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PET MARKET DYNAMICS AND DEVELOPMENTS FROM THE PERSPECTIVE OF A PRODUCER AND RETAILER

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Schwarz Produktion

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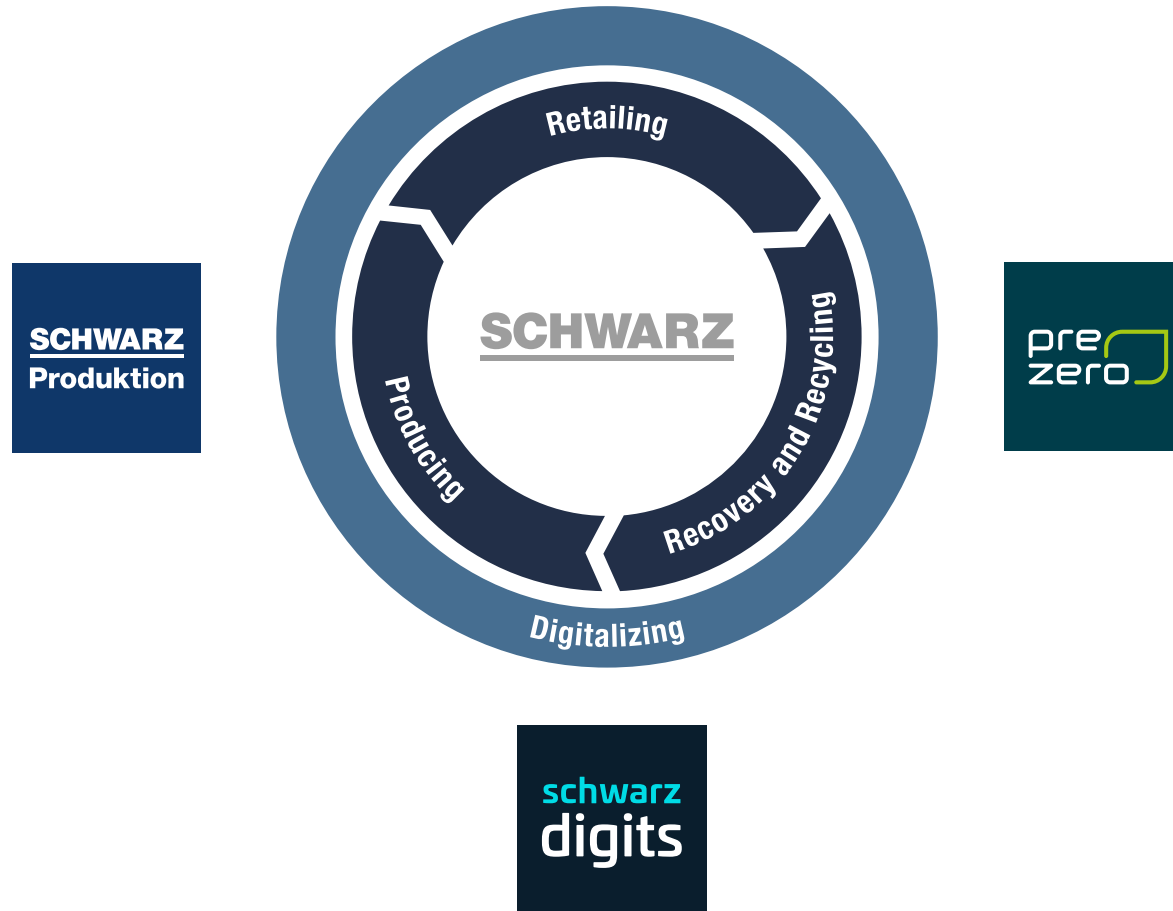
01

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Schwarz Group

Diversity is our strength

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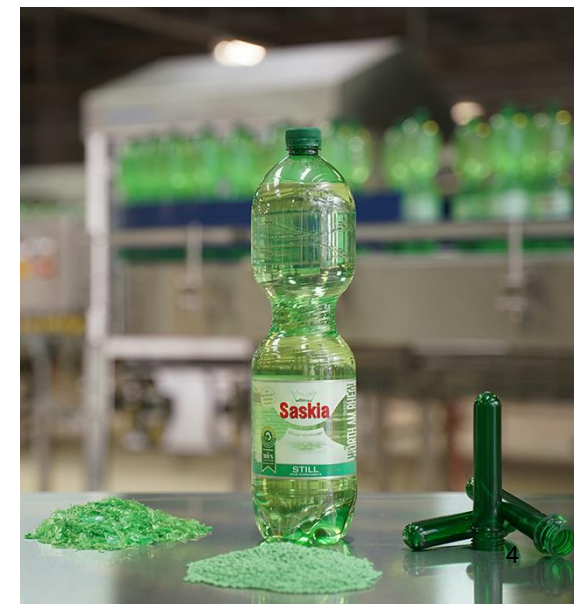


