SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

SWIM-H2020 SM EFH-IL-3

EU Examples of Plastic Waste Strategies

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Plastic waste legislation in the European Union (EU)

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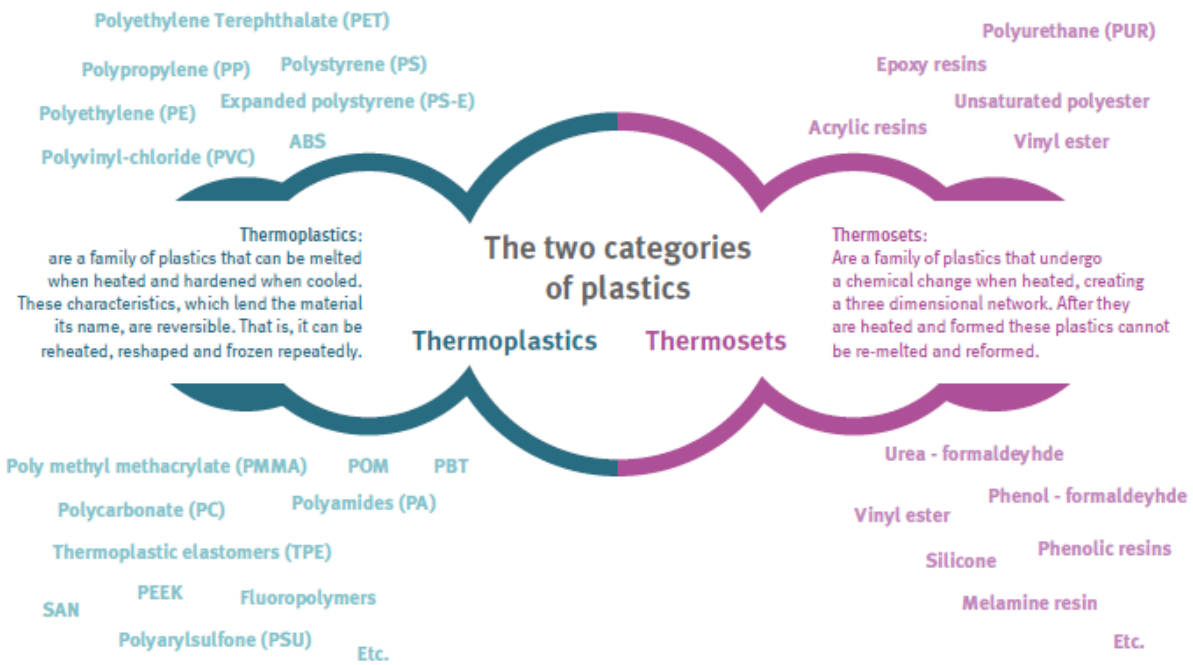
Source: European Commission – Infographic on Plastic Waste:
http://ec.europa.eu/environment/waste/pdf/plastic_waste_factsheet.pdf

Plastic waste legislation in the European Union (EU)

Discovering the wide family of plastics

The plastics' family is composed of a great variety of materials designed to meet the very different needs of thousands of end products.



Source: Plastics – the Facts 2017, PlasticsEurope

Follow up

Packaging waste - Italy

	Put on the market (2016)			Recycling and Recovery (2016)		
	kton	Rate	Per capita [kg/cap/year)	kton	Rate	Per capita [kg/cap/year)
Metal	532	4%	9	412,2	4%	7
Paper/Cardboard	4709	37%	78	4155,5	42%	69
Wood	2811	22%	46	1785,7	18%	30
Plastic	2178	17%	36	1812,8	18%	30
Glass	2364	19%	39	1687,6	17%	28
Total	12594	100%	208	9853,8	100%	163

Source: ISPRA (2017)

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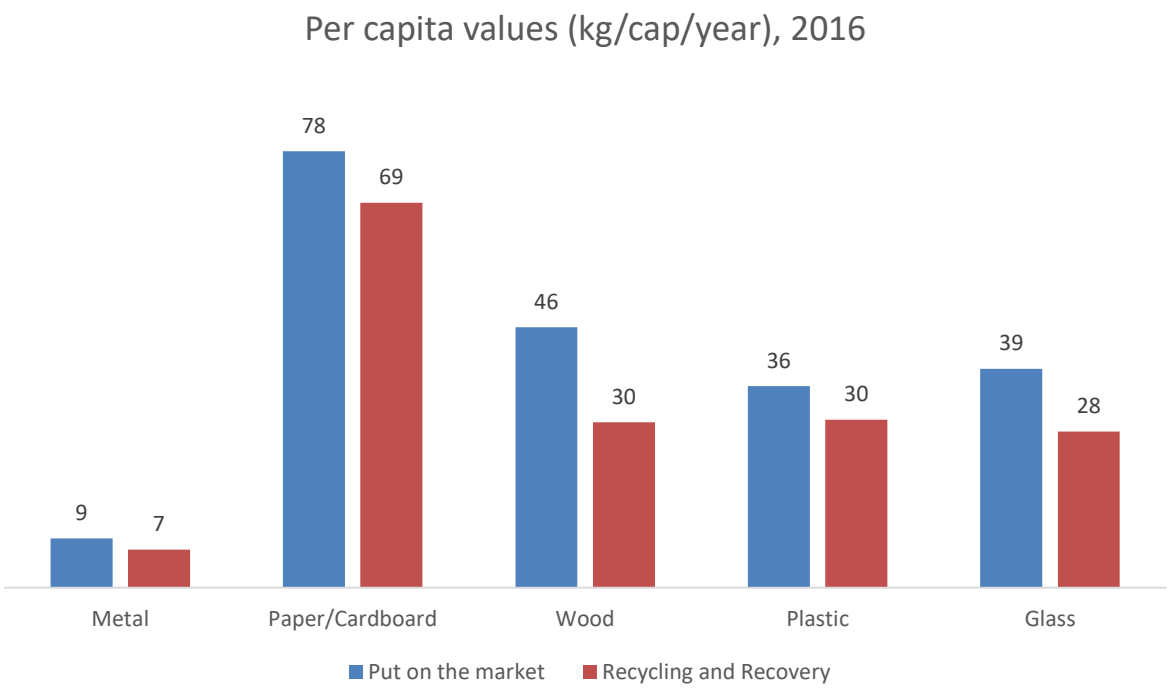


