

# Packaged.

Virtual Summit

28 – 29 September 2020



## A CLIMATE SAVING CIRCULAR ECONOMY IS POSSIBLE – HOW PLASTIC CAN BE MANAGED IN A CLOSED LOOP FOR PACKAGED GOODS BY 2030

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# Agenda

- (1) The Dilemma of Plastic
- (2) Closing the Loop: Definition of a Circular Economy
- (3) What Consumers Say
- (4) What Manufacturers are Doing
- (5) Prio for Mechanical Recyclate but Need for Optimization
- (6) Holistic Approach for a Circular Economy
- (7) Closed Loop Scenarios for 2030
- (8) The Take Away

SALES

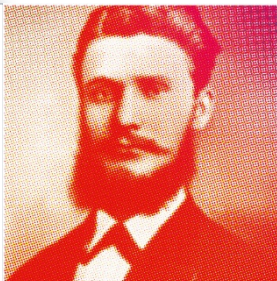
€20.1<sup>BN</sup>



MORE THAN

143<sup>YEARS</sup>

SUCCESS WITH  
BRANDS AND  
TECHNOLOGIES



WE ARE ACTIVE IN

78

COUNTRIES

THREE BUSINESS UNITS

ADHESIVE TECHNOLOGIES  
BEAUTY CARE  
LAUNDRY & HOME CARE

€3.2<sup>BN</sup>

ADJUSTED  
OPERATING PROFIT  
(EBIT)



LEADING IN  
SUSTAINABILITY

+56%

RESOURCE  
EFFICIENCY



AROUND

2,000

SOCIAL PROJECTS  
SUPPORTED



WE EMPLOY  
MORE THAN

52,000

PEOPLE  
WORLDWIDE FROM  
120 NATIONALITIES



AROUND

36%

WOMEN IN  
MANAGEMENT



# Did you know that...

...Henkel is a **global leader in adhesive technologies?**

...Every second worldwide, **more than 45 hair cosmetic products** from Henkel are purchased?

...Henkel sells around **36 billion wash loads** of detergents every year?



# ▶ WHAT GUIDES US

## OUR STRATEGIC FRAMEWORK

### PURPOSEFUL GROWTH

Winning  
Portfolio

Competitive Edge

Future-ready  
Operating  
Model

Innovation

Sustainability

Digitalization

Collaborative Culture & Empowered People

# ► THE DILEMMA OF PLASTIC

## VALUABLE OR HARMFUL?



**Valuable** and versatile material to protect food and other products



Growing concern about **pollution** when plastic ends up in nature



# ▶ PLASTIC AND ITS REPLACEMENT OPTIONS

## NOT ALWAYS THE MORE SUSTAINABLE ALTERNATIVE



Paper bags need to be used 3 times as often as plastic bags to have the same environmental footprint



Glass bottles are heavier than plastic bottles, which causes more CO<sub>2</sub> emissions during transport



Plastic packaging can help to extend the shelf life of fruits and vegetables, reducing food waste

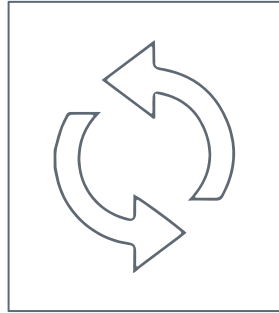
➤ **Lifecycle analyzes are essential when discussing replacement options for plastic packaging**

# ► THE ROLE OF PACKAGING

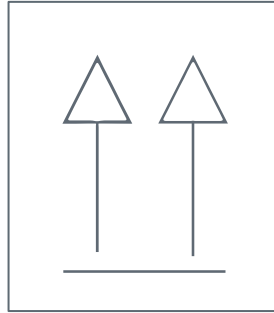
## WHY USE PLASTIC PACKAGING?



