



Rijkswaterstaat  
Ministry of Infrastructure and the  
Environment



## Status of EPR in Europe

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**Conference on Canadian Stewardship**  
**October 1st 2015, EPR World Stage**  
**The Fairmont Banff Springs, Alberta,**  
**Canada**

# Content



- **EU-Regulation**
- **Differences in Implementation**
- **Review of EU Policy**
- **Proposals for harmonizing EPR implementation**
- **Examples of PRO schemes:**
  - batteries
  - ELV
  - Car Tyres
  - E-waste
  - Packaging waste



# Waste prevention and Recycling Strategy

## Framework Legislation

Waste Framework Directive

Waste Shipment Regulation

## Waste Treatment Operations

Incineration  
(Energy Recovery)

Landfill Directive

Recycling standards  
(under new WFD)

## Waste Streams

Sewage  
Sludge

Batteries  
Accumulators

Packaging  
Packaging  
Waste

Mining  
Waste

End-of-Life  
Vehicles

Electrical &  
Electronic  
Equipment

PCBs, PCTs

Hazardous  
Substances in  
WEEE

# SOME TARGETS IN EU WASTE LEGISLATION



		min recovery	min recycling	collection rate
Packaging	2008	60%	55%	
Cars	2015	95%	85%	100%
Electronics	2006 2016	70%	50%	min 4 kg per inhabitant per year 85% of WEEE arising
Batteries	2011		50% to 75% (efficiency)	
	2012			25%
	2016			45%
Tyres	2006	0 landfill of tyres		
Biowaste diverted from landfills	2006	reduction to 75% of the 1995 level		
	2009	reduction to 50% of the 1995 level		
	2016	reduction to 35% of the 1995 level		
New targets	2015	Separate collection: at least paper/metal/plastic/glass		
(WFD)	2020	50% recycling household waste		
	2020	70% construction and demolition waste re-use/recovery and recycling		

# Legislation introduced many EPR schemes in EU



Product stream	Number of EPR schemes in place in EU-28	Quantity of waste generated in the EU-27 (tonnes)
WEEE	26	10 000 000
Packaging	25	78 672 423
ELVs	25	7 334 930
Batteries	27	1 720 000
Tyres	20	3 250 000
Graphic paper	11	17 230 000
Oils	10	3 000 000
Medical waste, old, unused medicines	10	240 000

MS	Batteries	WEEE	Packaging	ELV	Tyres	Graphic paper	Oils	Medical waste, old/unused medicines	Agricultural film	Other
AT	X	X	X	X	X	X	X	X		
BE	X	X	X	X	X	X	X	X	X	Disposable plastic kitchenware; photo-chemicals
BG	X	X	X	X	X					
CY	X	X	X	X	X	X	X			
CZ	X	X	X	X						
DK	X	X	Δ	X	X	X				
EE	X	X	X	○	X			○		
FI	X	X	X	X	X	X		X	X	
FR	X	X	X	X	X	X		X	X	Fluorinated refrigerant fluids; pharmaceuticals; lubricants; textiles; infectious healthcare waste; furniture; dispersed hazardous waste; plant protection product packaging and unused products; fertiliser and soil amendment packaging; seed and plant packaging; mobile homes; office equipment ink cartridges
DE	X	X	X	○			X		X	
GR	X	X	X	X						
HU	X	X	Δ	X	Δ					
IE	X	X	X	X	X				X	
IT	X	X	X	X	X				X	
LV	X	X	X	X	X	X	X			
LT	X	X	X	X	X	X				
LU	X	X	X	X						
MT	X	X	X	N/A						
NL	X	X	X	X	X	X				Window panes
PL	X	X	X	X	X		X			
PT	X	X	X	X	X		X	X		Packaging of medical waste, old medicines; packaging of phytopharmaceuticals
RO	X	X	X	○						
SE	X	X	X	X	X	X		X	X	
SK	X	X	X	X	X	X				
SI	X	X	X	X	X		X	X		Waste from hazardous pesticides; graveside candles
ES	X	X	X	X	X		X	X	X	
UK	X	X	X	X						
HR	X	X	X	X	X		X	X		Waste containing asbestos
Total	28	28	27	27	20	11	10	10	8	
X	EPR scheme	○	Takeback obligation but no PRO			Δ	Product fee legislation / Governmental fund			



# 28 EU member states: many differences in implementation 1



- At EU level 3 directives introduce EPR as a policy approach: the **ELV** Directive, the new **WEEE** Directive, the **Batteries** Directive.
- 
- EPR is widely used in support of implementation of **Packaging** and **Packaging Waste Directive**, although the Directive itself does not impose the principle.
- Also for Car tyres 20 out of 28 MS have adopted EPR
- In addition article 8 of the Waste Framework Directive sets some principles for the implementation of EPR by Member States
- *"In order to strengthen the re-use and the prevention, recycling and other recovery of waste, Member States may take legislative or non-legislative measures to ensure ... that (producer of the product) has extended producer responsibility"*
- EU waste legislation currently gives a global framework for implementation of EPR. The MS are responsible for implementation and operational aspects in National legislation

# Phrasing of role Member states and Producers



Member States **shall ensure** that:

- Appropriate collection schemes are in place
- At accessible points in the vicinity of citizens
- Take back any product, not involve any charge and no obligation to buy new

**May require** producers to set up such schemes and may require other operators to participate

Member States **may use** economic instruments to promote the collection of waste batteries and accumulators or to promote the use of batteries and accumulators containing less polluting substances, for instance by adopting differential tax rates

Member States **shall ensure** that producers, or third parties acting on their behalf, finance any net costs arising from the collection, treatment and recycling of all waste portable batteries and accumulators collected



# Differences in implementation 2









- Lack of transparency and availability of reliable data (difficult to distinguish between household and commercial waste, confidentiality, cost coverage, market structure, methods of data collection)
- Best performing schemes are not always the most expensive, fees paid by producers vary greatly
- No single EPR model emerges as the best performing and most cost-effective (due to differences in population density, geography, waste management infrastructure, value of secondary materials on national markets, Awareness and willingness of citizens to participate, existence of complementary waste policy instruments like payt, landfill taxes and bans)

Schemes vary from:

- Simple financial responsibility
- Financial responsibility through contracts with municipalities
- Financial responsibility and partial organizational responsibility
- Financial responsibility and full organizational responsibility

Table 3: Types of producers' responsibilities in the 36 EPR schemes studied

Main system						
Financial responsibility	AT FI NL SK SE	FI IT PT ES BE <sup>6</sup>	BE – c&i UK		BE <sup>7</sup>	
Financial responsibility through contracting with municipalities		BE <sup>8</sup>	CZ FR NL	FR		
Financial Responsibility with partial organisational responsibility			BE – hh	FI	AT BE <sup>9</sup> 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

