Making safe and sustainable packaging work in the real world:
A case study on reusable packaging

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Genossenschaft
Deutscher Brunnen eG

GDB: facts and figures

▸ Trading and service company of German mineral water bottlers,

▸ Cooperative ("non-profit" - business)

▸ Headquarters: Bonn, Germany

▸ Founded: 1937

▸ Members: 162 (nearly all German mineral water companies)
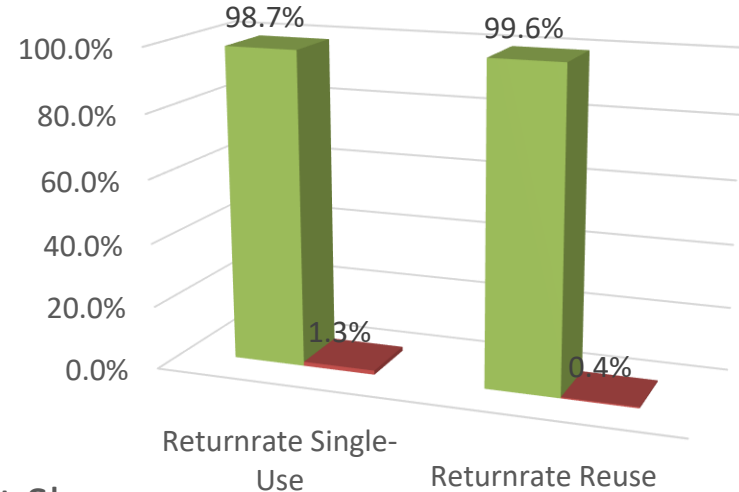
▸ turn over 2020/21: about 130 m. €

▸ Staff (group): 50

Packaging Key Numbers of the German Beverage Market
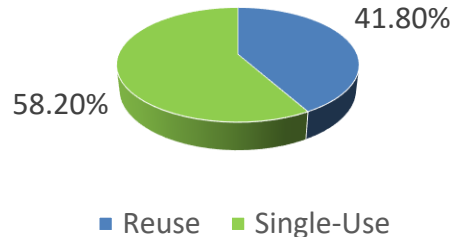
Packaging Market Shares Mineral Water

- Reuse: 40.80%
- Single-Use: 59.20%
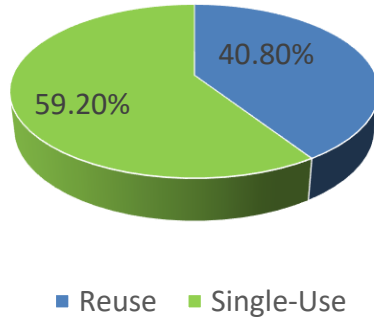
Source: UBA 2021

Return-Rates (via DRS)

- Returnrate Single-Use: 98.7% / 1.3%
- Returnrate Reuse: 99.6% / 0.4%

Source: GVM 2020

Packaging Market Shares
All Beverages (with mandatory deposit)

- Reuse: 41.80%
- Single-Use: 58.20%

35 Billion Liters p.a. in the DRS System

All numbers for 2019

GDB Glass- and PET-Reuse-Pools
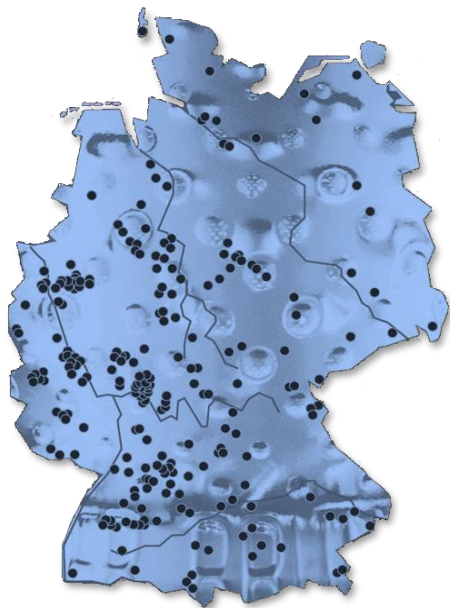
|	
GDB Share in Reuse: GDB Glass- & PET-Reuse in Mineral Water Market	**> 70 %**
Number of GDB Reuse Bottles: Glass- und PET-Reuse of GDB	**> 1 billion**
Deposit Value: Glass- und PET-Reuse of GDB	**> 300 million €**
Share of Consumers familiar with the GDB bottle:	**97 %**
Nationwide Reuse System operated since	**1969**
Newest Bottle Type introduced in	**2018**