**Safe:**  
durable,  
does not break



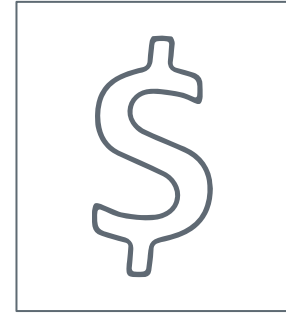
**Versatile:**  
many  
applications,  
design  
freedom



**Lightweight:**  
less weight  
than other  
materials



**Barrier:**  
perfect barrier  
against liquids



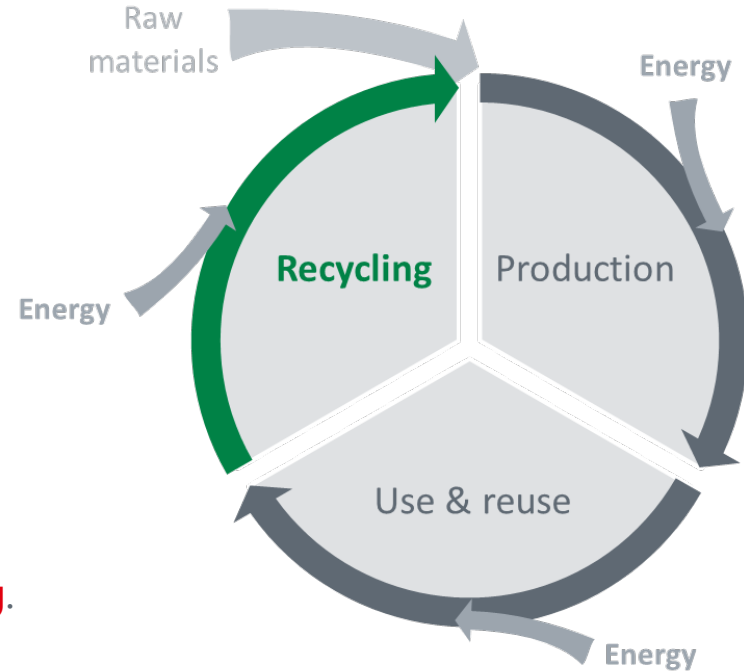
**Cost:**  
cost-efficient  
production

# ► CLOSING THE LOOP

## DEFINITION OF A CIRCULAR ECONOMY

“A **circular economy** is a regenerative system in which resource input and **waste**, emission, and energy leakage are minimized by **slowing, closing, and narrowing material and energy loops**.”[1]

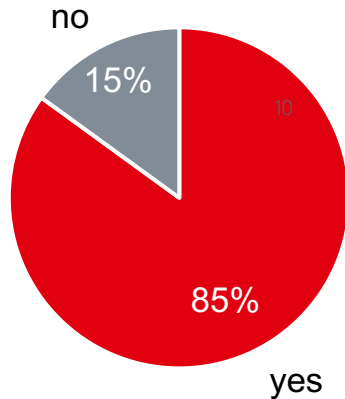
This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and **recycling**.



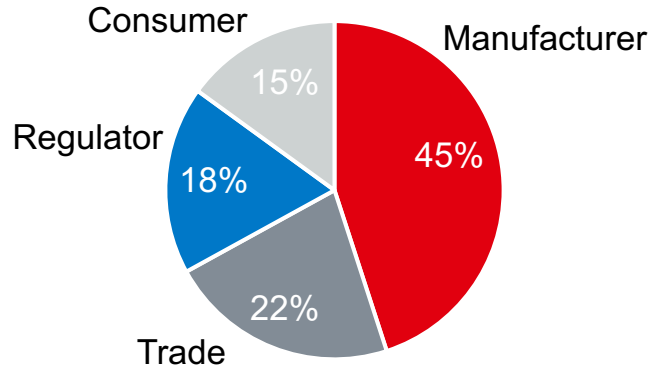
[1] Geissdoerfer et al., *Journal of Cleaner Production* **143**, 757–768.

# What Consumers Think About Plastic Packaging

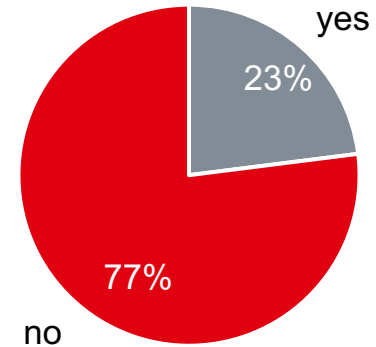
Is sustainable packaging important for you?