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The supplier for unique moments of consumption



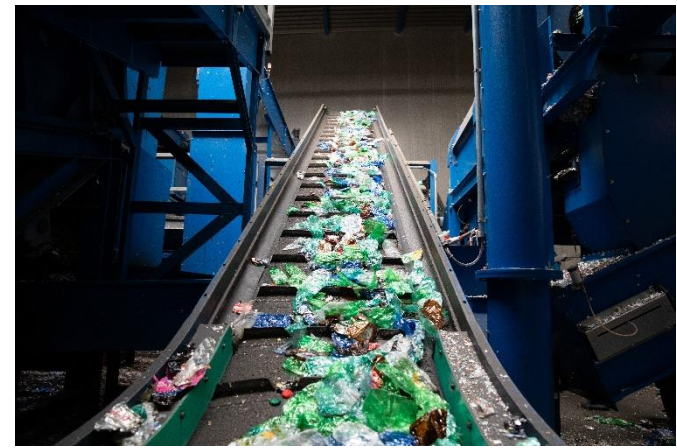
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Our material cycle

- Schwarz Group is implementing the entire value chain for “bottle-to-bottle” recycling under a single roof (retail, collecting, sorting and producing).
- **German DRS** enables us to maximise the collection volume of food-grade PET material.
- **Modern sorting and recycling technologies** in place for clean material streams and high-quality recycling material.
- Annually more than **2 billion single-use PET bottles with 100% recycled content** (since 2019).



02

THE CURRENT SITUATION BASED ON THE EXAMPLE OF GERMANY

LEGISLATIVE FRAMEWORK

Situation



Current status (Dec 2023):
legislation not yet passed!

Legislative activities with a shared goal: **to increase the proportion of recycled materials used in packaging.**

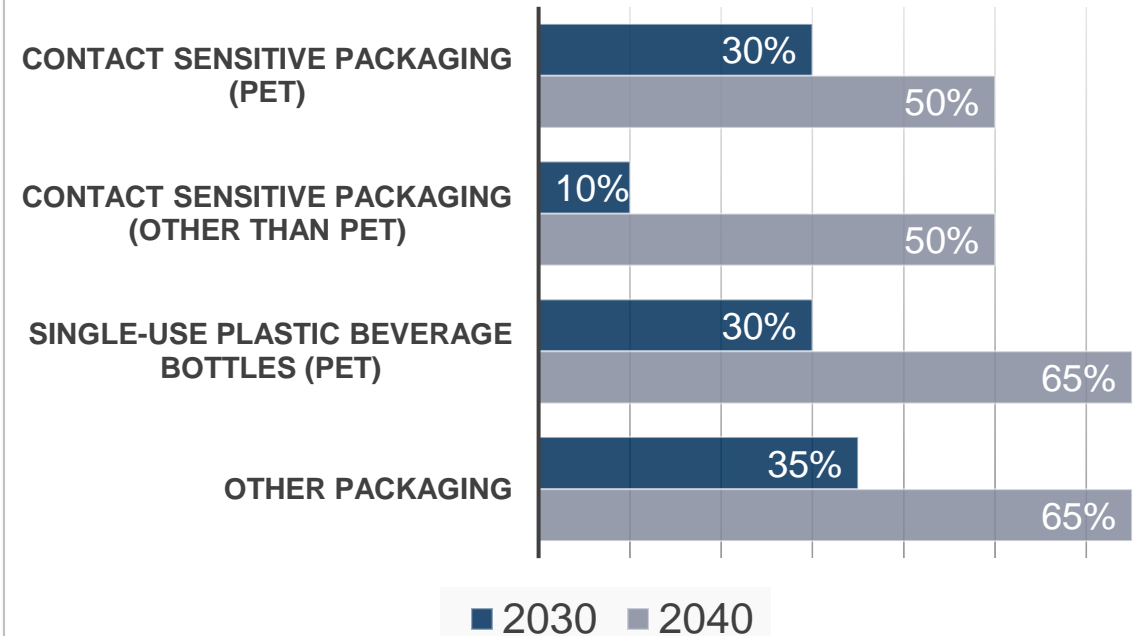
SUP:

- Proportion of rPET in single-use beverage bottles to reach **30% by 2030 and 40% by 2040**

PPWR:

- Minimum content values for post-consumer recyclates for plastic content in **all(!)** packaging
- rPET content for the manufacture of single-use beverage bottles to reach **30% by 2030 and 65% by 2040**
- Status as of December 2023 – subject to a potential agreement during the trialogue

PPWD Recycling Targets

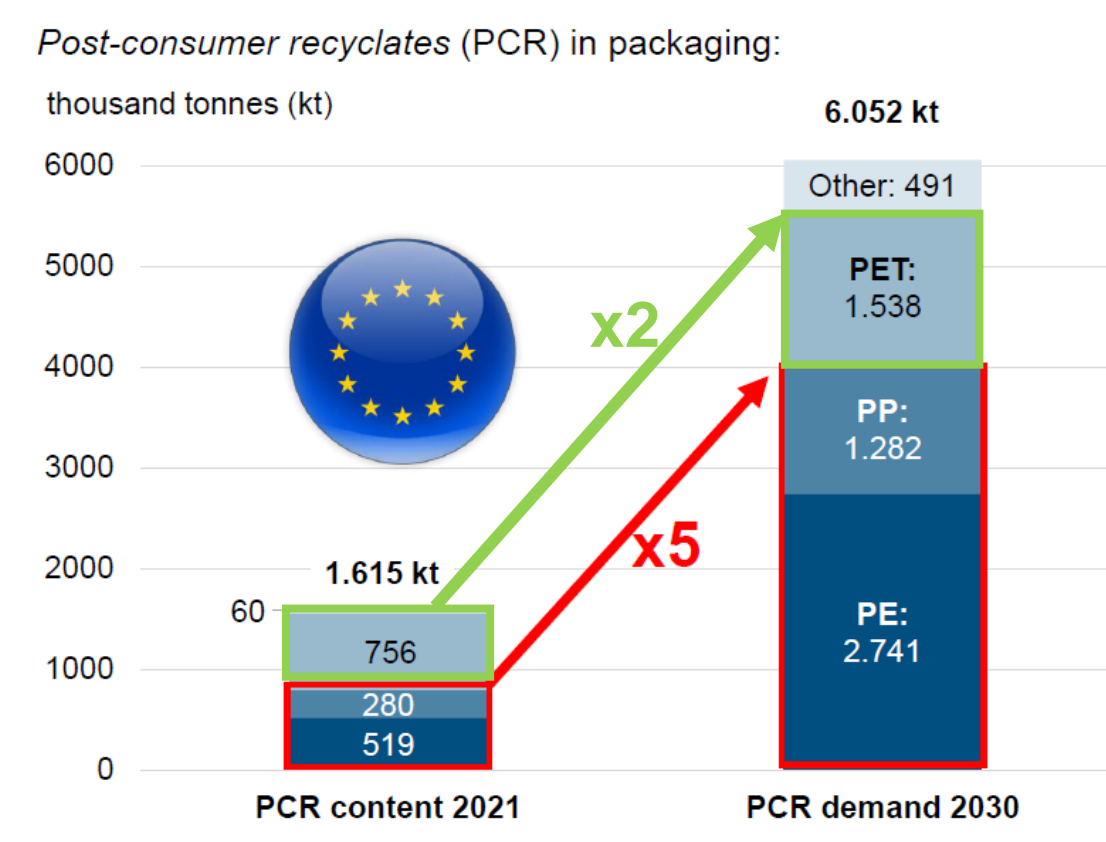


Conclusion: Quotas will have a significant impact on the recyclate market.

LEGISLATIVE FRAMEWORK

Consequences

- Over the coming years, there will be a significant demand from packaging manufacturers for rPET from the bottle cycle.
- The demand for rPET is expected to increase considerably, whilst rPET supply will only increase slightly.
- In order to fulfil quotas:
 - the use of recycled polyolefins (PE, PP) will need to **increase five-fold**; and
 - the use of rPET will need to **double**.