Source: GDB, 2021

GDB Packaging Systems in 2021

Mineral Water Market
Based on liters filled in 2021
Source: VDM

- 41% — GDB
- 59% — Others
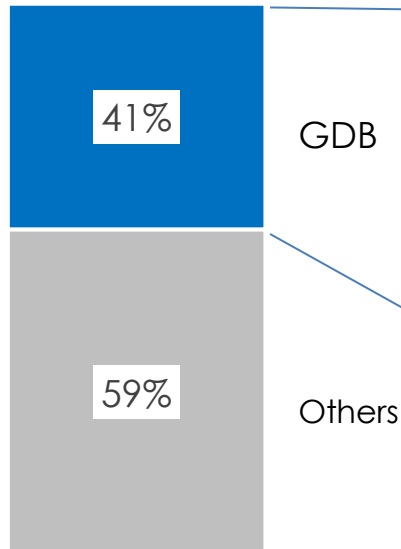
12,3 Billion Liters in 2021

GDB Packaging Systems
Million Bottles Filled
Source: GDB

6.221 Filled Bottles (2021)

- **3.500** GDB Glass Reuse
- **1.814** PET Reuse
- **809** PET Circular
- **98** Logicycle Reuse
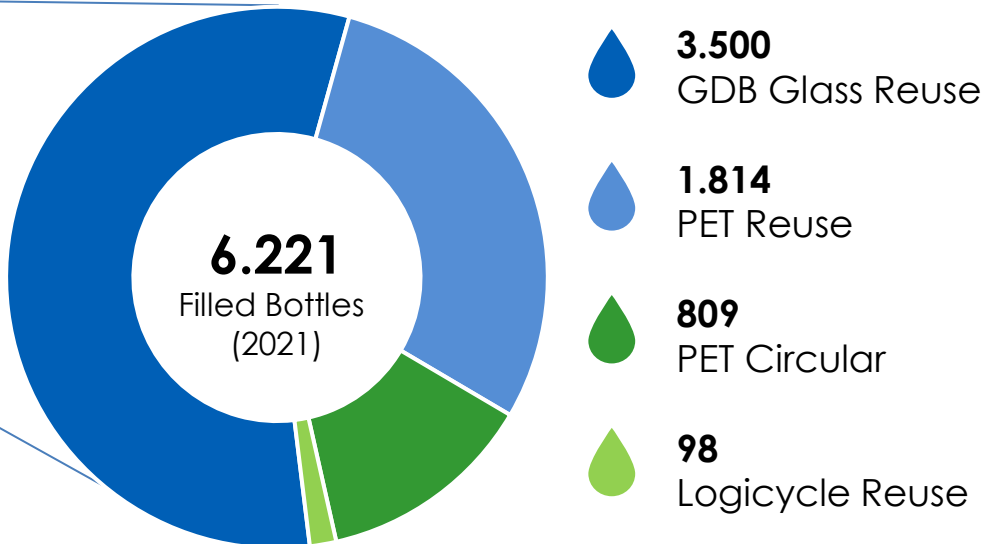
Return Rate of bottles and crates > 99%

