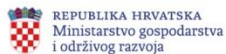




CIRCULAR ECONOMY
APPROACHES IN
SOLID WASTE
MANAGEMENT



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EXTENDED PRODUCER RESPONSIBILITY (EPR) FOR PLASTIC PACKAGING AND SUP IN EU LEGISLATION: A BRIEF OVERVIEW

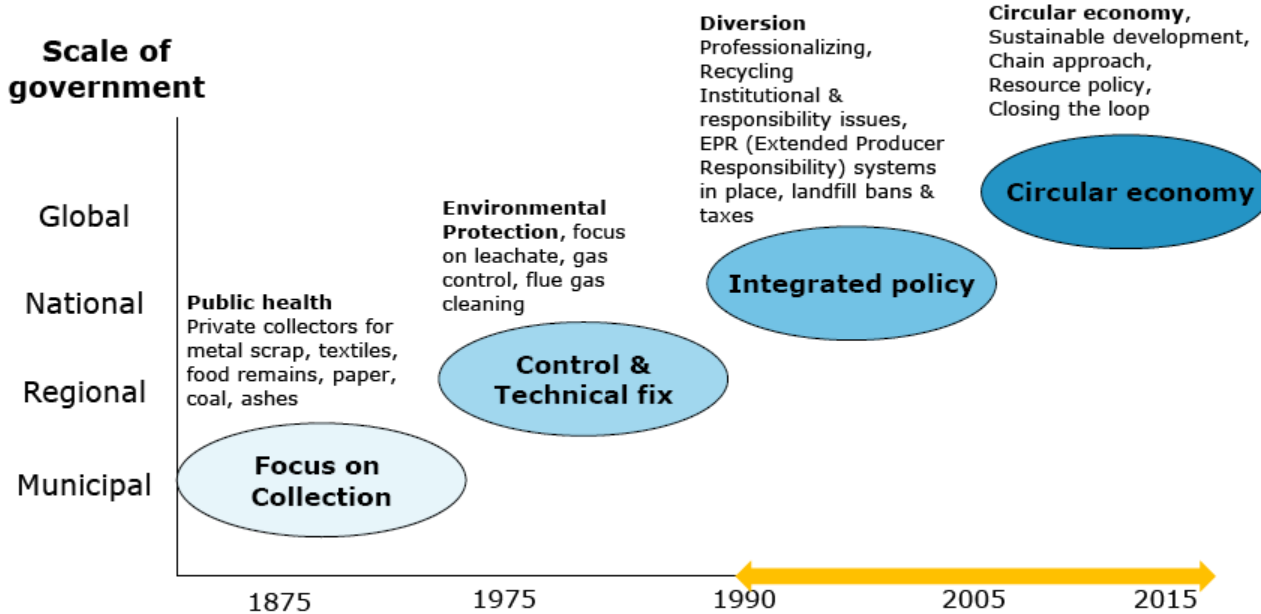
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Concept and why there is a need of EPR

EPR – producers (and other actors) assume the responsibility for the environmental impact of their products and cover the costs for (in some cases organize) collection, sorting and treatment of post-consumer waste

Emerged in 1990s due to:

- the time was ripe:
 - Integrated policy
 - Circular economy
- fair sharing of the costs:
 - **Best price-service ratio:** Internalizes externalities into prices that are close to the necessary costs for the services.
 - **Punish the evil-doers** shifts the burden from taxpayers to polluters (producers and end-users)



Source: **Herman Huisman** Rijkswaterstaat

Regulation of EPR in EU - Waste Framework Directive

Recycling/ Recovery targets

Specific targets for packaging		
	By 2025	By 2030
All packaging	65%	70%
Plastic	50%	55%
Wood	25%	30%
Ferrous metals	70%	80%
Aluminium	50%	60%
Glass	70%	75%
Paper and cardboard	75%	85%

Minimum scope of EPR cost coverage

- separate collection, transport and treatment (taking into account the revenues)
- awareness raising,
- data gathering and reporting
- Disposal of packaging in residual waste (except some SUPs)
- Littering (except some SUPs – cigarettes, balloons)

Specific obligations for MS

- monitoring and enforcement mechanisms to reduce free-riding
- at least 1 public body to oversee the implementation - for countries with multiple EPR schemes (!)

