ RecyClass (n.d) *Recyclability: Methodology*.

CASE 3: E-COMMERCE SHIPPING BAG

SINGLE-USE PLASTIC E-COMMERCE SHIPPING BAG

Predominantly made of flexible HDPE and LDPE, e-commerce shippers are lightweight envelopes used for the shipping and delivery of products to customers, either by mail or at drop-off points. They are usually from two- or three-layer material, with a coextruded, opaque plastic layer to preserve the privacy of the shipment's contents and to make it resistant to tearing. E-commerce



shippers often also protect the garment from things like rain or moisture. An inner protection packaging is sometimes added to further protect the product (e.g., a polybag). The mailers are usually sealed with adhesive tape or strips for quick closing, which are sometimes doubled to allow for easier returns by customers.

WHY FOCUS ON SINGLE-USE PLASTIC E-COMMERCE SHIPPERS?

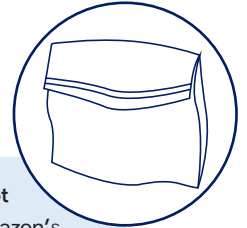
Highly customisable, available in different sizes, shapes and relatively low cost, single-use plastic shippers remain one of the main e-commerce shipment methods used by the fashion industry globally. Although their impact can seem moderate due to their relatively low tonnage, millions of single-use poly mailer bags are used around the world each day, without being recyclable or recycled in practice in many geographies. Customers are also increasingly looking up to brands and retailers to find more sustainable alternatives for the shipment of their e-commerce orders.

The recent development of successful reuse business models for shippers have proven there is a significant opportunity for scaling up reuse for e-commerce mailers in fashion, rethinking the business model, supply chain, and way products are shipped and delivered.

Note: The Fashion Pact's initial target on elimination of plastic packaging was reworded in 2021, moving away from the term 'single-use' to 'problematic or unnecessary' to be more encompassing and aligned with the Ellen MacArthur's Global Commitment's widely adopted targets on plastic packaging.

ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

Different solutions and innovation opportunities can be explored to eliminate single-use e-commerce shipping bags, depending on business models, supply chains, logistics, warehousing processes and local conditions. Each solution comes with trade-offs, which must be evaluated carefully depending on a company's product, priorities and targets. Solutions should be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences, such as environmental spillovers, and ensuring that garment waste is not increased with associated higher costs and loss of natural resources and emissions.



ELIMINATION

Always begin by trying to eliminate the need for packaging

1

Are there unnecessary e-commerce shippers in my portfolio which do not provide an essential function and could be removed without adverse effect?

Yes

No

Could rethinking the product, the packaging itself or the delivery model eliminate the need for e-commerce shippers?

E.g. consider if there are components from e-commerce shippers in my portfolio which do not provide an essential function and could be removed without adverse effect? Can changes be made along the supply chain or in B2C logistics to eliminate the need for the e-commerce shipper itself? If transportation, storage or delivery can be adapted to eliminate the shipper or move to reuse? Can the use of digital technology allow to eliminate the shipper?

Yes

No



ELIMINATE



REUSE

THE FRAMEWORK APPLIED

In some cases, **certain parts or components of e-commerce packaging are not essential** and can be removed without affecting its functionality. For example, Amazon's 'Frustration-Free packaging' programme promotes redesigning e-commerce packaging to use the fewest components whilst maximising product protection and providing a superior unboxing experience. It has already been used for over 2 million products, reducing the weight of outbound packaging by 33%. Similarly for e-commerce inner protection packaging, Ralph Lauren enables consumers to choose a reduced packaging option when ordering online, which accounted for at least 12% of all orders within the programme's first year. Kering's brands are exploring removing plastic fillers from e-commerce.

Rethinking the delivery model could allow companies to eliminate individual e-commerce shippers altogether, for example by using **packaging-free deposit points** in-store where applicable, at an adapted local convenience store or for doorstep delivery.

Reusable e-commerce bags or boxes are usually made of plastic (such as PP, PET or PVC) or textile and are used to ship garments and accessories to the customer, who returns the empty package from home, via post-box or in-store drop-off points. Brands and retailers can collaborate with a reuse service supplier to manage the process. For example, Returnity provides brands and retailers with **customisable reusable shipping and delivery packaging** that can be easily returned from home or drop-off points at a low cost, without requiring printing, packaging or face-to-face contact. Their reusable shippers replace the need for over 40 single-use packages.³⁷ The reusable packaging includes an antimicrobial coating to keep garments, footwear, gear, and textiles fresh and lasting longer. Similarly, RePack provides online retailers and brands such as Ganni with reusable packaging that can easily be returned by mail, with deposit rewards. The improved design of such reusable mailers can allow for an elevated customer experience, and for the shipper to be adapted to personal needs. Various brands are piloting reusable shipping packaging, such as Ralph Lauren, or ASOS who launched a pilot with employees to test reusable customer mailing bags in 2021. **Using digital technology**, Limeloop rents out their **smart shippers** to web stores. The shippers are chipped and paired with a software platform to allow web stores

37 Ellen MacArthur Foundation (2020) *Upstream Innovation*.

REUSE

If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

2

Is it possible to replace single-use shippers with a reusable alternative B2C?

E.g. consider if reusable systems can be facilitated by moving manufacturing production sites or centralised distribution centers closer to points of sale? Could easy return of reusable shipping bags be facilitated and high return rates ensured by deposit/ reward schemes or a subscription service? By setting-up take back from home, in-store or drop off points? Can the customer experience be enhanced?

Can sharing packaging and infrastructure or using a service provider reduce costs of reverse logistics and benefit the system's efficiency? Instead of owning the shippers could a turn-key service provider be an option? Can digital technology, such as tagging and tracking of packaging provide useful insights?

Yes

No

Could moving towards standardised reusable packaging in the supply-chain be an option?

