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German Packaging Institute | Managing Director Kim Cheng

"Neues Verpackungsgesetz zum 1.1.2019 –Herausforderungen und Lösungen"

Fruit Logistica| 8 February 2019 | Berlin

The German Packaging Institute

1990 founded by Prof. Dieter Berndt

» for joint representation of the packaging industry regarding society and politics

» promoting dialogue and transfer of expertise throughout the packaging value chain

Chairman:

Thomas Reiner, CEO Berndt & Partner, Berlin

Currently **235 members**

International network:

» World Packaging Organisation (WPO)

» International Association of Packaging Research Institutes (IAPRI)

» European Packaging Institutes Consortium (EPIC)

Members

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235 members – the only network within the packaging industry which unites its members from all levels of the value chain covering all areas of packaging

dvi initiatives

dvi initiatives include:

- Day of Packaging (Tag der Verpackung)
- German Packaging Award (Deutscher Verpackungspreis)
- German Packaging Congress
- Dresden Packaging Conference (Dresdner Verpackungstagung)
- PackVision
- Packaging Academy (Verpackungsakademie)

German Packaging Award (Deutscher Verpackungspreis)

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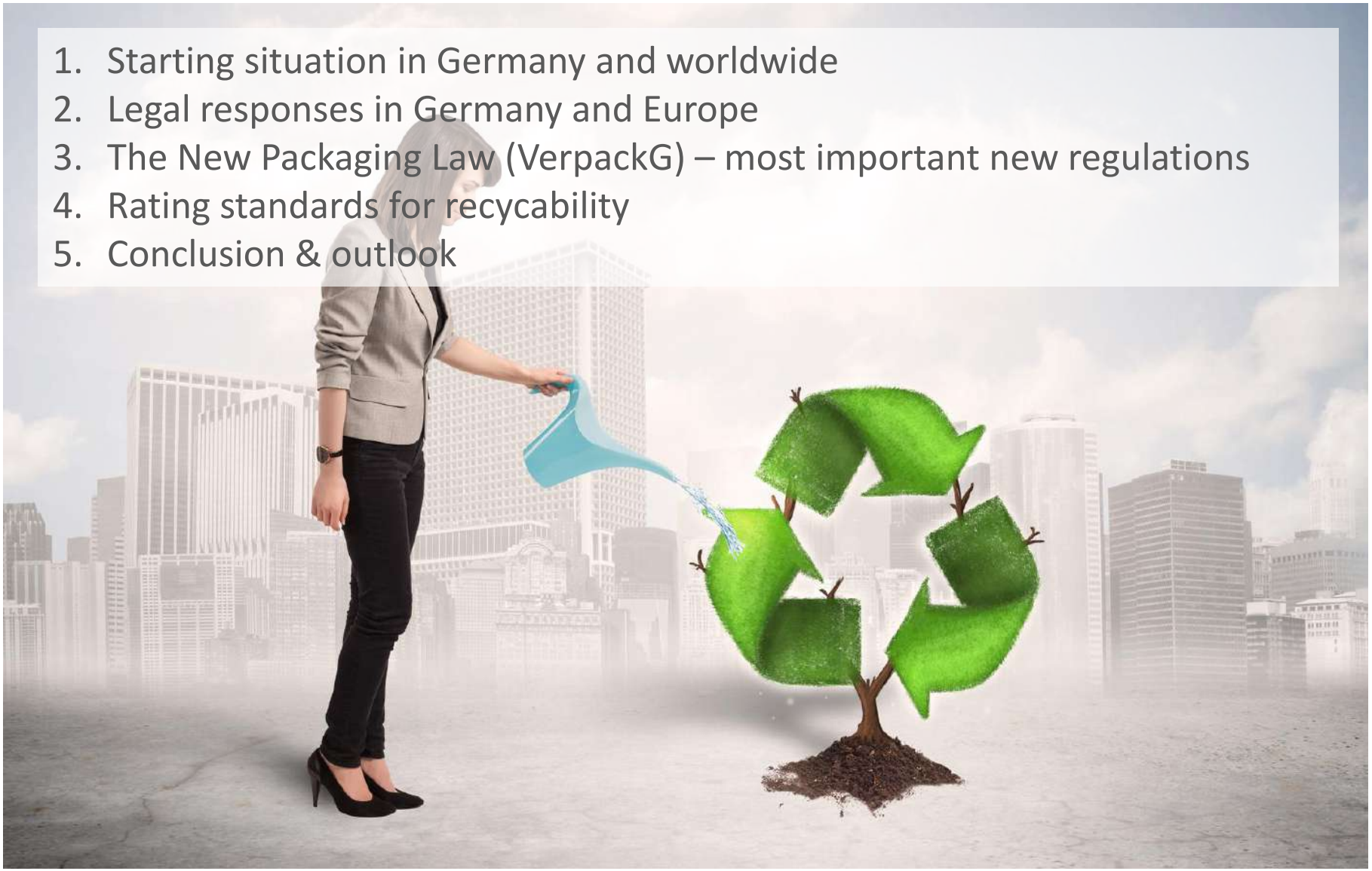
Since 1963 a platform, showcase and seal of quality for packaging innovations