Who do you think is responsible to reduce packaging waste?



Would you pay more for a product with a more sustainable packaging?

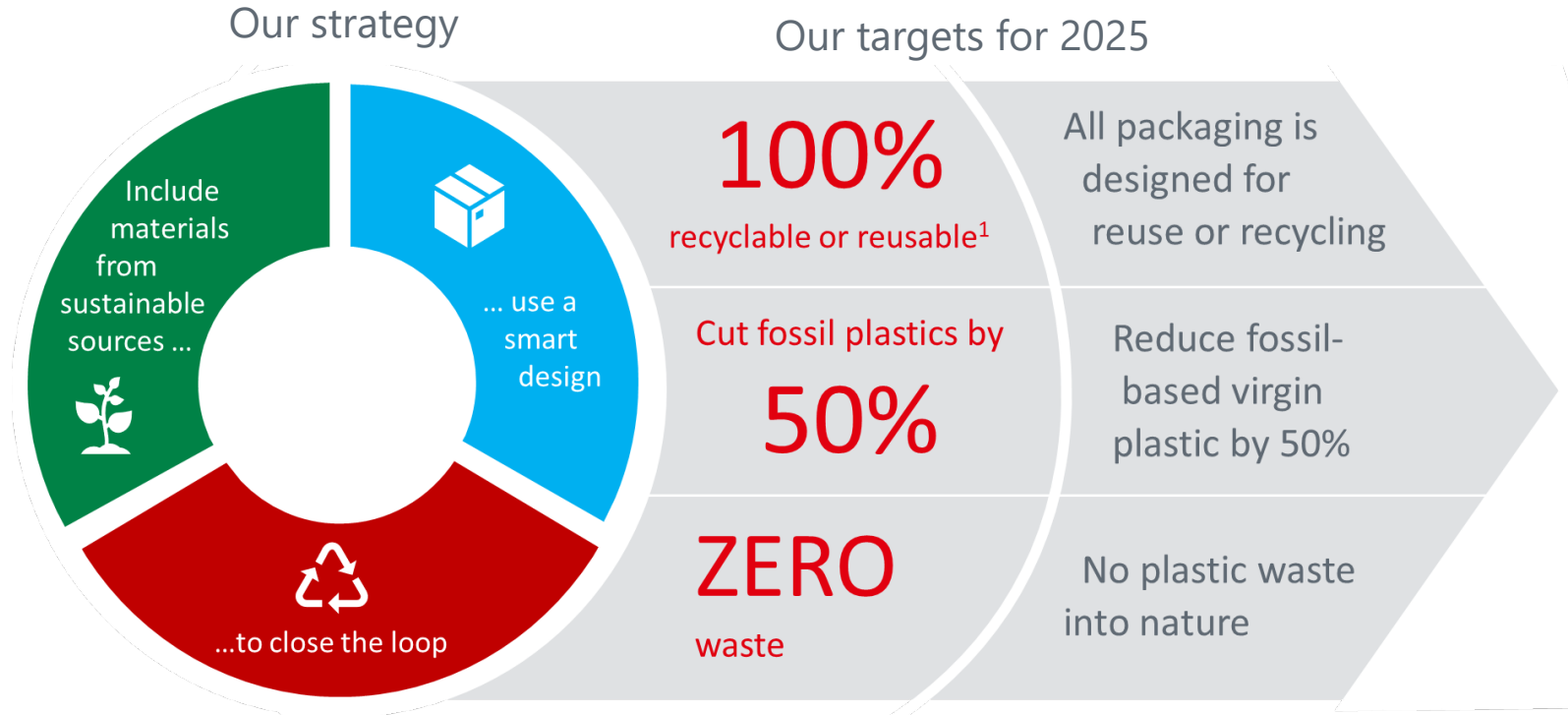


Source: "Packaging in focus" PwC, Germany, 2018, n=1000)



# ► OUR PACKAGING STRATEGY AND 2025 TARGETS

## DRIVING PROGRESS TOWARDS A CIRCULAR ECONOMY



<sup>1</sup>Excluding adhesive products where residue may affect recyclability or pollute recycling streams.