Source: IK Industrievereinigung Kunststoffe e. V.
(German Association for Plastics Packaging and Films)

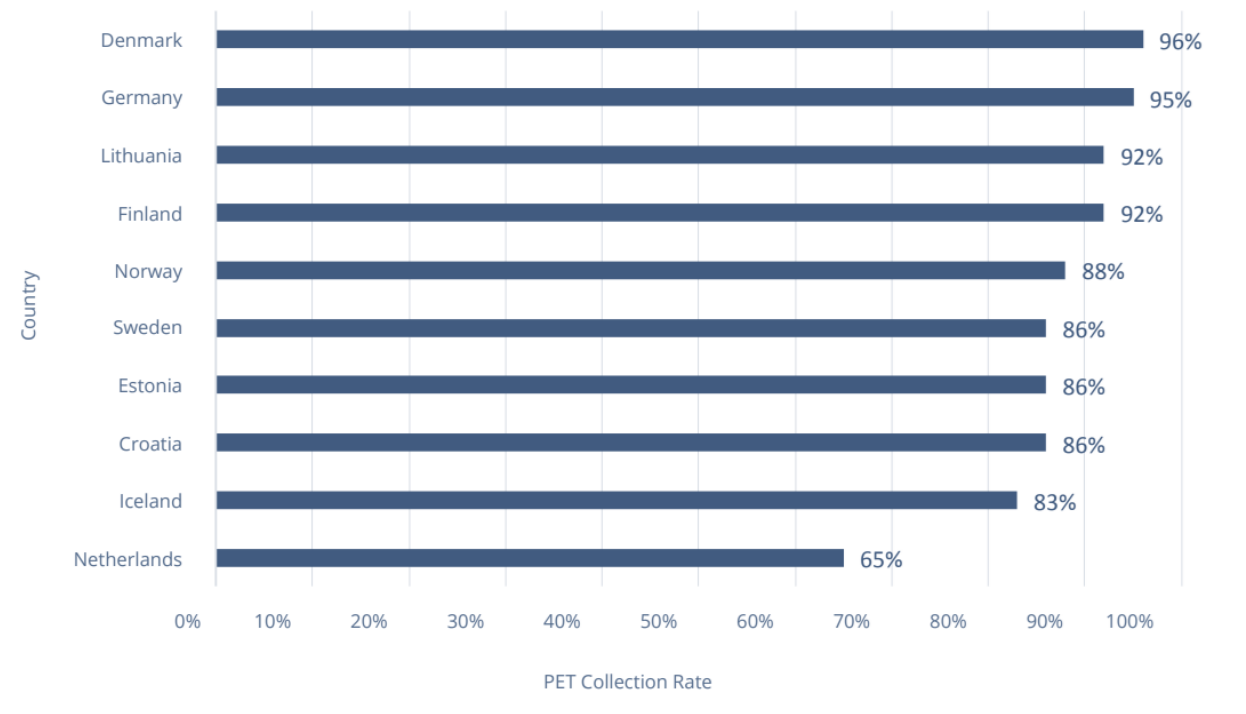
SITUATION IN GERMANY

High collection and recycling rates

- The single-use deposit return scheme in Germany ensures high collection rates.
- 98% of all bottles are returned (the collection rate for PET bottles in the EU is around 60%).
- 97% recycling rate for all PET beverage bottles with a deposit in 2021.
- **However:** In 2021, the proportion of rPET in PET beverage bottles was **44.7%** (in 2019 it was 34.4%).
- EU market: average of 17% recycled PET (2020)*.
- What happens to the rest of the rPET?