E.g. consider if rethinking the supply chain allows for a reusable packaging alternative, while preventing damage or losses? Can sharing e-commerce shippers and infrastructure with others reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No

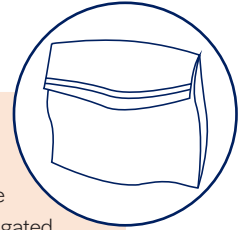


REUSE

3



MATERIAL CIRCULATION



THE FRAMEWORK APPLIED

to geolocate the shippers, gain feedback on the customer experience, and track accumulated environmental savings. Each shipper can last more than 200 loops. In addition, the label supplier **UPM Rafatac** provides removable labels, which ease the reuse of packaging. **NIKE's** Re-Use-A-Box programme, allows it to reuse corrugated cardboard carton waste for outbound shipments; their Japan distribution centre switched to delivering all shipments to NIKE retail stores in a reusable tote, known as ReBox.

Collaborating with competitors to move towards an **industry-wide solution**, such as standardisation for e-commerce shippers, can make the system more viable and efficient. **Sharing infrastructure or shippers** between businesses and using similar requirements or branding can reduce supply chain costs and increase aspects of the system's efficiency, like reverse logistics.

As single-use e-commerce mailers are currently not recyclable in practice and at scale in many geographies, the specific market context where packaging is sold must be considered when thinking about recyclability and making decisions about which solutions to prioritise.*

Both single-use and reusable e-commerce shippers are to be **designed for recycling** at the end of their use cycle to ensure materials are kept in circulation. **Returnity's** reusable shippers, for example, are made of long-lasting 100% recyclable fabric, and **Gucci's** new packaging is fully recyclable with its uncoated FSC paper.

Companies are encouraged to **incorporate post-consumer recycled content** where possible. All new **Bestseller's** E-commerce plastic bags are made of 100% certified recycled plastic. All E-Commerce cardboard boxes are made of 100% FSC (brown, no colours). **ASOS's** returned packaging from customers in the UK is recycled by their plastic manufacturer and made into new ASOS plastic packaging. Using 10% post-consumer waste content in their mailing bags resulted in a reduction in virgin plastic usage by approximately 160 tonnes annually, and delivery boxes are made of 100% recycled materials.

* 'Recyclable in practice and at scale', is defined as reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold. For more details on the 'recyclable' definition, see p.13.

MATERIAL CIRCULATION

Ensure all packaging and plastic components are designed so that the materials can be recycled

3

Are all polybags compatible with recycling in practice and at scale?

E.g. make sure the polybags are designed to fit with established recycling streams (adapting material, colours, labels, inks, glues) and ensure that it does not hinder the recycling of other packaging*. Consider if the packaging can drive demand for post-consumer recycled content? Can material usage be reduced without adverse effects i.e. to fit products more tightly or by reducing thickness/weight, whilst still allowing easy packing?

Can the polybag be collected for recycling at an earlier point in the supply chain, before it reaches the user to create a cleaner recycling system?

Yes

No

Can substituting polybags to a non-plastics material ensure material circulation?

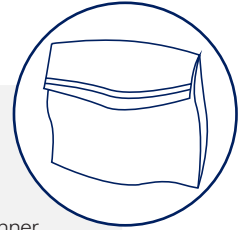
E.g. consider if food-industry by-products or paper can substitute the hard to recycle plastic films to improve recycling rates? Make sure the material used is responsibly sourced and regenerative.

Yes



MATERIAL CIRCULATION

THE FRAMEWORK APPLIED



ASOS uses a wide range of packaging sizes for packaging to fit appropriately and to limit packaging waste. By switching to the next smallest packaging option, they were able to cut the average carbon footprint of their mailing bags by 27% and mailing boxes by 33%. **Superdry Plc** introduced a thinner e-commerce plastic bag (thickness reduced from 95 micron to 65 micron), resulting in a one-third reduction in total plastic consumed – from approximately 90 metric tonnes per year to 60 metric tonnes per year. Similarly, **NIKE** redesigned all its digital shipping envelopes used for apparel to more suitable size ranges, resulting in reduced corrugated material, while also adding a re-seal strip for customer return. Additionally, they redesigned the outer box for e-commerce footwear shipments to reduce the amount of air in a package, with a 15% better fill rate, a 50% smaller CO₂ footprint, much-lighter cardboard sourced from FSC-certified material, removing the need for excessive tape.

Substituting SUP e-commerce shippers with a non-plastic, high-performance alternative can be considered if it allows organisations to achieve a better systemic outcome and recycling. Materials are to be **sustainably sourced**, such as with certified paper-cardboard fibres (e.g., FSC).³⁸ Benefits include faster packing and less static electricity for logistic centre workers. **Etam Group** and **prAna** eliminated flexible plastic polybag mailers, replacing them with **100% recycled FSC-certified recycled paper** shipping envelopes. **Tezenis** saved 10,000 kg of plastic in 2020, thanks to the use of post-consumer recycled content paper bags for online purchases. After a successful pilot phase, **H&M Group** has replaced all its e-commerce shippers at scale, going from plastic to use an unbleached and recyclable FSC certified paper. Their box assortment was also optimised with the goal to minimize additional packaging material while optimizing the material usage

Similarly for e-commerce inner protection packaging, **Flexi-Hex** provides recyclable e-commerce superior protective transport packaging made from 100% recycled paper pulp with a honeycomb design that can replace bubble packaging and foamed materials, thereby reducing breakage during transport, saving costs and packaging time.

Considering sourcing, **ASOS** is implementing a wood and wood pulp sourcing policy to increase the use of recycled material for paper and packaging products; it is supporting Canopy's Pack4Good initiative, ensuring cardboard delivery boxes are sustainably sourced.

