Kennisinstituut Duurzaam Verpakken

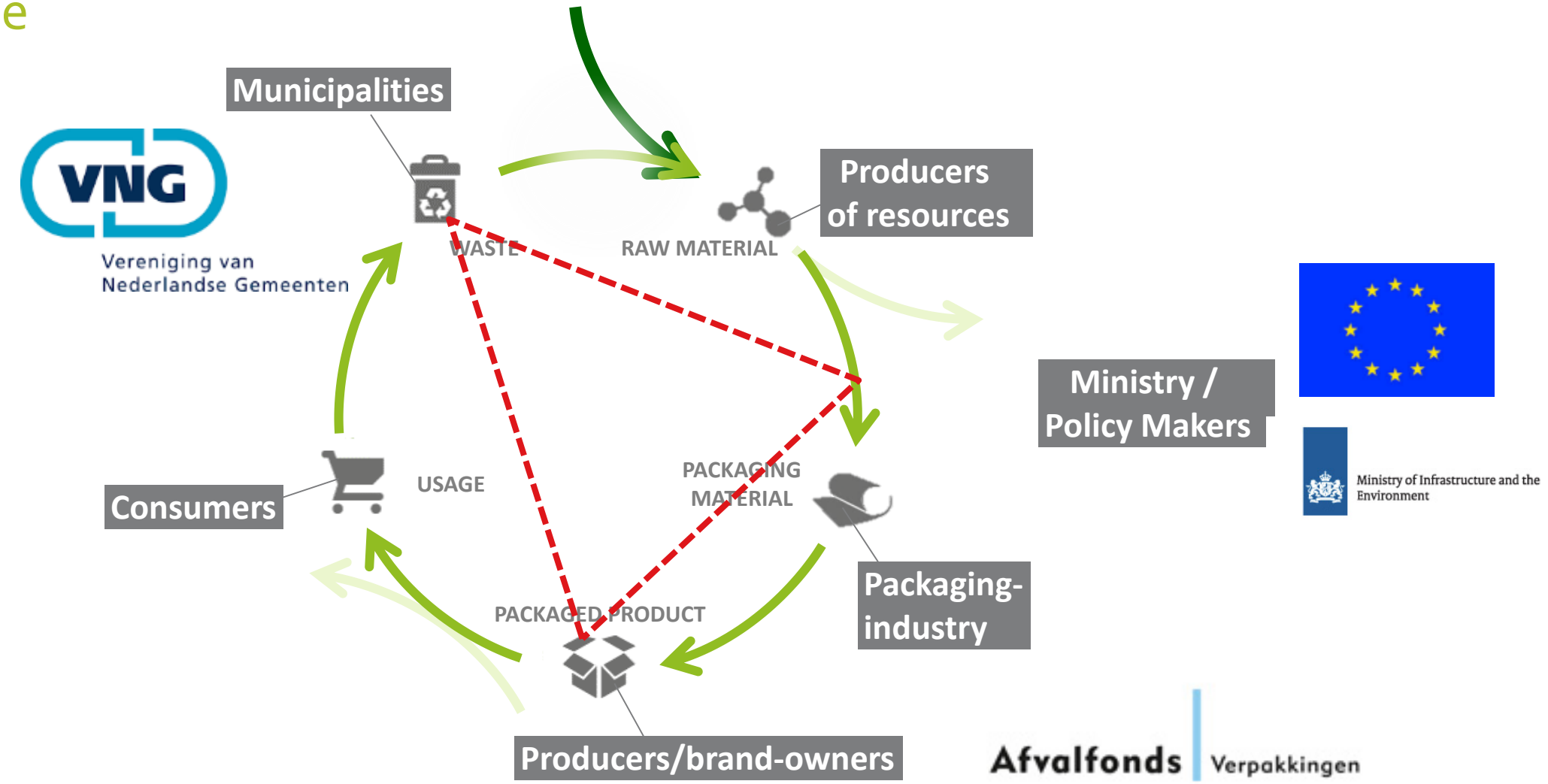
Design for recyclability

Karen van de Stadt

The Netherlands Institute for Sustainable Packaging

- Founded on January 2013: part of the Framework Agreement for packaging 2013 – 2022
- Reduce the environmental impact of packaging
- Creating knowledge to close the loop for packaging materials and contribute to a circular economy
- Board and advisory board
- Cooperation with scientists, expert committees an (inter)national reviews

