THE RULES OF PACKAGING SUSTAINABILITY

Public Version
Update June 2025

Disclaimer

The information contained in this document is provided for general informational purposes only and reflects Nestlé's current aspirations and best estimates regarding the types of packaging changes under consideration.

While Nestlé is committed to improving the sustainability of its packaging, all plans outlined herein are subject to change based on evolving regulatory requirements, material availability, technological feasibility, business needs, and other external factors.

This document does not constitute a binding commitment or guarantee of specific actions, timelines, or outcomes. Any future changes to packaging will be implemented in accordance with applicable laws and standards, and may vary by product, market, or region. Nestlé reserves the right to modify, delay, or cancel any of the initiatives described in this document at its sole discretion and without prior notice.

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Nestlé's Vision & Commitments for Packaging Sustainability

VISION

None of our packaging ends up in landfills or as litter

COMMITMENTS

See our most recent version on www.nestle.com

Our packaging sustainability strategy

LESS PACKAGING

1

REDUCE

Reducing our use of **plastic packaging material** in general, and **virgin plastics** in particular

2

REUSE & REFILL

Scaling **Reusable and Refillable** systems to eliminate the need for **disposable packaging**

BETTER PACKAGING

3

REDESIGN

Pioneering **alternative packaging materials** to facilitate recycling

BETTER SYSTEM

4

RECYCLE

Supporting **infrastructure** that helps to shape a **waste-free future**

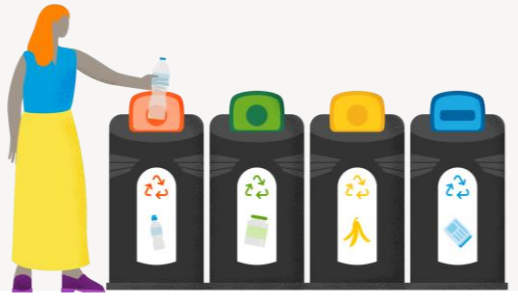
5

RETHINK BEHAVIORS

Rethinking behaviors of **Nestlé, retail partners** and **consumers**

Building the future today

THE RULES OF PACKAGING SUSTAINABILITY ARE DEFINED BY TWO KEY ELEMENTS



1. **The Golden Rules** – confirmed attributes that define the way we design our packaging today and, in the future, to ensure it's recyclability.

2. **The Negative List** – a list of materials, additives, packaging concepts and items which are or will be considered obsolete based on the evolution of recycling technologies and infrastructure and legal/regulatory framework.

In the next section, we outline The Golden Rules – a comprehensive set of rules to guide our packaging sustainability transformation journey. These should be applied to all packaging innovations and renovations, in order to improve design for recycling and overall environmental performance.

At all times, Nestlé follows all applicable local laws. Where there is inconsistency between the rules in this document and local laws, the latter shall prevail.

The Golden Rules for all packaging

ACT ON SUSTAINABILITY PERFORMANCE HOLISTICALLY

1. **ELIMINATE** problematic or unnecessary packaging.

2. **ELIMINATE EXCESSIVE HEADSPACE** (Rigid & Flexibles). Strive to achieve the minimum technically possible headspace and select equipment to achieve it e.g working to ensure headspace 30% at the time of filling.

3. **FOLLOW REGIONAL/LOCAL INDUSTRY GUIDELINES** for design for recycling where the product is marketed. This includes for example: 4evergreen for paper-based packaging or CEFLEX for Flexibles in Europe, or APR in the US.

4. **CONSIDER LOCAL RECYCLING INFRASTRUCTURE** availability to confirm recyclability:
   - Is the packaging design (including size and shape) preventing sorting or recycling?
   - Is the packaging collected, sorted and recycled in the market where it is sold?

5. **INCREASE RECYCLING VALUE** for packaging types that are recycled at scale in today's recycling system or will be recycled at scale in future recycling systems.

The Golden Rules for all packaging

ACT ON SUSTAINABILITY PERFORMANCE HOLISTICALLY

6 **MAXIMIZE RECYCLED CONTENT** without compromising product safety.

7 **HOLISTICALLY OPTIMISE PRIMARY, SECONDARY & TERTIARY PACKAGING** to reach ≥95% area and ≥90% pallet cube utilization. Enable double stacking based on maximum pallet height, considering safety, logistics and customer restrictions. Reduce plastic overwraps.

8 **COMPLY** to the receiving market requirements for intermarket supply.