# ► OUR PACKAGING TARGETS FOR 2025

## HOW WE AIM TO ACHIEVE THEM



- Smart design and technologies
- New business models for reuse



- > 30 percent recycled plastic share
- Absolute plastic reduction
- Increase use of bio-based plastic



- Collection and recycling initiatives
- > 2 billion consumer contacts giving recycling-information

# ▶ OUR PACKAGING TARGETS FOR 2025

## 50% LESS FOSSIL PLASTIC



Recycled plastic  
content








Plastic-free  
alternatives



Bio-based  
plastic

# Prio for Mechanical Recyclate but Needs for Optimization

## Mechanical Recycling no Single Solution to Close the Loop

Physical & chemical properties	Appearance	Odour	Availability	Affordability
				
<ul style="list-style-type: none"><li>▪ Quality varies</li><li>▪ Accumulation of metabolics from additives</li></ul>	<ul style="list-style-type: none"><li>▪ Main fraction is dark grey or black</li></ul>	<ul style="list-style-type: none"><li>▪ Often with smell</li></ul>	<ul style="list-style-type: none"><li>▪ High demand for high quality</li><li>▪ Good qualities only in limited quantities</li></ul>	<ul style="list-style-type: none"><li>▪ Good qualities more expensive than virgin plastic</li></ul>

# ► OUR HOLISTIC APPROACH ON A CIRCULAR ECONOMY TAKING COLLECTIVE ACTION

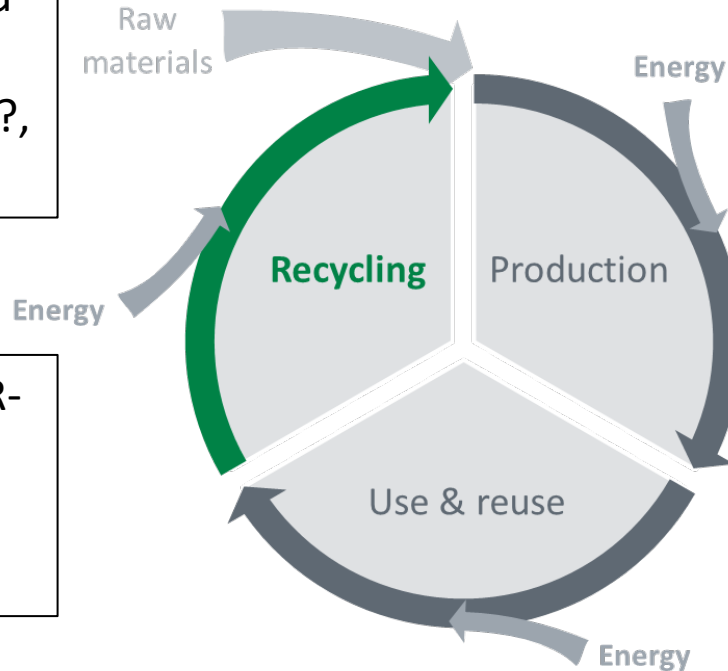


# ► HOW TO CLOSE THE LOOP AND TO SAVE THE CLIMATE

## THE CHALLENGES OF A CLIMATE NEUTRAL CIRCULAR ECONOMY

Only non fossil-based plastic  
(quality?, availability?,  
affordability?)

Attractiveness of EPR-  
schemes with bonus  
for recyclability and  
recycled content



CO<sub>2</sub>-fee on all  
fossil carbon  
and all fossil  
energy



# Imagine Tomorrow: The Situation in the Year 2030

## Materials & Technologies and Regulation

### Material & Technologies:

- **Further reduction** of plastic is feasible by alternative packaging concepts
- **Mechanical recycling:** improved qualities and increased availability allow to use about **40 - 50%** of recycled plastic for consumer good packaging
- **Chemical recycling: about 30 - 40%** of total volume for plastic packaging is available
- **Biobased plastic: about 10%** of total volume for plastic packaging is available

### Regulation:

- **EPR-schemes with a significant bonus** for recycable packaging and for use of recycled content plus for the use of biobased plastic
- **CO<sub>2</sub>-fee:** potential increase to **100 EUR/t** and extended to **all fossil carbon**