³⁸ 'Sustainably sourced' means the materials used are being sourced in a way that does not damage ecosystems, cause losses to biodiversity, reduce ecosystem service provisions, or impeded human health or worker rights. Definition from EUBP Bioplastics materials webpage, consulted September 2021.

COMPOSTABLE PLASTICS ARE NOT A BLANKET SOLUTION IN FASHION

Compostable plastics are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste, but can fit into a circular economy for targeted applications – such as for packaging in contact with food, allowing biological nutrients to return to the soil – where collection and composting infrastructure are in place. In the fashion industry, the use of compostable packaging and plastic items is to be evaluated carefully weighing the pros and cons and only chosen if it allows organisations to achieve a better systemic outcome than recycling.

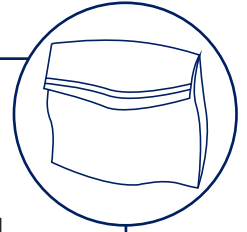
Note: Compostable plastics, and therefore biodegradable plastics, used for fashion and textile are out of the scope of The Fashion Pact's targets based on current applications and viability for composting or recycling in practice and at scale.

ELEMENTS TO CONSIDER BEFORE SUBSTITUTING PLASTIC TO ALTERNATIVE MATERIALS, SUCH AS PAPER³⁹

Substitution is to be considered from a systems perspective, ensuring that the most appropriate packaging material is used for a given application, and does not result in unintended consequences. In making this assessment, the following points can be considered:

- **Ensure substitution allows recycling (or composting) to be more easily achieved in practice and at scale**, with the relevant collection and recycling infrastructure in place. The packaging must also be designed to fit in the recycling (or composting) stream. For example, paper is widely collected globally (e.g., kerbside collection) but disparities remain from one geography to another.

- **Ensure that a packaging made from the alternative material is distinguishable from its plastic counterpart** to support appropriate disposal (e.g., for films).⁴⁰
- **Consider potential unintended consequences, such as environmental impact and trade-offs** to switching to an alternative material. Paper-based alternatives, for example, can result in increased carbon emissions or water usage and impact land use. Overall, recycled and bio-based LDPE have been evaluated to have the lowest GHG emissions, contrary to materials such as PVA or paper. Evaluate how environmental impacts can be reduced and mitigated by **considering responsible sourcing**, e.g., procurement of recycled content or virgin fibre from responsibly managed sustainable forests (e.g., FSC or PEFC certified).



HOW MIGHT WE ENSURE E-COMMERCE PLASTIC SHIPPING BAGS ARE DESIGNED FOR RECYCLING?

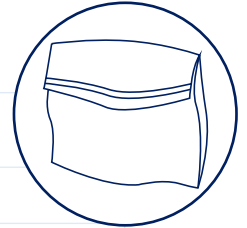
As e-commerce mailers are currently not recyclable in practice and at scale in many geographies, it is important to consider the specific market context where packaging is sold when thinking about recyclability and making decisions about which solutions to prioritise. If no system for recycling currently exists in practice and at scale for e-commerce mailers but is likely to be set-up in the near future, these can be designed so they are ready to be recycled when collection and infrastructure is in place.

Designing e-commerce shippers for recycling after use can close the loop by keeping materials in use. The following guidance describes key design aspects to follow for the most commonly used materials for mailers, based on RecyClass and SUEZ.circpack@ Design for recycling guidelines for packaging. It is recommended companies:

- Aim for mono-material packaging
- If mono-material is not possible, ensure components are easily dismantlable
- Move away from hard to recycle materials/not recyclable in practice and at scale

39 Ellen MacArthur Foundation (2020) *Upstream Innovation*.

40 RecyClass (n.d) *Recyclability: Methodology*.



Note: This guide focuses on the green table of Recyclclass’ traffic-lights system, which gathers the preferred design features that guarantee the best recyclability and quality of the recycle. The green colour coding is given, considering each material individually. If materials are not separated before collection (for example after mixed collection of B2B plastic in store or warehouse), the recycling of certain materials can result in limited compatibility for recycling, unless using NIR sorting technology.

OPTIMIZE—Full compatibility for reprocessing if:		
	PE (flexible) – LDPE, HDPE	Paper & cardboard Note: In a lot of countries the combination of cardboard and plastic is not allowed in the collection system
Main materials	Monolayer Incorporate post-consumer recycled content	Mono-material: only use paper fibres, certified responsibly sourced (e.g., FSC), Incorporate post-consumer recycled content
Size	> A4 or > 50 x 50 mm once compacted	
Colour	Unpigmented, transparent for transparent films / light or translucent for coloured films	/
Additives	Additives that do not increase the density higher than 0,97 g/cm ³	/
Barrier	Barrier in the polymer matrix; SiOx and AlOx without additional coatings	/
Coating	/	None (coating not recyclable but not conflicting)

Inks	Non-toxic (according to EUPIA guidelines)	Water-based inks
Closure systems	LDPE; HDPE; LLDPE; MDPE	/
Liner, seals	/	/
Labels	PE	Hot melts with softening point > 68°C, layer thickness > 120µm
Adhesives	Water soluble or water-resealable at < 60° C	
Print	Laser-marked print; Printed production or expiry date; for coloured films: printing covering < 50% (temporary solution)	/