- Renowned and international packaging competition
- Broad-based, independent, impartial jury
- Awarded in 10 categories
- On average, 230 submissions per year

The new Packaging Law – Challenges and solutions

1. Starting situation in Germany and worldwide
2. Legal responses in Germany and Europe
3. The New Packaging Law (VerpackG) – most important new regulations
4. Rating standards for recycability
5. Conclusion & outlook

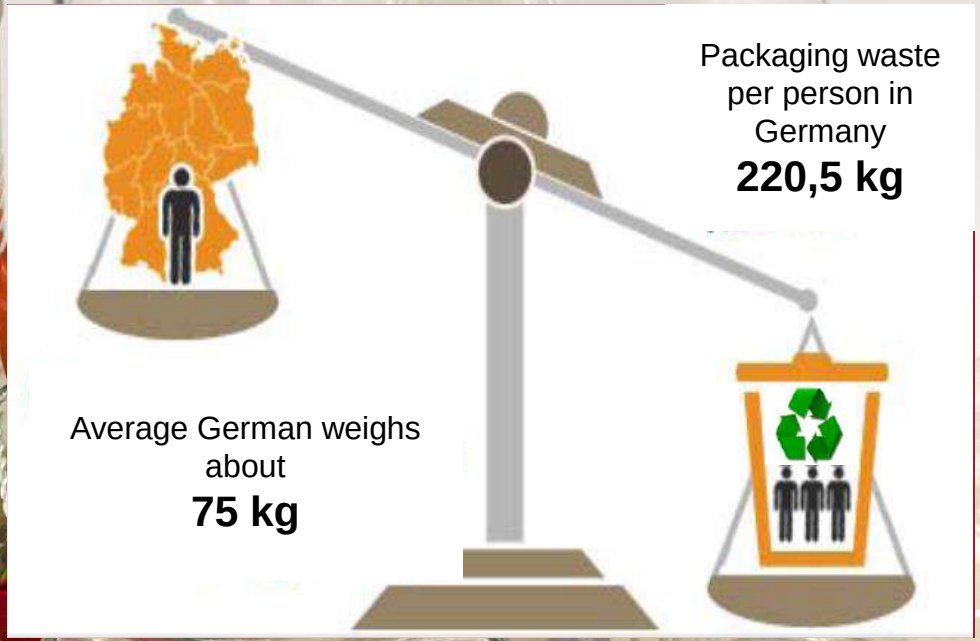


Starting situation in Germany

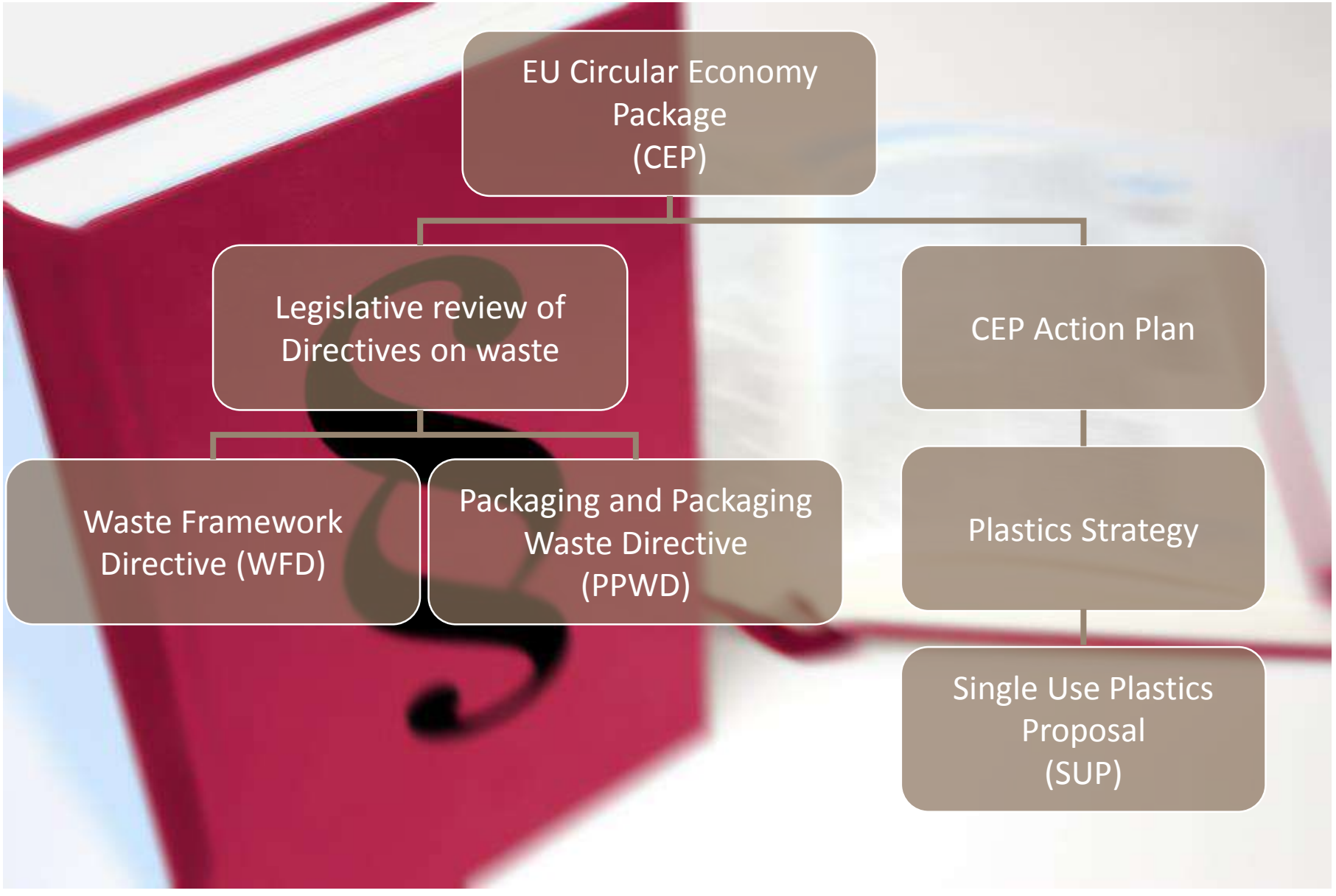
Packaging waste 2016
in Germany
18 Mio. t

Plastic packaging
in Germany since 2000
+74%

Packaging waste per person in
Germany
220,5 kg



Legal responses in Europe



Increased EU packaging recycling targets

	Current targets	2025	2030
Overall target	55 % - 80 %	65%	70%
Plastic	22,5 %	50%	55%
Wood	15 %	25%	30%
Ferrous metals	50 % (metal)	70%	80%
Aluminium	50 % (metal)	50%	60%
Glass	60 %	70%	75%
Paper and Cardboard	60 %	75%	85%

Max. 10 % for municipal waste sent to landfill by 2035

Germany: Packaging law from 01.01.2019

Goals

» Recycling of more packaging from private households

» Strengthening producer responsibility

» Create incentives for manufacturers to use ecologically advantageous and recyclable packaging

» Promoting the use of recyclate and renewable raw materials

» Further development of recycling management

Increased packaging recycling targets in Germany

MATERIAL	PREVIOUSLY	STARTING 2019	STARTING 2022
Glass	75%	80%	90%
Paper and cardboard	70%	85%	90%
Ferrous metals	70%	80%	90%
Aluminium	60%	80%	90%
Beverage carton packaging	60%	75%	80%
Other composite packaging	60%	55%	70%
Plastics (material recycling)	36%	58,5%	63%

What has changed with the Packaging Law?

- Video Packaging Law

Obligations of disposal companies

Die Industrie muss nachhaltige Lösungen präsentieren.