9 **IMPROVE ENVIRONMENTAL PERFORMANCE** of B2B packaging.

10 **ENGAGE IN COMMUNICATION** with consumers on how to responsibly dispose of packaging.

The Golden Rules

CHAPTER 1: PLASTICS

1. **REDUCE VIRGIN PLASTIC** through elimination/reduction, substitution and recycled content
2. **MAXIMIZE THE BASE MATERIAL STRUCTURE** as mono-PE or mono-PP, or when needed as a combination of both, called polyolefin (PO).
3. **UNCOLORED, TRANSPARENT** or lightly colored materials are preferred to maximize value of the recycling stream.
4. **ENSURE** that packaging is detectable by design in automated sorting facilities.
5. **RESIDUAL PRODUCT** must be easily removable prior to disposal of the pack.
6. **BIO-BASED CONVENTIONAL PLASTICS** (PET, PP and PE) to be sourced, where technically possible and available, from biowaste and compliant with regulations.
7. **BIODEGRADABLE/COMPOSTABLE MATERIAL** usage must be validated by the Nestlé Institute of Packaging Sciences.
8. **DO NOT USE PLASTICS WITH DEGRADATION-PROMOTING ADDITIVES** such as oxo-biodegradable plastics. If required by law, redesign the packaging to exit plastic.
9. **ELIMINATE** PVC, PVDC, PS, EPS.
10. **USE** additives (e.g. scavengers, UV filters, colors) which are proven to be compatible with local recycling streams

CHAPTER 1A: FLEXIBLE PLASTICS – Maximize mono-PE and mono-PP content

PRIMARY PACKAGING / SALES UNIT: STICKPACK, SACHET, DOYPACK, COLLATION BAG, WRAP…

- **USE** mono-PE or mono-PP
- Polyolefin (PO, a combination of PE and PP), **CAN BE USED** aiming at a minimum of at least 90%* of PE or PP
- Mono PET in flexibles is **NOT RECOMMENDED** unless proven to not disturb recycling
- **AVOID** more than 5%* EVOH / PVOH
- **AVOID** more than 15%* polyamide (in-line with material description in industry design guidelines)
- **INCLUDE FOOD GRADE RECYCLED CONTENT** in line with regulatory requirements, when cost competitive and can be valorized with consumers

SECONDARY AND TERTIARY PACKAGING: SHRINK WRAP, STRETCH FILM , LINER, BAG,…

- **USE** mono-PE or mono-PP
- **ELIMINATE** shrink wrap and stretch film where possible and where it makes environmental sense
- **PRIORITIZE** alternative grouping options such as self-adhesive stickers or paper wraps
- **MAXIMIZE** recycled content
- **ONLY PRINT** if required by regulations
- **AVOID LABELS ON THE FILM.** If required, use the same material as the film or minimize surface coverage in case of paper label.