*Eunomia PET Market in Europe: State of Play 2022

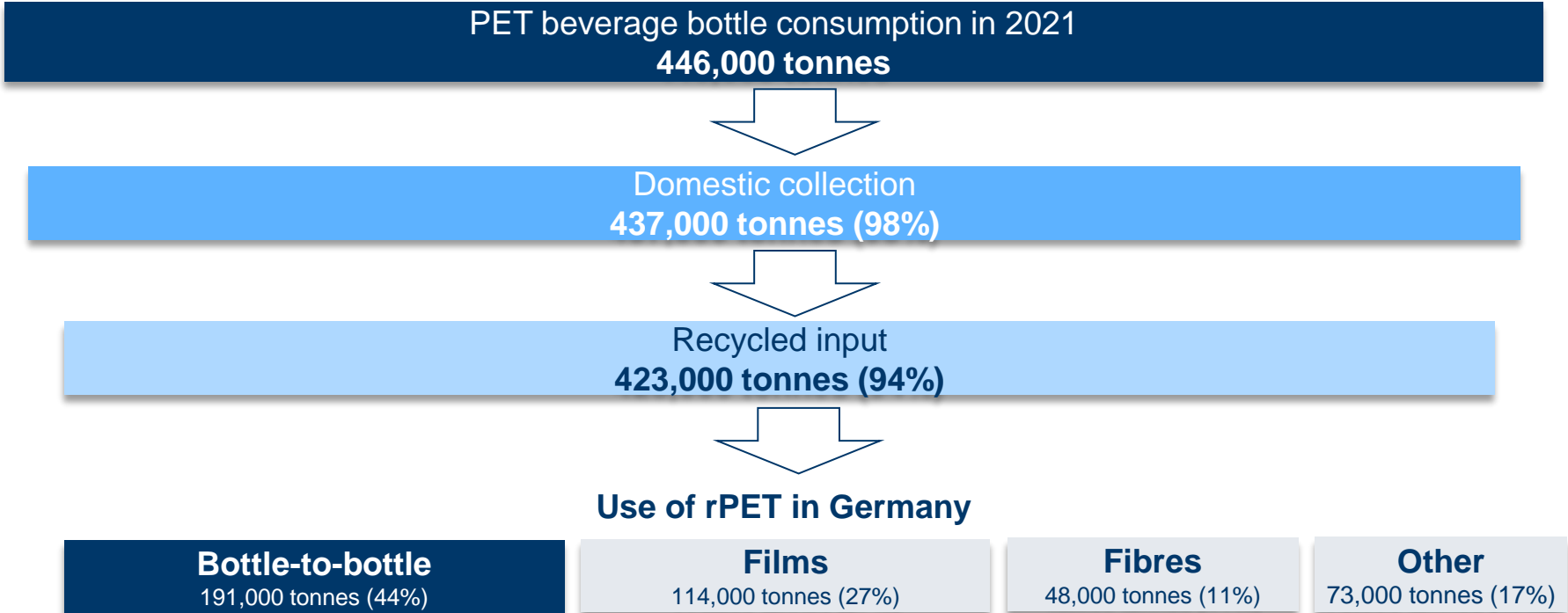
Collection rates in countries with deposit return



**Eunomia PET Market in Europe: State of Play 2022

SITUATION IN GERMANY

Downcycling



Source: GVM 2022, *PET-Getränkeflaschen – Verbrauch und Verwertung in Deutschland* (PET Beverage Bottles – Use and Recovery) 2021