# Competition amongst PRO's









Main system							
No competition	No collective scheme	DE	DE				
	Centralised	FI NL	FI IT	CZ FR	FR NL	NL CH	
	organisation	SK SE	PT	NL	SE	BE	
	Several PROs, not competing	AT	BE <sup>11</sup>	AT <sup>12</sup> BE		FR	
Competition	Several competing PROs (number of competing PROs)		ES (2)	AT (7) <sup>13</sup> DE (10) UK (>30)	FI (2)	AT (4) DK (4)	DK (3) FI (3) FR (3) IE (2) LV (4) SE (2) UK (39)



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

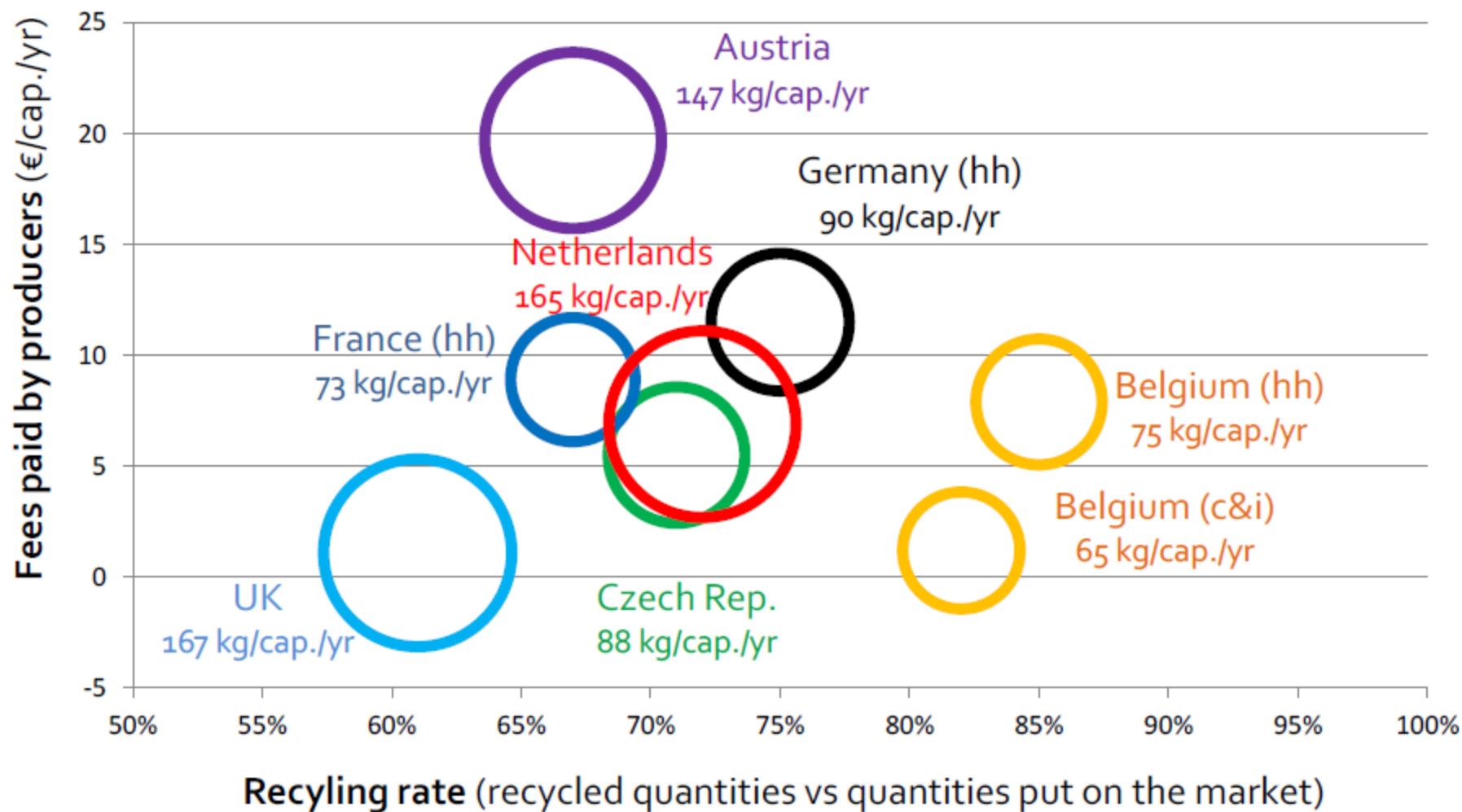
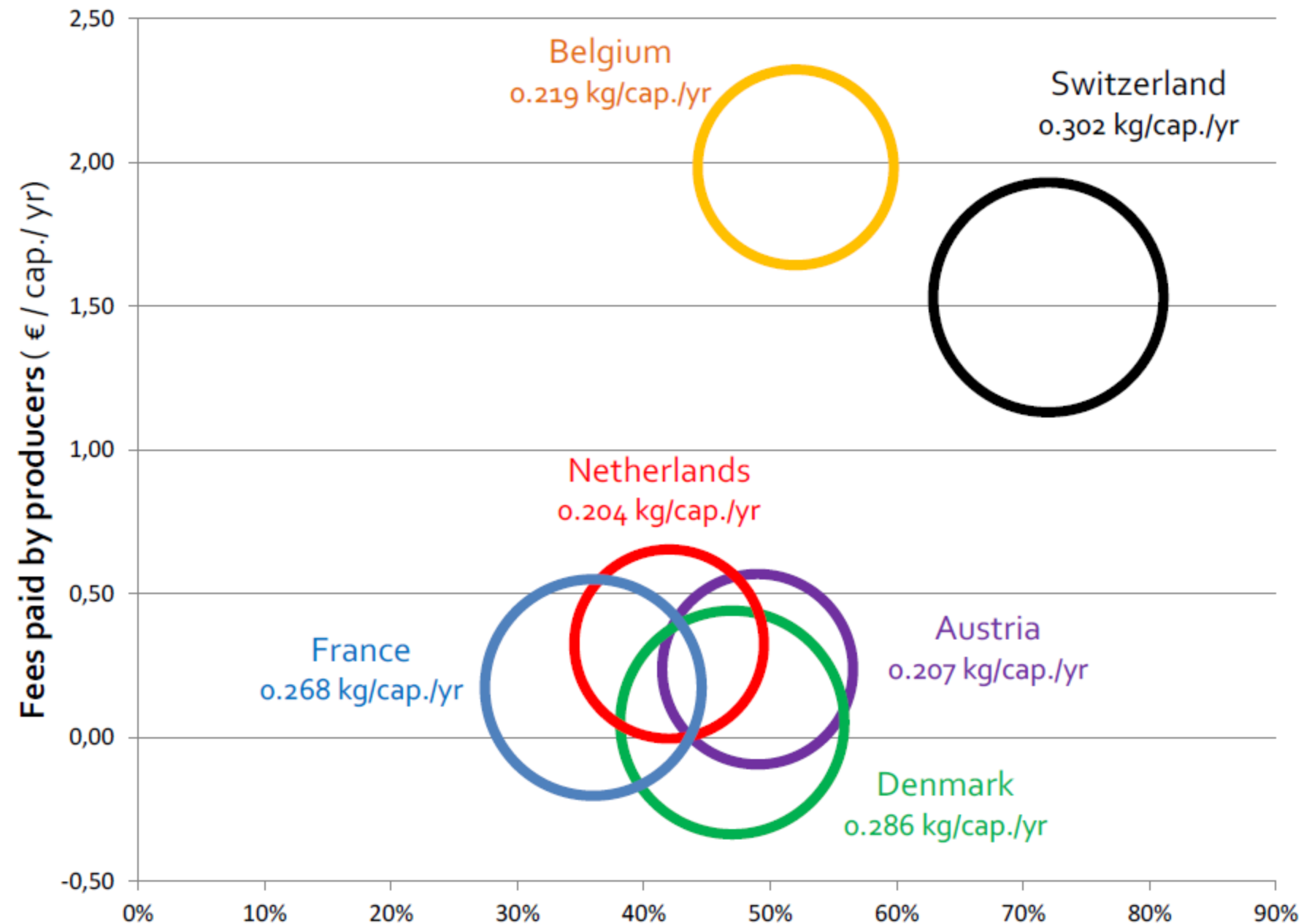




