The Positive Academy #1 Sustainable Product Family

CCL

Sales has changed

#1 You are dealing with different levels of sustainability knowledge on the side of customer

#2 There is new technical terminology

#3 End-of-life of product is becoming increasingly important

enlabeling
CIRCULARITY

Meet the Sustainable Product Family

CCL

The right labels for returnable and refillable glass bottles

WashOff

Ideal solution for returnable glass bottles

- Enables Reuse of Bottles
- Supports Deposit Systems

- Removal in industrial washing machines
- Patented technology
- Commercialised since 2007
- Works with all bottle washers

Benefits of WashOff

Combines all benefits of PSL with:

- Fast & clean removal with standard washing parameters
- No harsh chemicals needed
- Minimised water consumption & management
- Easy extraction of washed off labels
- Minimal waste volume due to label shrinkage

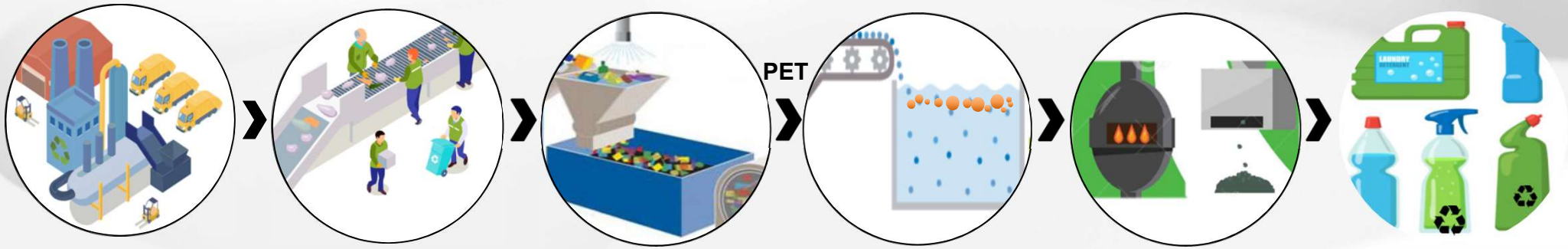
Successful PET Recycling with the ideal labels and sleeves

PET Recycling

94 % of PET bottles are collected in Germany – only 37% get recycled back into bottles

*30 percent are collected in the USA

Very established PET Recycling Process



1

COLLECTION

Packaging is consumed and properly discharged.

2

SORTING

Detection of underlying PET, PP and HDPE material with full-body Sleeve

MADE FOR RECYCLING interseroh

3

GRINDING & WASHING

Bottles are ground and washed in COLD WASH water to remove any residue, dirt and glue.

4

FLOATING

EcoFloat is a low density polyolefine that floats and can easiliy separeted from other flakes.

5

MELTING EXTRUSION PELLETIZING

6

REUSE

Best Practice #1: EcoStream®

PSL that enables bottle-to-bottle recycling of PET bottles and meets critical guidance from APR & EPBP

Solving a pressing industry issue: Bleeding inks & contamination of water & PET during the wash process does not occur with EcoStream!

- Lower carbon footprint
- Supports circularity

- Clean separation of labels and PET bottle flakes
- PET bottle flakes can be reused immediately
- Detached labels float to surface & PET sinks (easy separation)
- Construction prevents contamination or discolouration of washing bath & PET flakes

Best Practice #2: EcoFloat®

Shrink Sleeve that enables bottle-to-bottle recycling of PET bottles & meets critical guidance from APR, EPBP & CITEO

Lower carbon footprint

Supports circularity

- Easy separation from PET bottle due to low density material
- 100% of PET can be reused -> helps achieve recycling targets
- Sleeve floats on water bath, even with full printed designs
- No contamination or discolouration of washing bath

Best Practice #2: EcoFloat®

Shrink Sleeve that enables bottle-to-bottle recycling of PET bottles & meets critical guidance from APR, EPBP & CITEO

Lower carbon footprint

Supports circularity

- Automatic separation from PET bottle due to low density material
- 100% of PET can be reused -> helps brands achieve recycling targets
- Sleeve floats on water bath, even with full printed designs
- No contamination or discolouration of washing bath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Best Practice #3 Stretch Sleeves

Stretch sleeves are made from elastic low density PE film, no adhesives or shrink tunnel energy needed

Recycling-friendly

Renewable Resources

- No additional energy needed to apply them on the bottle
- Fully recyclable within the conventional PE recycling stream
- Are available either with bio-based materials or with PCR content

Successful PP (Polypropylene) Recycling and the right labels

PP (Polypropylene) Recycling Process

1 COLLECTION

Packaging is consumed and properly discharged

2 SORTING

Detection of underlying PET, PP and HDPE Material with full-body Sleeve

3 WASHING

Bottles are ground and washed in high-temperature water to remove any residue, dirt and glue.

4 MELTING

Extrusion and pelletizing and reorganization

5 REUSE

production of new products

EcoFloat: Polyolefin Sleeve meets PP Cup!

