

LIEBE VERBRAUCHERIN,
LIEBER VERBRAUCHER,

Im neuen Jahr soll es einheitlich
nur noch Einweggetränkeverpackungen
mit dem DPG-Kennzeichen
im Markt geben.

Bitte geben Sie daher noch in
diesem Jahr alle geleerten Einweg-
getränkeverpackungen zurück,
die nicht das Ihnen bekannte DPG-
Kennzeichen tragen.



Dazu gehören insbesondere Flaschen und Dosen,
auf denen die abgebildeten Logos aufgedruckt sind.
Für die Vermeidung von weiteren
Gebühren zu beachten.



- Abridged version -

EUROPEAN PACKAGING POLICY

The consequences of a
deposit system for
disposable packaging
based on the
German example

AGVU

June 2007

Using Germany as an example, this study aims to illustrate the impact of introducing deposits on disposable packaging

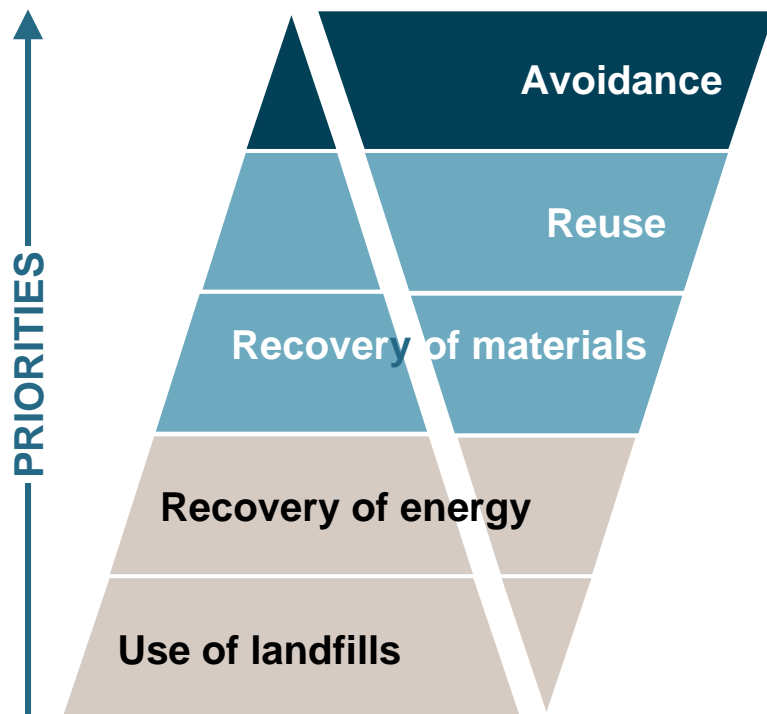
Goals of the study

- To outline the **development** and **goals** of the **German Packaging Ordinance** as **basic conditions** for the setting up of a deposit system for disposable drinks packaging
- To **analyze** and **reveal** the **consequences of setting up a deposit system** for disposable drinks packaging for the different **groups involved** with special **focus on economic conditions** and **inefficiencies**
- To sum up **results** in order to help other countries **learn lessons** from the German example – **recommendation** for **optimized house-hold-based collection** as **consumer** and **environmentally friendly** system with **lower costs** than a deposit system
- To gather **facts and figures** about the consequences of introduction of a deposit system in **Germany**

European packaging policy is based on the principle of responsibility for products – Waste avoidance commands top priority

European packaging policy

Goals



Principles

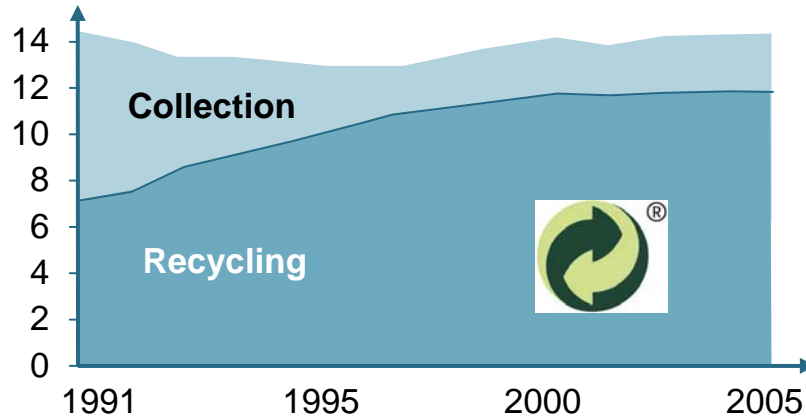
- The **German Packaging Ordinance** (1991) was the **forerunner** of the **European Directive** ("European Parliament and Council Directive 94/62/EC of December 20, 1994, on Packaging and Packaging Waste")
- European packaging policy is based on the **principle of responsibility for products** and states **waste avoidance** as its top priority
- Responsibility for products involves:
 - Taking steps to **avoid waste** and providing for **recovery and recycling options** as early as the **production phase**
 - Using **recoverable waste** and/or **secondary raw materials**
 - **Taking waste back and recycling or disposing of it** after it has been used
- In practice, this legislation is enforced by **minimum recycling quotas** with which member states must comply

The DSD dual system launched in 1990 created an efficient collection system that realized high recycling rates

Household-based collection via Duales System Deutschland (DSD)

Waste situation

[million t]



Description

- In the late 1980s/early 1990s, the focus was on **avoiding** and reducing **waste** – **Recycling** was **not yet widespread**
- **1990** – The **individual obligation to accept returned packaging** anchored in the **Packaging Ordinance** necessitated a **system** via which retail and industry could **take back packaging materials**
- **Recycling rates** have **risen sharply** since the Packaging Ordinance came into force in 1991
- The **volume of waste** left over for disposal (incineration/landfills) **has fallen steadily**
- DSD collects and handles **62.7 kg** of recyclable materials per German resident – the **highest per-capita figure** in the world
- **Consumers' awareness** of the value of packaging waste **has been transformed**

Germany already meets the minimum national recycling quota (Packaging Ordinance) and the EU standards valid as of 2009

