

Circular Packaging Design and Communication

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Section Packaging and Resource Management

APPLIED LIFE SCIENCES



BUILDING AND DESIGN

HEALTH SCIENCES

NURISNG SCIENCE

SOCIAL WORK

ENGINEERING

PUBLIC SECTOR

Food Packaging and Sustainability

- > Why food packaging?
 - > Prevention or reduction of food losses and food waste
- > How to pack food correctly?
 - > Packaging fit for purpose
 - > Facilitation of transport, distribution, storage, retailing, use
 - > Packaging = service function
- > How to pack food sustainably?
 - > Knowledge-based decisions (Life Cycle Assessment (LCA))
 - > Consideration of direct and indirect effects
 - > Environmental, social and economic benefits

References: Institute of Packaging Professionals (2014). Fundamentals of Packaging Technology. Institute of Packaging Professionals. Robertson, G. L. (2012). Food Packaging: Principles and Practice. CRC Press. Verghese, K., Lewis, H., Fitzpatrick, L. (2012): Packaging for sustainability. Springer.

Packaging functions

- Containment
- Protection
- Communication
- Convenience

Material properties

- Physical /mechanical properties
- Barrier
- Migration
- Hygiene

- ### Minimum principle
- Resources
 - Waste
 - Emissions
 - ...

- ### Circular
- Waste hierarchy
 - Recycling
 - Bio-based / biodegradable materials
 - ...



- ### Safety for people and the environment
- Environmental-friendly
 - Pollutant-free
 - ...

Circular Packaging Design



- > Circular Packaging Design Guideline
 - > Developed by FH Campus Wien under close cooperation with industry partners
 - > The guideline has been adopted by relevant market participants
 - > Updated regularly
 - > Free download
 - > <https://www.fh-campuswien.ac.at/circular-design-en>

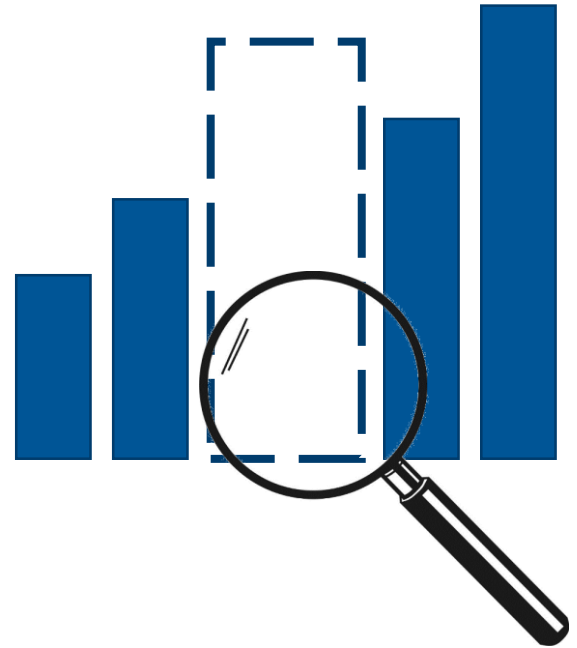
Circular Packaging Design



- > Circular Packaging Design Guideline
 - > The guideline has been adopted by relevant market participants
 - > Example
 - > Efficient Consumer Response (ECR) Austria
 - > Packaging Design for Recycling
 - > <https://ecr-austria.at/2020/06/22/packaging-design-for-recycling/>
 - > Further guideline
 - > Sustainability assessment
 - > <https://ecr-austria.at/2020/10/30/nachhaltigkeitsbewertung/>

Research need

- >Great effort by companies and retail to develop sustainable packaging solutions
- >HOWEVER...
 - >Gap between efforts and sustainability communication on packages and webpages
 - >Needs
 - >Fact-based information
 - >Information and education of consumers
 - >Avoidance of greenwashing



Current research



- > Analysis of sustainable packaging attributes in the confectionary sector
 - > Dörnyei, K. R., Bauer, A.-S., Krauter, V., Gežík, V. and Herbes, C.

- > Aim
 - > Better understand the gap between attributes and cues consumers find important / that are provided by producers

- > Research
 - > Comprehensive market analysis (field study) on wafers
 - > Evaluation of sustainability-related attributes on packages and cues for consumers
 - > Attribute-cue-matrix

- > Presentation
 - > COST Circul-a-bility conference and research paper



RETHINKING

PACKAGING FOR CIRCULAR AND SUSTAINABLE FOOD SUPPLY CHAINS OF

THE FUTURE

circul-a-bility.org

Over 200 participants from 44 countries

Variety of disciplines and sectors



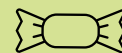
Fruit & Vegetables



Meat & Fish



Dairy & Substitutes



**Cereals &
Confectionary**



**Stakeholder
Engagement**

COST Circul-a-bility

FIRST CIRCUL-A-BILITY CONFERENCE

Re-thinking Packaging for *Circular & Sustainable*
Food Supply Chains of the *Future*

26-29 September 2021





Thank you for your attention!

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