Specific obligations for PROs

- geographical and product coverage
- **Appropriate (!) waste collection systems**
- financial means or (!) financial and organizational means
- self-control mechanism, independent audits - where relevant (!)
- transparency – targets, ownership, fees, tendering

Eco-modulated fees - where possible (!)



Desired outcomes from an EPR system

To fulfill legal requirements

- Recycling/ Recovery targets met
- Convenient separate collection system

Eco-friendly products (Eco-modulated fees)











To exploit the full benefits of EPR

- Financial and organizational burden shifted from taxpayers to polluters
- Optimal price-service ratio









Different approaches in EU to achieve the desired outcomes: Competitive vs. Monopolistic EPR schemes

	Competitive EPR schemes		Monopolistic EPR schemes	
	Influence	Risk of failure?	Influence	Risk of failure?
Fee collection rate	Risk of losing clients due to audits		Audits without risk of losing clients	
Fee amount	Optimized prices tested on the market		Risk of higher fees	
Eco-modulation of fees	Risk of losing clients due to lower cross-subsidy between brands		No risk of applying financial incentives for “green” products	
Separate collection, Sorting, recycling, recovery, administration, awareness raising	Risk of low quality services due to price competition		Secured source for investments (open tendering is also a must)	
State intervention	Strongest institutional set-up needed		Strong institutional set-up is also needed	









Conclusion: Competitive EPR offer better price optimization but requires stronger state intervention

Different approaches in EU to achieve the desired outcomes: Competitive vs. Monopolistic EPR schemes

Main system							
No competition	No collective scheme	DE	DE				
	Centralised organisation	FI NL	FI IT	CZ FR	FR NL	NL CH	
		SK SE	PT	NL	SE	BE	
Several PROs, not competing	AT	BE ²²	AT ²⁴ BE		FR		
Competition	Several competing PROs (number of competing PROs)		ES (2)	AT (7) ²⁴ DE (10) UK (>30)	FI (2)	AT (4) DK (4)	DK (3) FI (3) FR (3) IE (2) LV (4) SE (2) UK (39)

Source: Development of Guidance on EPR, European Commission - DG Environment , 2014

Different approaches in EU to achieve the desired outcomes: Collective vs. Individual EPR schemes

	Collective EPR schemes		Individual EPR schemes	
	Influence	Risk of failure?	Influence	Risk of failure?
Fee collection rate	Free- riders		Individualization of the responsibility	
Fee amount	Prices tailored to market demand		Prices tailored to actual costs	
Eco-modulation of fees	cross-subsidy between brands		Direct responsibility for the design of own products	
Separate collection, Sorting, recycling, administration, awareness raising	Sharing of costs and organizational efforts between many producers		Applicable only to own products	
State intervention	Strong institutional set-up needed for controlling a few PROs		Stronger institutional set-up for controlling many producers	







Conclusion: Individual schemes allow individualizing of the producer responsibility by linking the financial and organizational responsibility with the true costs but economy of scale is not possible

Different approaches in EU to achieve the desired outcomes: Collective vs. Individual EPR schemes







Member State	Start date of EPR scheme(s)	Collective or individual	If collective, number of EPR schemes
AT	1993	Both	6
BE	1994	Both	2
BG	2004	Both	1
CY	2006	Both	1
CZ	2002	Both	1
DE	1990	Both	9
DK	Government-led scheme		
EE	2004	Both	4
ES	1996	Both	2
FI	1997	Both	N/A
FR	1992	Both	1
GR	2001	Both	N/A
HU	Government-led scheme		
HR	2006	N/a	N/A
IE	1997	Both	1
IT	1997	Collective	1
LT	2002	Both	1
LU	1995	Both	1
LV	2000	Both	N/A
MT	2005	Both	1
NL	2013	Both	1
PL	2000	Both	1
PT	1996	Both	1
RO	2004	Both	7
SE	N/A	Collective deposit system; collective and individual system for other packaging	1 + several deposit systems
SI	2003	Both	4
SK	2003	Both	11
UK	1997	Both	22