Agenda

▶ The Reuse System (for Beverages) in Germany

▶ GDB's Pool Management

▶ Some further considerations

▶ How to transfer this to other products & markets

1. | Reuse system(s) in Germany

Several Stakeholders involved & (ideally) synchonized
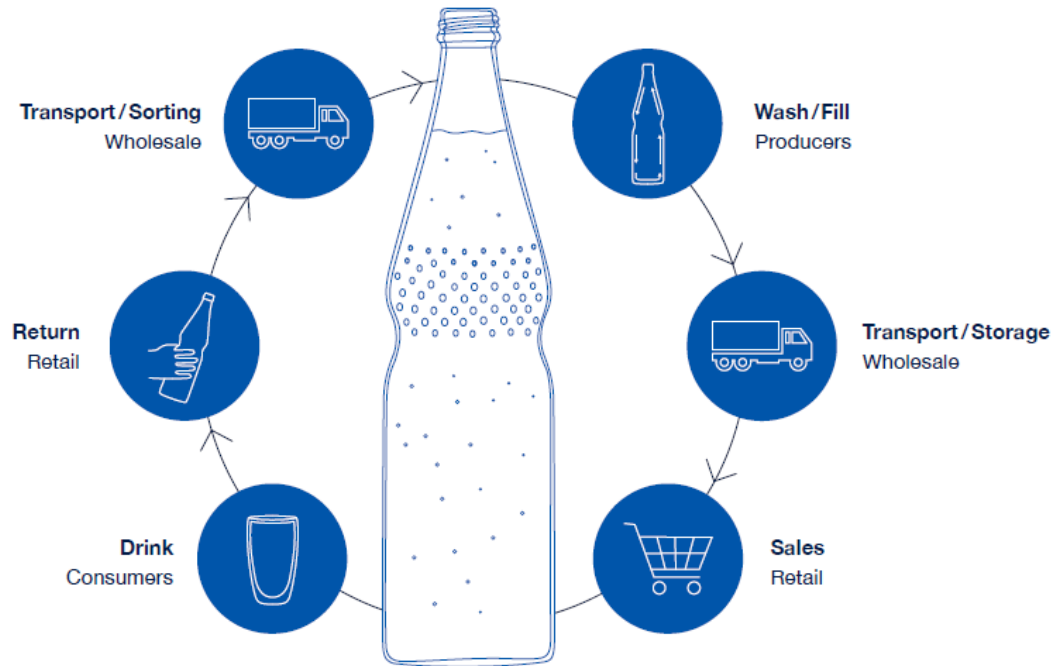
The **system** has a structure with a defined set of stakeholders as part of the reuse circle and defined processes for the refill trips.

Reuse is a Double Circle

Retail

Consumers

Retail

Producers

up to **50** refills

New Bottle

Production

Glass Industry
PET Recyclers
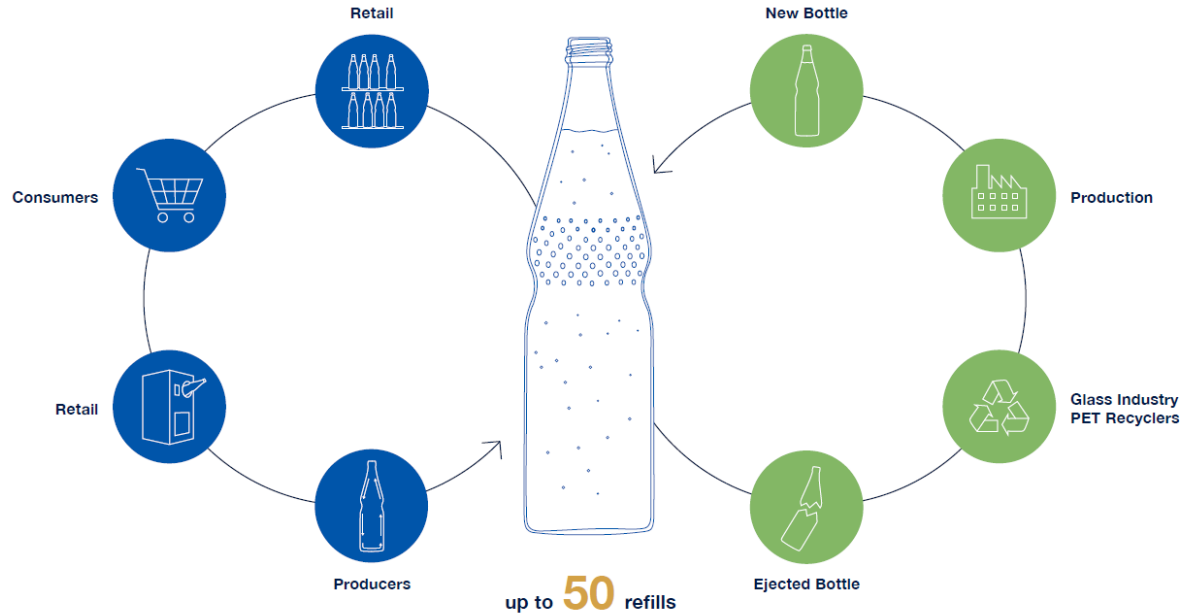
Ejected Bottle

Reuse Packaging is
a Zero Waste
by default:
it includes a sorted
collection of
ejected bottles &
crates to the
recycling process

GDB

Simplicity*

* For consumers

Reuse - System

2. | GDB's Pool Management: Managing the System?