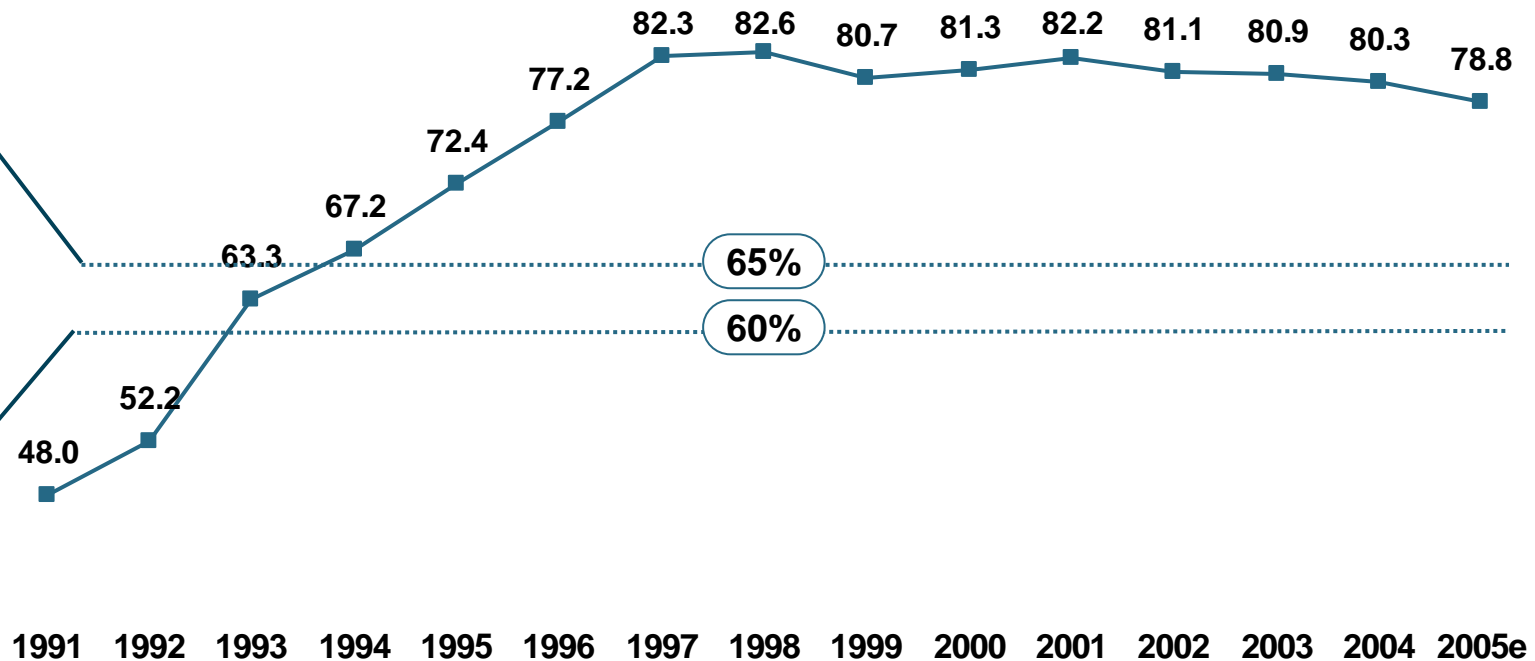
Recycling quotas for selected materials¹⁾ in Germany, 1991-2005 [%]

Minimum
recycling
quota



National
quota (since
July 1 2001)
exceeds
EU law

EU quota
valid from
2009

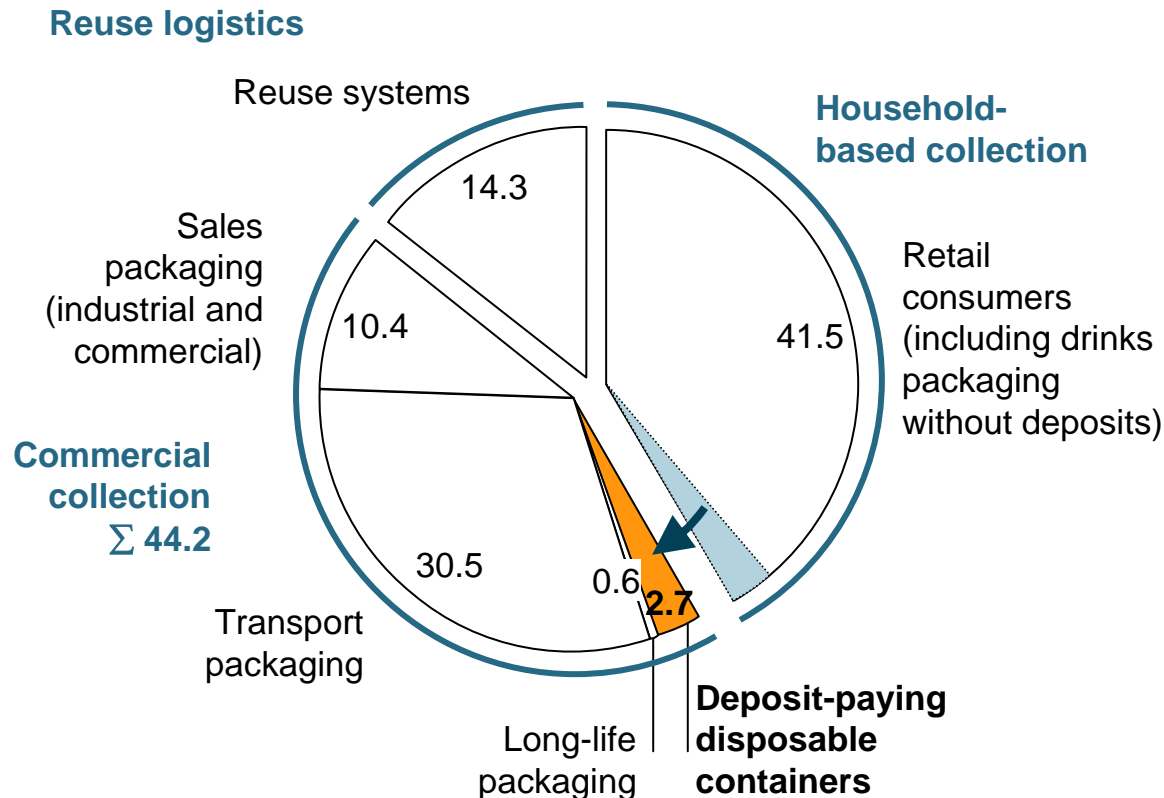


1) Glass, tinplate, aluminum, plastics, paper and liquid packaging board account for around 82% of total packaging consumption

Disposable drinks packaging accounts for only a small fraction of the total packaging waste volume – 2.7% in 2005

Packaging consumption by form of collection in 2005 [%]

Σ 15.7 million t



Notes

- The market defined by the Packaging Ordinance consists of three parts:
 - Household-based collection
 - Commercial collection
 - Reuse logistics
- Introduction of compulsory deposits took disposable drinks packaging out of the household-based collection segment and fed it into a separate collection system

Since May 2005, a uniform deposit of 25 cents has been compulsory, e.g. for beer, water and soft drinks sold in disposable packaging

Compulsory deposits arrangement in Germany¹⁾

A compulsory deposit ...

