



Mega Trends increase relevance of Packaging Recycling everywhere!





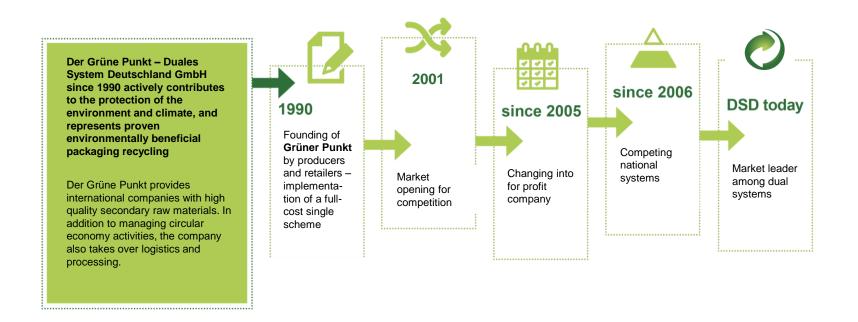


Der Grüne Punkt – Duales System Deutschland GmbH

- First Producer Responsibility Organization for packaging
- From Monopoly to competition market leader among Packaging Recovery Systems in Germany
- Full-cost, full control of collection, sorting, recycling of household packaging
- How did we get here?



Der Grüne Punkt – Duales System Deutschland GmbH (DSD)



Successful transformation from a monopoly to a competitive, customer oriented and diversified market mover



The German Packaging Legislation

- 1991 first Packaging Ordinance: Legal framework set by Federal Government for Extended Producer Responsibility for Packaging
- Packaging waste to be managed in a separate stream from household waste ("Dual" System)
- Obligation of packaging producers/fillers to ensure take-back and recovery of their packaging (e.g. through compliance scheme)
- Industry has 100 % responsibility and control of costs!
- Minimum requirements for compliance schemes: coverage, communication, coordination with local authorities, documentation and verification
- Recycling/recovery targets by material

Principle: Obliged producers responsible for setting up and organizing the system, as a collective effort, "self-policing"



Who is responsible for waste?

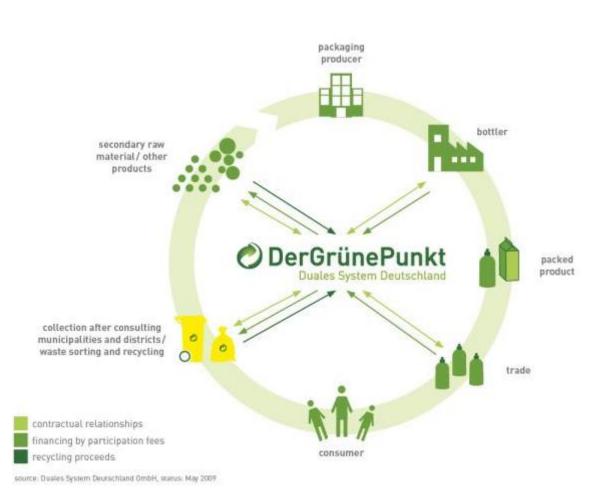


Dual Systems: 100 % Cost and Control for household packaging



The Principle of EPR

Compliance Schemes as Central Coordinator for Packaging Recycling



Obliged Producers/bottlers

- Register their packaging with a compliance scheme
- > Pay by material and tonnage

Consumers

- Pay for recycling via internalized cost of product
- > **Sort** their packaging (>90%!)
- Save fees for residual waste in PAYT scheme

Waste management

- Collects packaging based on tenders
- Sorts packaging based on tenders
- Recycle/recover materials as demanded by Compliance Schemes



The Role of the Municipalities in Packaging Recycling in Germany

- Packaging waste to be managed in a separate stream from household waste ("Dual" System)
- Industry has 100 % responsibility and control of costs!
- Compliance Schemes must agree with municipalities on
 - Collection system (yellow bag, yellow bin, container sites) -> harmonization is essential!
 - Payment for container sites (rent, cleaning)
 - Payment for consumer information on packaging recycling
- Municipal waste management companies can compete with private companies on
 - Tender for collection of glass and lightweight packaging
 - Tender for sorting of lightweight packaging



The new German Packaging Act

Key regulations of the Packaging Act

- Foundation of a Central Packaging Registry to fight freeriding and cheating
- > **Obligation to register** for manufacturers and producers of packages
- > Increase of recycling targets for all materials
- Monetary incentives for ecological packaging in accordance with their recycling capability
- > Going into effect on 1 January 2019!

The new Packaging Act: Organization of a Central Registry by Industry

Ensuring fair competition!