Source: ISPRA (2017)

Follow up

Packaging waste vs MSW - Italy

	2016		
	kton	Per capita [kg/cap/year)	Packaging/MSW rate
Total Packaging put on the market	12594	208	42%
Total Packaging Waste Recycling and Recovering	9853,8	163	33%
Total MSW	30116,605	498	100%

Source: ISPRA (2017)

Follow up

Packaging waste vs MSW - Italy

Source: ISPRA (2017)

Follow up

Packaging waste vs MSW - Italy

Source: ISPRA (2017)

Strategy: a mix of tools

Strategy: a mix of tools

Introduction to the EPR principle

Extended producer responsibility (EPR) was originally defined as '*a* ***policy principle*** *to promote total life cycle environmental improvements of product systems by extending the responsibilities of the manufacturer of the product to various parts of the entire life cycle of the product, and especially to the take-back, recycling and final disposal of the product*' (Lindhqvist, 2000).

EPR legislation, in principle, shifts the responsibility for, and costs of, negative environmental externalities of products from tax payers to producers, consistent with the polluter pays principle

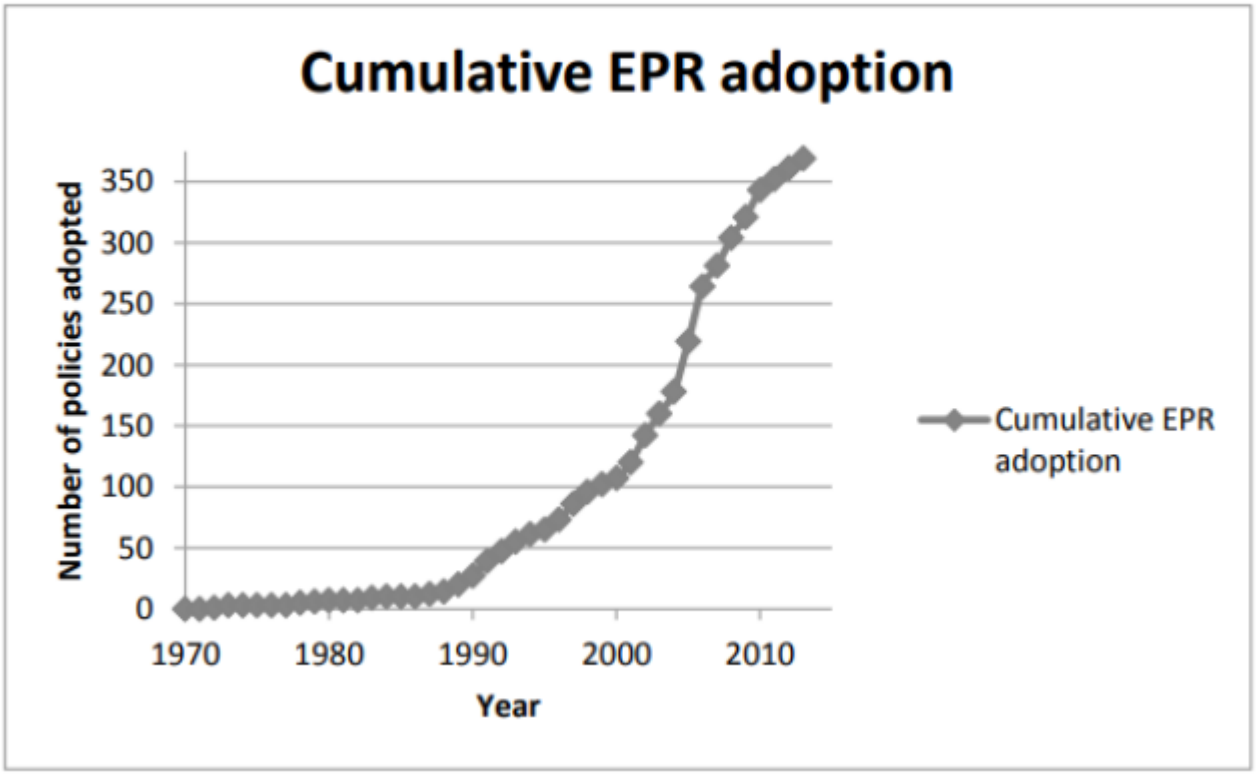
Introduction to the EPR principle

EPR is intended to achieve environmental improvements throughout the product life cycle and has two primary environmental goals:

1. **provide incentives for manufacturers to design resource efficient and low impact products** ('eco-design')
2. **ensure effective end-of-life collection, environmentally-sound treatment of collected products and improved reuse and recycling**.

Introduction to the EPR principle

Figure 1 Cumulative global EPR policy adoption over time (Kaffine and O'Reilly, 2015)