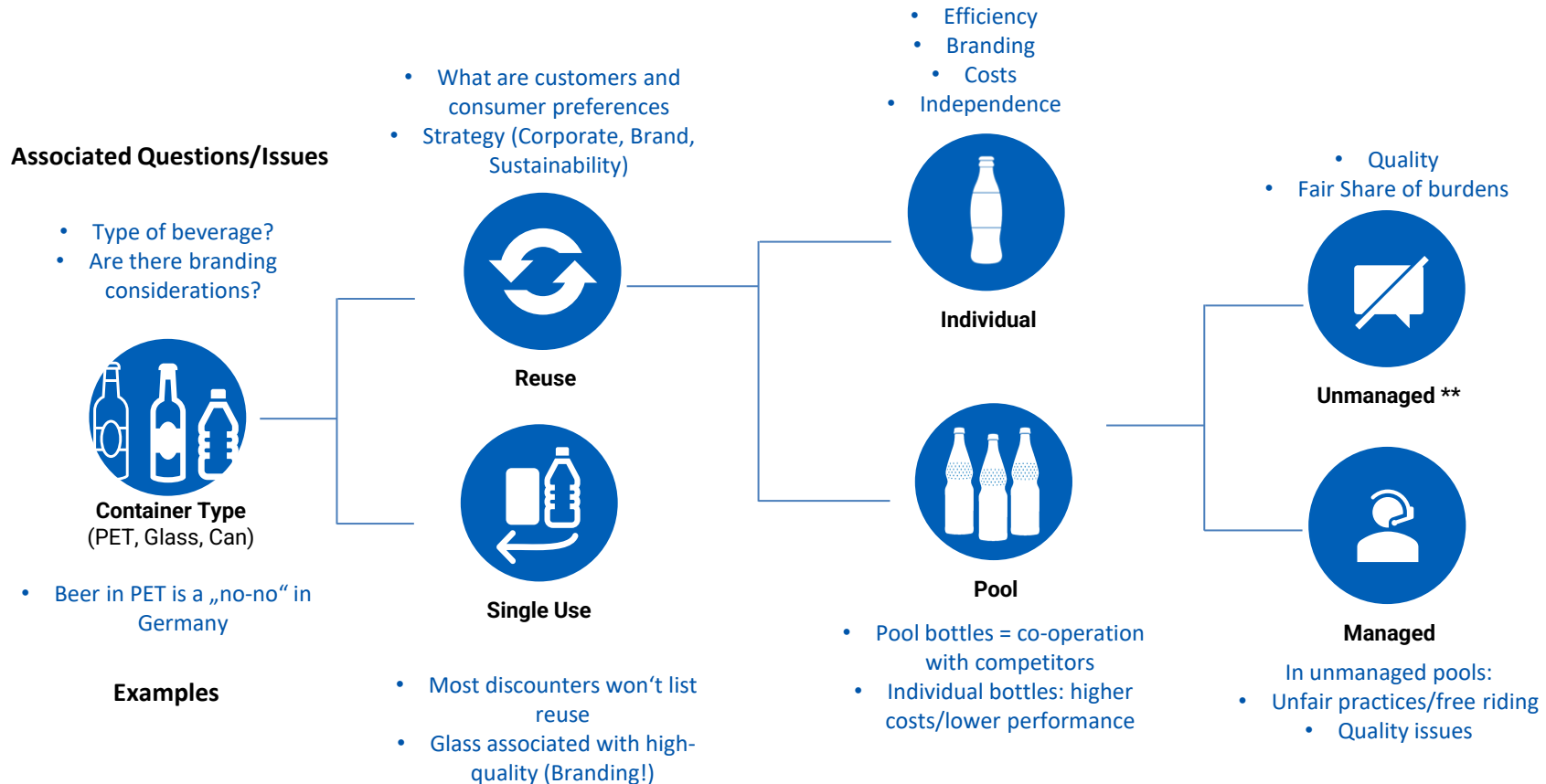# A Taxonomy of (Beverage) Containers

Container Type
(PET, Glass, Can)

Reuse

Single Use

Individual

Pool

**Unmanaged **

Managed

* Always Managed   ** Remaining unmanaged systems currently to be transformed into managed governance schemes

A Taxonomy of (Beverage) Containers

Associated Questions/Issues

- Type of beverage?
- Are there branding considerations?

Container Type
(PET, Glass, Can)

- Beer in PET is a „no-no" in Germany

Examples

- What are customers and consumer preferences
- Strategy (Corporate, Brand, Sustainability)

Reuse

Single Use

- Most discounters won't list reuse
- Glass associated with high-quality (Branding!)