Figure 2: Cost effectiveness of EPR schemes for portable batteries in 2011



# Observations from a volume perspective



## A multi-PRO model should...



be set-up carefully so no situation of competition for collected volume that inflates the cost of the total chain without environmental benefits can occur – e.g. a clearing house.



Avoid **cherry picking** for valuable or easy-to-recycle appliances, leaving the less valuable or costly fractions for other parties



Avoid **freerider-behaviour** due to clearing mechanisms. Reaching national collection targets is a shared responsibility.

## A mono-PRO model should...



**Strong public surveillance** so that the single PRO does not take advantage of its dominant position and (fair) competition is ensured at the operational levels of waste management.



- On 2 July 2014, the European Commission adopted a legislative proposal and annex to review recycling and other waste-related targets in the EU Waste Framework Directive 2008/98/EC, the Landfill Directive 1999//31/EC and the Packaging and Packaging Waste Directive 94/62/EC.
- The aim of the proposal is to help turn Europe into a circular economy, boost recycling, secure access to raw materials and create jobs and economic growth. It does so by setting ambitious targets and adding key provisions on the instruments to achieve and to monitor them. The proposal is presented as part of the circular economy package.
- The main elements of the proposal include:
  - Recycling and preparing for re-use of **municipal waste** to be increased to **70 % by 2030**;
  - Recycling and preparing for re-use of **packaging waste** to be increased to **80 % by 2030**, with material-specific targets set to gradually increase between 2020 and 2030 (to reach 90 % for paper by 2025 and 60% for plastics, 80% for wood, 90% of ferrous metal, aluminium and glass by the end of 2030);



# Review of Waste Policy and Legislation 2



- **Phasing out landfilling by 2025 for recyclable** (including plastics, paper, metals, glass and bio-waste) waste in non hazardous waste landfills – corresponding to a **maximum landfilling rate of 25%**;
- Measures aimed at **reducing food waste** generation by 30 % by 2025;
- Introducing an early warning system to anticipate and avoid possible compliance difficulties in Member States;
- Promoting the dissemination of best practices in all Member States, such as better use of economic instruments (e.g. landfill/incineration taxes, pay-as-you-throw schemes, incentives for municipalities) and improved separate collection;
- **Increasing the cost-effectiveness of Extended Producer Responsibility schemes by defining minimum conditions for their operation;**
- Simplifying reporting obligations and alleviating burdens faced by SMEs;
- Improving the reliability of key statistics through harmonised and streamlined calculation of targets;
- Improving the overall coherence of waste legislation by aligning definitions and removing obsolete legal requirements.

# The objectives spelled out in the 7th EAP,



- Resource depletion and green-house gas emissions as well as circular economy.
- Application of life cycle thinking from production to end of life management
- Optimizing the use of finite resources in a product based economy
- **Producer responsibility as an instrument to better link waste regime and product regime**
- Achieving a zero waste economy in which products are designed in such a way that they can be repaired, re-used as a whole or in parts, recycled and be reintroduced in the production cycle as new raw materials.
- Achieving full control over the out-phasing of hazardous chemicals in products and waste
- Giving full effect to the waste hierarchy that only exceptionally allows final disposal
- Giving full effect to waste prevention



Initially:

- Financing collection, treatment of the product at its end of life by collecting fees and redistributing the corresponding financial amounts
- Managing the corresponding data
- Organizing and supervising these activities

Two main evolutions have occurred

- Where the initial fees paid by Producers represented only a partial contribution to solid waste management costs; the operational cost coverage by producers fees has gradually increased , sometimes reaching 100 %
- Whereas PRO were initially created as entities whose role was merely to aggregate the producers financial contribution, their role has been drifting towards more operational interventions and a broader scope of action (data management, organizing operations. Launching bids, communication campaigns)

# Guiding principles needed



1. Definitions and objectives should be clarified (ecodesign?)
2. Responsibilities and roles of each actor should be clearly defined along the whole product life cycle
3. Design and implementation of an EPR scheme should at least ensure the coverage of the full net costs related to separate collection and treatment of end-of-life products (what about the responsibility for products in residual waste?, costs for public awareness raising, prevention actions, litter prevention and management? )
4. A clear and stable framework is necessary in order to ensure fair competition with sufficient surveillance and equal rules for all, supported by enforcement measures (including sanctions)
5. Transparency is required on the performance s and costs of EPR schemes
6. Key definitions and reporting modalities should be harmonized at EU level
7. Member states and obligated Industry should be co-responsible for the monitoring and surveillance of EPR schemes and should ensure that adequate means of enforcement are in place



Thank you for listening!