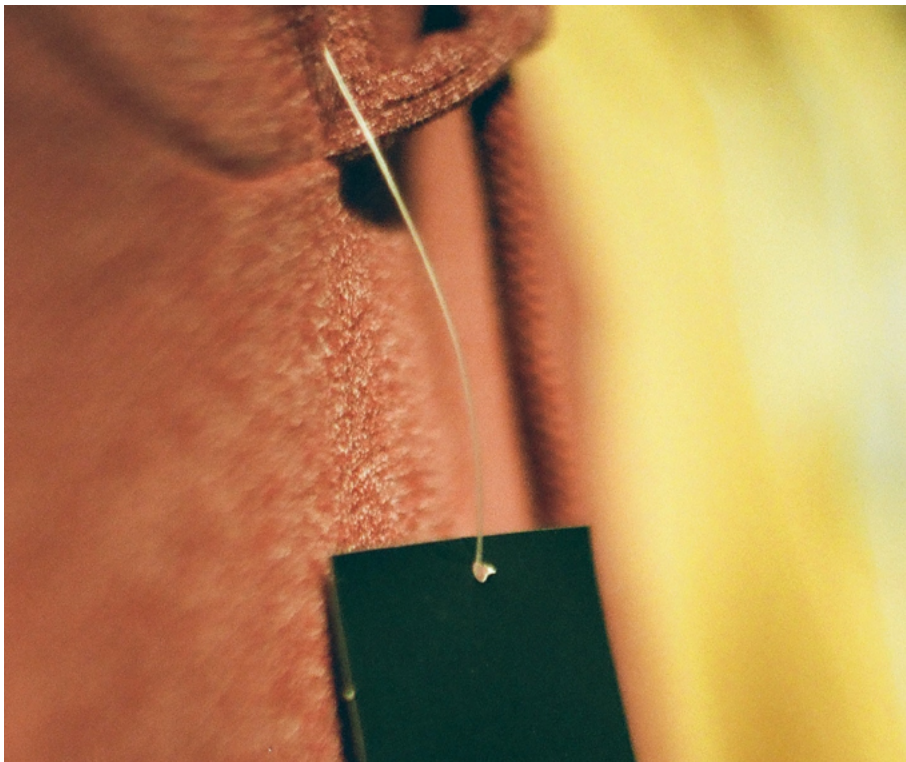
For further design for recycling guidance, please see:

- The full [Recyclclass Design for Recycling Guidelines](#) (aligned with **SUEZ.circpack®** on plastics), including traffic-lights colour-coded tables of design aspects to aim for/avoid by material
- SUEZ.circpack® Design for Recycling Guidelines, such as for paper
- The [APR Design® Guide](#) by material, such as for [PE](#)
- The [Walmart Recycling Playbook](#)

CASE 4: SWIFTACHS

SINGLE-USE PLASTIC SWIFTACHS

Swiftachs are hang tag fasteners used to attach the label or price tag to items. They are predominantly made of flexible PP or PET and designed to be durable, reliable and lightweight. They make browsing through displays easy by enhancing the visibility of the label's information. They also allow for efficient stock management, and for product returns whilst preventing items from being worn.



WHY FOCUS ON SINGLE-USE PLASTIC SWIFTACHS?

Widely used in the global fashion industry, Swiftachs are likely to escape collection systems and end up in the environment due to their small size and thickness. If collected, they **are currently not recyclable in practice and at scale**.^{*} As such, **it must first be considered whether eliminating the problematic or unnecessary Swiftachs is an option**, by, for example, switching to alternative ways of presenting information on the product.

At present, Swiftachs do not fit the 'design for recycling' key requirements listed below, which are based on Recyclclass design for recycling guidelines. This highlights the challenge of making these recyclable in practice and at scale without rethinking the product.

- Size: > A4 or > 50 x 50 mm once compacted (*Note: this criterium is difficult if not impossible to comply with for Swiftachs*)
- Mono-material, avoiding components which are difficult to dismantle (e.g., metal parts)
- Unpigmented, transparent, light and translucent colours
- Move away from plastic materials that are not recyclable in practice and at scale (e.g., prefer PET)

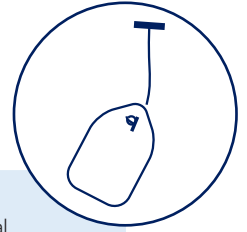


For further design for recycling guidance, please see the full [Recyclclass Design for Recycling Guidelines](#) (aligned with [SUEZ.circpack@](#) on plastics), including tables of design aspects to aim for/avoid by material.

ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

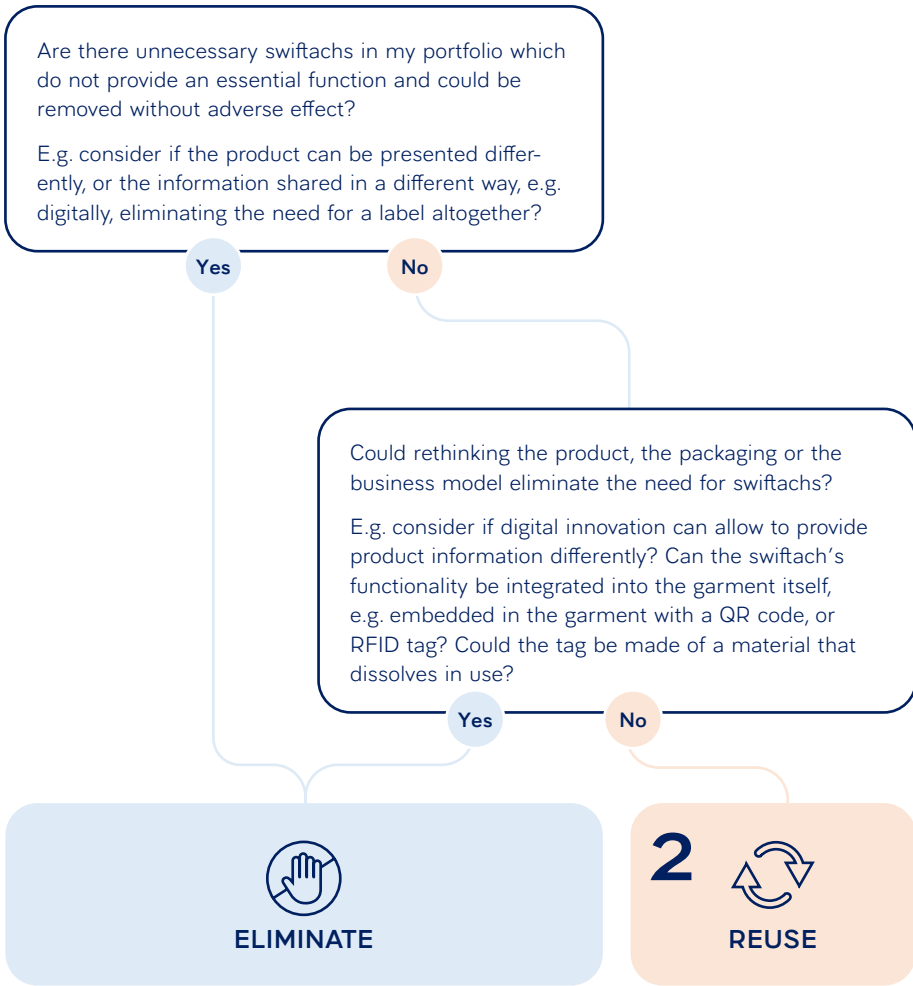
Different solutions and innovation opportunities can be explored to eliminate single-use Swiftachs, depending on business models, supply chains, logistics, warehousing processes and local conditions. Each solution comes with trade-offs, which must be evaluated carefully depending on a company's product, priorities and targets. Solutions should be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences, such as environmental spill-offs, and ensuring that garment waste is not increased with associated higher costs and loss of natural resources and emissions.