Compulsory deposits

- Deposit is levied initially by the bottler and then passed down through every link in the retail chain
- Consumers pay the deposit when they buy

Obligation to accept returns

- Retailers must take back empty packaging ...
 - ... in return for the deposit
 - ... free of charge
 - ... in the vicinity of the place of sale ...

... of 25 cents ...



- **Uniform compulsory deposit of 25 cents** regardless of the type of drink/size of the container

... applies only to certain types of drinks ...

- **Beer**, mixed drinks containing beer and non-alcoholic beer
- **Water**
 - Carbonated or not
 - Flavored or not
- **Soft drinks**
 - Carbonated or not
- **Energy drinks**
- **Fruit juice drinks**
- **Mixed alcohol drinks**

... sold in certain types of packaging (type and size)

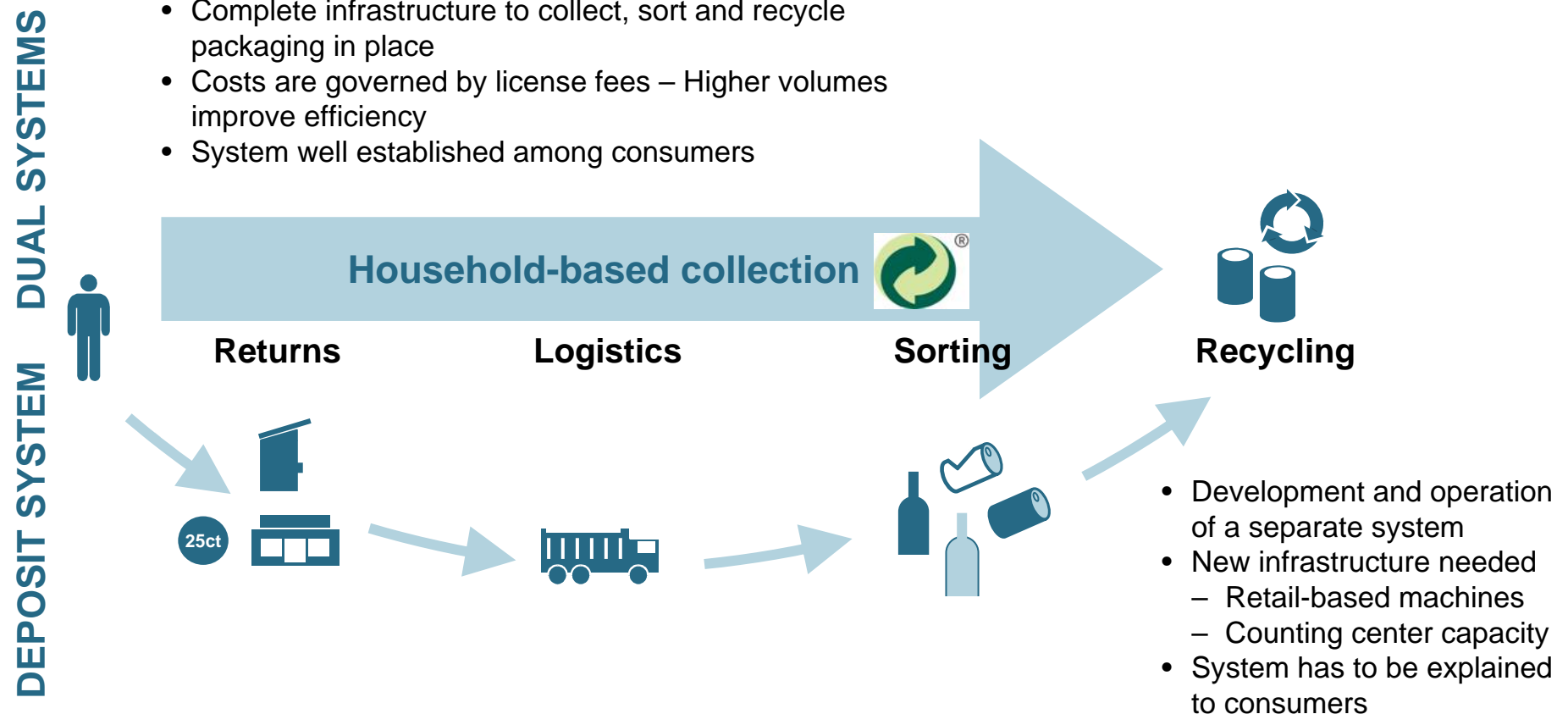


- Ruling applies to **volumes from 0.1 liter through 3 liters**
- **Materials covered:**
 - Metal
 - Glass
 - Plastics