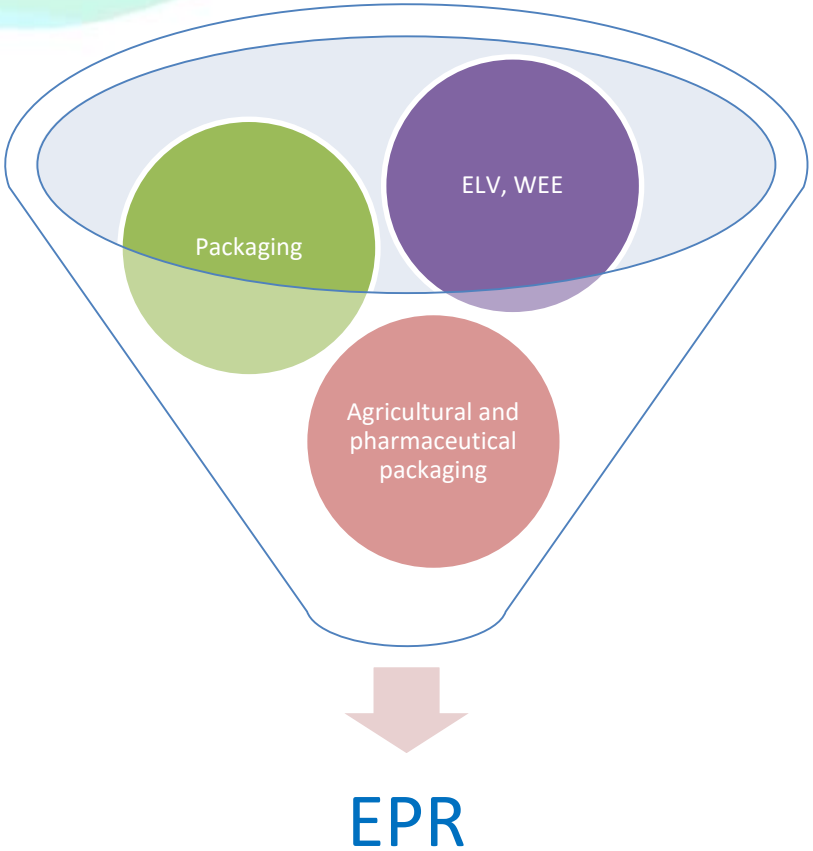


EPR schemes in the EU

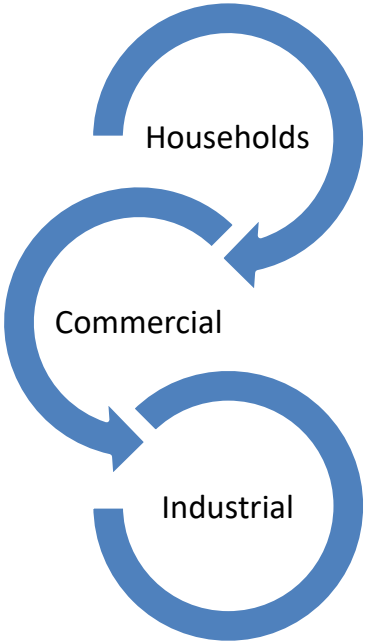
- **Packaging waste : 26** of the 28 EU Member States have some form of EPR in place

- **Other waste streams containing plastics**: end-of-life vehicles (ELV) and waste electrical and electronic equipment (WEEE).

- **Specific types of packaging**: pesticide, fertilizer, seed and plant packaging (**France**), and medical and pharmaceutical packaging (**Portugal**); agricultural films (**Belgium, Finland, France, Germany, Ireland, Italy, Sweden, Spain**)



Categories of packaging covered by EU EPR schemes



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

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

Categories of packaging covered by EU EPR schemes

By material & packaging type category:
Ex: plastic bottles & flasks / plastic films & tubs / paper…

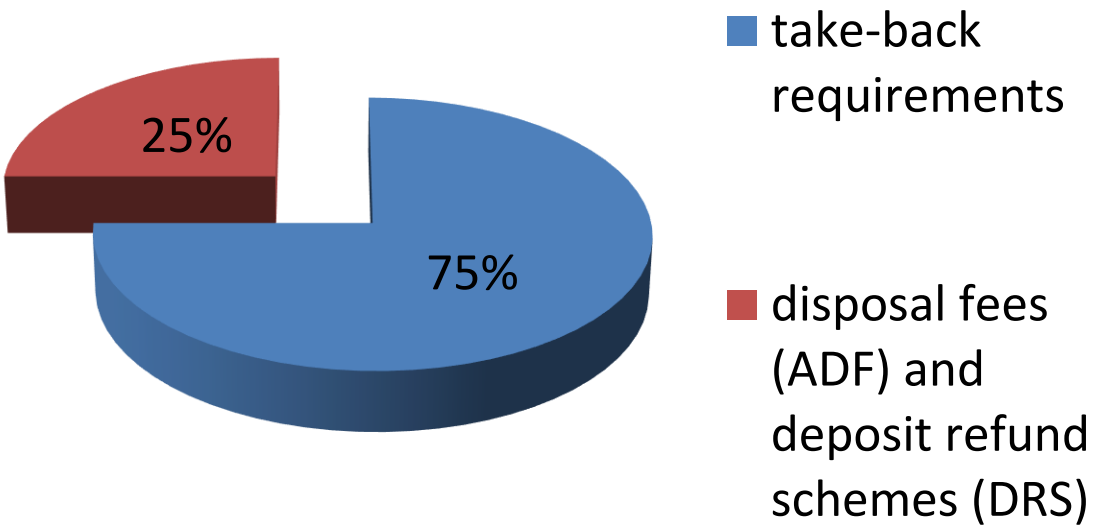
Country	Packaging & material categories
Belgium	bottle & flask plastics, recover. plastics, paper, drink carton, steel, alu, glass
Spain	Rigid plastic, flexible plastic, paper, drink carton, steel, alu, glass
Luxembourg	bottle & flask plastics, recover. plastics, paper, drink carton, steel, alu, glass
Bosn & Herz	Plastic, multilayer, paper, metal, glass

By material only category:
Ex: plastics / paper / glass etc

Country	Sub-material categories
Italy	plastic, paperboard, steel, alu, glass
NL	plastic, bioplastic, paper, steel, alu, glass…
Norway	plastic, paperboard, steel, alu, glass
Sweden	plastic, paperboard, steel, alu
Bulgaria	plastic, paperboard, steel, alu, glass
Czech R.	plastic, paperboard, steel, alu, glass
Estonia	plastic, paperboard, metal, glass

Introduction to the EPR principle

EPR schemes in Europe



Source: Kaffine and O'Reilly, 2015.

Multi vs Mono PRO

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.

Fees and fee modulation

Circular Economy Action Plan

"The Commission is proposing to encourage better product design by **differentiating the financial contribution paid by producers** under extended producer responsibility schemes on the **basis of the end-of-life costs of their products**. This should create a **direct economic incentive to design products that can be more easily recycled or reused**".