# Batteries and Accumulators





## Collection Target:

25% in 2011 and 45% in 2016

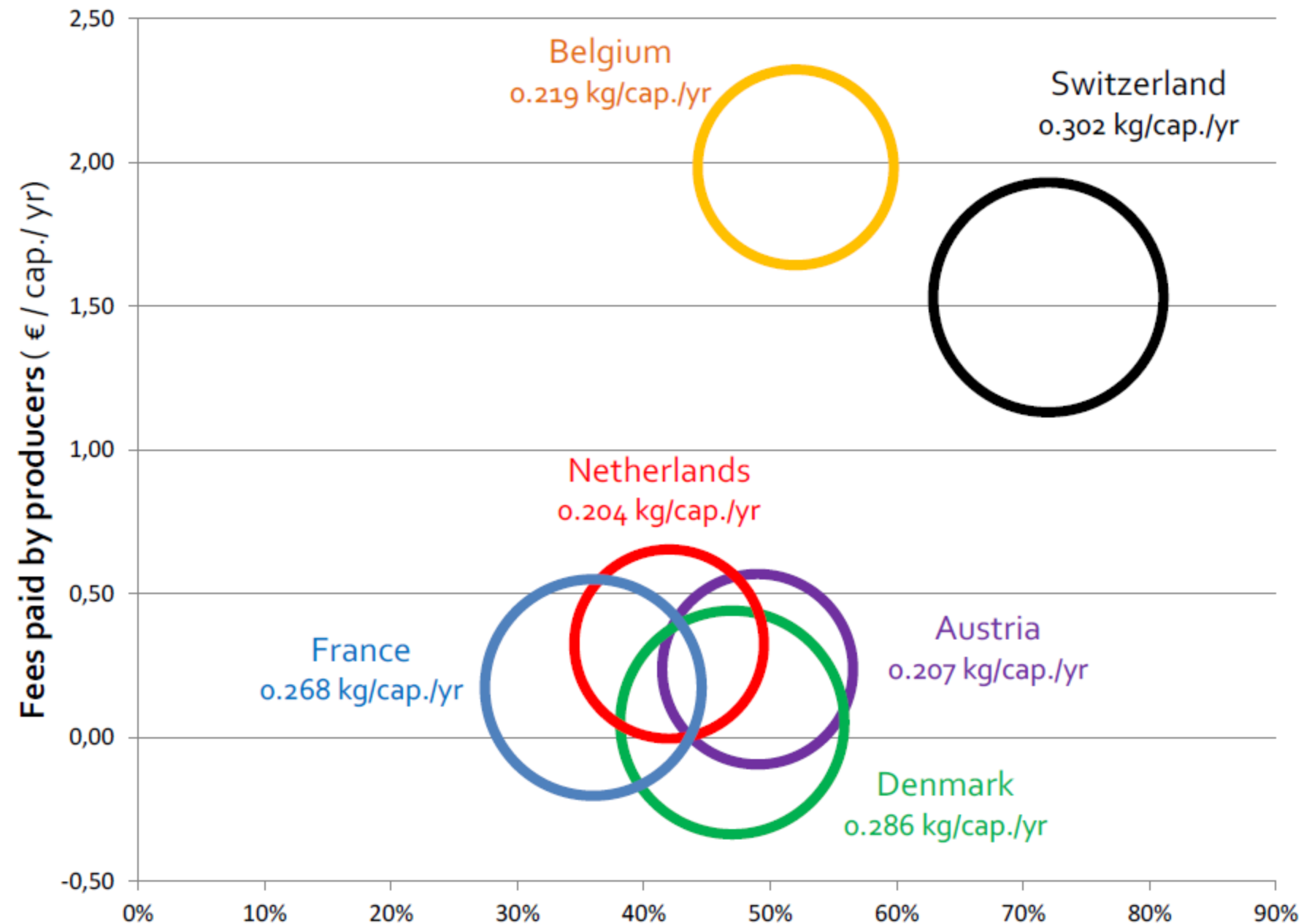
## Recycling Efficiencies:

- (a) recycling of 65 % by average weight of lead-acid batteries and accumulators, including recycling of the lead content to the highest degree that is technically feasible while avoiding excessive costs;
- (b) recycling of 75 % by average weight of nickel-cadmium batteries and accumulators, including recycling of the cadmium content to the highest degree that is technically feasible while avoiding excessive costs; and
- (c) recycling of 50 % by average weight of other waste batteries and accumulators.





Figure 2: Cost effectiveness of EPR schemes for portable batteries in 2011



# Batteries

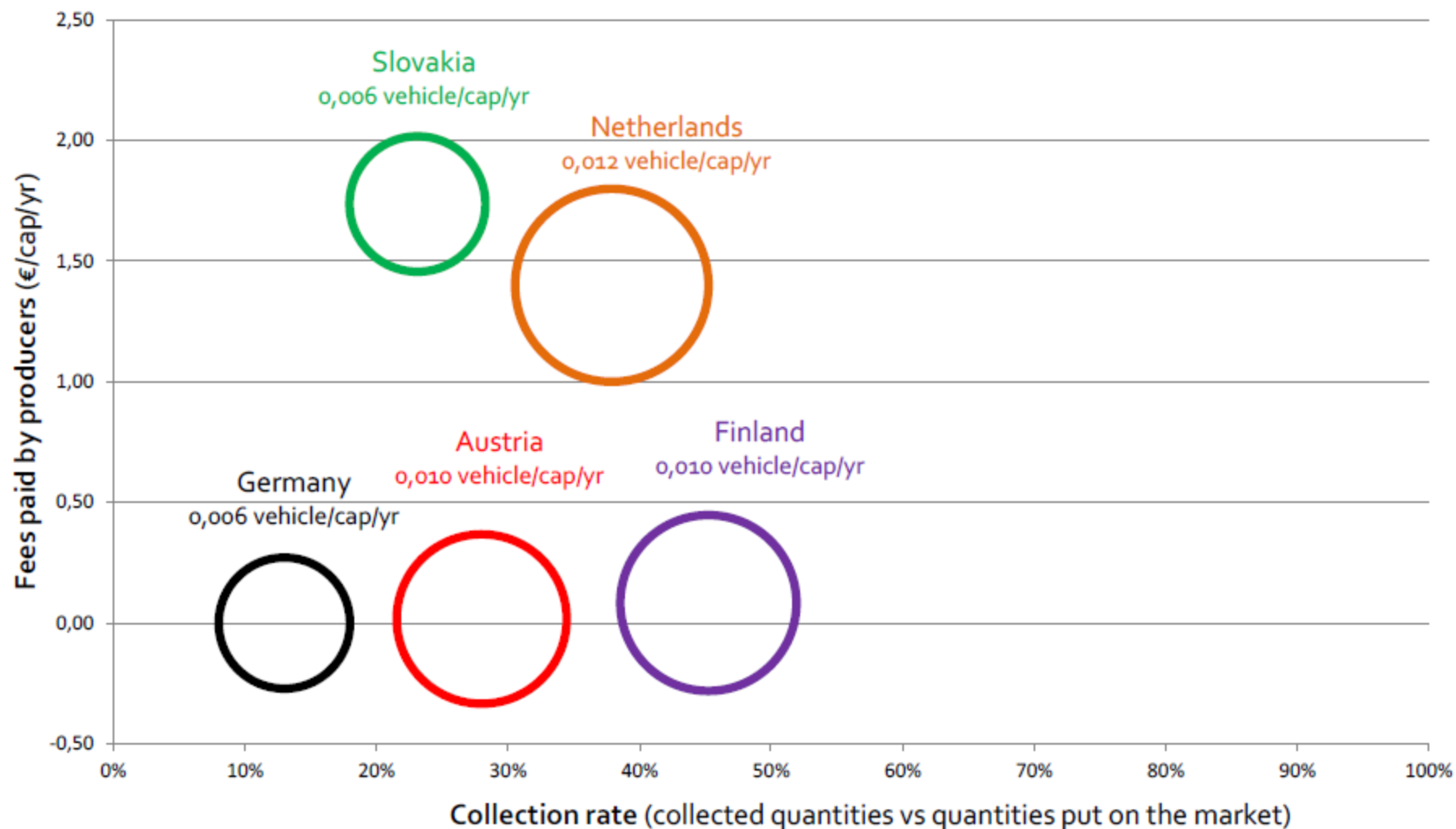
- Collection rates vary from 5% (MT) to 72% (CH)
- Average fees paid by producers vary from 240 € (Fr) to 5400 € (Be) per tonne of batteries put on market
- Or 1.5 – 2 €/cap/yr (CH, BE) to 02 € cap/yr (NL)