# Basic Assumptions for Scenarios in the Year 2030:

## A Company Using 20,000 tons of Plastic/y for Packaging

Company	Plastic demand, kind of material	Cost assumption of virgin material	Cost assumption of recycled plastic	Cost assumption of future ERP system (fee, bonus)	CO <sub>2</sub> -fee: 100 €/t CO <sub>2</sub> *
FMCG for non-food  All packaging are recyclable already from 2025 onwards (no malus for non- recyclable packs)	10,000 t/a HDPE 10,000 t/a PET	fossil: 1,000 €/t (PE, PET)  biobased: 1,500 €/t (PE, PET)	mechanical: 1,200 €/t  chemical: 1,500 €/t	General fee: 750 €/t  Bonus for recyclable packaging: 50 €/t  Bonus for use of recycled plastic or biobased plastic: 150 €/t	2.7 t CO <sub>2</sub> generated by combustion of 1 t plastic → 270 €/t plastic  0.6 t CO <sub>2</sub> generated by mechanical rec. of 1 t plastic → 60 €/t plastic  1.35 t CO <sub>2</sub> generated by 1 t of chemical rec. of 1 t plastic → 135 €/t plastic

\* CO<sub>2</sub>-equivalents for fossil plastic and mechanically recycled plastic are average values for HDPE and PET taken from Eunomia Study 04/2020 for the EU PPWD / CO<sub>2</sub>-equivalents for chemical recycling assumed with 50% footprint of fossil virgin / 0t CO<sub>2</sub>-equivalent for biobased plastic

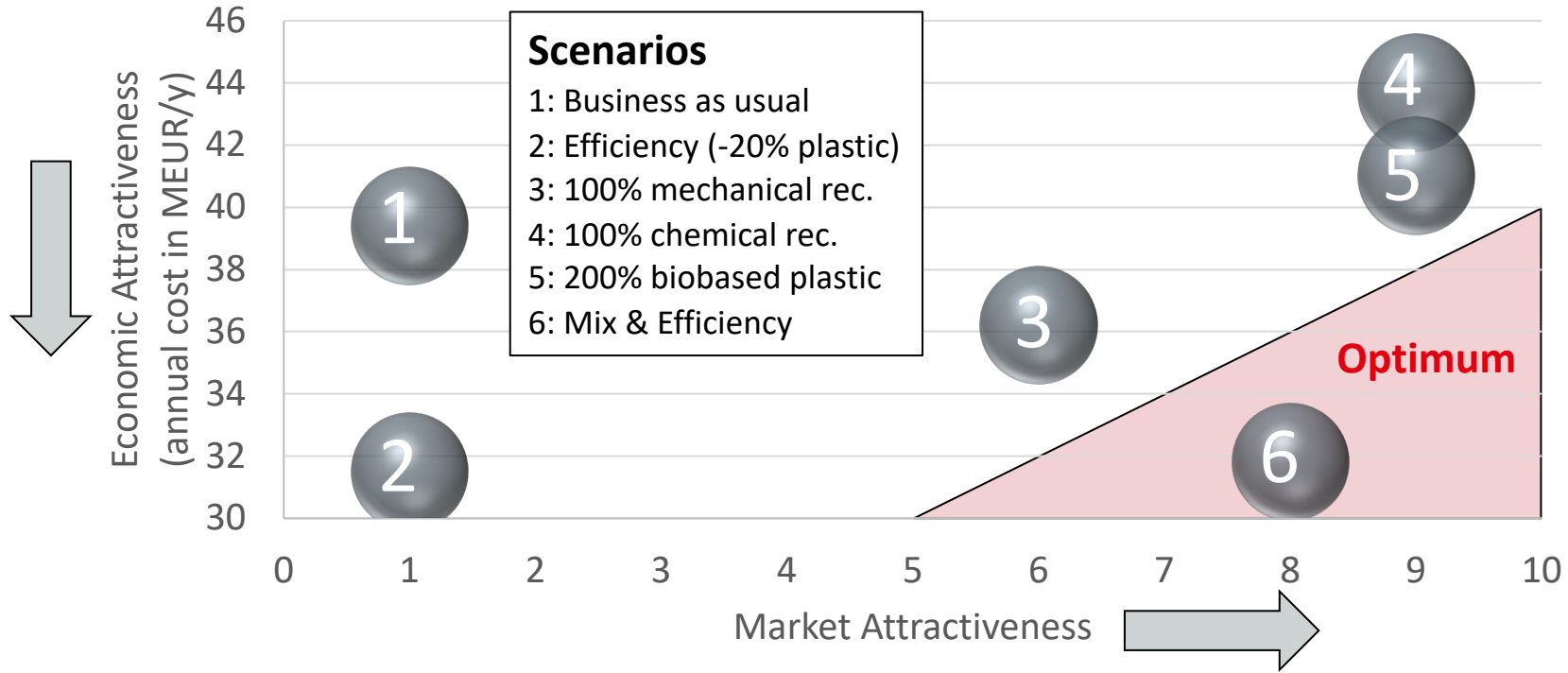
# Market vs. Economic Attractiveness for Various Scenarios

