UPSIDE

CREATIVE
SOLUTIONS

May 2021

Eco Design
Guidelines
for Packaging

CONTENTS

1 / KEY PRINCIPE OF ECO-DESIGN

The four key principles of eco design: packaging is of course at the heart of the approach, but eco design involves integrating the entire product system: products and their content, packaging systems, accessories, merchandising (service items, glorifiers, etc…)
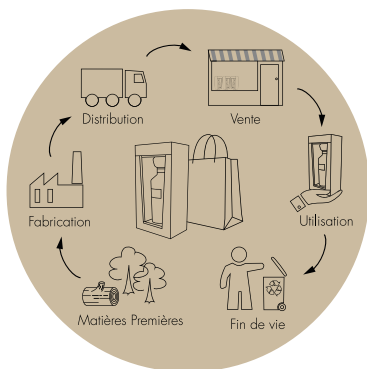
A MULTI-STAGE APPROACH

Eco-design must take into account **all phases of the box's life cycle**, from the production of the raw materials to the end-of-life waste management.

A SYSTEMIC APPROACH

The product is of course at the heart of the approach, but the **packaging system and associated products** (consumables) are also taken into consideration.
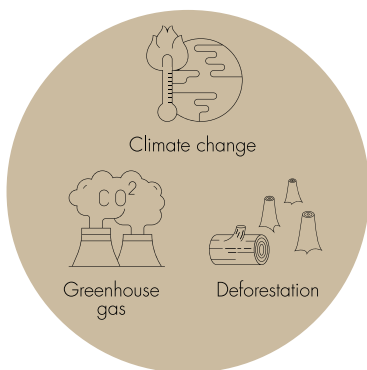
A MULTI-CRITERIA APPROACH

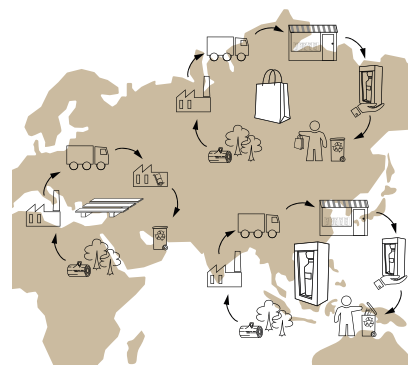The approach considers the multiple environmental impacts generated by the packaging (for example climate change or ressources depletion, …) with the aim of addressing **priority issues** and **avoiding possible impact shifts.**
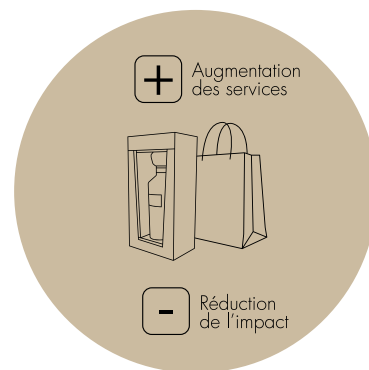
THE CONCEPT OF SERVICE PROVIDED

Eco-design aims to reduce the environmental impacts while **preverving or increasing the level of service provided to the final user.**

2 / ECO-DESIGN GUIDELINES

2.1 HOW TO REDUCE IMPACT OF **THE MATERIALS**

Choose lighter material & avoid metallic elements

• Reduce paper weight & material, thickness to a minimum, while guaranteeing robustness of the packaging: eg honeycomb

• Consider alveolar materials

• Avoid use metal parts in the box such as claps, decorative elements

• Do not use magnets & replace with alternative closing systems (such as stickers, tape)

• Do not ballast the box at least without metals

Choose exemplary materials from exemplary suppliers

• Choose recycled material references, if possible post-consumer: eg FSC, Recycled (FSC mixed or FSC 100%) certified for cellulosic elements

• Prefer unbleached papers or papers bleached without use of chlorine (TFC) or without use of gaseous or elemental chlorine (PCF)

• Favor supplier located near assembly centers to limit upstream transportation, using local sources whenever possible