^{*} 'Recyclable in practice and at scale', is defined as reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold. For more details on the 'recyclable' definition, see p.13.



ELIMINATION 1

Always begin by trying to eliminate the need for packaging



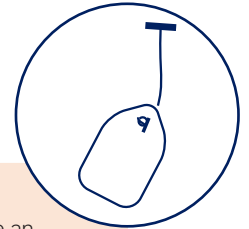
THE FRAMEWORK APPLIED

For certain applications, both Swiftachs and hangtags do not provide an essential function and can be removed without adverse effects. **In e-commerce, hang tags are in many cases not necessary** as they are in physical stores, and can thus be eliminated. The online retailer **ASOS** removed hang tags from products after realising that digital product information made them redundant. To prevent garments from being worn, they adapted their returns policy, investigating and shutting down accounts identified with an unusual pattern of buying and returning or ordering excessive amounts of items. Other retail stores, such as second-hand shops, **indicate pricing on the rack** rather than directly on the garment, eliminating the need for individual tags.

Rethinking the garment itself can be a way to **eliminate the need for hangtags and Swiftachs altogether** by, for example, using **innovative identification solutions** like tags embedded directly into the garment or the inside label. **Rapanui** has applied this idea for their garment, where all product/price information previously on the hangtag has been **integrated into a QR code** on the 'how to wash' label in the garment. Although embedding seamless, washable **RFID microchips** into garments is currently not a common practice, or recyclable at this stage, this could be considered as an alternative to hang tags in the near future. RFID is already widely used in hang tags or packaging by brands and retailers such as **UNIQLO**, the **Prada Group**, **H&M** and **Zara**, providing many benefits from inventory management, location of products, expedition of returns, anti-counterfeiting and anti-theft, to fast check-out and virtual fitting mirrors in stores. The RFID chips could be deactivated once the garment is sold.

Aiming for innovative elimination, the menswear brand **Outerknown** created **hang tags that dissolve in the washing machine**. These are made from a corn starch base outside the food stream that doesn't clog septic systems. A technology similar to **Resortecs'** dissolvable stitches for clothing could also be adapted to hang tags.*

* Note: It is important to ensure that such solutions are not interpreted as an incentive to litter by the user, or do not potentially hinder recycling if ending up in the recycling stream.



REUSE

2

If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

Is it possible to replace single-use swiftachs with a reusable alternative B2C?

E.g. consider if it could be digital, and/or collected at checkout in retail?

Yes

No

MATERIAL CIRCULATION

Ensure all packaging and plastic components are designed so that the materials can be recycled

3

As swiftach's are not recyclable in practice and at scale due to their size, recycling is not a current feasible solution pathway. In this case, incorporating recycled content to swiftachs is not considered as a circular solution, as it will not be recycled after-use.

Yes

Can substituting swiftachs to a non-plastics material ensure material circulation?

E.g. consider if e.g. paper raffia ribbon can substitute hard to recycle plastic swiftachs to improve collection and recycling rates or be composted at home? Make sure the material used is responsibly sourced and regenerative.

Yes

No



REUSE



MATERIAL CIRCULATION

THE FRAMEWORK APPLIED

Although not yet explored in the fashion industry, **reusable digital tags** could be an option especially relevant for B2B sales. Rather than creating new resource-intensive reusable tags, existing anti-theft plastic items attached to clothing could be developed to also include the information normally presented on the hang tag.*

* Note: It is important to ensure that such solutions are not interpreted as an incentive to litter by the user, or do not potentially hinder recycling if ending up in the recycling stream.

Substituting the plastic Swiftachs with a **recyclable alternative such as paper raffia** can also be considered. If substituting Swiftachs with ribbons and safety pins, string, or adhesive paper price tags, it should be ensured that any materials, glues, etc. used are compatible with recycling (e.g., avoiding small components if these cannot be collected for recycling), while being fit for purpose (cannot be repinned onto cheaper items or stolen).