* % derived from industry associations

CHAPTER 1B: RIGID PLASTICS – Maximize mono PET, PP and PE content

RIGID PLASTIC PACKAGING: ALL PET APPLICATIONS

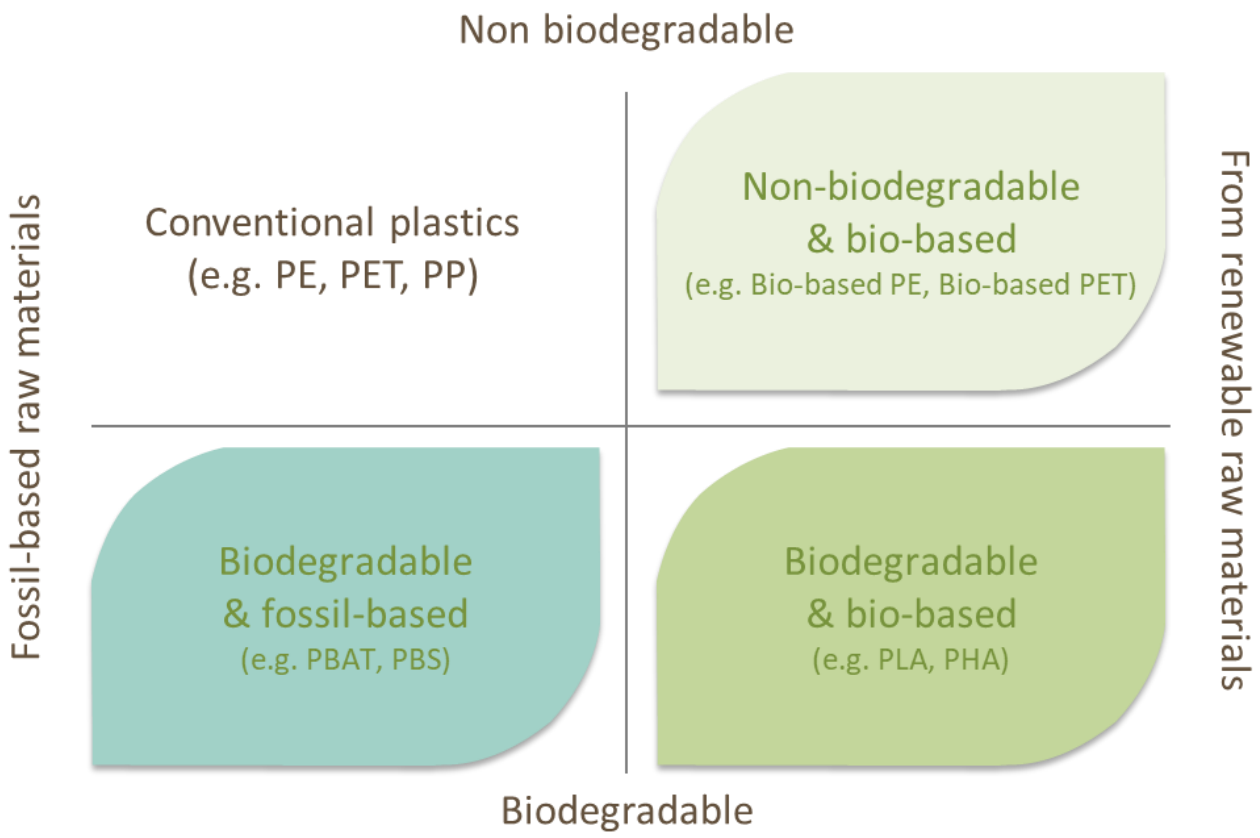
- **USE** mono material PET
- **USE** transparent and uncolored PET, or transparent blue or green as per local industry guidelines
- **INCREASE RECYCLED CONTENT** to maximum viable amount (e.g. technically, legally)
- **ELIMINATE** PET-G and expanded PET with a density <1g/cm^3
- **ENSURE** material, adhesive, ink choice and size of sleeve or label are not problematic for recycling
- **ENSURE** material and adhesive choice of lidding films, inserts or other components is not problematic for recycling

RIGID PLASTIC PACKAGING: PP & PE

- **USE** mono PP or mono PE
- **AIM** at EVOH content <6%*
- For all labels, **ENSURE** material, adhesive, ink choice and size are not problematic for recycling
- **AVOID** fillers that increase the density of the packaging to >1g/cm^3 and might impact recycle quality
- For closures, **ENSURE** material choice, liners and seals are not problematic for recycling
- **PHASE OUT** silicon in PE or PP closures
- **INCLUDE FOOD GRADE RECYCLED CONTENT** in line with regulatory requirements, when cost competitive and can be valorized with consumers

* % derived from industry associations

Virgin plastic definition : fossil and bio-based materials



Source : www.european-bioplastics.org/bioplastics/

What is counted as virgin plastic:

FOSSIL-BASED RAW MATERIALS

PET, PE, PP, PS, PVC, PC, Nylon, PVOH, EVOH

BIO-BASED CONVENTIONAL PLASTICS AND BIODEGRADABLE PLASTICS

PLA, PBAT, bio-PBS, modified starch, PHA, biobased PET, PE, PP*

*In certain regions, bio-based plastics are under consideration for acceptance as a contributor towards virgin plastics reduction.

* Bio-based plastics do not contribute to Virgin Plastic Reduction under current regulations

The Golden Rules

CHAPTER 2: PAPER & PAPERBOARD

1. **ENSURE** material is sortable and recycling infrastructure is in place in the selling market.
2. **CONFIRM** design for recyclability with relevant industry guideline and conduct relevant recyclability evaluation only if required.
3. **ELIMINATE** food residues in the pack by optimizing the format and informing consumer to remove residues before disposal (light staining and traces of dry foods can be accepted).
4. **DO NOT USE** PFAS and chlorine-based coatings (e.g. PVDC).
5. **MAXIMIZE** paper recycling yield (recommendation >80% from recycling test) by removing non-paper elements such as labels, spouts and windows and by limiting barrier coatings or lamination to the functional minimum.
6. **LIMIT** cold/hot foil stamping on the outside of the pack to premium brands, with a maximum of 30% of the pack surface to avoid sorting or recycling issues.
7. **MAXIMIZE** recycled content for non-food contact paper-based packaging (e.g. corrugated shipping cases)