• Choose suppliers with ISO14001, FSC, ISO 26000 certification

Avoid Plastic

• 100% cardboard box

• Eliminate the plastic sleeve and change it to cardboard sleeve

• Eliminate traditional plastic blister or fixing part and change it to paper or cardboard fixing part or pulp tray solution

• At least, favor the use of plastic with a high percentage of recycled content and recyclable

Optimize cushion system

• Minimize amount of cushioning

• Use single material cushioning if possible compatible with the main material of the box for recycling

• Choose recycled materials if possible post consumer or bio sourced materials for cushioning

• Combine cushioning & packaging to optimize overall weight

2 / ECO-DESIGN GUIDELINES

2.2 HOW TO REDUCE IMPACT OF **THE DESIGN** (whatever the materials are)

Simplify & Lighten design

• Minimize volume, weight & thickness of the box & eventual cushioning

• Eliminate unnecessary components & overpackaging

• Optimize empty spaces in the box

• Avoid use of plastic window & thermoformed shims

• Reduce material thickness

• Use of less dense or alveolar materials

• Work on the center of gravity & the aesthetics of the boxes to avoid the need of ballast

Rethinks existing formats

• Hollow the box to reduce the total weight, working on the rate of offcuts to limit them

• Adjust the box to the dimensions of the products contained

• Protect only fragile areas for example, bottom of the product to ensure the stability of the box

• Consider an "origami" sealing system that limits use of glue: tab, lid, label sealing

• Define optimal dimensions of the boxes to improve paletization

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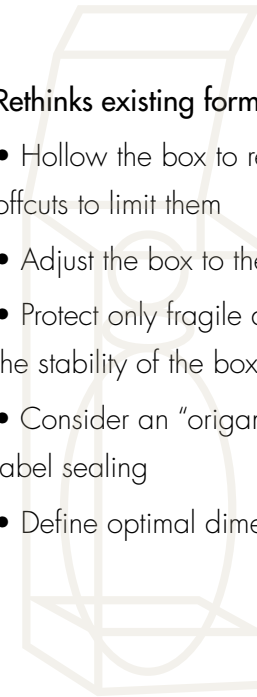
2 / ECO-DESIGN GUIDELINES
2.3 HOW TO REDUCE IMPACT OF **THE DECORATION**

Limit unnecessary layers & decorated surfaces

• Assume "raw" aspect of material chosen to limit additional decoration

• Consider use of colored cardboard to avoid additional printing

• Limit use of glitter or hologram decors (use glossy decors without metals, multi-color effect)

• Use white as a color in its own right & play contrast to reduce ink coverage

• Identify less exposed areas (underneath at the back with regulatory information) to reduce overall inking

• Do not ink the technical parts (assembly areas, intended to be glued)

• Ensure printing processes that use less ink (offset) on less absorbent substrates

Use less impactful decoration processes & limit impact of printing

• Favor printing rather than hot-stamping, without gilding at least

• Avoid use of metallic inks and prefer metal effect inks without metalic pigments

• Avoid lamination processes with polyurethane

• Prefer embossing over flocking (glues may penalize recyclability)

• Prefer vegetal inks (water based or vegetal oil based) to mineral inks

• Reduce inking rate & number of colors

• Lighten slightly backgrounds loaded with ink, use gradients by playing on typo size or colors

HS Gold + White + CMYK + P 2298C + P 471C + Varnish + Lamination + Glue + Ribbon

2 / ECO-DESIGN GUIDELINES

## 2.4 **RECYCLING** - MATERIALS ARE RECYCLABLE IF...

Flexible packaging is recycled if:

• Packaging is not combined with any barrier / adhesive / stains

• Packaging is not associated with any elements made of wood, metal, glass, plastics, PS (polystyrene), EPS (expanded polystyrene), PVC, pure flexible acrylic glue, metal pigment inks, ceramic, cork, porcelain, crystal