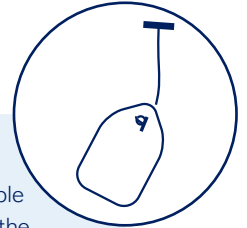
ELEMENTS TO CONSIDER BEFORE SUBSTITUTING PLASTIC TO ALTERNATIVE MATERIALS, SUCH AS PAPER⁴¹

Substitution is to be considered from a system perspective, ensuring that the most appropriate packaging material is used for a given application, and does not result in unintended consequences:

Ensure substitution allows recycling in practice and at scale with the relevant collection and recycling infrastructure in place. The packaging must also be designed to fit in the recycling stream. For example, paper is widely collected globally (e.g., kerbside collection) but disparities remain from one geography to another.

Ensure that a packaging made from the alternative material is distinguishable from its plastic counterpart to support appropriate disposal (e.g., for films).⁴²

Consider potential unintended consequences, such as environmental impact and trade-offs to switching to an alternative material (e.g., incentive to litter, etc.). For paper-based alternatives can, for example, result in increased carbon emissions or water usage. Overall, recycled and bio-based LDPE have been evaluated to have the lowest GHG emissions, contrary to materials such as PVA or paper. Evaluate how environmental impacts can be reduced and mitigated by **considering responsible sourcing**, e.g., procurement of post-consumer recycled content or virgin fibre from responsibly managed sustainable forests (e.g., FSC or PEFC certified).



Note: Many alternatives to conventional plastic Swiftachs made of biodegradable plastic are now available on the market. However, compostable plastics (and biodegradable plastics) used for fashion and textile are out of the scope of The Fashion Pact's targets (based on current applications in fashion and viability for composting or recycling in practice and at scale).

COMPOSTABLE PLASTICS ARE NOT A BLANKET SOLUTION FOR SWIFTACHS

Compostable plastics are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste, but can fit in a circular economy for targeted applications – such as for packaging in contact with food, allowing biological nutrients to return to the soil – where collection and composting infrastructure are in place. In the fashion industry, the use of compostable packaging and plastic items is to be evaluated carefully weighing the pros and cons and only chosen if it allows organisations to achieve a better systemic outcome than recycling.

41 Ellen MacArthur Foundation (2020) *Upstream Innovation*.

42 RecyClass (n.d) *Recyclability: Methodology*.

CASE 5: SINGLE-USE PLASTIC GARMENT STICKERS

SINGLE-USE PLASTIC GARMENT STICKERS

Single-use plastic stickers are used on a wide variety of garments, such as pullovers or plastic bags, to visually indicate the size of a garment or special offers. In store, they increase efficiency during inventory or when placing orders, and enhance visibility for customers when browsing through shelves. Self-adhesive plastic liners are also used for hygiene purposes, such as for swimsuits and lingerie. Garment stickers are mainly made from clear flexible plastic materials such as PVC, PE, PET, BOPP (biaxially-oriented polypropylene), clear vinyl, polyester, vellum, bioplastic or biostone (a stone-based material) with printed ink and glue that is safe for fabrics. An additional virgin or recycled paper layer is sometimes added. Tear-resistant and waterproof, they are easy and quick to peel off from a coated sheet to stick on clothes.



WHY FOCUS ON SINGLE-USE PLASTIC GARMENT STICKERS?

Although the overall tonnage and environmental impact of garment stickers can seem relatively low compared to other packaging, they are widely used in the fashion industry and likely to escape collection systems due to their small size. If collected, **garment stickers are currently not recyclable in practice and at scale**, often due to the use of multi-layer flexible plastic and/or paper mixed with glues and printed inks, combined with their small size.⁴³

Garment stickers currently do not fit the 'design for recycling' key requirements listed below, which are based on Recyclclass design for recycling guidelines. This highlights the challenge of making these recyclable in practice and at scale without rethinking the product. As such, it must **first be considered if eliminating the problematic or unnecessary garment stickers is an option**, by switching to alternative ways of presenting the information, for example. As garment stickers are visible front-of-store in B2C, there is also an increasing demand from customers and retail employers to adopt more circular alternatives.

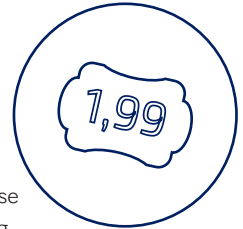
- Mono-material
- Unpigmented, transparent colours
- If PE, aim for a size > A4 or > 50 x 50 mm once compacted
- Move away from hard to recycle plastic materials/not recyclable in practice and at scale, e.g., PVC, PP => Prefer materials such as PE
- Use water soluble adhesives, or water-releasable at less than 60°C
- Laser-marked printing covering < 50%



For further design for recycling guidance, please see the full Recyclclass Design for Recycling Guidelines (aligned with SUEZ.circpack@ on plastics), including tables of design aspects to aim for/avoid by material.

Note: The Fashion Pact's initial target on elimination of plastic packaging was reworded in 2021, moving away from the term 'single-use' to 'problematic or unnecessary' to be more encompassing and aligned with the Ellen MacArthur's Global Commitment's widely adopted targets on plastic packaging.