Plastics Strategy

Driving investment and innovation towards circular solutions	
Actions to promote investment and innovation in the value chain:	
– Commission guidance on the eco-modulation of EPR fees	2019

Fees and fee modulation

All packaging EPR schemes in the EU include some very **basic fee modulation** since they charge different fees to producers for each packaging material placed on the market.

FEE

Plastic	• Italy (EUR 188/tonne) • Belgium (EUR 211/tonne)
Aluminium	• Italy (EUR 45/tonne) • Belgium (EUR 33/tonne)
Steel	• Italy (EUR 13/tonne) • Belgium (EUR 124/tonne)
Glass	• Italy (EUR 16/tonne) • Belgium (EUR 21/tonne)
Paper/Cardboard	• Italy (EUR 4/tonne) • Belgium (EUR 17/tonne)

Plastic packaging fees in EU-28 EPR schemes

	Rates EUR/kg								
	Plastic (general/ unspecified)		PET/ HDPE	Beverage cartons		Other composite material		Other	Notes
	H	C/I	H	H	C/I	H	C/I	C/I	
Austria (ARA)	0.61	-	-	0.58	-	0.61	0.1	Moulded containers (C/I): 0.07 Expanded polystyrene (H/C/I): 0.19 Bio-plastic/biodegradable plastic: 0.45 (H), 0.1 (C/I)	
Belgium (FOST-PLUS)	0.2823	-	0.2107	0.2455	-	0.2823	-	-	
Bulgaria (EcoPack)	0.08	0.08	-	-	-	0.1	0.1	-	NB Base fees - 10% and 20% discounts apply for timely reporting & payment respectively
Croatia (Eko-Ozra)	-	-	0.055	0.055	0.055	0.1	0.1	Plastic bags (H): 0.2	
Cyprus (Green Dot)	-	0.038	0.106	0.123	-	-	-	Other reusable (H): 0.131 Other non-reusable (H): 0.157	
Czech Rep (EKO-KOM)	0.206 Over 5l: 0.154	0.022	-	0.158	-	0.223	0.022	-	NB Fees for one-way packaging only; no fees for reusable packaging. HH = sales packaging; C/I = group/sales/transport packaging
Estonia (ETO)	0.409	0.109	-	0.105	-	-	-	-	NB C/I = transport/group packaging
France (Eco-Emballages / CITEO)[a]	0.312	-	-	0.247	-	-	-	-	NB Plus variable fee based on quantity of units; plus many bonus-malus options for eco-modulation
Germany (Der Grüne Punkt)	0.17	-	-	0.13	-	0.13	-	Organic materials (H): 0.02	NB These figures only include the Green Dot licence fee
Greece (HE.R.R.Co.)	0.66	0.66	-	0.57	0.57	-	-	-	
Hungary (Ökopannon)	0.185	-	-	0.062	-	0.185	-	Plastic bags with shopping-advertising: 6.16	
Ireland (Repak)[b]	0.0892	0.0892	0.0892*	0.0758^	-	-	-	-	*Plastic bottles ^Composite paper/plastic

Sources: All (Pro-Europe, 2017d) except a (Eco-Emballages, 2017), b (Repak, 2017), c (Sociedade Ponto Verde, 2017)

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	Plastic (general/ unspecified)		PET/ HDPE	Beverage cartons		Other composite material		Other	Notes
	H	C/I	H	H	C/I	H	C/I	C/I	
Latvia (Latvijas Zalais Punkts)	0.149	0.149	-	-	-	-	-	Bio-plastic (H/C/I): 0.033	
Lithuania (Žaliasis taškas)	0.081	0.081	0.081	0.122*	0.122*	0.125	0.125	-	*Predominantly paper/card
Luxembourg (Valorlux)	-	-	0.3703	0.2835	0.2835	-	-	Other recoverable (H): 0.4296 Other non-recoverable (H): 0.4725	
Netherlands (Afvalfonds Verpakkingen)	0.3876	0.3876	-	0.12	0.12	-	-	Biodegradable plastic (H): 0.0212 Deposit bottles (H): 0.0212	
Norway (Grønt Punkt)	0.147	0.123	-	-	-	-	-	Expanded polystyrene: 0.256	
Poland (Rekopol)	0.0046	0.0046	-	-	-	-	-	-	
Portugal (Sociedade Ponto Verde)[c]	0.2319	0.2319	-	-	-	-	-	Plastic bags: 0.2319 Multipacks: 0.1159	
Romania (ECO-ROM AMBALAJE)	0.133	0.133	0.133	-	-	-	-	-	
Slovenia (Slopak)	0.134	0.134	0.077	0.01	0.01	0.134*	0.134*	-	NB Packaging fee + Green Dot fee. *Predominantly plastic
Spain (Ecoembes)	0.472	-	0.377	-	-	-	-	-	
Sweden (FTI)	0.244	0.003* 0.22^	-	-	-	-	-	-	*Commercial packaging ^Manufacturer's packaging

Sources: All (Pro-Europe, 2017d) except a (Eco-Emballages, 2017), b (Repak, 2017), c (Sociedade Ponto Verde, 2017)