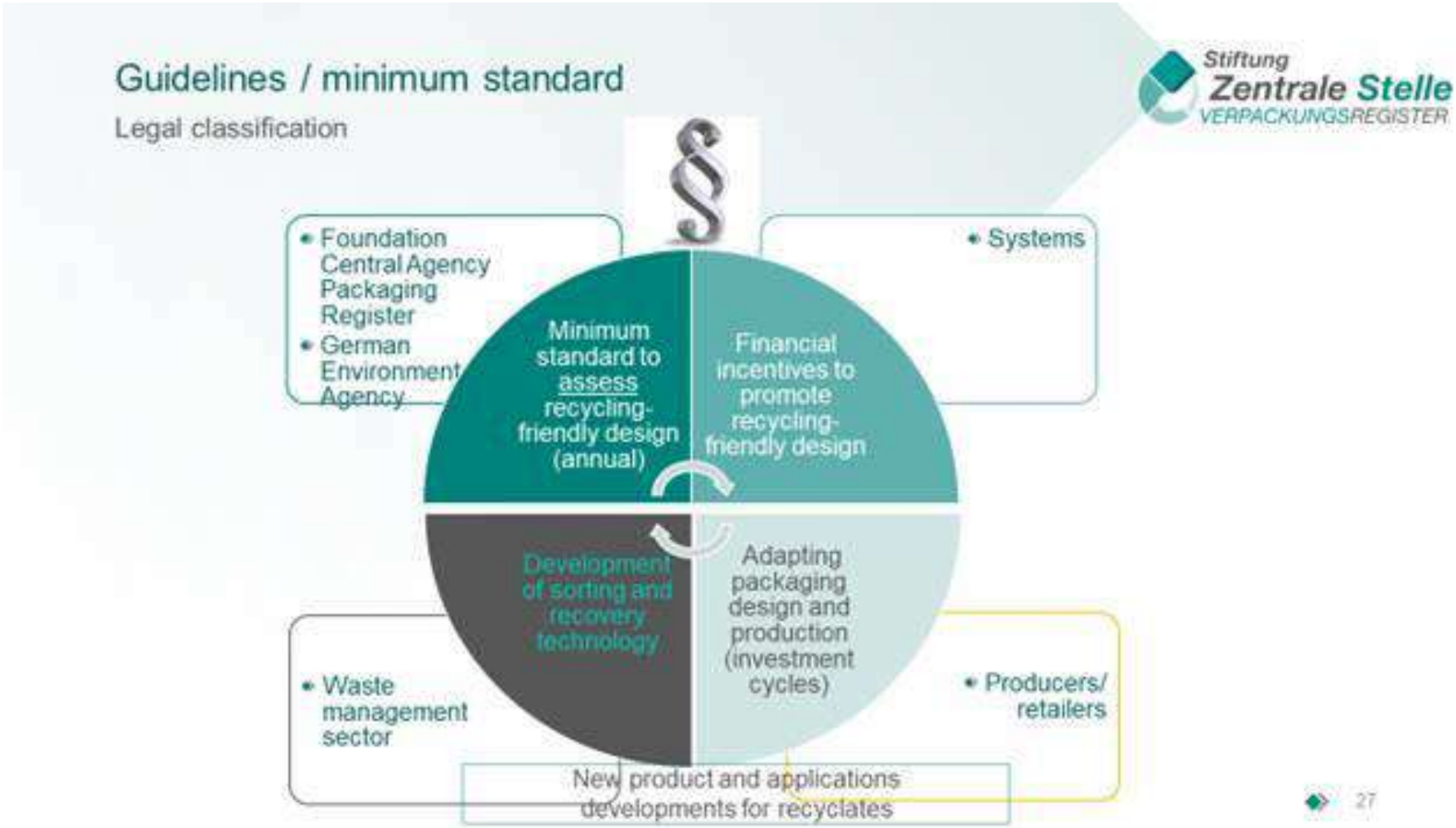
§ 21 VerpackG

MODULTATED FEES

In the future, packaging schemes will also be required to **take ecological criteria** into account when determining license fees. These so-called **modulated fees** are intended to encourage manufacturers to use packaging materials that consist (partially) of **recycled materials or a high percentage of materials that can be recycled**. The criteria for this will be defined by the Zentrale Stelle under supervision of the Federal Environment Agency (Umweltbundesamt).