Governance

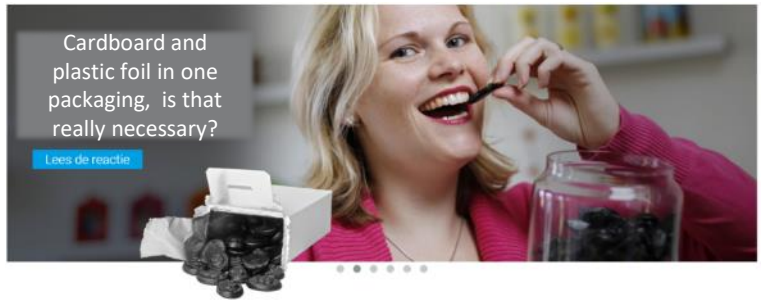


KIDV - activities

Knowledgebase: the place to be for knowledge on sustainable packaging

Research to close the plastic circular economy

Research program in collaboration with Top Institute Food and Nutrition



Online Packaging forum for consumers

Sector innovation plans

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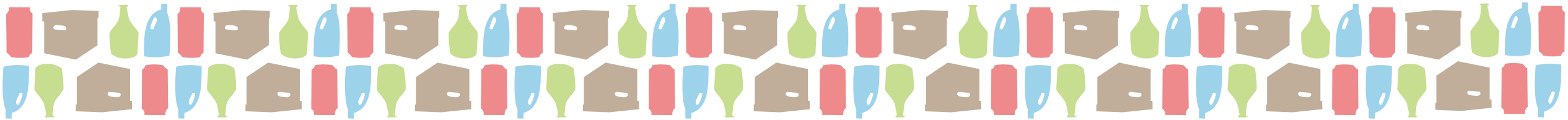
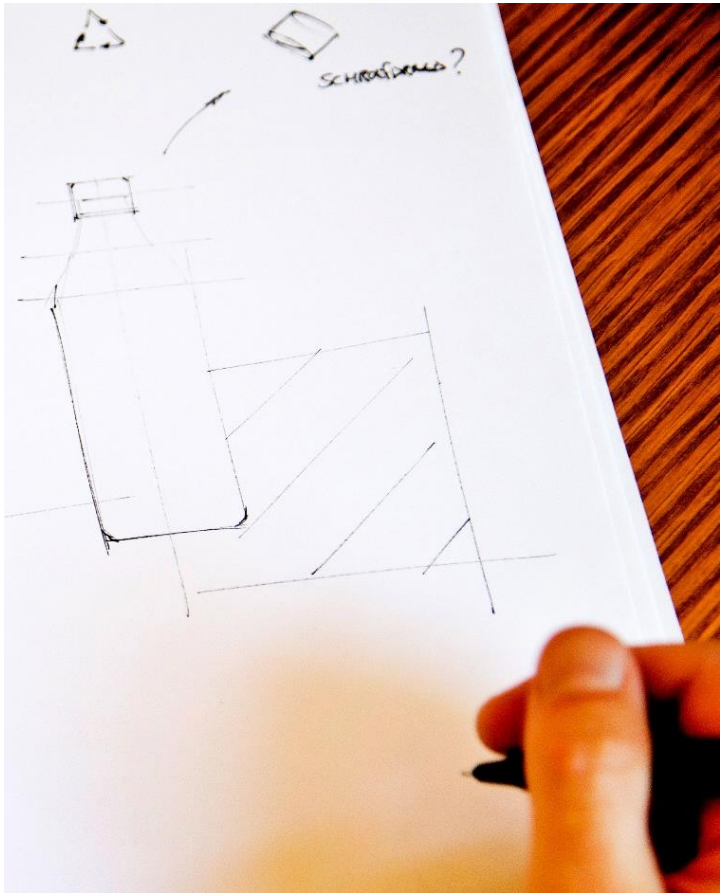
Design for recyclability