¹⁾ See appendix for a detailed description

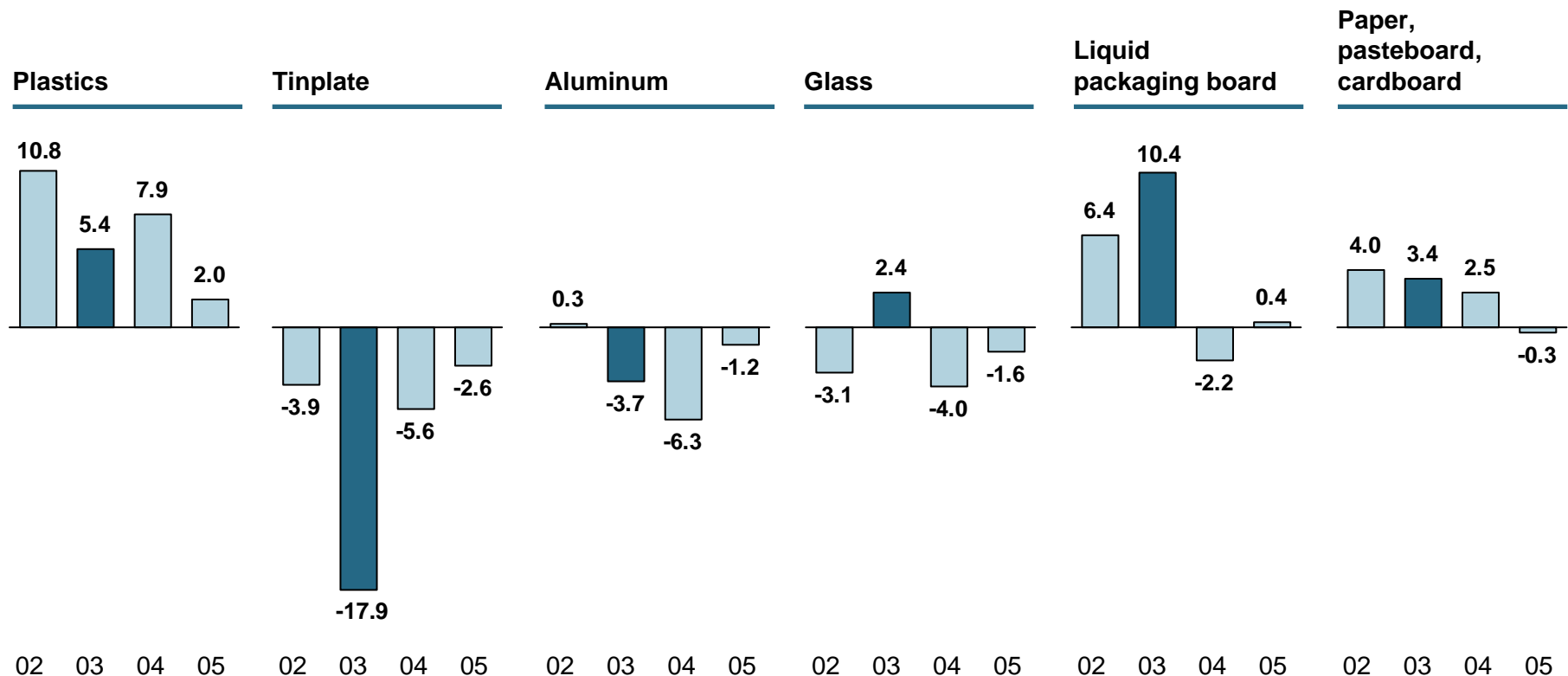
Existing dual system infrastructures are not being used – Operating a compulsory deposit system in parallel erodes efficiency

Collection systems



Introduction of compulsory deposits in 2003 triggered disruptions – some of them very pronounced – throughout the packaging market

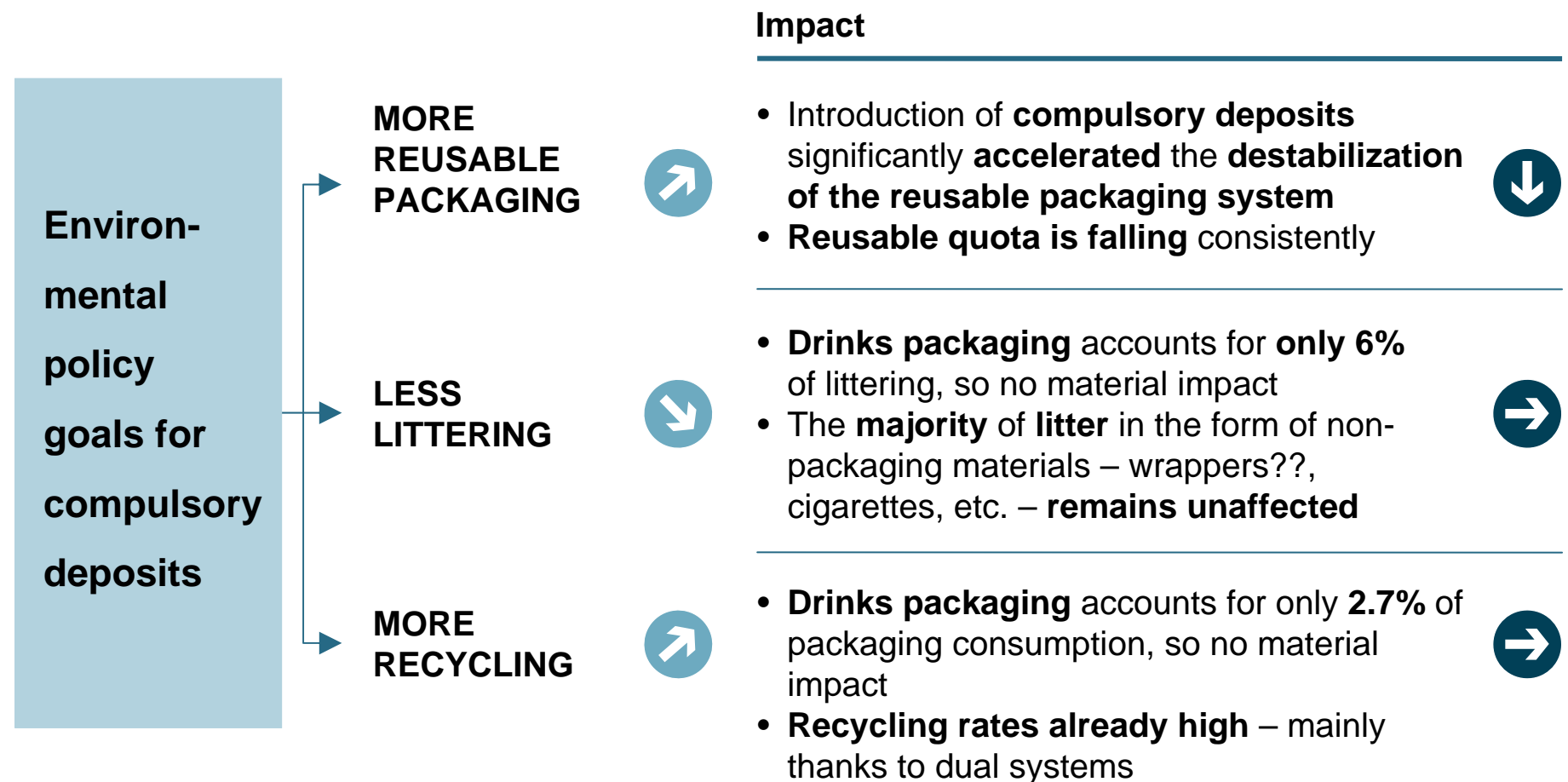
Year-on-year changes in packaging consumption¹⁾, 2002-2005 [%]