Shrink Film Material *made from transparent polyolefin material = same family as cup*

IDEAL MATCH

Ecofloat & PP Cups

EcoSource BIO

Labels that consist of materials made from renewable resources, properties of material remain the same

Lower carbon footprint

Renewable Resources

- Various bio-based materials available e.g. made from tall oil (by-product of paper industry) or plant-based
- Via ISCC-certified mass balance approach or direct purchase depending on material choice
- Carbon negative & neutral films available, no compromise in recyclability of packaging
- Secure performance & premium appearance
- Appeals to consumers demanding innovation on sustainability

EcoSource PCR

Labels & sleeves made from material with Post-Consumer-Recyclate (PCR)

Lower carbon footprint

Supports circularity

Use of PCR for decoration reduces the overall carbon footprint of the packaging, properties of material remain the same

Permanent self-adhesive labels based on PET:	...based on PP:
Up to 70-90% recycled content from PCR	Up to 30% PCR

WashOff PSL based on PET with the following PCR share:

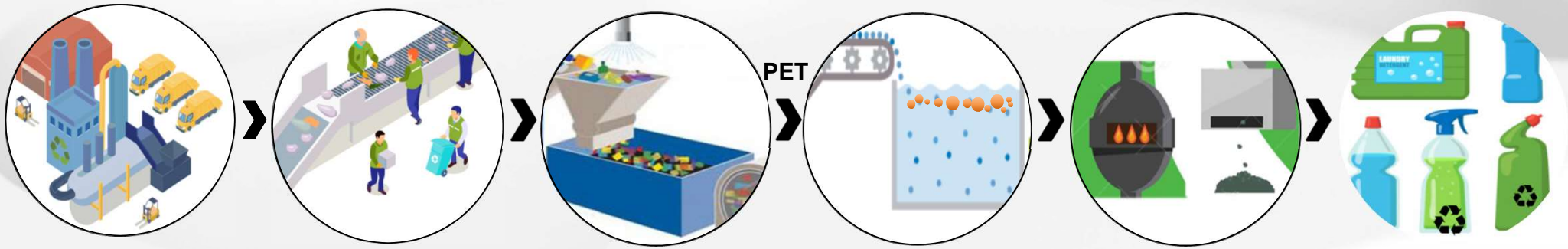
30% available | 50% evaluated | 70% tested

Shrink Sleeve based on PET with the following PCR share:

30% available

HDPE Recycling-friendly labels and sleeves

HDPE (PE) Recycling Process in a nutshell



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Packaging is consumed and properly discharged.

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Detection of underlying PET, PP and HDPE material with full-body Sleeve

MADE FOR RECYCLING interseroh

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GRINDING & WASHING & De-Sleeving

Bottles are ground and washed in COLD WASH (40C/104F)

4

FLOATING

EcoFloat is a low density polyolefine that floats and can easiliy separated from other flakes.

Here the sink/float could work vice versa than PET

5

MELTING EXTRUSION PELLETIZING

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REUSE

Polyolefin Sleeves for HDPE Recycling

CERTIFICATE

Recyclability of Packaging Component

CCL Label
Riedstrasse 2
AT-6845 Hohenems, Austria

The company receives the certification of recyclability for the following packaging component.

Designation

ECOFLOAT™ (Article-No. APO50_2021) Unprinted Shrink Sleeve
for applications on HDPE bottles; a printing can affect the recyclability of the final packaging

Test result

Allocation to path/specification:	**Polyethylene, Fraction no. 329 (DE)** **Mixed Polyolefins, Fraction no. 323 (DE)** **Mixed Plastics, Fraction no. 350 - 352 (DE)**
Assessment via path/specification:	**Polyethylene, Fraction no. 329 (DE)**
Recyclate (final product):	**PE Regranulate**

Test standard / scope of application:

☒ **Requirements and assessment catalogue of the institute cyclos-HTP** for EU-wide certification (state 07.10.2019) / Scope of validity according to nation states, see chapter 1

Within the certification process, conformity with the following standards was also checked:

☒ **Minimum standard for measuring the recycling capacity** of the ZSVR (state 31.08.2020); also integrated
☒ **DIN EN 13430** with regard to material recyclability in the post-use phase; also integrated
☐ Under consideration of **COTREP** – Recyclability of Plastic Packaging; on request
☐ Under consideration of **APR Design® Guide for Plastics Recyclability**; on request

In accordance with the test results the potential recyclate yield of the packaging amounts to 100%. According to the CHI standard the recyclability of the packaging component amounts to:

83 %

(AT, BE, DE, ES, FR, IT, LU, NL, NO, UK)

This certificate (No. 2186-2021-002150) is valid until the **30.04.2022** (1 year upon issue) relating to the countries identified in the assessment report. This certificate will lose validity in case of qualitative or quantitative changes of packaging components.