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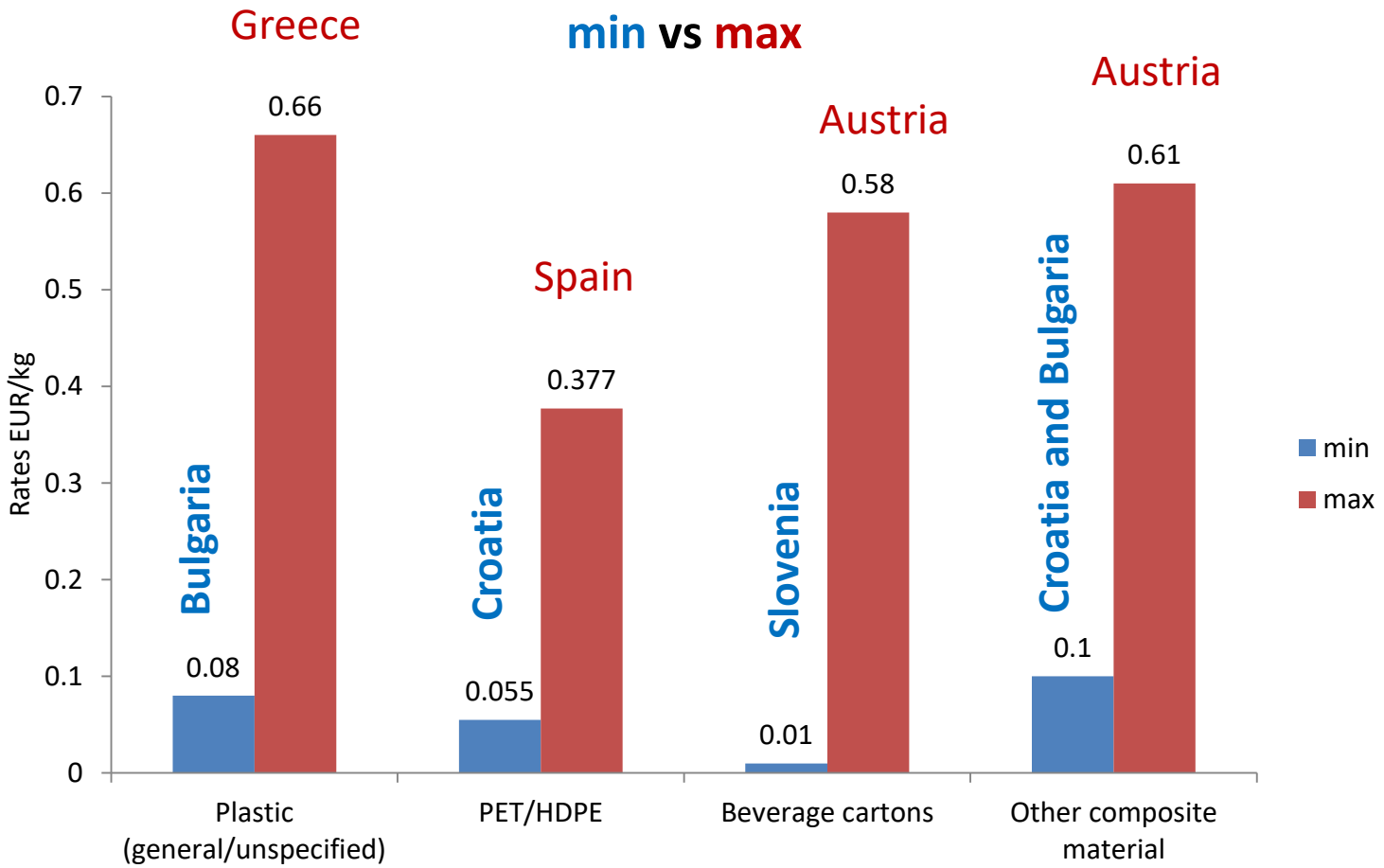