■ Introduction of compulsory deposits on disposable packaging

1) Glass, tinplate, aluminum, plastics, paper and liquid packaging board account for around 82% of total packaging consumption

In terms of environment policy, compulsory deposits do not meet the goals of the Packaging Ordinance



The various groups involved have had to shoulder huge investments and ongoing annual costs

System used to identify economic impact

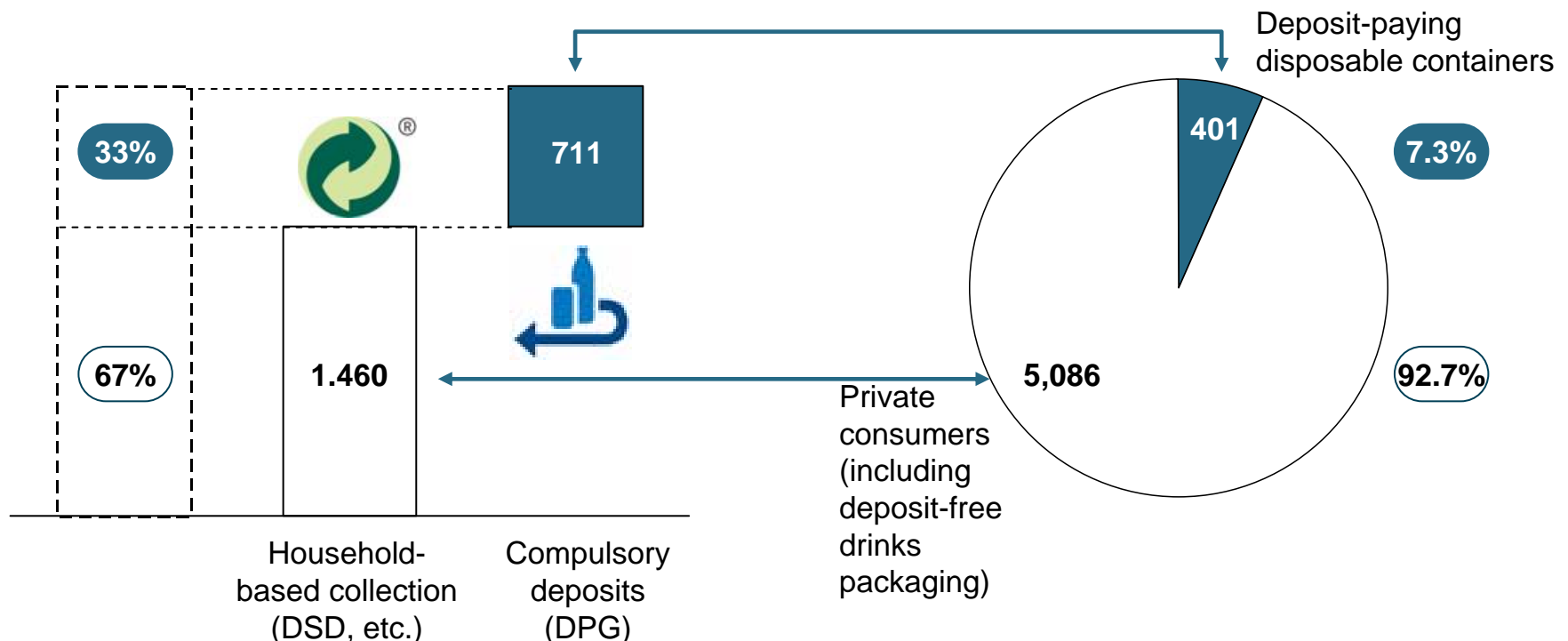
Groups involved	Parameters analyzed	Impact
<ul style="list-style-type: none"> • Retail 	<p>1 Investment to develop the deposit system</p> <ul style="list-style-type: none"> • Assumption: Replacement investment is effected in each period Consequence: Interest charges do not decrease (conservative calculation) • Depreciation is based on useful life and is factored into the annual cost 	<p>Initial investment: EUR 726 m</p>
<ul style="list-style-type: none"> • Industry <ul style="list-style-type: none"> – Bottlers – Packaging manufacturers <ul style="list-style-type: none"> - Label printers - Can vendors 	<p>2 Annual cost to operate and maintain the deposit system</p> <ul style="list-style-type: none"> • Assumption: Market volume of 14 billion disposable containers p.a. 	<p>Annual cost: EUR 793 m</p>

Industry has to pay 33% of collection costs to handle just 7.3% of the total volume

Packaging collection in the private consumer segment in 2005

Cost [EUR m]

Volume [000 t]



Compulsory deposits further destabilized the reuse system – Existence of a separate collection system led to inefficiencies in dual systems

1

Impact on retail and industry



- Reusable packaging quota not stabilized
- Investments necessary in systems to accept returned packaging and in a clearing system
- Drivers for disposable drink packaging remain intact