# End of Life Vehicles





Figure 3: Cost effectiveness of EPR schemes for ELVs in 2011





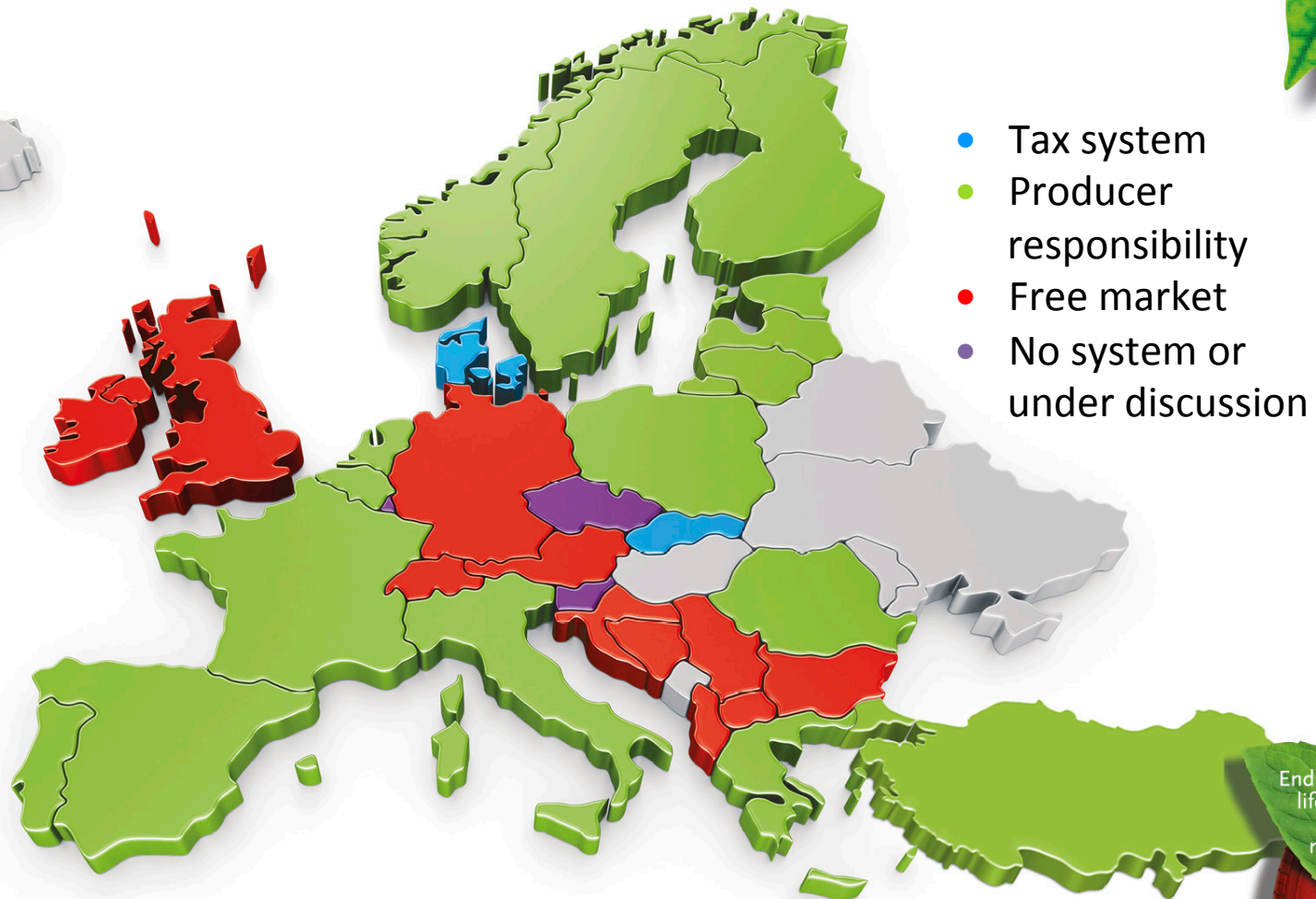
- Recycling and re-use rates vary from 64% to 96%
- Annual fees differ from no fee at all to 45 €/vehicle (NL) or even 66 €/vehicle
- Wide gap is due to the fact that some PRO actually cover (part of) collection and treatment cost (and some countries don't have a PRO at all (Germany))

# Car tyres





# Tyre and Environment Organization



End of  
life tyres  
get a  
new lease  
of life.

RecyBEM B.V.