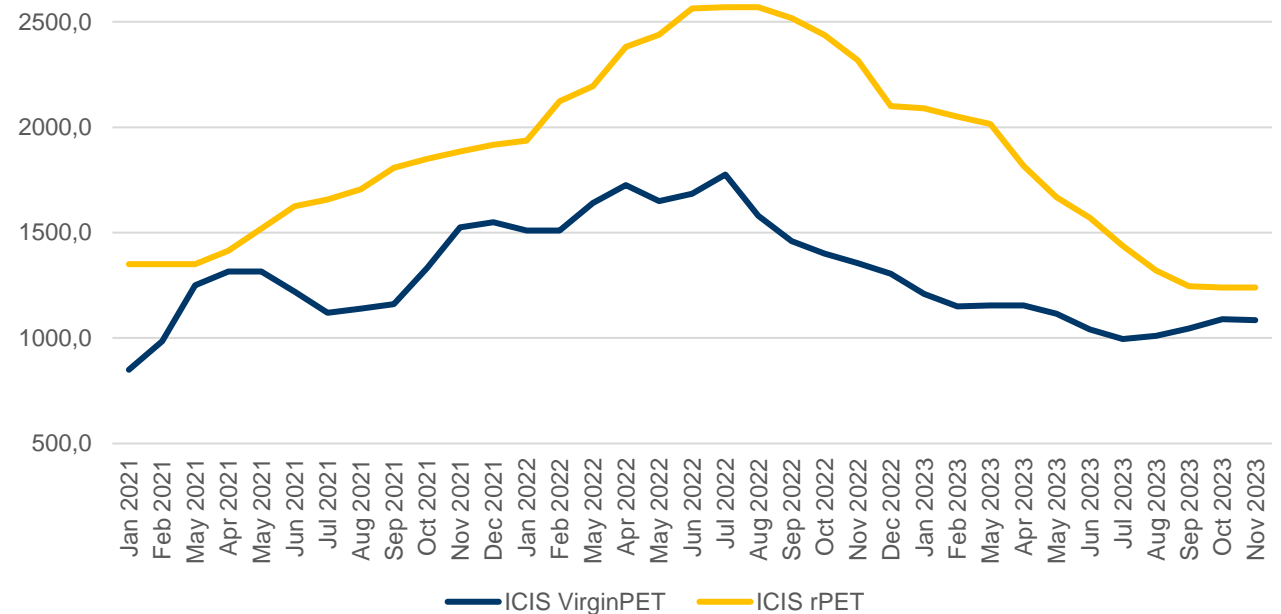
SITUATION IN GERMANY

A dynamic environment – raw materials

PET/rPET market development

- Fluctuating prices but rPET consistently more expensive than virgin PET
- No price signal for the use of rPET
- Problem of supply
- Proportion of rPET in beverage bottles is only increasing at a slow rate

Price Development
PET vs R-PET Food Grade 2021-2023

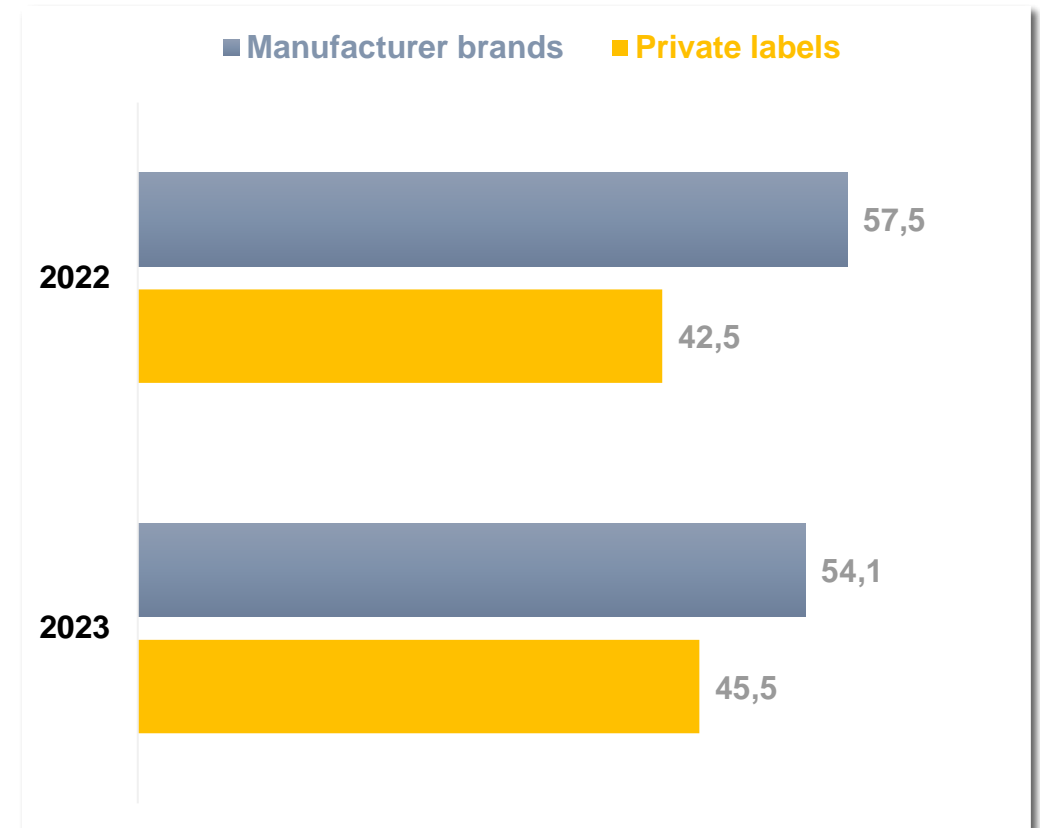


SITUATION IN THE MARKET

A dynamic environment – retail and consumers

- Inflation in the consumer sector
- The demand for **low-price products** is increasing
- The demand for **low-price packaging** is increasing
- Single-use PET packaging for beverages is vital to the discount-price segment
- Single-use PET is an ecological alternative