2

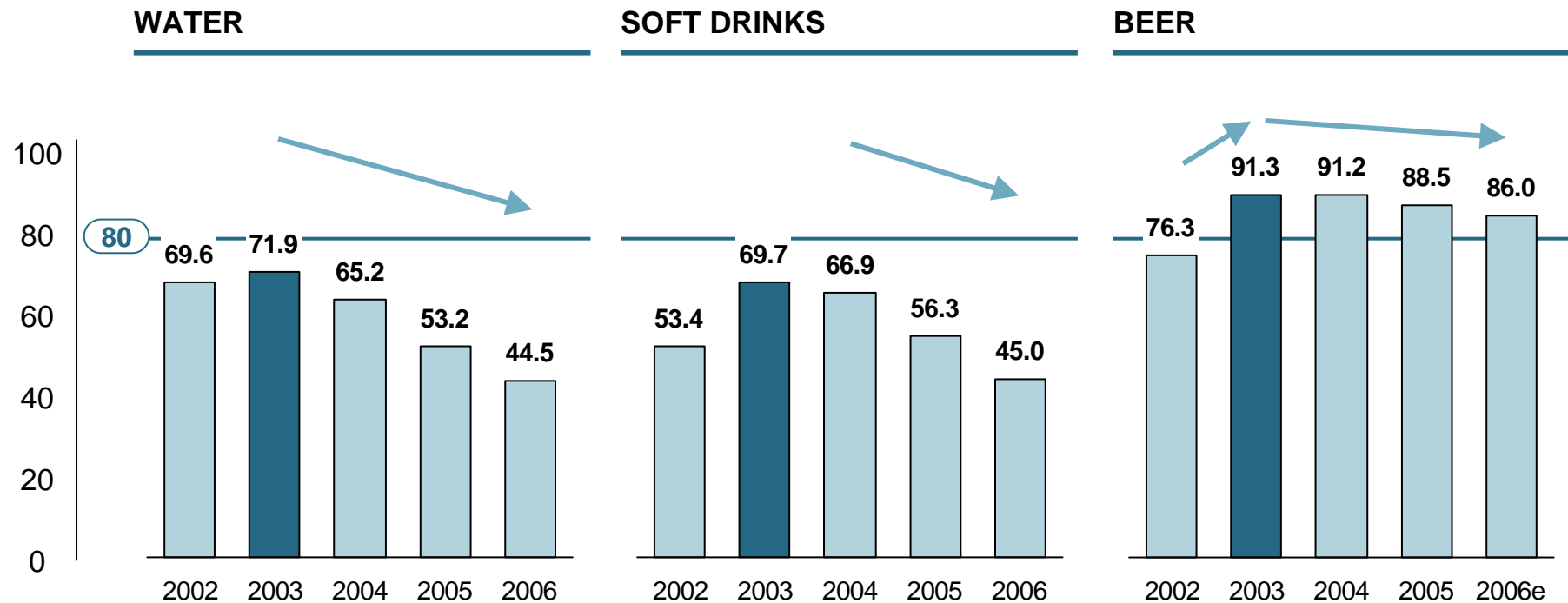
Impact on the packaging collection market



- Dual systems, which work efficiently, have been **deprived** of a large share of the **packaging volume**
- **Efficiency** of dual systems has been **eroded** – Remaining licensees **may face price increases**
- A **separate collection system** for disposable drinks packaging has had to be **set up and operated at considerable expense**

Compulsory deposits have not turned the tide for the share of reusable packaging – Brief improvement in 2003 only

Trend in the percentage of reusable drinks packaging

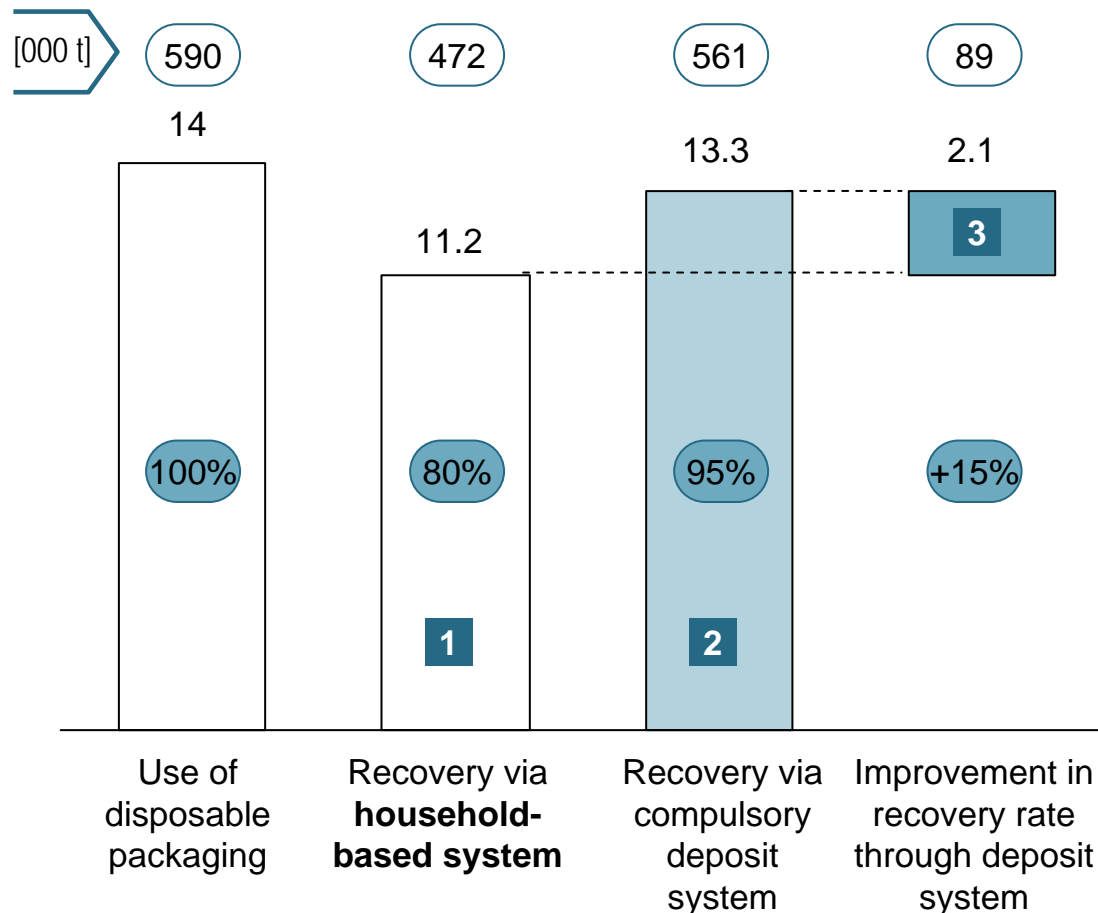


80 Minimum reusable quota targeted pursuant to Packaging Ordinance

■ Introduction of compulsory deposits in 2003

Dual systems lead to recycling of 80% of disposable containers – Compulsory deposit systems realize the slightly higher rate of 95%