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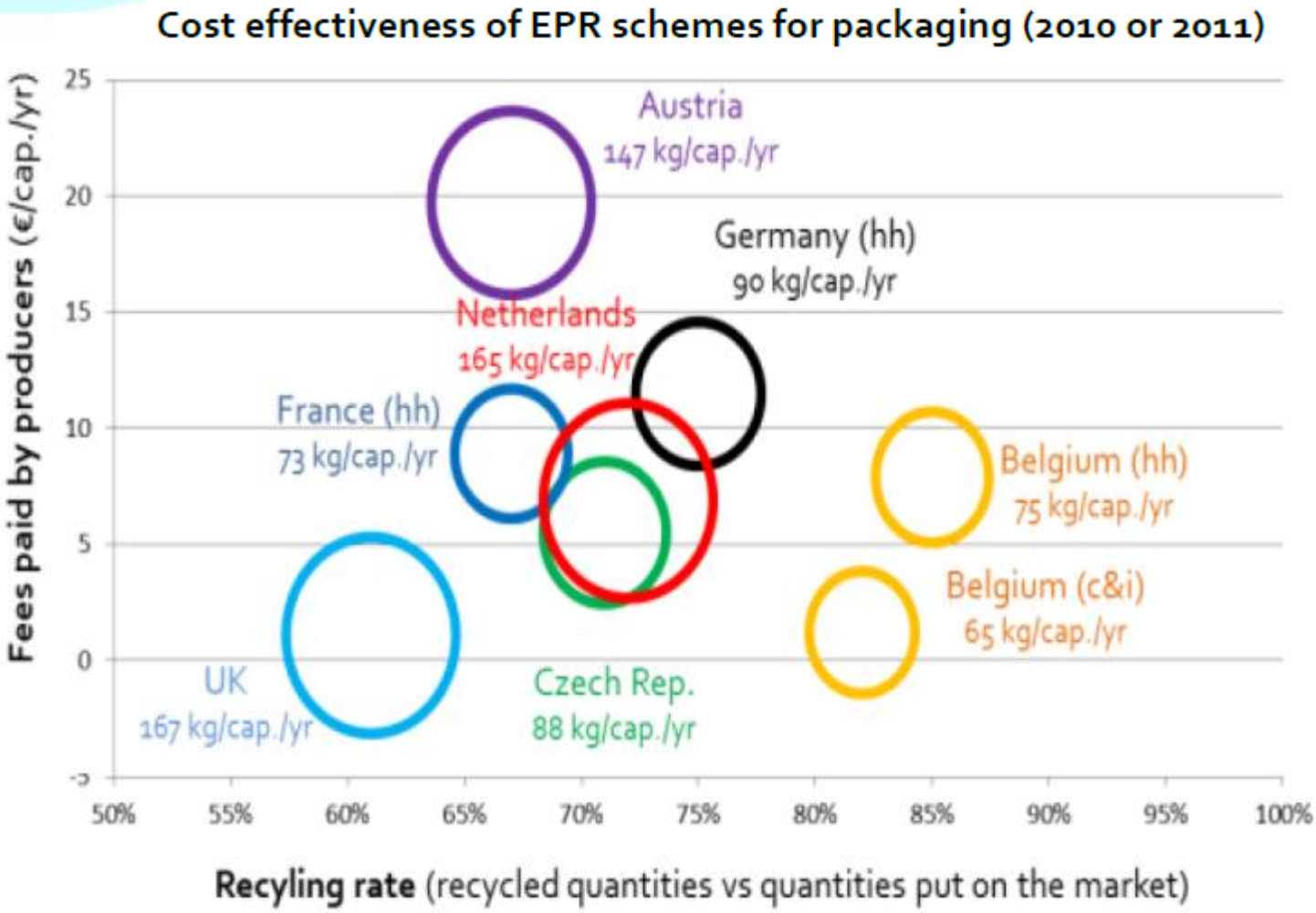
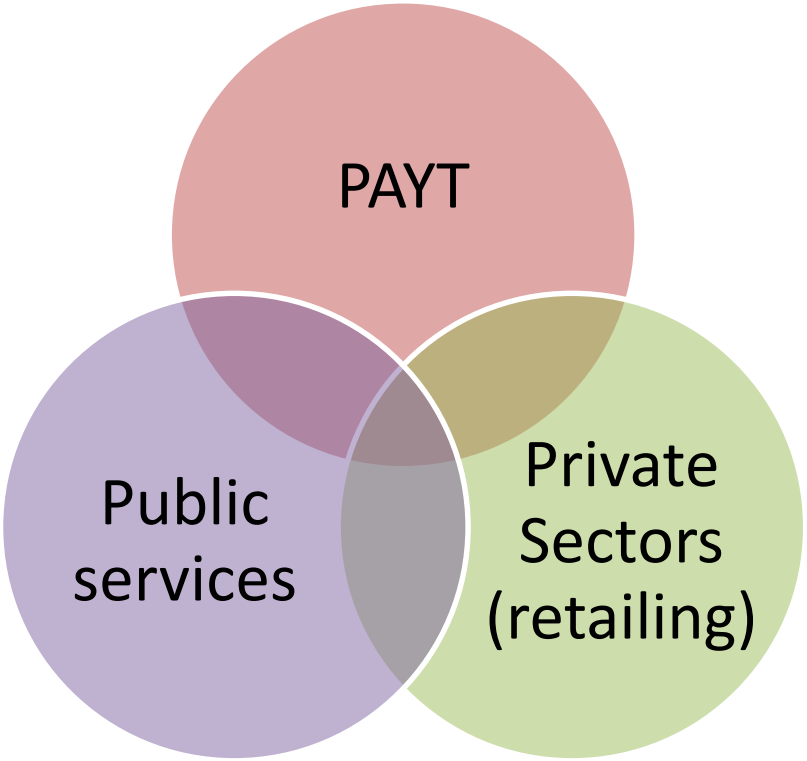


EPR specific fees for different types of plastic packaging

- PET is the most commonly recycled plastic packaging material in the EU. Around 1.8m tonnes of PET bottles were collected for recycling in 2015 (a 5% increase from 2014), and 59% of PET resin was recycled in the same year (a 2% increase from 2014) (European PET Bottle Platform, 2017).

- In 2014, **bottle-to-bottle use became the main end market for recycled PET** in Europe (previously it was more commonly used for textile applications), and the average recycled content in PET bottles in Europe is currently 11.7% (European PET Bottle Platform, 2017).

Collection system – Bottle to Bottle



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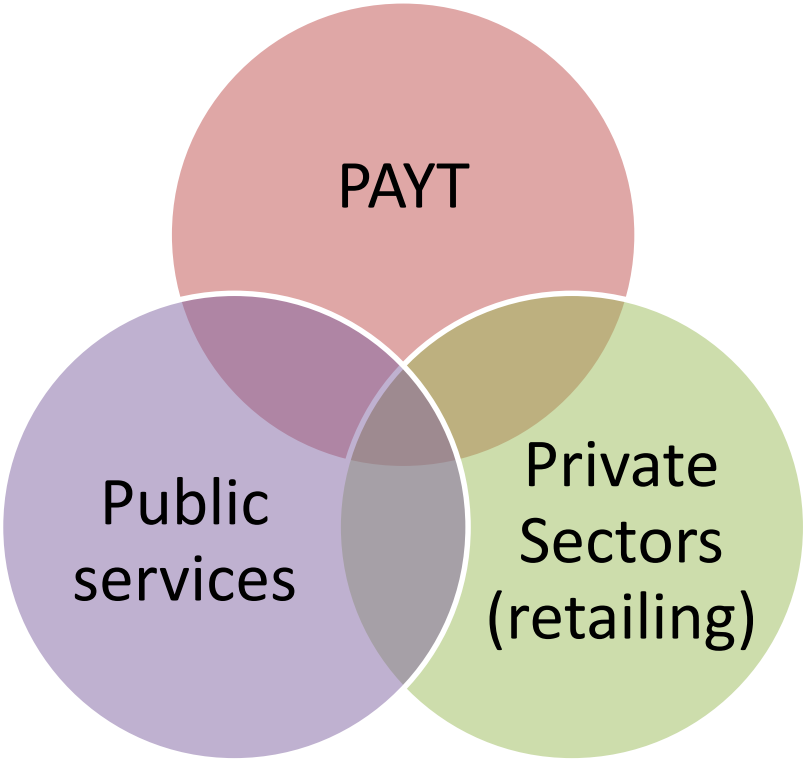