## Optimum: Technology Mix with 20% Reduction

#	Scenario	Market Attractivity (1=low, 9=high)	Economic Attractivity (cost level in Mio. €/a)		
			EPR scheme w/o bonus	EPR scheme with bonus	EPR with bonus plus CO <sub>2</sub> -fee of 100€/t CO <sub>2</sub>
1	Business as usual	1	35.0	34.0	39.4
2	Efficiency (20% absolute reduction)	1	28.0	27.2	31.5
3	100% mechanical recyclate	6	39.0	35.0	36.2
4	100% chemical recyclate	9	45.0	41.0	43.7
5	100% biobased	9	45.0	41.0	41.0
6	Mix: 20% absolute reduction Rest (=100%): 50% mech. recyclate 40% chem. recyclate 10% biobased	8	33.6	30.4	31.8

# Market vs. Economic Attractiveness for Various Scenarios

## Optimum: Technology Mix with 20% Reduction



# The Take Away

## A De-fossilized Climate Saving Circular Economy is Possible...

... in case the following preconditions are realized during this decade:

- (1) Harmonized **EPR-schemes** (instead of plastic fees/taxes) with sufficient **incentives** for recyclability and recycled/biobased plastic & a **CO<sub>2</sub>-fee** on all fossil-based carbon → **regulators**
- (2) Use „**circular plastic**“ instead of „recycled plastic“ (move to non fossil-based plastic, includes biobased plastic): One unified, global „Circular Plastic Label“ → **all stakeholders**
- (3) Fast and large **investments in mechanical AND chemical recycling AND biobased plastic** to ensure better **qualities, sufficient capacities and low CO<sub>2</sub>-footprints** for circular plastic → **recyclers & chemical industry**
- (4) Support needed via **EU Green Deal & Recovery plan** (more research and subsidies) → **EU commission & governments**
- (5) Only **short-term oncosts for circular plastic** not higher than 120 %(mechanical recycled) to 150% (chemical recycled/biobased) vs. fossil virgin, **mid-term same cost level as fossil virgin** material → **chemical industry**
- (6) Commitment to **increase „circular plastic“** content in packaging → **manufacturers**
- (7) Readiness to bear **higher cost for packaging** → **entire value chain including retail and consumer**

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# ► “CIRCULAR PLASTIC LABEL”: CROSS-STAKEHOLDER APPROACH TO PUSH CIRCULARITY

## Why

- Consumers:
  - Want to have **simple & credible** guidance to use plastic in the best suitable way
  - Do not want to deal with complex explanation of **mass balance** content of biobased plastic or chemically recycled plastic on a label
- Science:
  - A circular plastic economy will **need renewable plastic and chemically recycled plastic on top of mechanically recycled plastic**
  - Climate neutrality needs the move from “recycled” to “circular”
- Supply chain:
  - Mass balance approaches need a cross-value chain collaboration and an **accepted way to calculate** the non fossil-based content
- Regulation:
  - mass balance approach needs **sophisticated scientific/legal check for an on-pack-label** claiming the circular plastic content