- Efficiency
- Branding
- Costs
- Independence

Individual

Pool

- Pool bottles = co-operation with competitors
- Individual bottles: higher costs/lower performance

- Quality
- Fair Share of burdens

Unmanaged **

Managed

In unmanaged pools:
- Unfair practices/free riding
- Quality issues

* Always Managed   ** Remaining unmanaged systems currently to be transformed into managed governance schemes

GDB: a managed pool system (of standardized bottles)
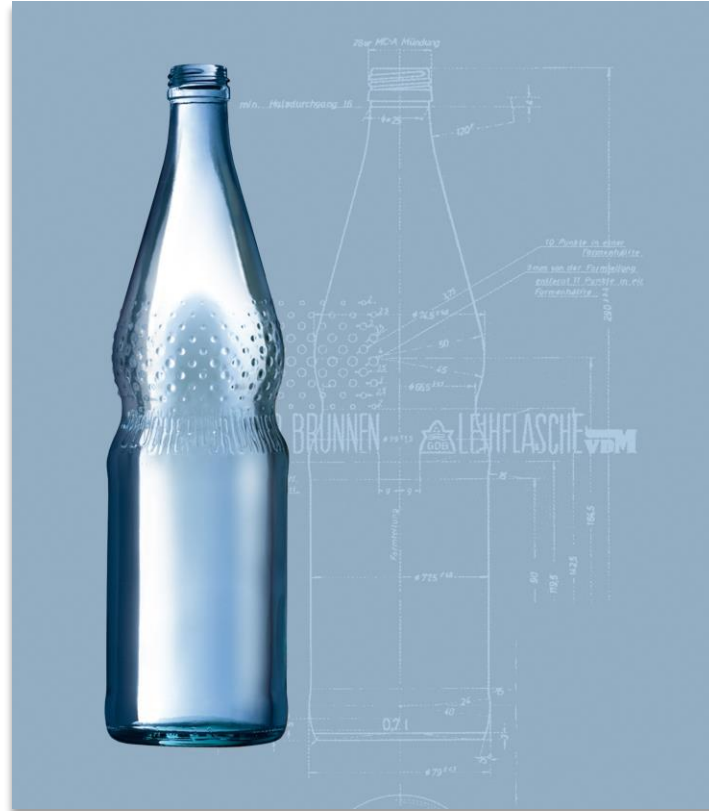
Standardizing ≠ Uniformity: GDB Refillable Pool Containers

Variations of

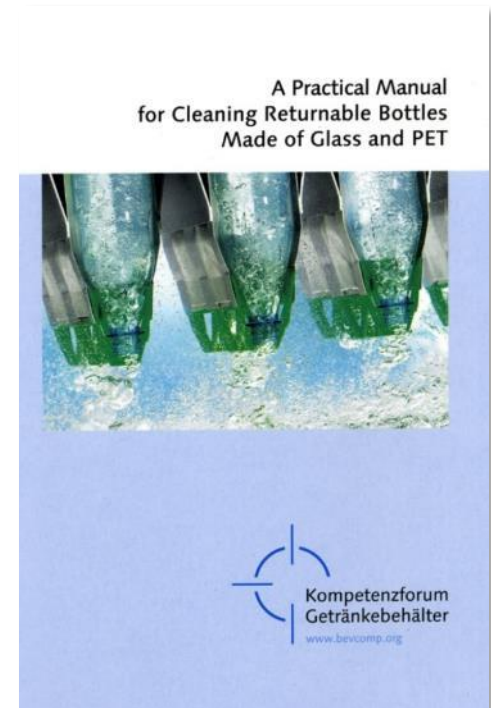Glass & PET

Refillables

from 0,5 – 1,5 L

(… and this is the mineral water and parts of the CSD market only)

Quality & Logistics managed in Self-Regulation

▸ Legal Framework provided by food safety laws – no specific regulation on reuse with regards to standards

▸ Business-set "GMP +" setup for quality management (HACCP)

▸ Internal Standards for (Pool-) Bottles

  ▸ Sorting criteria

  ▸ Ejection-/replacement-rates

  ▸ Quality (labels, inspection, caustic soda for washing, etc.)

A Practical Manual
for Cleaning Returnable Bottles
Made of Glass and PET

Kompetenzforum
Getränkebehälter
www.bevcomp.org

Managing the System?