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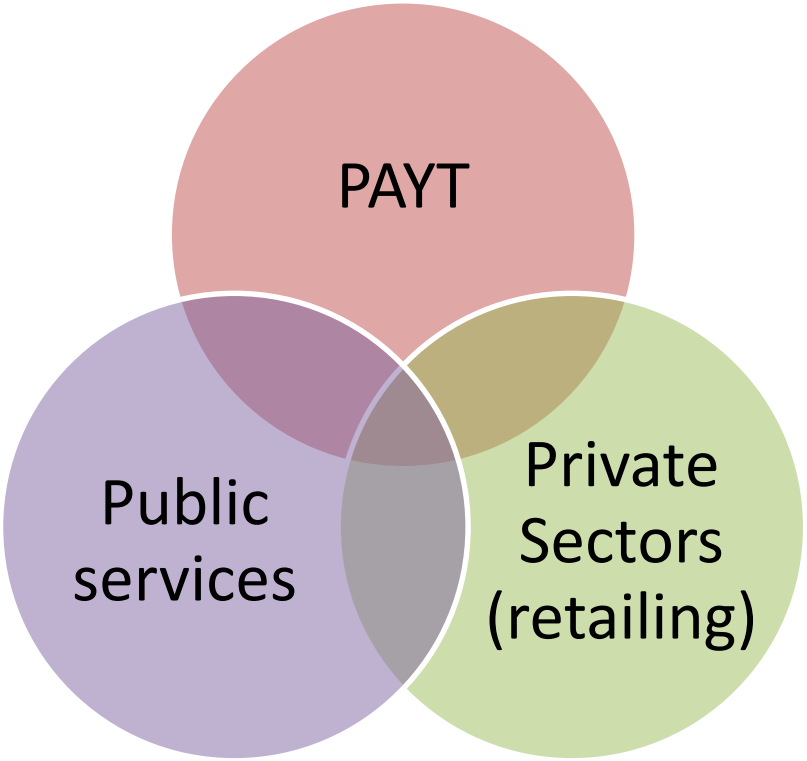

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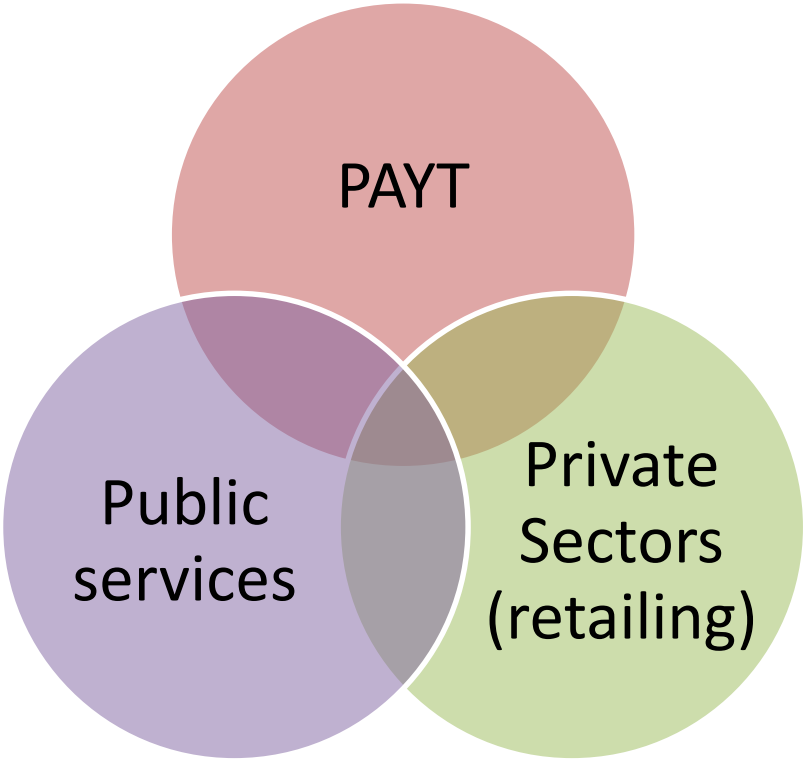

Recommendations EPR

1. Need to clarify **EPR definition and objectives as well as responsibilities and roles of each actor of the product life cycle value chain**
2. Ensuring the **full cost coverage** of selective collection and treatment.
3. PRO fees must reflect the real effective costs of the products end of life management.
4. Need of **transparence** on EPR schemes performances and costs.
5. **Public authorities and industries should be co-responsible of the control and monitoring of the EPR schemes** with sufficient and adapted means.

Source: BIO/EC (2014): Development of Guidance on EPR, pp. 120-132.

Full cost coverage: What should it mean?

- Selective collection, sorting and treatment cost
- Cost of the information to the consumers
- Data reporting cost
- Deduction of the net revenues coming from the sale of waste

Source: BIO/EC (2014): Development of Guidance on EPR, pp. 120-132.

Specific Plastic waste packaging challenge in existing EPR schemes:

- How to get more plastic waste collected?

Different approaches between MS…

Looking at the Italian, Belgian and the French system with a lens

Introduction to the EPR principle

Table 2 Comparison of fee modulation in CITEO, CONAI and FOST Plus schemes

	CITEO	CONAI	Fost Plus
Basic fee modulation	Based on weight and type of packaging material: Plastic, glass, paper/ cardboard, steel, aluminium, bricks, and other materials. + fee based on number of packaging units	Based on weight and type of packaging material: Plastic, glass, paper/ cardboard, steel, aluminium, wood, and glass.	Based on weight and type of packaging material: PET/HDPE, drink cartons, glass, paper/cardboard, steel, aluminium, other recoverable materials, and other non-recoverable materials.
Eco-modulation	Bonus/malus system for all packaging[2]: *Total fee = (weight fee + units fee) x bonus/malus* Bonus: fee is reduced by 4% - 24% Malus: fee is increased by 10% - 100%	Differentiated fees for plastic packaging[1]: A. Sortable/recyclable industrial waste (179.00 EUR/tonne) B. Sortable/recyclable household waste (208.00 EUR/tonne) C. Non-sortable/ recyclable waste (228.00 EUR/tonne)	None

[1] *Rates from 2018 onwards*
[2] *Rates for the period 2018 - 2022*

Introduction to the EPR principle

A bonus and penalty scheme cannot work as a standalone scheme.