BOARD OF TRUSTEES

Defines principles of business policies, and appoints and discharges the Managing Board

MANAGING BOARD



Conducts business operations, and represents these both in and out of court

ADMINISTRATIVE BOARD



Advises the Board of Trustees and the Managing Board

ADVISORY BOARD

DerGrünePunkt



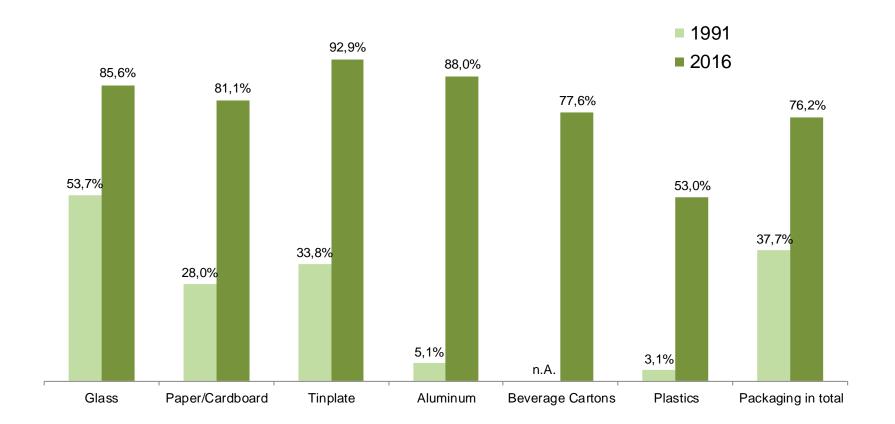
Autonomous formulation of recommendations on improving the collection, sorting and recovery of waste containing recyclable materials

- > Sponsors: Producers (i.e. fillers) and distributors of not-yet-filled sales or secondary packages
- > Financing: Dual Systems + operators of sectoral solutions
- > All stakeholders represented in one of the 4 pillars



Recycling rates of sales packaging

Comparison 1991 – 2016* in Germany



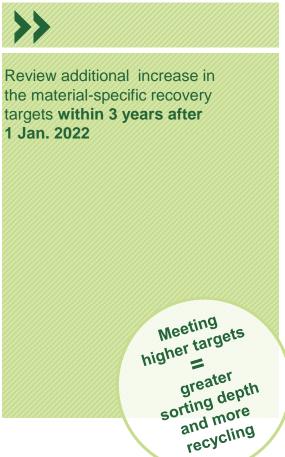
The new Packaging Act: Increase of recycling targets



Higher recycling targets for all materials!

Target for plastics will increase from 36% to 63%!

Material	Target Packaging Ordinance	Target 1 Jan. 2019	Target 1 Jan. 2022
Glass	75 %	80%	90%
Paper, board and cartons	70 %	85%	90%
Ferrous metals	70 %	80%	90%
Aluminum	60 %	80%	90%
Beverage carton packages	60 %	75%	80%
Other composites	00 78	55%	70%
Plastics	60 %	90%	90%
Mechanical recycling (plastic)	36 %	58,5%	63%





The new Packaging Act: Outlook for plastic packaging in Germany



Recycled volume of plastic packaging in accordance with min. legal targets in kto

526,5 kto

288 kto

58,5%

- → Consumption of plastic packaging increases by 2-3 % in Germany/year
- Central Packaging Registry will reduce free-riding

Status quo 2016

Recycling targets are set against the licenced packaging – higher targets will significantly increase the amount of plastics recycling in Germany

Scenario 2019

Scenario 2022

Summary



Which lessons can be learned from EPR in Germany?

- All parts of the packaging value chain producers, fillers, retailers, consumers, collectors, sorters, recyclers, municipalities and EPR schemes – must do their part to increase and improve recycling
- Cost responsibility and control by industry has made the system efficient and professional
- > Competition has reduced cost and improved service
- Legislation has not been adjusted to new competitive landscape Problems!
- Competition requires more supervision Central Packaging Registry will improve the situation
- Higher recycling targets will require harmonization of collection, new sorting technology, and innovative recycling – in Germany and Europe!



> BACKUP

The new Packaging Act: Incentives for environment-friendly packages

Ecologically based participation fees (§ 21)

- Growing importance of recycling capability as well as use of recyclates for obliged producers of packages
- Establishment of minimum standards for quantifying recyclability



- Dual systems have to create incentives: for using recyclates and renewable raw materials
- > Medium-term: participation fees to be fixed in accordance with ecological criteria
- Dual systems have to report proportion of participating packages that have been sent for high-quality recycling to the "Central Registry" and to the German Federal Environmental Agency
- > DSD is preparing for this by e.g. offering a certification of recyclability

Certified Recyclability: How effectively does packaging get recycled in Germany?