The proportion of own brands is growing

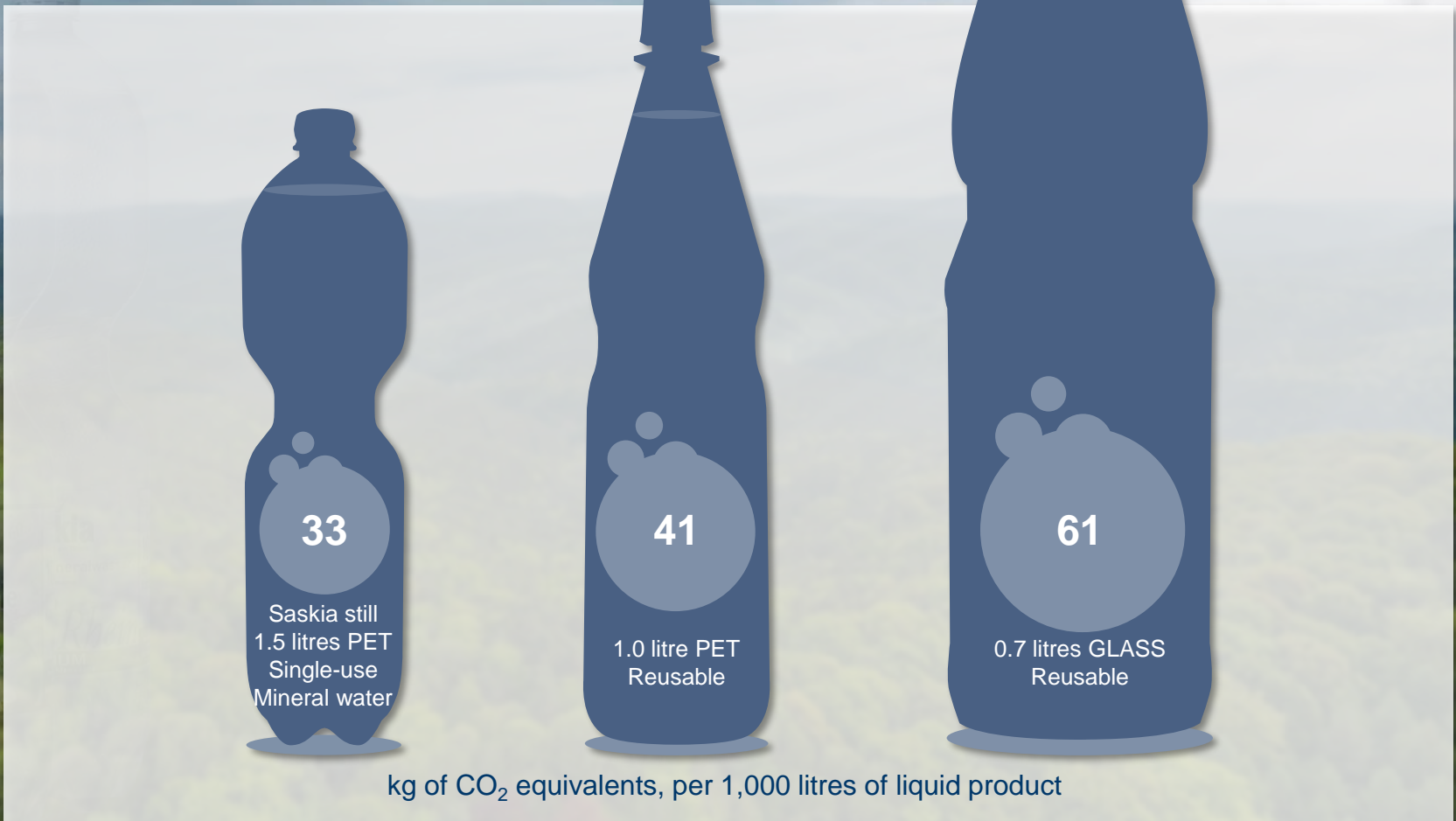


Source: GfK Consumer Panel 7/2023 (Food and Near Food)

ECOLOGICAL ALTERNATIVE

Life cycle assessment of beverage packaging (Ifeu, Heidelberg, 2023)