Aachen, dated 01.04.2021

Dr. Joachim Christiani
Publicly appointed and sworn expert for the IHK for packaging waste disposal
Competent authority: IHK Aachen

The certificate is only valid in conjunction with the 10 following pages of the report (No. 2186-2021-002150).

Institute cyclos - HTP

Institute cyclos-HTP GmbH
Maria-Theresia-Allee 35 - 52064 Aachen
phone: +49 (0) 241 / 949 00 - 0
fax: +49 (0) 241 / 949 00 - 49

Recyclability EcoFloat

Recycling Polyolefin sleeve in PE steam

- Test was carried out with renowned institute cyclos – HTP in Germany
- The test showed that the HDPE bottle could be efficiently recycled together with the EcoFloat sleeve material
- Excellent recycling grade up to 83% depending on the type and amount of inks used

zertifiziert vom Institut cyclos-HTP
100%
recyclingfähig

Stretch sleeves on HDPE bottles/containers

Bio-PE

The first 100% bio-based Stretch Sleeve film

Recycling-friendly

Renewable Resources

- Raw material polyethylene made from bioethanol from sugar cane
- Fully recyclable within the conventional PE recycling stream
- Qualifies for highest TÜV Austria Belgium certificate (OK bio-based certificate)

RecyClass Adhesive Tests

- Together with Avery, UPM and Bostik, CCL is part of a label&adhesive test campaign to determine the best PSL for HDPE recycling
- The GOAL is to determine which adhesive has what effect on recycling if the label stays ON
- Next step is to test ink systems and to update the RecyClass guidelines
- **Besides that we have trials in Meerane ongoing and also are teaming up with Bostik to trial PET labels & hot melt**

EcoSolve®

Labels that are biodegradable

- Lower carbon footprint
- Biodegradable
- Compostable according to EN13432
- Ideal solution for ecological containers e.g. PLA containers
- Suitable for conventional printing technologies
- Components carry ‘OK Compost’ certificate

EcoSource BIO

Labels that consist of materials made from renewable resources, properties of material remain the same

Lower carbon footprint

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Perforation

Easy separation, security features & promotion possibilites

Recycling-friendly

Ideal for Promotions

- Promote reuse & recycling (consumers can remove sleeves from the containers)
- As interactive marketing tool (reveal a hidden promotion)
- Amaze consumers with imaginative perforation lines (e.g. spiral)
- Security benefits e.g. with tamper evident seals over closures

Sustainable Product - ecoCRYS

Style concept

CCL FOOD & BEVERAGE

We will be using a different complimentary colour background for each product with only the product, text and graphics animating on screen.

The text will be big and bold and animate on screen to the beat of the music.

The graphics used will be simple, flat and will represent what is being said on screen i.e. when the ecoCRYS says 'Facilitating seamless flow' we can have subtle animated wavy lines flowing the background whilst the product is moving on screen.

Sustainable Product - WashOff

Style concept

CCL FOOD & BEVERAGE

We will be using a different complimentary colour background for each product with only the product, text and graphics animating on screen.

The text will be big and bold and animate on screen to the beat of the music.

The graphics used will be simple, flat and will represent what is being said on screen i.e. when the WashOff says 'Returnable Glass Bottles' we can animate the recycle arrows going from the recycle triangle icon to animating in a straight line off screen.

Coming Up Next:

Sustainability
#1 Explained: Our Sustainable Product Family
May 5, 2pm CET
#2 Update: Recycling Technologies and Legislation May 19, 2pm CET
#3 The Holistic View: Material LCA's, Carbon Net Zero and Emission Targets June 10, 2pm CET
#4 Sustainability Trends July 14, 2pm CET

Marketing
#1 Marketing Toolbox Explained June 24, 2pm CET

Basics
#1 Basics: Inks and Adhesives tbd
#2 Basics: Printing Technologies tbd
#3 Basics: Materials - Plastics
Explained tbd

Impact of Beverage Packaging

A Comparison

	PET Water Bottle	Aluminium Can	Beverage Carton	Glass Bottle	PET Soda Bottle
Average container weight	**8.3** grams	**19.7** grams	**21.8** grams	**300.6** grams	**22.2** grams
Greenhouse gas emissions	**50** tons CO_2 eq.	**155** tons CO_2 eq.	**75** tons CO_2 eq.	**383** tons CO_2 eq.	**141** tons CO_2 eq.
Fossil fuel use	**958** GJ consumed*	**1,342** GJ consumed*	**1,056** GJ consumed*	**4,320** GJ consumed*	**2,639** GJ consumed*
Water use	**4.6** million gallons	**7.5** million gallons	**13.7** million gallons	**28.9** million gallons	**12.5** million gallons

Source: Life Cycle Assessment for the International Bottled Water Association by Trayak (2021)
Weights are for individual 16.9 oz containers. Other values represent 1 million 16.9 oz containers each.
* Gigajoule consumed = total quantity of fossil fuel consumed throughout the life cycle

enlabeling
PROGRESS

Thank you very much!

CCL