# Hybrid responsibility

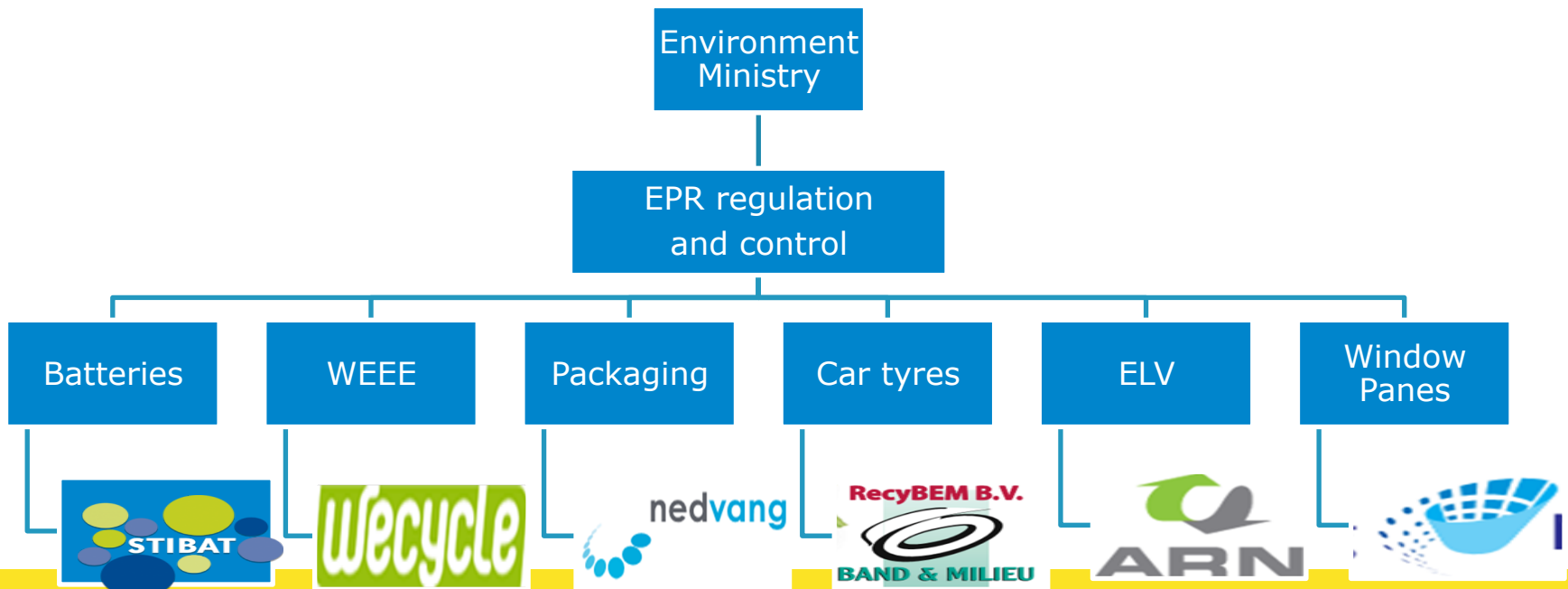


Municipality	Producer/Importer
<ul style="list-style-type: none"><li>-Residual waste</li><li>-Bio waste</li><li>-Bulky waste</li></ul> <p><b>Duty of care:</b> <b>Paid by citizens (municipal waste tax)</b></p>	<ul style="list-style-type: none"><li>-Cars/end of live vehicles</li><li>-Car tires</li><li>-Electronic and electric waste</li><li>-Batteries</li><li>-Paper and cardboard</li><li>-Packaging</li></ul> <p><b>EPR:</b> <b>Paid by consumers/producers-importers (recycling fee or included in price)</b></p>

# Responsibilities of EPR organisations (on behalf of PI's)



- Create a stable collection system
- Create awareness and environmentally responsible behavior
- Contribute to “design for recycling” and “ecodesign”
- Prevent illegal trade and export
- Annual Reporting on collection and recycling performance



>> Focus on environment

# E-Waste

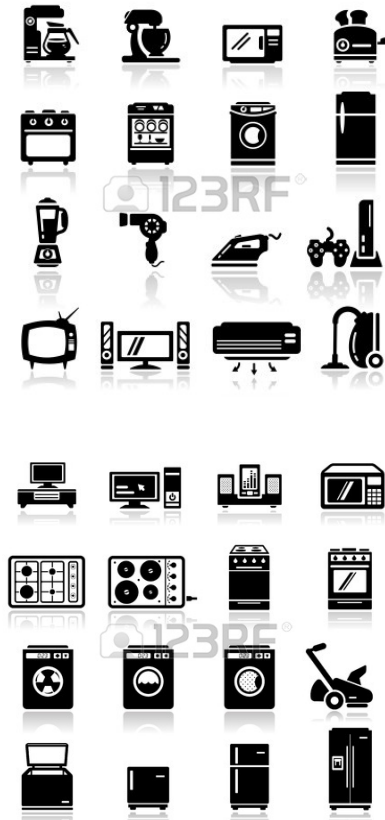


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# Why EU legislation?



- **WEEE is the fastest growing waste stream in EU-27**
  - Yearly 10 million tonnes is placed on the market (POM)
  - Yearly 9 million tonnes discarded (WEEE generation)
  - Forecast: 12.3 million tonnes of WEEE by 2020



# Why EU legislation ?



- **Legislation tackles three issues of a growing challenge**
  - Recover valuable resources by applying modern recycling technologies – stop landfilling and incineration
  - Prevent release of hazardous substances (CFCs, heavy metals, flame retardant, PCBs)
  - Stop illegal export to Africa and Asia



# WEEE Forum

## 39 producer compliance schemes



**2012**

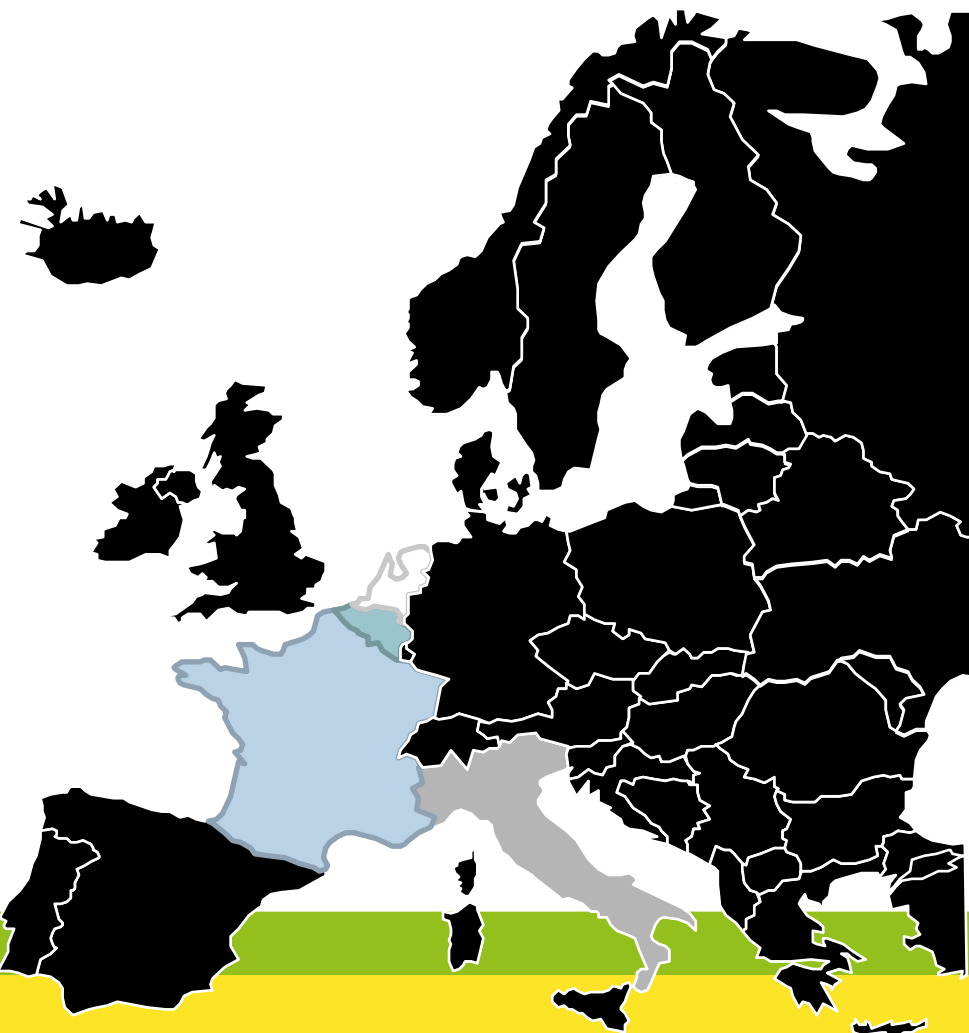
**1,900,000 T WEEE**  
collected &  
reported

### Four ambitions:

- Making WEEE 2 a success
- Centre of competence
- Develop standards and specifications
- Contribute to resource efficiency debate



# Differing constellations of WEEE-systems are active in Europe.



- **Belgium – One PRO**
- **France – Three PROs competing**
- **The Netherlands – One dominant PRO**
- **and one PRO emerging**
- **Italy – Fragmented landscape of PROs**

EPR has been implemented in different shapes and sizes due to differing national circumstances and the guiding (and not binding) nature of the WEEE-directive.