Source: Development of Guidance on EPR, European Commission - DG Environment , 2014

Different approaches in EU to achieve the desired outcomes: Financial vs. Full responsibility EPR schemes









	Financial responsibility only; Organization is done by municipalities	Financial + Organizational		
	Influence	Risk of failure?	Influence	Risk of failure?
Fee collection rate	No effect		No effect	
Fee amount	Higher fees due to lower competition and lack of involvement of private sector		Optimized prices tested on the market	
Eco-modulation of fees	More difficult to internalize benefits of eco-design into the prices of municipal services		Incentive to design recyclable, reusable ...	
Separate collection, Sorting, transportation	Secured source for investments		Risk of low quality services due to price competition	
State intervention	Transfer of many responsibility from central to local level		Stronger institutional set-up	

Different approaches in EU to achieve the desired outcomes: Collective vs. Individual EPR schemes

Main system						
Financial responsibility	AT FI NL SK SE	FI IT PT ES BE ⁴⁶	BE – c&i UK			BE ⁴⁷
Financial responsibility through contracts with municipalities		BE ⁴⁸	CZ FR NL	FR		
Financial Responsibility with partial organisational responsibility			BE – hh	FI	AT BE ⁴⁹ DK FR NL CH	DK – hh IE SE UK
Financial Responsibility with full organisational responsibility	DE		AT DE	SE		DK – c&i FI FR – hh LV

Source: Development of Guidance on EPR, European Commission - DG Environment , 2014

Different approaches in EU to achieve the desired outcomes: Responsibility for household vs. all waste

	Responsibility for household only		Commercial, Industrial and Household	
	Influence	Risk of failure?	Influence	Risk of failure?
Fee collection rate	No effect		No effect	
Fee amount	Higher fees but internalization of true costs due to lack of cross subsidy		cross subsidy	
Eco-modulation of fees	Better differentiation of products		Fees based on materials rather than destination/use	
Separate collection, Sorting, recycling, recovery, administration, awareness raising	Makes collection of household waste more obligatory	 	Risk of not collecting household waste if other waste is enough	 
State intervention	No effect		No effect	