Design for Recycling (D4R)

Guidelines / minimum standard



Guidelines for the Assessment of the Recyclability

1. Existence of sorting and recovery infrastructure

If packaging conforms to the "targeted material description" in Appendix 1, column 3 (targeted materials in the recycling process) (taking into account a possible exclusion in column 4), it can be assumed that an infrastructure of sorting and high-quality mechanical recycling is available on the market. If it is not possible to allocate the packaging to one of these material fractions, the packaging is not considered recyclable according to current practice. The recyclable materials specified in Appendix 1, column 5 shall be included proportionately in the assessment.

2. Sortability and separability

When assessing recyclability, the sortability by means of sensor-supported detection for the following materials has to be considered: Glass, plastics (except film fraction), liquid packaging cartons and paper/carton. Empirical testing is only required if one of the exclusion criteria listed in Appendix 2 (packaging characteristics requiring testing of identifiability in sensor-assisted sorting) applies.

3. Recycling incompatibilities

Declaring a packaging recyclable presupposes that no material combinations or substances are used which can prevent successful recycling. Appendix 3 (Overview of packaging recyclables and material-specific incompatibilities) provides the testing basis for determining incompatibilities. An individual proof must be provided if one wants to deviate from that basis.

Guidelines / minimum standard

Guidelines / minimum standard

Test item

Stiftung Zentrale Stelle VERPACKUNGSREGISTER

- **Basic principle:**
  - The assessment is based on the unfilled packaging as a whole. This includes all related packaging components such as labels, sealing films, lids and closures, etc. (where these typically come together).
- **Exception:**
  - Components of composite packaging that **usually** come apart during use or consumption can be assessed separately (composite packaging is narrowly defined in the standard).

Minimum Standard – Description of targeted material

Appendix 1: Material types, material fractions and recycling pathways

How to use the table:
1. check the conformity of the packaging to be evaluated (e.g. PP yoghurt cups with PP-EVOH sealing film) with the descriptions in column 3 (result for example: conformity with Fract.-No. 324)
2. check whether the packaging explicitly falls under a possible exclusion in column 4 (result for example: no conformity)→ Recycling infrastructure can be assumed if none of the criteria listed in column 4 applies
3. identify the recyclable material from column 5 (result for example: PP)

Material group: plastic packagings

1	2	3	4	5	6
Material fractions	Fract. no. / Type no.	Description of targeted material	Disqualification	Recyclable material	Notes on availability
Foil fraction	310	Scheme-compatible articles made of plastic film, surface area > DIN A4, such as bags, carrier bags and shrink films, incl. ancillary components such as labels, etc.	Exclusion of aluminium-coated plastics	LDPE (PO)-share	
PP fraction	324	Rigid, scheme-compatible plastic articles made of PP, volume ≤ 5l, such as bottles, trays and cups, incl. ancillary components such as closures, labels, etc.	Exclusion of cartridges for sealing compounds	PP (PO)-share	
PE fraction	329	Rigid, scheme-compatible plastic articles made of PE, volume ≤ 5l, such as bottles and trays, incl. ancillary components such as closures, labels, etc.	Exclusion of cartridges for sealing compounds	HDPE (PO)-share	

Minimum Standard – materials requiring verification

Appendix 2:
Packaging characteristics requiring verification of identifiability in sensor-based sorting by measurement

Plastic packaging
- large-surface labelling (> 50 % of the surface) with foreign material
- full sleeve labelling
- multilayer construction (except PE-/ PP-EVOH)
- dark colour design using soot-based dyestuffs (also when used in internal layers)
- different types of plastics on front and back sides

PPK packaging and composites based on PPK
- lacquered or plastic-coated surface

Liquid packaging board
- different design from standard construction (non-wet resistant cardboard, PE ± aluminium)