• For the other associated elements, if they are made of LDPE (low density polyethylene), HDPE (high density polyethylen), or bio based HDPE, PP (polypropylene) or OPP (Oriented Polypropylene) plastic they will be recycled

Rigid plastic packaging made of PET, PE, and PP is recycled if:

• Packaging is made of mono-resin or complex PET with a density >1, the packaging made of PE and PP with a density <1

• Packaging is not associated with any element: single material packaging

X Others plastics are not recycled
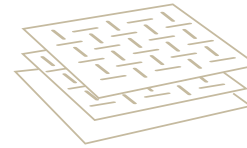
Cardboard packaging is recycled if:

• Packaging is made of more than 50% fibrous material and without disruptive substances (PA, polyester, textile, glass, ceramic, crystal porcelain…)

X Other non-fibrous materials associated will be excluded from recycling

2 / ECO-DESIGN GUIDELINES

2.5 **RECYCLING** - HOW TO ENCOURAGE IT

Generally

• Give instructions to encourage sorting and collection

• Promote materials that are easily identifiable as recycling by users and that have a recycling system that is widespread in different countries

Avoid Metallic inks, varnishes, gilding and film coating

• Limiting inks quantities & choose inks without bleeding and with low migration to facilitate recyclability

• Favor certain colors to facilitate recycling (avoid black plastic)

• Encourage use of dark coloring solution validated by COTREP (Technical Committee for the Recyclability of Plastic Packaging)

Prefer mono material as much as possible

• At least, if different materials are used, they must be able to separate easily (lids, cushioning etc.)

• Limit quantities of materials that will not be recycled in recycling stream identified by the majority material

Optimize glues and adhesives

• Choose glues & adhesives that can be eliminated or at least hydro dispersive, avoiding in fragmentable or insoluble glues, in order to improve quality of recycled products and limit impact on process water

Avoid use of biodegradable or compostable materials

• Packaging are not intended to end up in the nature and therefore to biodegrade or compost: Avoid misleading the user about potential end of life of the product

• "Compostable" or "biodegradable" materials are generally compostable under specific industrial conditions (few domestic solutions)

• Integration of these materials into current recycling streams can disrupt recycling

2.6 **REUSE** - HOW TO ENCOURAGE IT

Promote reuse of the box

• Packaging should be designated to be "useful & reuse" (e.g. jewelry boxes)

• Think about shape & graphics so to allow reuse

• Reusable packaging should not be oversized. Ideally, it has the same environmental impacts compared to disposable packaging

• Reusable packaging must still take in to account the constraints of existing recycling channels

• Avoid the use of magnets and other metals parts even in reusable designs

Create Pedagogic Pack

• Provide end of life instructions to promote collection and sorting

• Encourage more responsibility behavior, particularly in the use of the product

• Use this communication surface to encourage users to reuse or recycle the packaging

3 / EXAMPLES

CREATE ECO-RESPONSIBLE PRODUCTS BY UPSTREAM REFLEXION

Eco-responsible new production: L'Oréal Lancôme Idôle

• Remove all the plastique (previously: sleeve and wedge)

• The sleeve is in paper that allow to print on the back pictures of the products and to emboss of the brandmark to add practicity and texture

• The wedge is 100% in paper and cardboard

• Design and quality don't change from the previous version but a gain of 5To of plastic with that new edition

Precise fitting: Normandin

• The coffret fits to the bottle size (no need to add wedge)

• Using a black paper sleeve we don't need magnet

• 1 color for the box, 1 color for the sleeve

• A game of textures (kraft/embossing, paper uncoated) and finess of the printing give the luxury facet of the box

Reuse and multi-products: Or du monde

• A collection of coffrets with the paper wedge and silk paper not glued in the box to autorize a reuse of the box

• The accordion wegde invented by Upside CS, easily allows the integration of 5 different sizes of jewellery box

• Or du monde used an professional illustrator to encourage the customer to keep the box as a piece of art.

THANKS