# E-waste

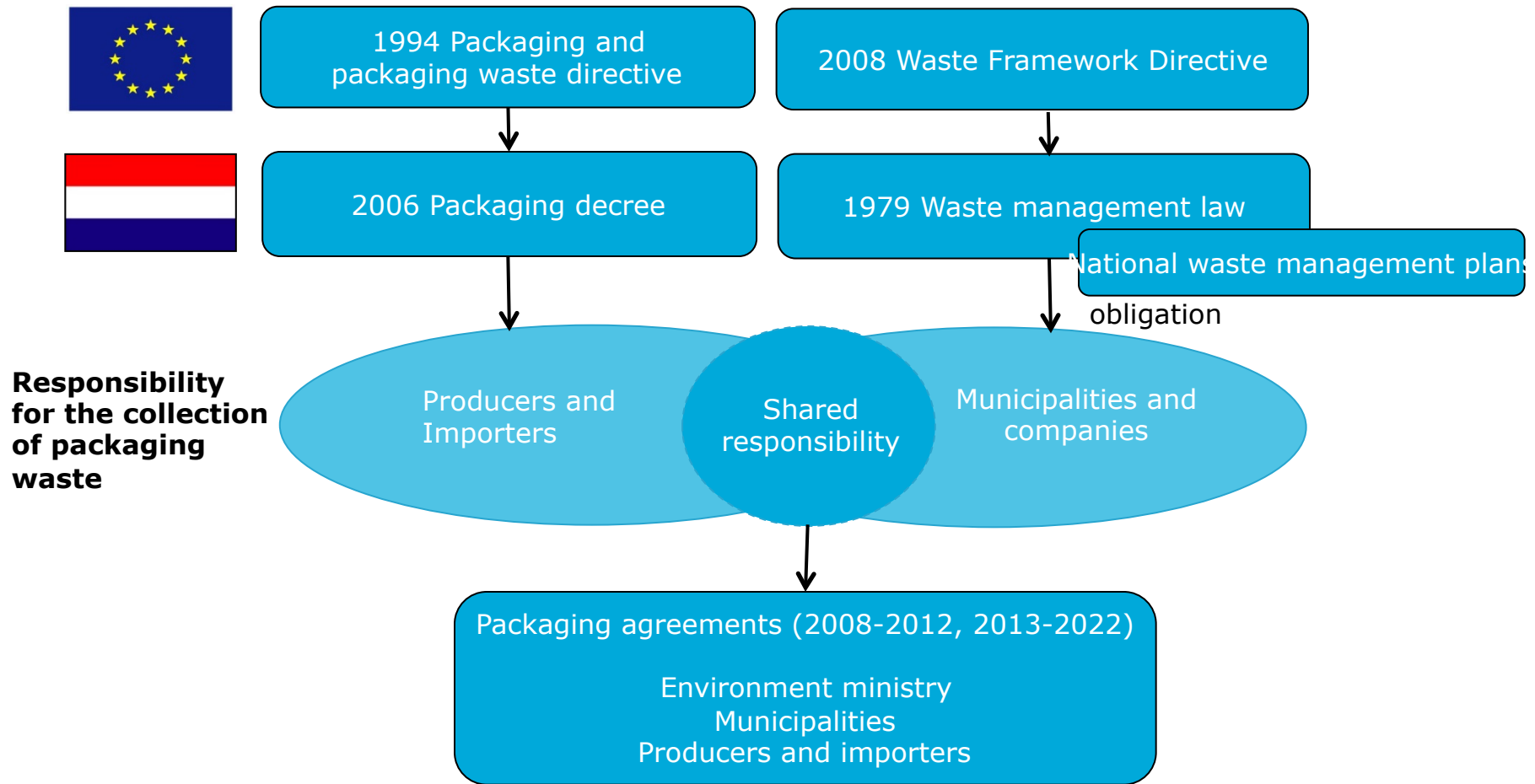


- Collection rates vary from 1.2 kg/cap (BG) to 17.2 kg/cap.