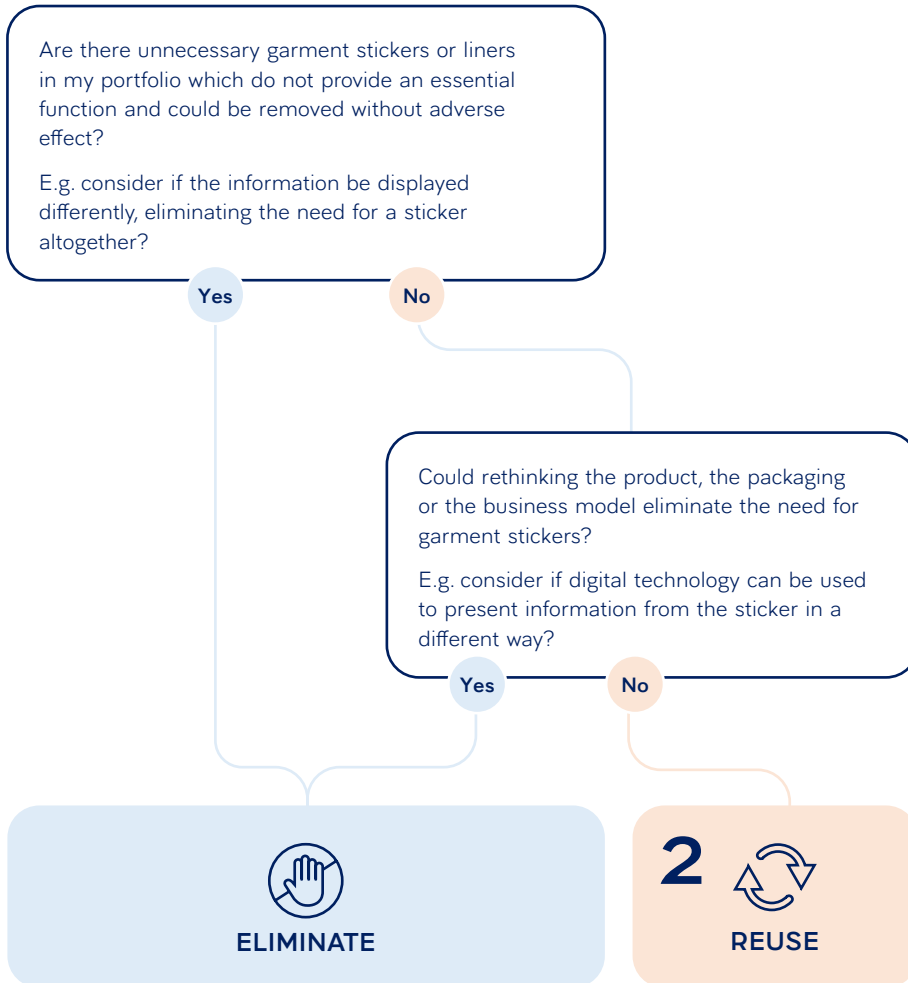
⁴³ 'Recyclable in practice and at scale', is defined as reaching a 30% post-consumer recycling rate in multiple regions, collectively representing at least 400 million inhabitants. An alternative especially relevant for more local players is to check if a 30% post-consumer recycling rate is achieved in all the markets where the packaging is sold. For more details on the 'recyclable' definition, see p.13.



ELIMINATION

Always begin by trying to eliminate the need for packaging

1



ADOPTING SOLUTIONS FROM A SYSTEMS PERSPECTIVE

Different solutions and innovation opportunities can be explored to eliminate single-use garment stickers, depending on business models, supply chains, logistics, warehousing processes and local conditions. Each solution comes with trade-offs, which must be evaluated carefully depending on a company’s product, priorities and targets. Solutions should be considered from a systems perspective and across the supply chain, bearing in mind unintended consequences, such as environmental spillovers, and ensuring that garment waste is not increased with associated higher costs and loss of natural resources and emissions.

THE FRAMEWORK APPLIED

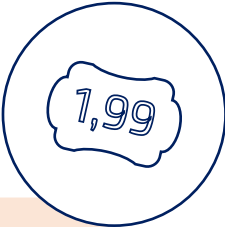
In e-commerce, self-adhesive size stickers are not needed for browsing visibility as they are in physical stores, and the customer can find the information on the garment label if needed. **Stickers can thus be eliminated** when stock management can be adapted to not require these (e.g., if needed by using QR or RFID in the labels).

For online purchases, eliminating single-use plastic hygiene liners could be considered by implementing an **innovative sanitation process** for returned items, such as with a specific dry-cleaning technology.

Water-soluble garment stickers, which dissolve in the washing machine before the item is first worn, can be considered where appropriate. However, stickers should be made from a renewable source that does not come from the food stream and doesn’t clog septic systems.*

*Note: It is important to ensure that such solutions are not interpreted as an incentive to litter by the user, or do not potentially hinder the recycling system if ending in the recycling stream.





REUSE 2

If packaging is essential, how might redesigning the product, packaging or business model enable reuse?

Is it possible to replace single-use stickers with a reusable alternative B2C?
 E.g. consider if reusable size dividers on racks could replace SUP garment stickers? Can innovative adhesive technology be used? Can a service provider manage the reuse process? Rather than owning the stickers (e.g. for hygiene liners), can a turn-key supplier provide and clean them?

Yes

No

Could moving towards standardised reusable garment stickers in the supply-chain be an option?
 E.g. consider if sharing packaging and infrastructure with others reduce costs of reverse logistics and benefit the system's efficiency?