Recovery volumes by collection system [billion units]



Notes

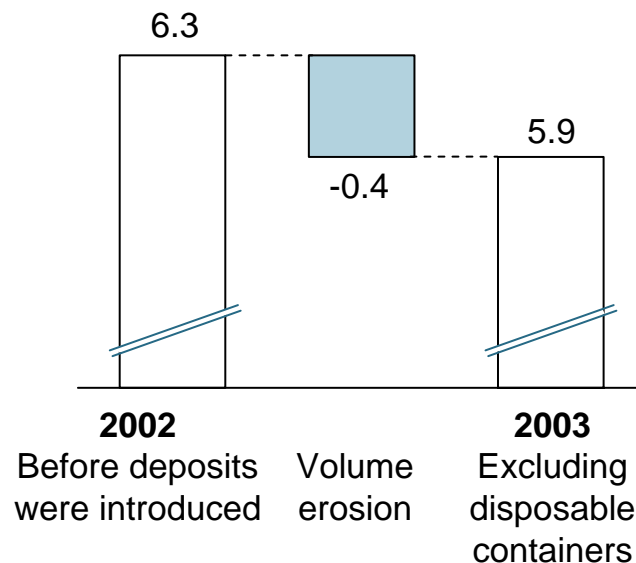
- 1 Recovering disposable containers via **dual systems** leads to a **recycling rate** of **around 80%**
- 2 **Compulsory deposit systems** can achieve **around 95%**
- 3 15% increase is realized **thanks to superior return levels**
 - **Deposit** creates **incentive** to return containers
 - Containers that consumers throw away are **returned via collection points**

An **extra collection system** is **needed** to achieve this 15% improvement

Compulsory deposits have deprived DSD of 400,000 t of recyclable materials – Licensing revenues thus down by EUR 250 million p.a.

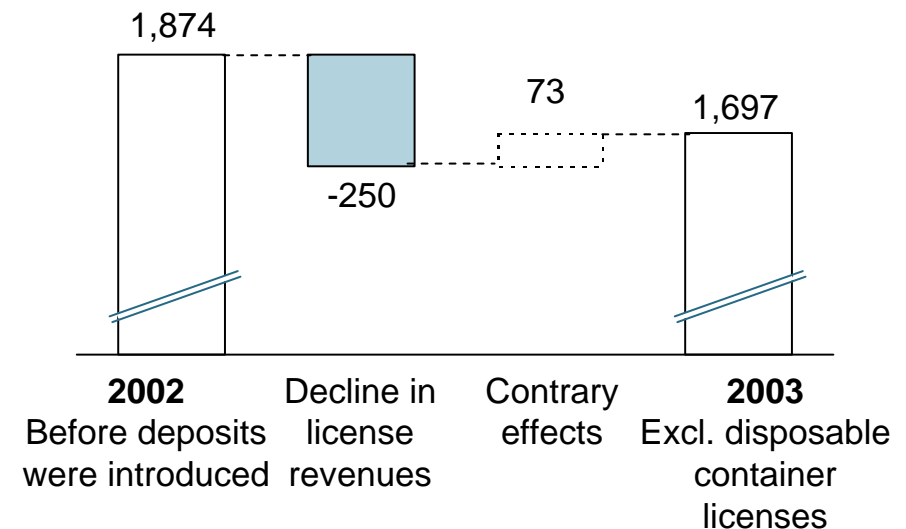
Household-based collection, 2002-2003

Collected volume [million t]



- Since **compulsory deposits** were **introduced** in 2003, the disposable containers concerned have no longer been collected **via household-based systems**
- Dual **systems are thus losing** around **400.000 t** of eminently **recyclable material a year**

Sales [EUR m]



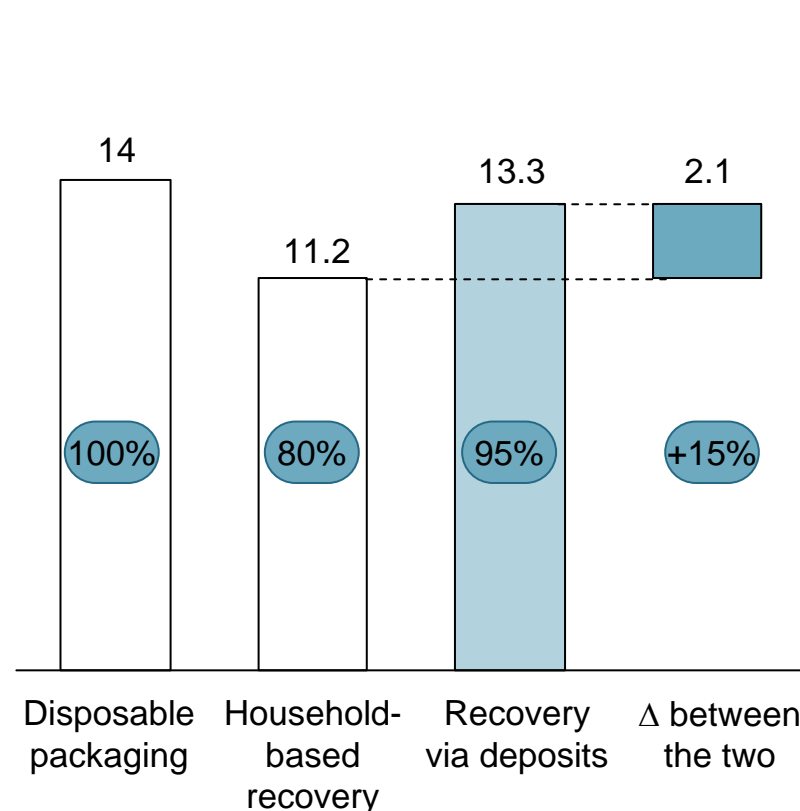
- **DSD sales** hit **EUR 1.9 bn p.a.** before deposits
- Since deposits were introduced, **licensing revenues** have **declined** by around **EUR 250 million p.a.**
- Positive business development has provided little **compensation??**

Every extra drinks container collected by the compulsory deposit system costs 22 cents

Marginal cost analysis: household-based recovery versus compulsory deposits

Volume [billion units]