# Packaging Waste



# From EU regulation into national legislation



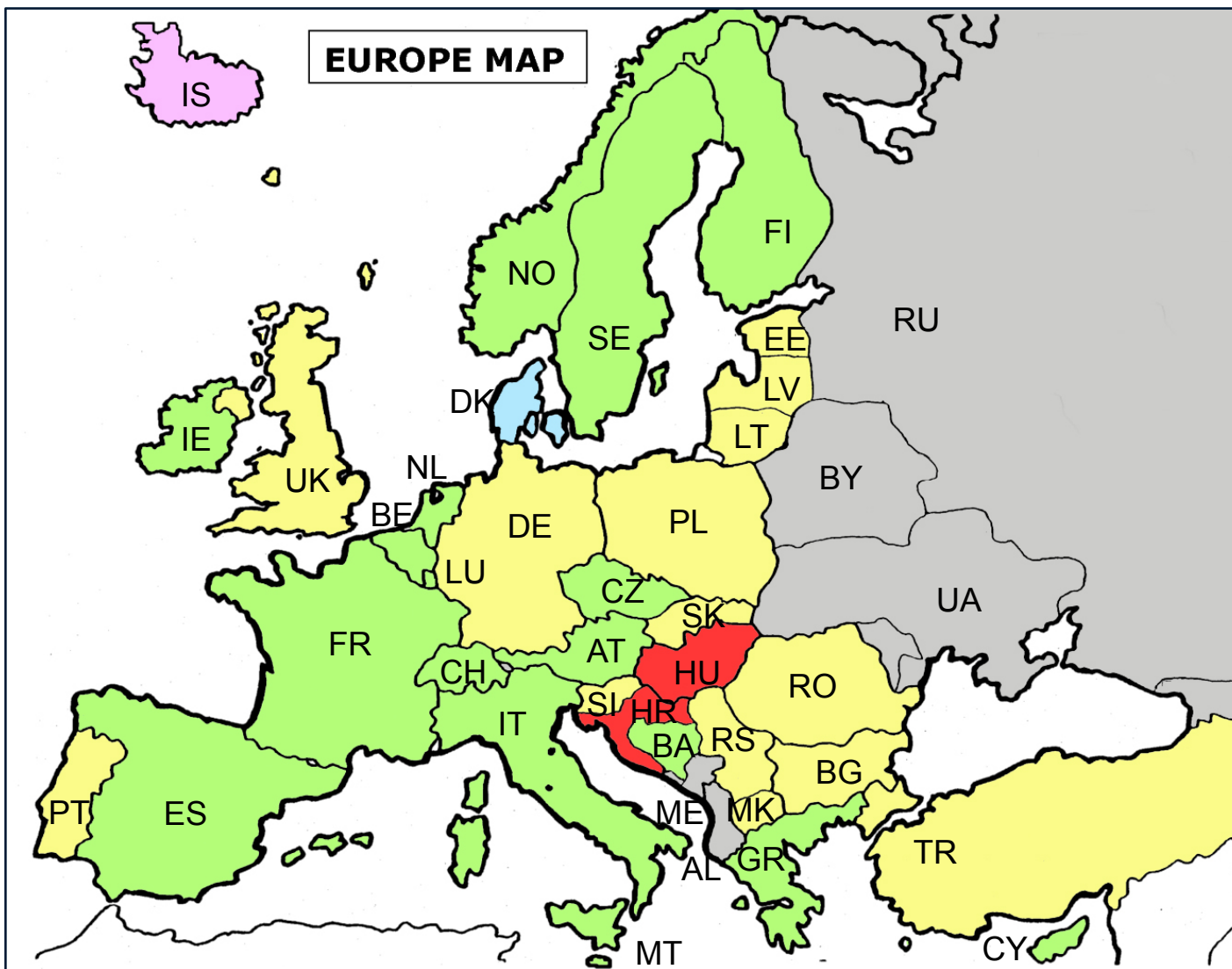
# Different implementation policies



Policy	Description	Responsible for collection	Responsible for reporting / organization	Financial contributor	Decision on contribution size	Cost for obliged industry
Ministerial system	Ministry takes care of all reporting	Municipalities	Ministry	-	-	none
Packaging tax	Obliged industry pays a packaging tax	Municipalities	Ministry	Obliged industry	Ministry	high
Public fund	Obliged industry pays a packaging tax for Ministry and to finance EPR	Municipalities or obliged industry	Obliged industry	Obliged industry	Ministry	high
Voluntary industry compliance	Obliged industry may declare packaging on the market on a voluntary basis	Municipalities or obliged industry	Obliged industry	Obliged industry	Obliged industry	low
Extended Producer Responsibility (EPR)	Obliged industry is fully responsible for declaration of packaging on the market and recycling	Municipalities or obliged industry	Obliged industry	Obliged industry	Obliged industry	moderate



# Policy implementation



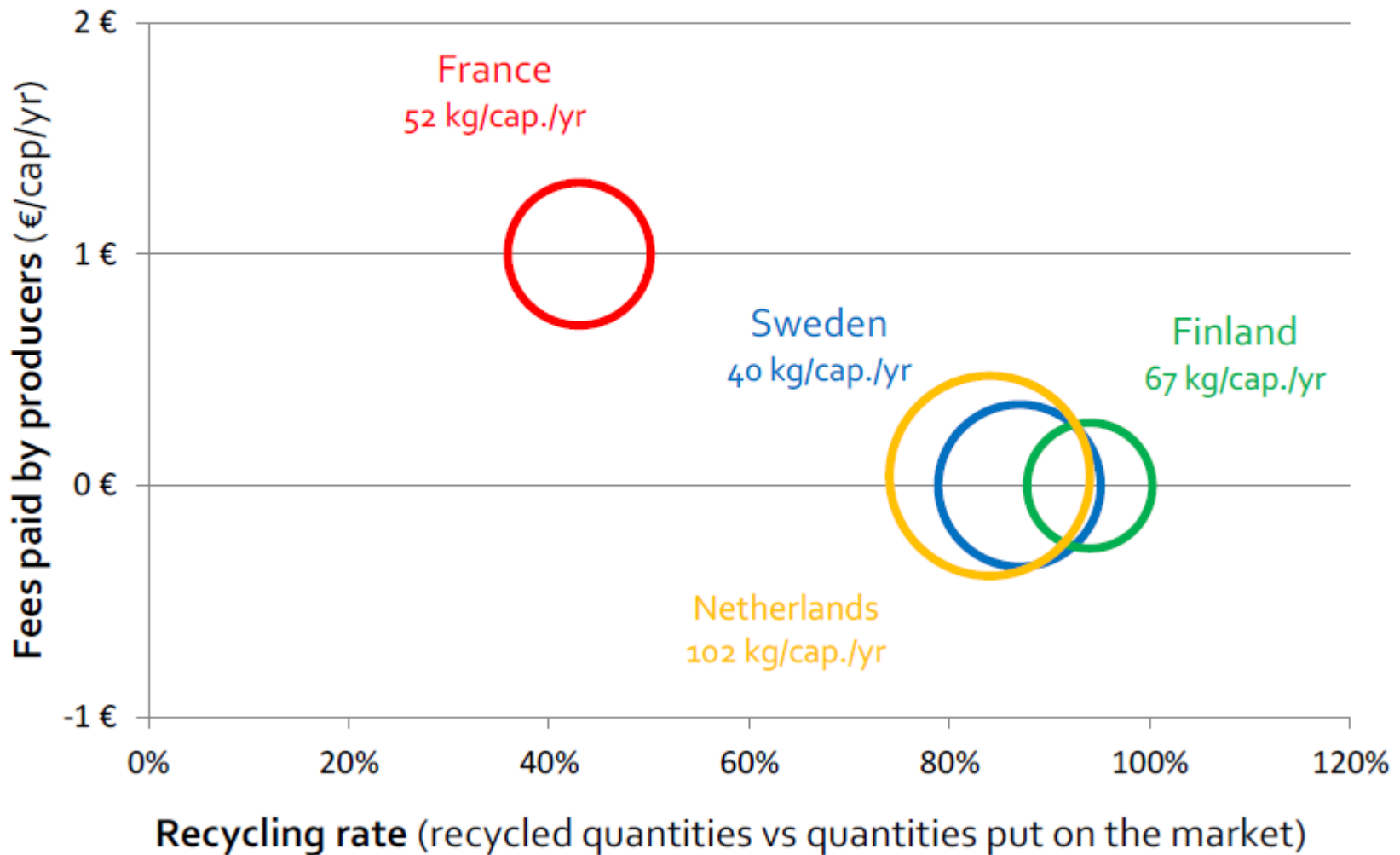
- Single EPR system
- Multiple EPR system
- Public Fund
- Ministerial system
- Packaging tax
- No system / unknown

# Packaging

- Recycling rates vary from 29% to 84% (DK)
- Quantities covered by EPR schemes vary from around 75 kg/cap/yr (Fr, BE) to 165 kg/cap/yr (NL)
- Some systems only cover household waste, other include commercial waste as well
- Fees paid by producers range from 1.1 € /cap/yr (UK) to 19.7 € /cap/yr, due to the fact that UK EPR scheme covers only 10% of the cost of the system, while other 100%



Figure 4: Cost effectiveness of EPR schemes for graphic paper in 2011





# Graphic Paper

- Recycling rates vary from 43% (FR) to 94% (Sweden)
- Some countries don't collect fee's from producers, others ask 1 € /cap/yr