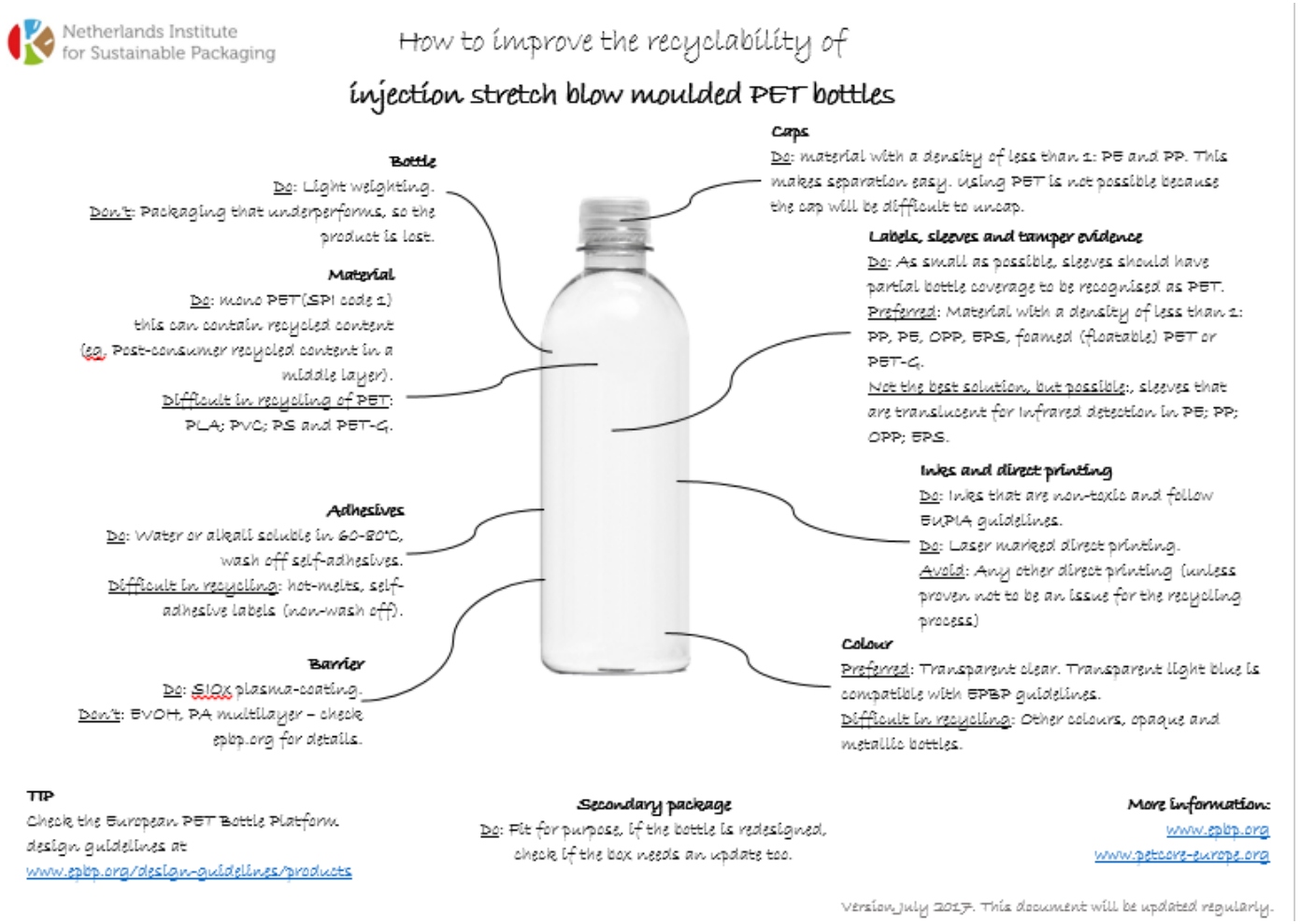
Design for recyclability

- Packaging designers and developers have trouble taking recyclability in account in their design.
- KIDV made the website recyclability.kidv.nl
- Information is based on KIDV knowledge and other knowledge institutes.



Principles

- Look and feel must be attractive.
- Communication must be simple.
- Transform complex technical information in small compact messages



Netherlands Institute for Sustainable Packaging

HOME ABOUT US PLASTIC GLASS CARDBOARD / PAPER WOOD METAL

Improve the recyclability of packaging

The main purpose of packaging is protecting the product. The most sustainable packages make sure that the product is available on the desired moment, in good condition. Spoiling the product creates a bigger environmental impact than the use of the packaging (even up to ten times). This means the packaging must be fit for purpose: protect the product, use the least material possible.