Yes

No

REUSE

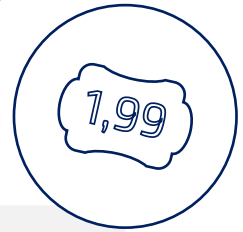
3

MATERIAL CIRCULATION

THE FRAMEWORK APPLIED

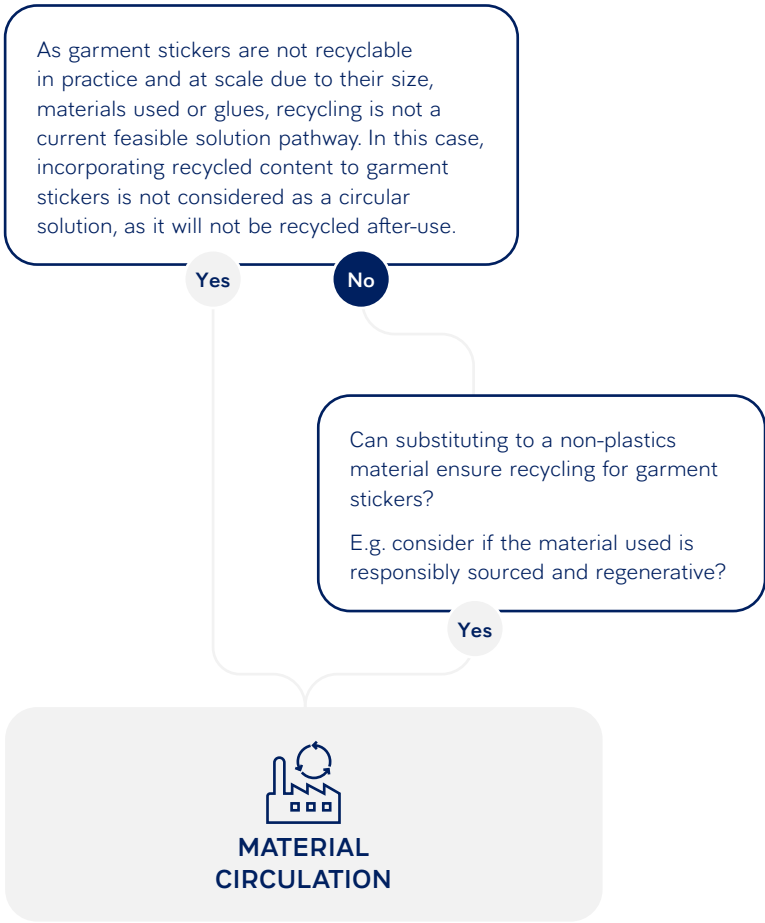
Some retail stores have opted for **reusable size dividers on clothes racks** or **sorting shelves by size**, rather than applying stickers directly on the garment; this has the added benefit of avoiding potential damage of fragile garments when tearing off stickers. In store, innovative reusable adhesive sticker- or glue-free technology could be considered to replace SUP garment stickers, for example statically charged labels for short-term, indoor advertising.





MATERIAL CIRCULATION 3

Ensure all packaging and plastic components are designed so that the materials can be recycled



THE FRAMEWORK APPLIED

The recyclability of garment stickers could be increased by developing innovative glue-free adhesive technology compatible with recycling. Where elimination or reuse solutions are not an option, substituting single-use plastic garment stickers or liners with another material can be considered, if it achieves a better systemic outcome and is responsibly sourced. For example, **EcoEnclose’s paper release liners** are made of 100% post-consumer recycled waste and can be recycled with other paper waste.

COMPOSTABLE PLASTICS ARE NOT A BLANKET SOLUTION FOR GARMENT STICKERS

Note: Compostable plastics, and therefore biodegradable plastics, used for fashion and textile are out of the scope of The Fashion Pact’s targets based on current applications and viability for composting or recycling in practice and at scale.

Compostable plastics are biodegradable by naturally occurring microorganisms in a controlled composting environment (e.g., PLA, PHA). Compostable plastics are not a blanket solution for plastic waste, but can fit into a circular economy for targeted applications – such as for packaging in contact with food, allowing biological nutrients to return to the soil – where collection and composting infrastructure are in place. In the fashion industry, the use of compostable packaging and plastic items is to be evaluated carefully weighing the pros and cons, and only chosen if it allows organisations to achieve a better systemic outcome than recycling.

THANK YOU

We are excited to share this document to help The Fashion Pact signatories achieve their collective targets in the Oceans Pillar. This guide received input from a wide variety of internal and external stakeholders. We hope that this can be a useful tool for your teams as it is intended to provide as much clarity as possible. Although we acknowledge that this does not provide targeted guidance to individual organisations, it is a first and iterative step to creating relevant guidance for packaging in the fashion sector. Feedback and requests for further information will identify gaps and areas where we can work on actions collectively to move all signatories closer to achieving our targets.

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Valentina Stigher, Moncler

DESIGN FOR RECYCLING GUIDELINES & GUIDANCE

- [Recyclclass Design for Recycling Guidelines](#)
- [APR Design® Guide](#)
- [Walmart Recycling playbook](#)
- [Consumer Goods Forum Golden Design Rules](#)
- [EU Single-use plastics Directive \(2019\)](#)

USEFUL RESOURCES

- [The New Plastics Economy Upstream Innovation book & resources, Ellen MacArthur Foundation](#)
- [The Global Commitment, Ellen MacArthur Foundation / UN Environment Programme](#)
- [‘Polybags in the Fashion industry: Evaluating options’ report, Fashion for Good](#)

ENDNOTES

In addition to the links to sources listed throughout the document, the following relevant sources have been consulted in drafting this report:

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- II. Recyclclass website, Recyclclass Recycling Methodology, consulted March 2022
- III. Recyclclass, *ibid.*
- IV. Ellen MacArthur Foundation, [The New Plastics Economy Global Commitment - Commitments, Vision, and Definitions](#) criteria for an item to be considered problematic or unnecessary) - modified: composting was left out, as less applicable to the fashion industry; The French Plastics Pact: [‘avoidable’](#) definition criteria
- V. Ellen MacArthur Foundation, [The New Plastics Economy Global Commitment definitions and reporting guidance](#), Recyclable definition (April 2021)
- VI. Ellen MacArthur Foundation, [The New Plastics Economy Global Commitment - Commitments, Vision, and Definitions](#)
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3. Ellen MacArthur Foundation, [Upstream Innovation: A guide to packaging solutions](#) (2020)

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4. Arch & Hook [website](#), consulted September 2021
5. Veolia, [Des cintres 100 % recyclables fabriqués avec des déchets plastique](#) webpage, consulted September 2021

E-COMMERCE SHIPPING BAGS

- 1, 2 Ellen MacArthur Foundation, [Upstream Innovation: A guide to packaging solutions](#) (2020)

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Outdoorindustry.org, Bagged and Tagged: How Outdoor Brands Are Tackling the Complex Issues of Product Packaging webpage, consulted September 2021

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