CHAPTER 2: PAPER & PAPERBOARD

DISPERSION, EXTRUSION AND LAMINATED COATED PAPER OR PAPERBOARD

- **MAXIMIZE** fiber content in packaging material, while minimizing non-fiber elements and materials
- **ENSURE** design parameters and elements do not impact recyclability (e.g. wet strength agents, double sided coatings) and quality of recycled fiber (e.g. visual impurities, sheet adhesion)
- **GUARANTEE** suitability for standard mill recycling after successful testing

MOLDED PULP CONTAINERS

- **CONFIRM** local recyclability and recycling stream, specifically if non-wood pulp is used
- Wet strength and sizing additive **CAN BE ADDED** at levels that do not affect the recyclability of the pack
- **ENSURE** that food residues can be efficiently removed and provide a clear guidance to consumer

PAPER STRAWS & WRAPS

- Paper made from virgin pulp **MUST BE USED** on all straws and wraps
- **NO PRINTING/INKS** on straws and wraps due to concerns for contamination and health
- **COMMUNICATE** that straws should be pushed back into the beverage container to ensure recycling

CHAPTER 3: DECORATION (1/2)

1. **HOLISTIC END-OF-LIFE EVALUATION:** Each decoration technology, including its adhesives/inks, must be evaluated when combined with the container it decorates . Those ‘decorations’ must be either easily separable or fully **compatible** with the recycling stream of the main container.

2. **AVOID** PVC or conventional PET-G film substrate for sleeve/label.

3. **AVOID** PVC inks.

4. **DIRECT PRINTING**
   - **Consider using** on metal containers.
   - **Consider** for **PP, PE & PET** container, tray, lid and pot but assessment at local level must be performed and comply to food safety and Inks standards.
   - **Avoid** for PET bottles.

CHAPTER 3: DECORATION (2/2)

5 **MINIMIZE** print surface and quantity of inks

USE CMYK+1 approach for artwork construction

6 **PE and PP container: LABELS/STICKERS/SLEEVES** to be made from PE or PP material to ensure full recyclability. Paper labels to be phased out unless proven to not disturb recycling.

7 **PET container: LABELS/WRAP-AROUNDS/STICKERS** to be made of a material with density <1g/cm^3. Paper label to be phased out unless proven to not disturb recycling.

8 **FULL SLEEVE** should be limited to functional applications such as light barrier and proven to not disturb recycling. Sleeves for design purpose only must be phased out unless proven to not disturb recycling.

9 **SLEEVE FOR PET CONTAINER** must not prevent proper sorting/ recycling of the container. PET crystalline sleeves with APR qualified washable ink systems are allowed worldwide unless otherwise stated by local recyclability criteria like EU-27 countries which follow the EPBP rules.

10 **PHASE OUT** non-water soluble/dispersible adhesives.

The Negative List
Materials to Be Removed

This timeline is indicative of our ambition and direction. These are not intended to be time-bound commitments and progress against this timeline may be affected by a number of factors.

2019

OXOBIODEGRADABLE PLASTICS ADDITIVES
Degradation promoting additives generating microplastics

2020

PVC
Trays, sleeves, labels & films

LITTER-PRONE ITEMS
Plastic straws, cups & tamper-proof sleeves

2021

UNDETECTABLE
Rigid plastic items not detectable by commonly used NIR sorting technology

OVERLY COMPLEX DESIGN
Packaging that is not functionally needed

2022

PVDC
Coating on plastics, paper & paperboard

PVC
Liners for metal twist-off closures & printing inks

POLYSTYRENE
Trays, dairy pots, ice cream lids & coffee lids

ePS
Trays, tubs, sleeves & transportation protection

REGENERATED CELLULOSE*
Twist wraps & windows

PET-G
Labels & sleeves

2024

DARK/OPAQUE PET BOTTLES
Any color that is NOT transparent clear, transparent green or transparent blue cannot be used

PAPER/PLASTIC
Laminated paper with paper content <50%

PVC
Liners for metal press-twist closures & coffee capsule sealing layer

* Except for applications designed for composting