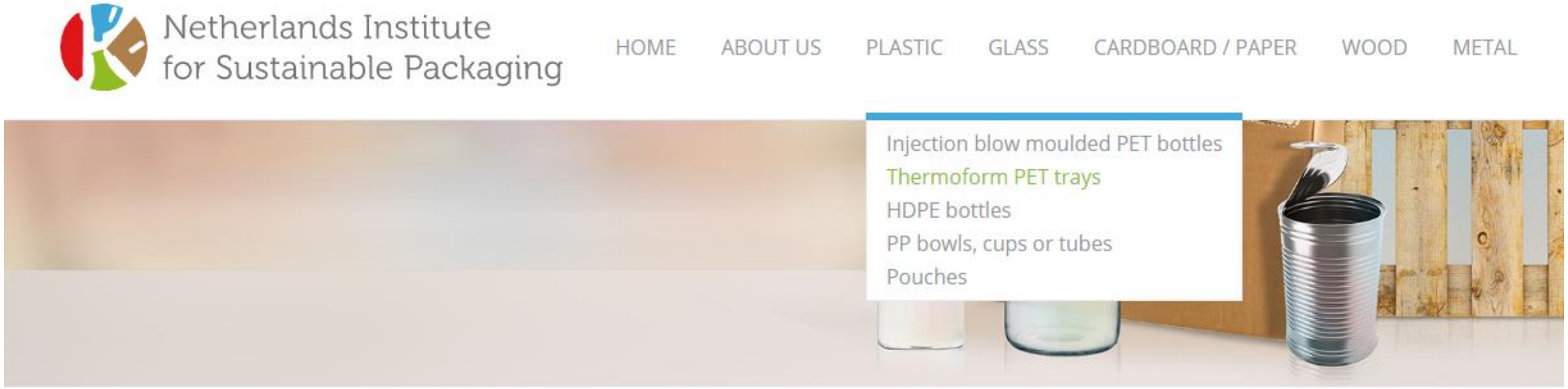
" Save resources by making your packaging more recyclable "

We start with five basic principles:

First make sure that the packaging fulfills it’s functionality, then:

1. Avoid toxins
2. Minimize (reduce and reuse)
3. Use only one material, if possible
4. Use recycled or renewable content, if possible
5. Communicate on the end-of-life options