Glass
- lack of transparency or translucency

Minimum Standard – Recycling incompatibilities

Material	Recycling incompatibilities
PE-LD	Non-water soluble adhesives in combination with wet strength labels; PA barrier coatings, PvDC barrier coatings, non-polymer (except SiOx/AlOx), non-EVOH barrier coatings
PE rigid	Silicone components; Components of foamed non-thermoplastic elastomers; Non-water soluble adhesives in combination with wet strength labels; components of foamed non-thermoplastic elastomers. PA barriers; PE-X components, PvDC barriers Non-PO plastics of density < 1 g/cm³
PP rigid	Silicone components; Components of foamed non-thermoplastic elastomers; Non-water soluble adhesives in combination with wet strength labels; PA barrier layers; PvDC barrier layers; Non-PO plastics of density < 1 g/cm³
PS rigid	Foreign plastics or multilayers of density class 1.0 - 1.08 g/cm³ ; Non-water-soluble adhesives in combination with wet-strength labels
PET-bottles transparent	PET-G components; POM components; PVC components; EVOH barrier layers; PA monolayer barrier layers; PVC labels/sleeves, PS labels/sleeves, PET-G labels/sleeves; other blended-barriers; PA additives; Insoluble adhesives (in water or alkaline at 80°C); non-magnetic metals; Elastomer components of density > 1 g/cm³ ; Direct printing (except production code and MHD)
PO	Silicone components; foamed non-thermoplastic elastomers of density < 1 g/cm³; Foamed non-PO components
PPK	Wet strength agents, unless it can be demonstrated that the fibres have been recovered and recycled. (PTS Method PTS-RH 021/97); Insoluble dispersing adhesives unless it is shown that they can be removed (INGEDE Method 12 or 4)
Glass	Lead and barium from crystal glass packages

Best Practice by DSD / cyclos HTP

FROSTA
Schlemmerfilet

FROSTA
Bami Goreng

ARO
Fürst Pückler Eiscreme

BOFROST
Big Schoko Eis

BOFROST
Röschen Trio

BOFROST
Big Schoko Eistüte

NESTLÉ
Maggi 5 Minuten Terrine

MÖVENPICK
Eis Creation

ÜLTJE
Erdnüsse geröstet

NEUTROGENA
Deep Moisture Bodylotion

EXQUISA
Der Sahnige

PÖPPELMANN
Rundtopf PCR blue

FROSCH
Aloe Vera Handspül-Lotion

EMSAL
Parkett Pflege

RORAX
Rohrfrei Bio-Power-Gel

PRIL
Ultra Plus Kraft Gel

PERSIL
Universal Gel

DR. SCHNELL
Milizid

Rating standard by Interseroh

Made for Recycling: How it works

How recyclable is your packaging? Our standardised assessment approach has been developed together with independent research institutes (Bifa Umweltinstitut, Fraunhofer IVV):

1. We assess whether consumers are able to dispose of the used packaging correctly.
2. We then investigate whether the packaging can be reliably sorted into the correct material category in our sorting plants.
3. As a last step, we determine whether the packaging is suitable for mechanical recycling – or whether aspects such as labels, closures or soiling make recycling more difficult.

Rating standard by Interseroh

Made for Recycling durch…

- **Combination of materials**: Monomaterial, if possible
- **Barriers** are replaced by Polyolefin, if possible
- **Seperable components** + customer communication
- **Colouring** + **pigment**: organic content affects recyclability
- **Material of label**: preferably equivalent to hollow bodies
- **Size of label**: as small as possible if different material
- **Adhesives**: preferably water-based
- Optimal **residual emptying**
- avoid **metallized materials**

Recyclability for tin cans

Materialien	
Dose	Weißblech
Öffner	Alu
Etikett	Papier
Verhalten	
Sortierung	Magnetabscheider Eindeutig
Recycling	> 90 %

Recyclability for packaging film

Materialien	
Folie	Alubedampfte Folie
Verhalten	
Sortierung	Diffus Folie, Alu
Recycling	Alu 0 % Folie 0 %

Recyclability for renewable raw materials

Materialien	
Beutel	PET/ALU/PE
Ausguss/Verschluss	PE (Zuckerrohr)
Verhalten	
Sortierung	Diffus PE, PET, MKS
Recycling	energetisch

Best Practice by Interseroh

Packaging analysis using recognised assessment standard finds potential for improvement

Fruit juice for kids from Mogli Naturkost bears the quality mark from Demeter. To ensure that the packaging used for its organic product is equally sustainable, the Berlin-based company approached Interseroh to request a packaging assessment. The analysis showed that the packaging consists of mono-material. Only minor modifications are needed to ensure it is 100% recyclable. And the company can also score points with customers by printing Interseroh's seal confirming good recyclability onto the product.

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Thank you for your attention

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