Cost [EUR m]

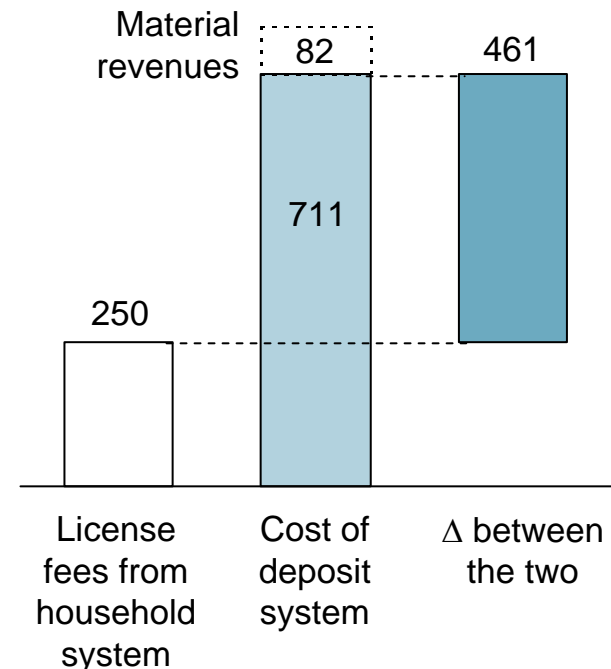


Per container [ct]

2.2

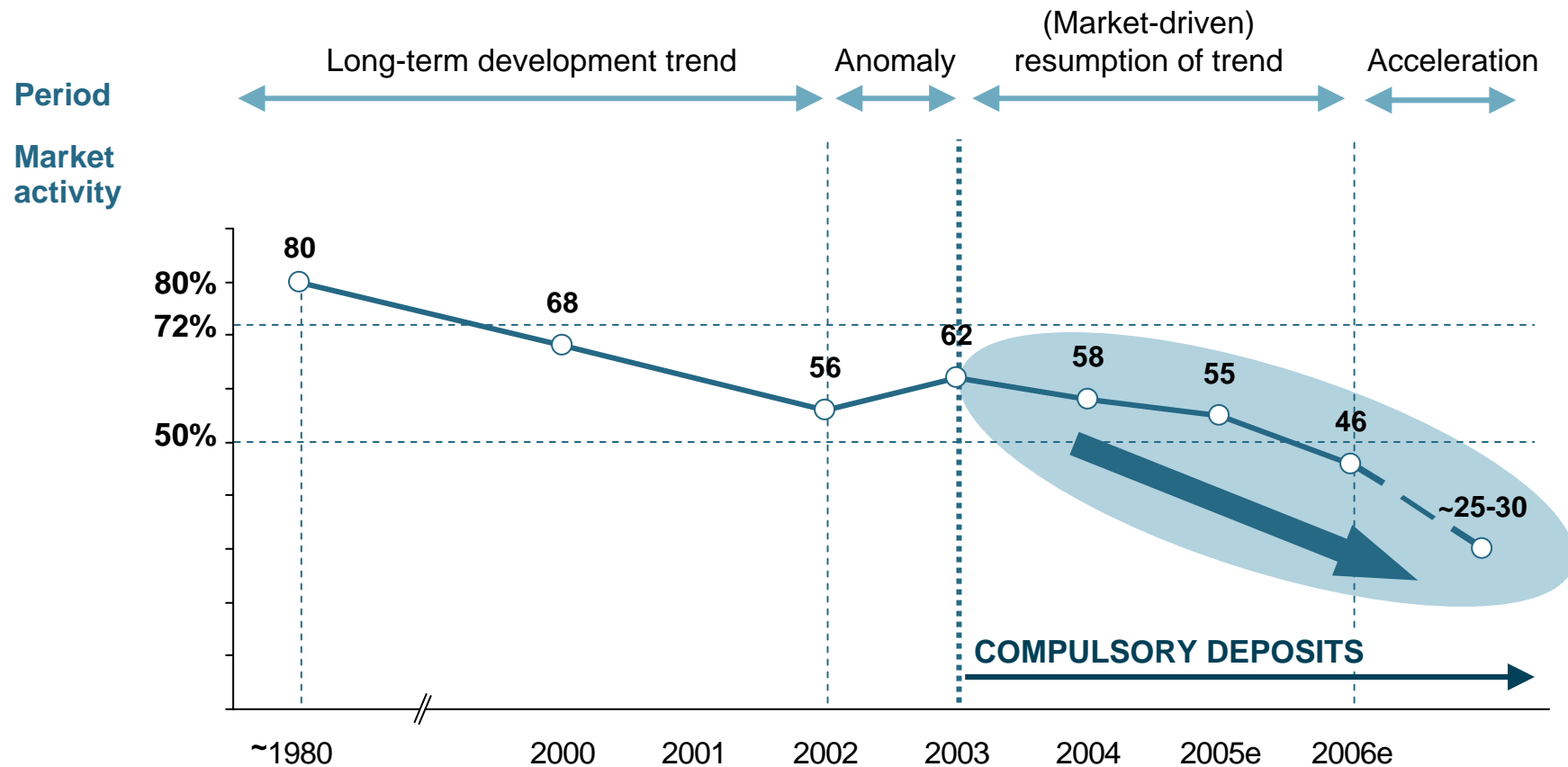
5.3

22.0



Compulsory deposits are not suitable as a tool to boost the proportion of reusable packaging

Trend in the proportion of reusable packaging in Germany, 1980-2006 [%]



The compulsory deposit model teaches us five key lessons

Compulsory deposits ...

- 1** ... **cost around three times as much** per container as household-based collection – **Marginal cost of 22 cents/container** for additional quantities
- 2** ... **diminishes the efficiency** of household-based collection – **Compulsory deposits** mean that **two collection systems** must always operate **in parallel**
- 3** ... alone are **not the right tool** with which **to meet** the requirements of the **Packaging Ordinance** – In Germany, disposable drinks packaging makes only a marginal contribution to the national **recycling rate**
- 4** ... are **not** suitable as a tool **to increase** the use of **reusable packaging**
- 5** ... do **reduce litter** caused by drinks packaging to some extent, but do **not** really help keep public spaces properly **clean**