Several packaging types per material

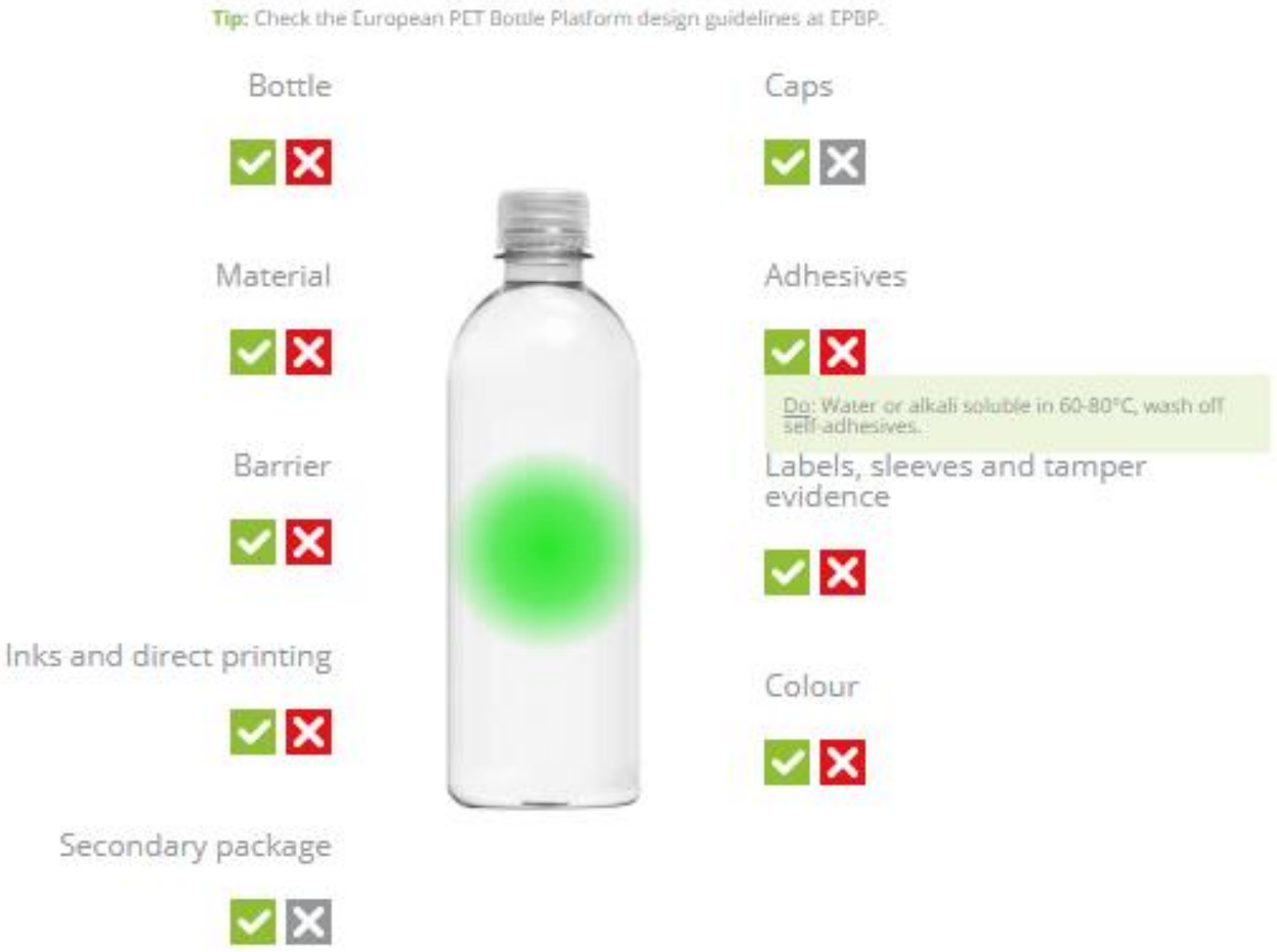


How to improve the recyclability of Thermoform PET trays

Do’s and don'ts per packaging type

Injection blow molded PET bottle

- There are do’s and don’ts available on each part of the bottle
- In a quick overview the information is available



Injection blow molded PET bottle

	Do's	Don'ts
Bottle	Light weighting	a packaging that underperforms, so the product is lost.
Material	Mono PET that can contain recycled content	Difficult in recycling of PET: layers of PLA; PVC; PS and PET-G.
Barrier	SIOx plasma-coating	EVOH, PA multilayer – check EPBP for details.
Colour	Transparent clear or transparent light blue	Other colours, opaque and metallic bottles.
Labels, sleeves and tamper evidence	As small as possible, Use material with a density of less than 1: (PP, PE) for sink-float sorting	Cover the whole bottle with a sleeve of another material than PET.

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How to improve the recyclability of Thermoform PET trays

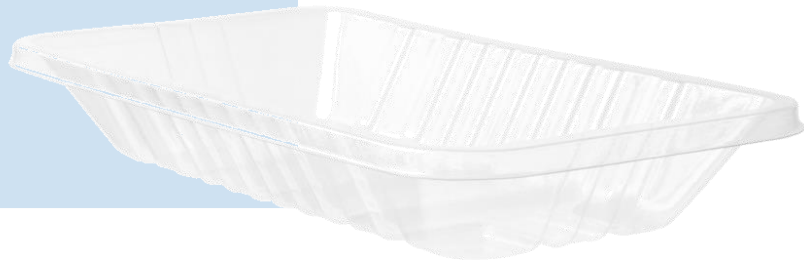
Tip: Consider no label on the tray, use a non-coated carton cover (check with a LCA).

Tray	Lid/seal medium	Colour	Labels
✓ ✗	✓ ✗	✓ ✗	✓ ✗

Barrier layers	Absorption tissue	Secondary package
✓ ✗	✓ ✗	✓ ✗

Thermoform PET tray

	Do's	Don'ts
Tray	Light weighting	a packaging that underperforms, so the product is lost.
Lid / seal medium	lidding film with polyester coating	PE laminate
Colour	Transparent, clear	Black
Barrier layers	PET has high barrier properties, check if extra barriers are needed.	Nylon and EVOH.
Absorption tissue	integrated in the tray design. Otherwise: use little glue that releases easily in recycling.	



Next steps

- Add information on the other materials
  - For that we work with the material organizations and other knowledge institutes
- Make extra information available, like video's
- Give more workshops (first was for BNO – Nextpack: the Dutch packaging designers)

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Thank you for your attention

More information?
kvandestadt@kidv.nl
recyclability.kidv.nl

Sector Innovation Plans: expected results in 2018

longer shelf life
with thinner film

5% lighter (instead of 2%)

80% - 100% sustainably sourced
cardboard fiber

10% weight reduction

15% reduction aluminium

increase the use of crates
instead of cardboard

from 0 naar 20% recycled PET

phasing out skin packaging

use of recycled plastic
and compaction of product

reduction blisters
in distribution

non-printed shrink and stretch films
for better recycling

37% recycled PET