Conclusion: Eliminates cross subsidy and better separates the responsibilities

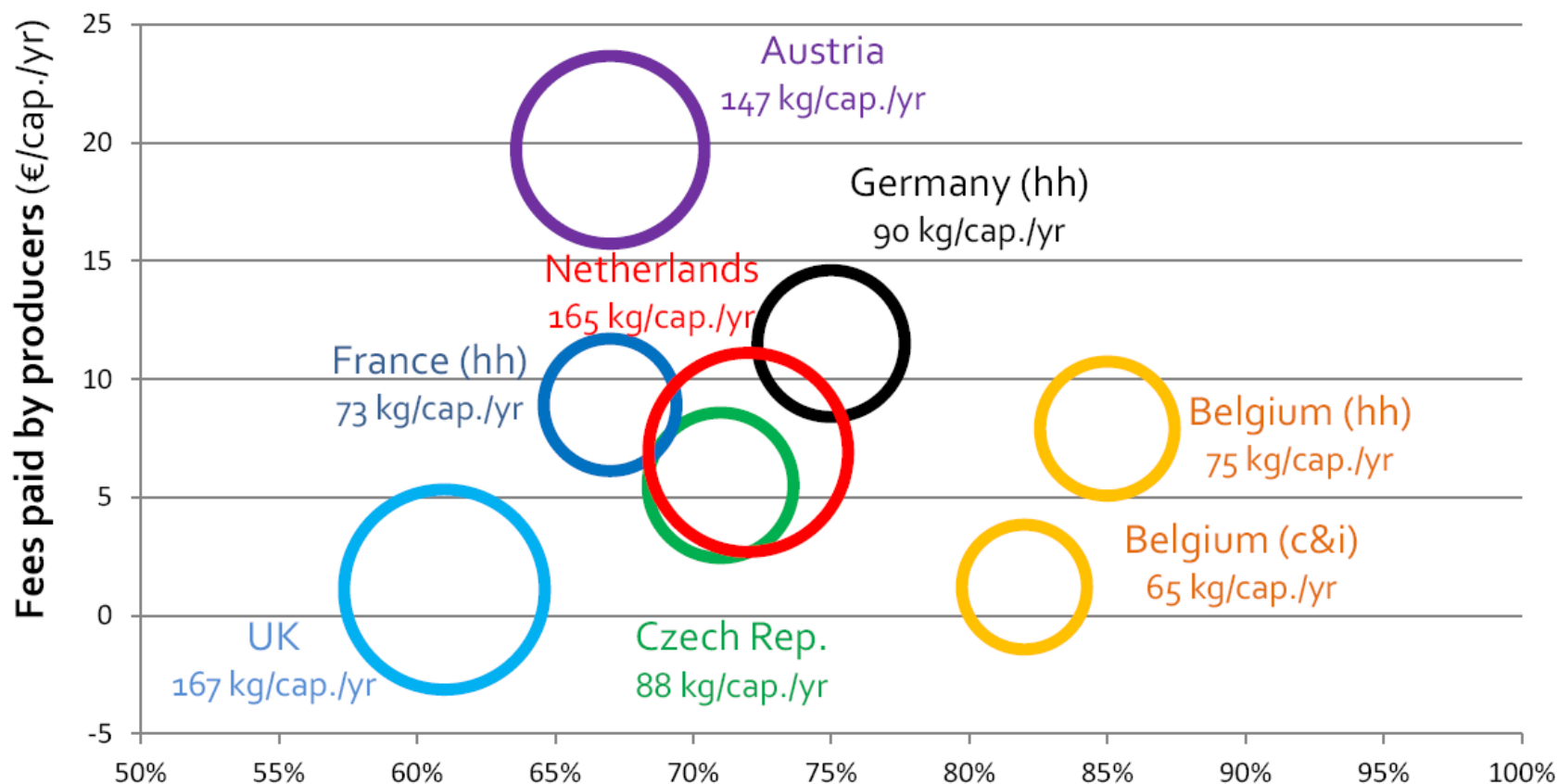
Different approaches in EU to achieve the desired outcomes: Responsibility for household vs. all waste

Household (H)/equivalent packaging only	Commercial (C)/industrial (I) packaging only	H and C/I packaging
<p>Belgium: Fost-Plus</p> <p>France: CITEO (previously Eco-Emballages)</p> <p>Germany: Der Grüne Punkt - Duales System Deutschland GmbH</p> <p>Spain: ECOEMBES (will accept commercial/industrial under voluntary agreement if local entities collect it)</p>	<p>Belgium: VAL-I-PAC</p>	<p>Austria: ARA</p> <p>Bulgaria: Ecopack</p> <p>Cyprus: Green Dot Cyprus</p> <p>Czech Republic: EKO-KOM</p> <p>Estonia: ETO</p> <p>Finland: Finnish Packaging Recycling RINKI Ltd</p> <p>Greece: Hellenic Recovery Recycling Corporation</p> <p>Hungary: ÖKO-Pannon</p> <p>Ireland: Repak</p> <p>Italy: CONAI</p> <p>Latvia: Latvijas Zaļais punkts</p> <p>Lithuania: Žaliosis taškas</p> <p>Luxembourg: Valorlux</p> <p>Malta: Greenpak</p> <p>Netherlands: Afvalfonds Verpakkingen</p> <p>Poland: Rekopol</p> <p>Portugal: Sociedade Ponto Verde</p> <p>Romania: ECO - ROM AMBALAJE</p> <p>Slovakia: ENVI-PAK</p> <p>Slovenia: Slopak</p> <p>Sweden: FTI</p> <p>UK</p>

Source: (Pro-Europe, 2017a, b, c)

Cost effectiveness

Figure 6: Cost effectiveness of EPR schemes for packaging (2010 or 2011)



Source: Development of Guidance on EPR, European Commission - DG Environment, 2014