As GDB,

we are part of the reuse system,

and we manage our pool

3. | Some further considerations ("FAQs")
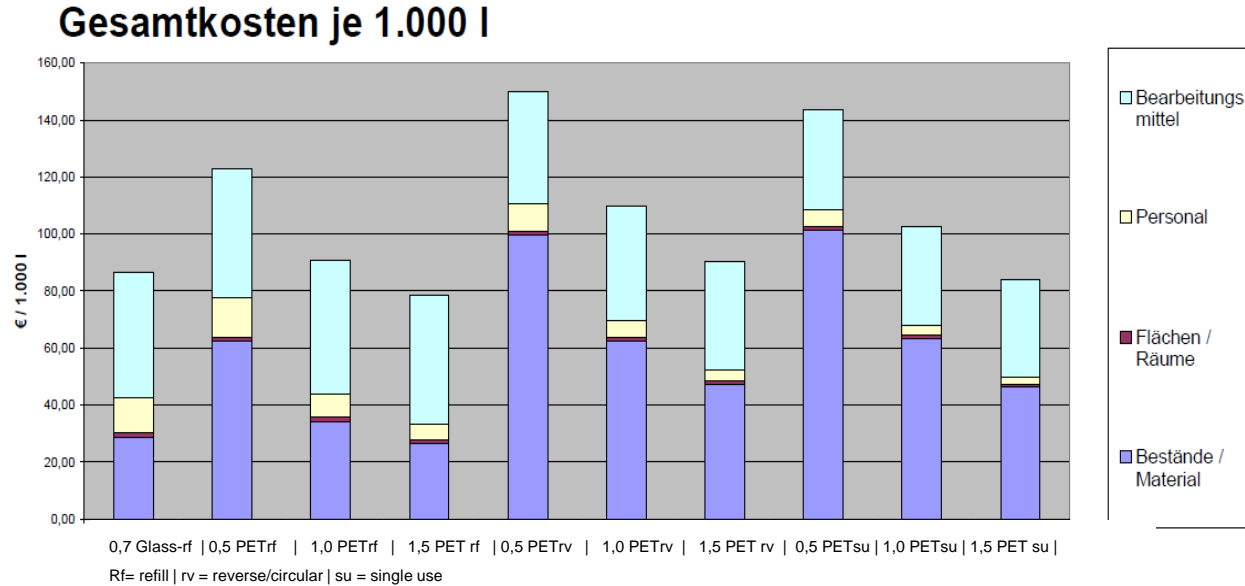
What's Trending in Reuse-Germany?

- High growth of reuse in food – especially organic products

- Re-Establishment of Poolmanagement

- HoReCa reuse-to-go offers (mandatory from 1.1.2023)

- New reuse-as-a-service providers

Standardized Bottles: An issue for Branding?

Higher Costs for Reuse? A Comparative Empirical Study

Gesamtkosten je 1.000 l

0,7 Glass-rf | 0,5 PETrf | 1,0 PETrf | 1,5 PET rf | 0,5 PETrv | 1,0 PETrv | 1,5 PET rv | 0,5 PETsu | 1,0 PETsu | 1,5 PET su |

Rf= refill | rv = reverse/circular | su = single use

‣ Standard reuse bottles and single-use/circular-use operate on comparable cost levels, but in different cost structures

‣ Smaller bottles – higher costs

Always better? What we know after 25 years of LCAs*

▸ Single-use PET (-circular) and glass reuse can be operated at the same level in terms of environmental footprints

▸ Glass single-use will never be on the same level of PET-circular and glass-reuse

▸ PET reuse could be operated at best level in terms of environmental footprint – but at higher costs

▸ **Clear conclusion: We have to get it right – no matter which kind of system we operate - and to constantly optimize these systems**

* In the beverage sector!

What about Reuse in other foods & beyond?

▸ Reuse is not always the most sustainable packaging solution

▸ Depends on

  ▸ Material

  ▸ Contents

  ▸ Ratio of content/packaging

  ▸ Geography of market

What's next? Our biggest challanges...

Climate neutrality

Digitization

4. How to transfer this to other markets?

Towards an Algorithm for the Use of Reuse

▸ Is it "Fast Moving" (i.e. in retail and in consumption)?

▸ Is it sustainable in all dimension (environment, economy, social) to fill it in a reuse packaging?

▸ Is it scalable?

▸ Is there a pool solution for it?

▸ Is it easy to handle in all stages?

▸ …and be sure to distinguish what's system and what's the packaging, you are going to manage!

…and don't forget to ask us, if you need help ☺

Thank you!

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