DSD is the exclusive PRO partner of the "Institut cyclos-HTP for Recyclability and Product Responsibility



Recyclability of packaging (i.a.)

- Evaluation of packaging on the basis of objective and transparent standards
- Behavior in the automatic sorting process,
 Sortability, Recyclability, Non-separable
 components
- Standard also available for Austria, France, Belgium, etc.

Result: How much of the original packaging can be returned to the material cycle?

New Packaging Act preserves principle of competition among EPR schemes



- > Competition between EPR schemes in Germany has brought **benefits** for industry
 - » Lower prices
 - » Better service
 - » Increasing performance
- > It has also created **challenges** in the market
 - » Unfair competition
 - » Less investment in communication.
- The discussion on whether competition or "monopolies" are the best solution for EPR for packaging is complex
- > To add transparency and better understanding in this topic, Der Grüne Punkt, together with Green Dot schemes from France, UK, Poland, Austria, Ireland and Portugal (together >50 % of EU population and GDP) has commissioned a study from Deloitte Sustainability on "EPR and Competition"

Deloitte Study: "Extended Producer Responsibility and Competition"



Background: Debate on EPR

Consensus on effectiveness of EPR

leads to increased political importance



Circular Economy Package (2015): Proposal to introduce **minimum operating conditions** for Extended Producer Responsibility BUT

"Extended Producer Responsibility: **Updated Guidance** for Efficient Waste Management" (2016)



Dissent about implementation of EPR

results in a large variety of schemes across Europe

operational obligations obligations obligations for-profit/not-for-profit

"No single EPR model emerges as the best performing and the most cost-effective"

bio by Deloitte 2014: Development of Guidance on Extended Producer Responsibility (EPR)

Deloitte Study: "Extended Producer Responsibility and Competition"



Study: Approach and objectives

Approach: Analyse consistencies of different EPR models; focus on collective EPR schemes (presence of PROs) for packaging

Database: theoretical analysis, practical examples from AT, FR, DE and IR



by Deloitte Sustainability – July 2017 Mathieu Hestin, Delphine Pernot

Analysis parameters:

Scope: operational or financial

obligation

Coordination: type of compensation mechanism

Control: price regulation, shareholding, monitoring of performances, sanctions, anti-trust

Incentive schemes: for-profit/ not-for-profit, competition/single scheme

Key question:

Under which conditions is it more beneficial to implement a competitive or a single-scheme solution for EPR systems?

Deloitte Study: "Extended Producer Responsibility and Competition"



Study: Key take-aways

There are two equally consistent organisational types of EPR:

- "operational competition" model:
 - enables "market oriented" self regulation, incentivises cost-efficiency and fee reduction
 - requires monitoring, control, coordination and/or compensation mechanisms
- » "financial single scheme" model:
 - enables exploitation of economies of scale, reduces cost of regulatory oversight
 - requires control by producers, rules to ensure adequate level of cost coverage

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Policy Recommendations



- National level: both models need a clear legal and regulatory framework to work effectively and efficiently
- <u>EU level</u>: retain enough flexibility in EU rules to accommodate particularities of local organisational and legal frameworks (→ EPR minimum requirements)



Governance

- > **Full-cost** system, i.e. 100 % cost and control over collection, sorting, recycling
- DSD is independent from waste management companies business focused on preserving and advancing EPR in the interest of industry and retail
- > Change of shareholder structure in 2004 pressure from anti-trust authority
- Obligated industry, material producers and retailers no longer allowed to be shareholders
- Turn from non-profit, member owned company to privately held, for-profit business
- DSD still is market leader with close ties to customers, but industry no longer has direct "vote" on business decisions
- Competition: Industry can choose among 10 service providers, and has at least as much "control" over the system performance than during the monopoly era

Variety of situations exemplified by four countries



	Austria	France	Germany	Ireland
Size of the market (packaging put on the market, under the scope of EPR)	1.3Mt	4.7Mt	8.2Mt	0.98Mt
Scope of EPR scheme	Household and industrial and commercial packaging	Household packaging	Household packaging except packaging under deposit system	Household and industrial and commercial packaging
Legal target for recycling	(47%) ⁹	75% by 2022	Aver. 85 % by 2022 ¹⁰	55%
Plastics	22,5%	N/A	63% by 2022	22,5%
Recycling rate	66.6% (2014)	67% (2015)	74% (2015)	68% (2015)
Plastics	33.6%	25%	42%	34%
Producer's contributions	166M€ (2012) (18€/inh.)	700M€ (2015) (10.5€/inh.)	825M€ (2011) (10€/inh.)	26.6M€(2016) (3.1€/inh.)