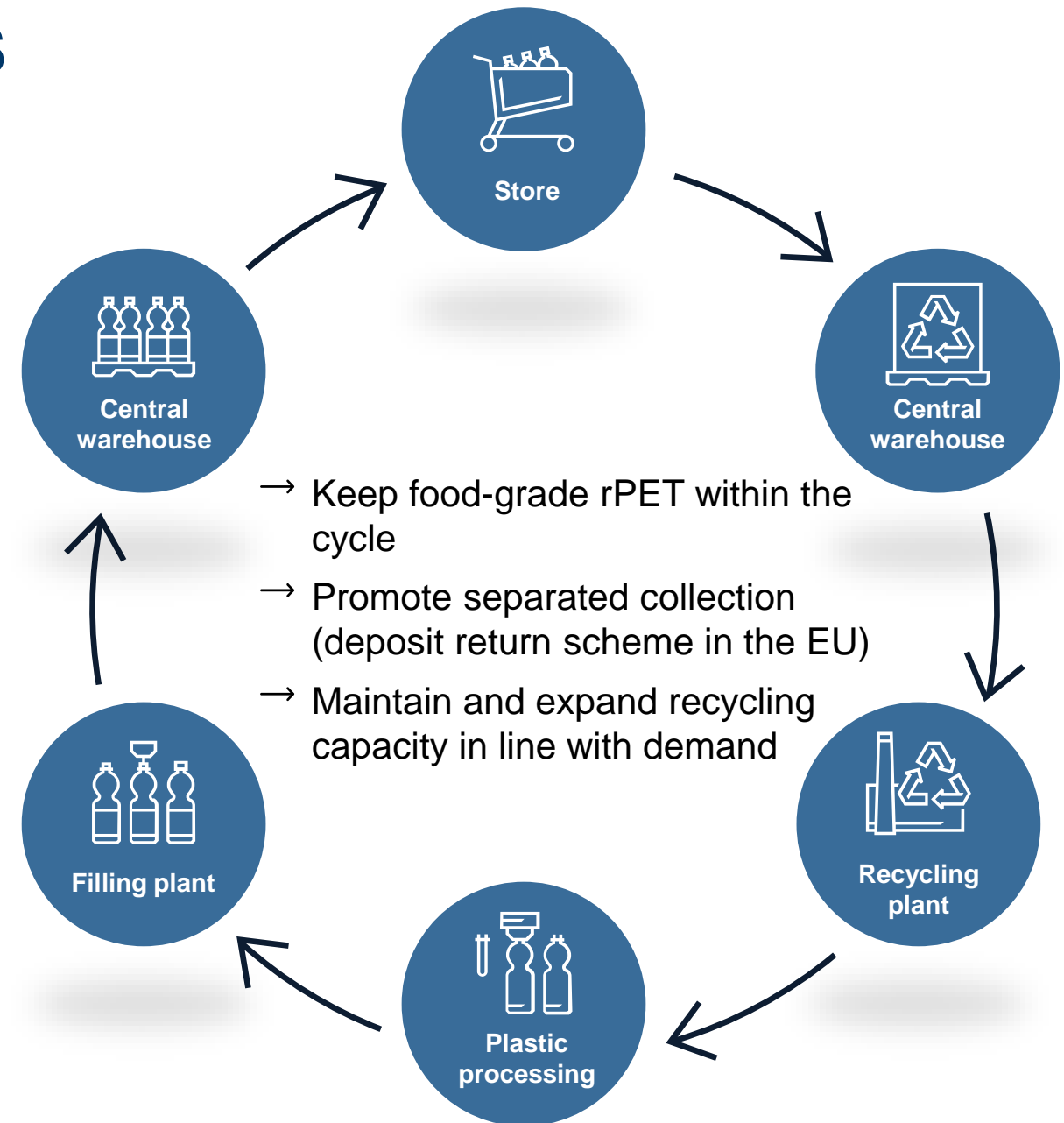
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kg of CO₂ equivalents, per 1,000 litres of liquid product

CONCLUSION: CIRCULARITY IS THE SOLUTION

- In order to be able to meet rPET demand, a minimum of 70% of the available rPET must remain within the bottle cycle (GVM).
- Despite the potential preference for reusable bottles over single-use bottles created by the PPWR,
 - closed cycles remain a good option for manufacturing ecologically sustainable beverage packaging;
 - this Strategy has been successful for many years
 - this enables a high proportion of rPET and ecological bottle design.



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