# ► “CIRCULAR PLASTIC LABEL” – CROSS-STAKEHOLDER APPROACH TO PUSH CIRCULARITY

## What

- **One global label for all plastic**, one methodology behind, licensed to everybody who follows the rules for regular audits. (“circular plastic” is only working title)
- Example: 50g bottle made of 10g virgin fossil plastic, 20g mechanically recycled plastic, 10g chemically recycled plastic, 10g biobased plastic => 40g non fossil-based plastic out of 50g plastic in total  
→ New label: ‘ With 80% “Circular Plastic” ’

## How

- **Involve supportive stakeholders** to develop an accepted and credible methodology, include e.g. ISCC, Fraunhofer CCPE and EMF/NP
- **Start with already established methodologies** from industry or other partners if possible
- **Identify an “initiator”** (at best a multi-stakeholder organization) to select the best project owner and finance such a project
- **Find a “project owner”** with knowledge in renewable carbon and in orchestrating such a project within a multi-stakeholder environment

# The Take Away

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# THANK YOU



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# ► OUR PACKAGING TARGETS FOR 2025

## 100% RECYCLABLE OR REUSABLE



Recyclable  
packaging



Refill  
products



Refill  
stations

# ▶ OUR PACKAGING TARGETS FOR 2025

## ZERO WASTE



Waste collection  
initiatives



Collaboration with  
retailers



On-pack communication

# ► SOLUTIONS TO TURN WASTE INTO VALUE

## PROVIDING CUSTOMERS WITH TECHNOLOGICAL SOLUTIONS



- Adhesive properties can make the difference when it comes to recyclability
- This is especially true for flexible multi-layer packaging
- In partnership with recycling startups & key flexible packaging manufacturers, Henkel launched a range of adhesives and coatings designed for recycling



# DESIGN-FOR-RECYCLING

## HENKEL EVALUATION TOOL EASYD4R



Henkel

Packaging: PP bottle

Comments

EasyD4R  
PP bottles

overview  
print  
reset

Input the weight of each component

weight (g)

full recycling compatibility

limited recycling compatibility

low recycling compatibility

not relevant

Material	PP	multilayers PP + (PLA, PVC, PS, PET, PETG)
Colors	80.00 natural or colorless	light colours, carbon-free black black inner layer, black
Barrier		EVOL, PE, PVDC
Additives		additives changing the material density >1 g/cm³
Closure Systems	12.00 PP	PE, PE-HD, PE-LD, PE-GD, PE-MD PET, PETG, PS, PLA
Liners, Seals and Valves	0.00	PE, PE-HD, PE-LD, PE-GD, PE-MD, PET, PETG, PS, PLA, removable aluminium fasteners PVC, aluminium, foams with density >1g/cm³, metal, foiled paper
Sleeves	0.00	PP PE-HD, PE-LD, PE-GD, PE-MD perforated Sleeves (PET, PETG, PS, PLA) with a strong construction non-perforated PET, PETG, PS, PLA, PVC, aluminium, metalised materials, heavily creased sleeves

89%

- Software tool based on public and recognized criteria catalogues
- Allows quick and accurate assessment of the recyclability of packaging during product development
- Used throughout the company, made publicly available on the Henkel website





# ALLIANCES FOR PLASTIC

ENABLING A CIRCULAR ECONOMY REQUIRES PARTNERSHIPS

## The New Plastics Economy



- Initiative of the Ellen MacArthur Foundation
- Promotes cross-industry knowledge sharing
- Goal: Foster the transition to a circular economy

## Alliance to End Plastic Waste



- Joint commitment of 30 global companies
- Goal: Invest 1.5 billion \$US to advance solutions eliminating plastic waste in the environment

## Ceflex



- Collaborative initiative
- Over 140 companies along the entire value chain of flexible packaging
- Henkel is a founding member



# PLASTIC BANK PARTNERSHIP

TURNING WASTE INTO OPPORTUNITIES WITH SOCIAL PLASTIC®



Plastic Bank aims to reduce ocean plastic and provide opportunities for people in poverty



After starting the partnership by building collection centers in Haiti, Henkel now expands its involvement to Egypt



Social Plastic® has been integrated in numerous products