Services and tools to assist packers and fillers with ecodesigning must be developed to make such a scheme efficient.

- **Services and tools developed by Citeo:**
  - Co-leading of R&D projects with clients: opaque PET, mineral oils…
  - Online catalogue of best practices
  - Guides
  - Webinars & Training

WEBINAR

BEE Bilan Environnemental des Emballages

TREE Test de la REcyclabilité des Emballages

Introduction to the EPR principle

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All three schemes apply fees based on **packaging weight** and material. Fost Plus has eight different rates, CITEO seven and CONAI six. **CITEO** has an **additional progressive fee based on the number of packaging units**.

Recycling of municipal plastic packaging waste in Italy

Italy, the CONAI System
COnsorzio NAzionale Imballaggi
(National Packaging Consortium)

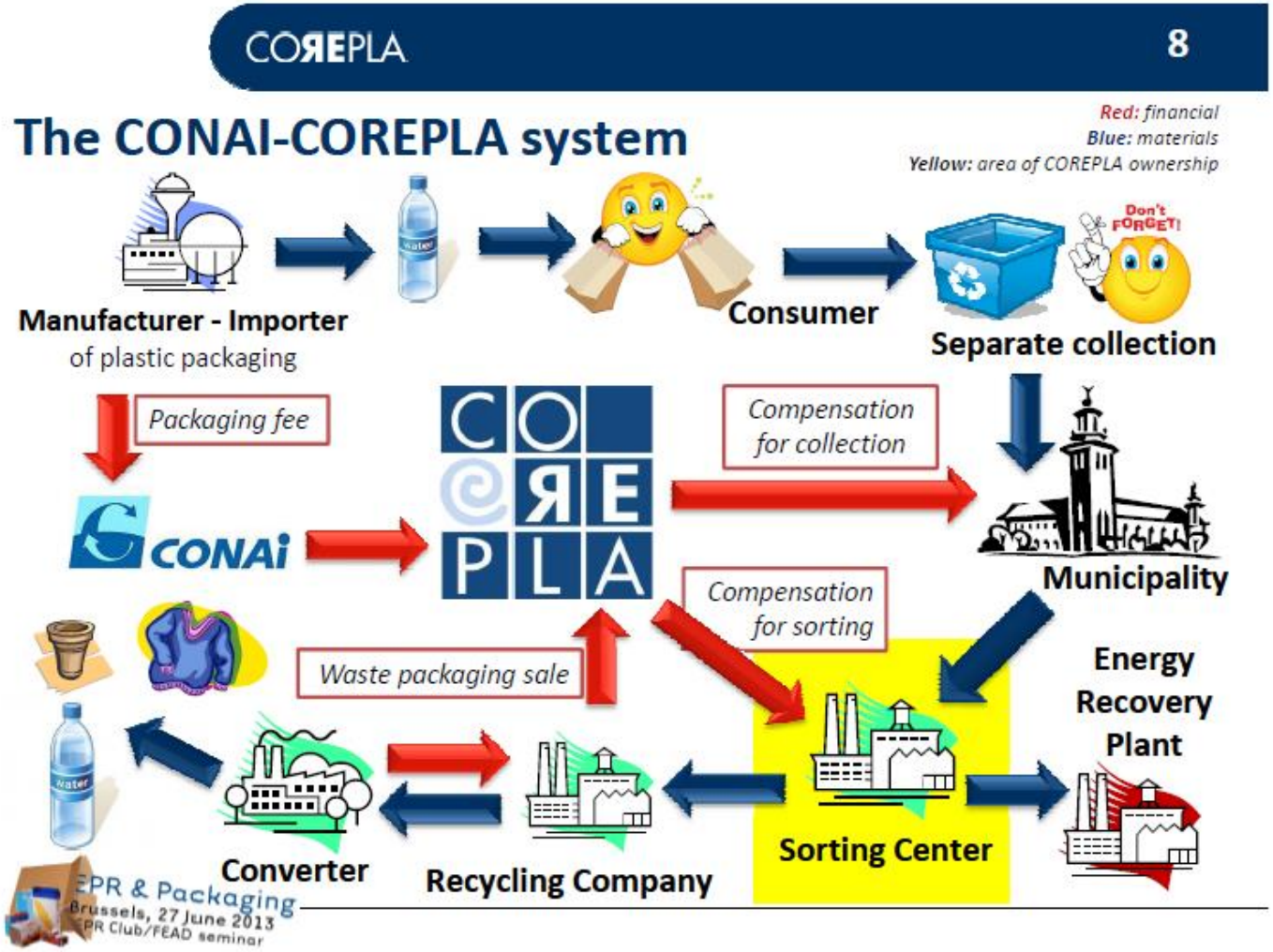
- **No profit organization** established in 1997, following the **implementation of the European legislation** on recovery and recycling of packaging waste from "public surfaces" (**household waste collected by municipalities**)
- Operating according to the **Extended Producer Responsibility** principle (EPR). Companies pay a fee ("Contributo Ambientale Conai") for each tonne of packaging material manufactured or imported
- The fee changes according to the material
- **Each packaging material** (steel, aluminum, paper and board, wood, plastic and glass) is managed by a **specific supply chain consortium**
- **Business activities are directly responsible** for **managing the packaging waste they generate** (waste from "private surfaces")

Recycling of municipal plastic packaging waste in Italy

COREPLA 7

- **RICREA** - Consorzio Nazionale Riciclo e Recupero Imballaggi Acciaio (**steel**)
- **CIAL** – Consorzio Imballaggi Alluminio (aluminum)
- **Comieco** – Consorzio nazionale recupero e riciclo degli imballaggi a base cellulosica (**paper and board**)
- **RILEGNO** – Consorzio nazionale recupero e il riciclaggio degli imballaggi in legno (**wood)**
- **COREPLA** – Consorzio per la raccolta, il riciclaggio e il recupero degli imballaggi in plastica (**plastics**)
- **CoReVe** – Consorzio Recupero Vetro (**glass**)

Recycling of municipal plastic packaging waste in Italy



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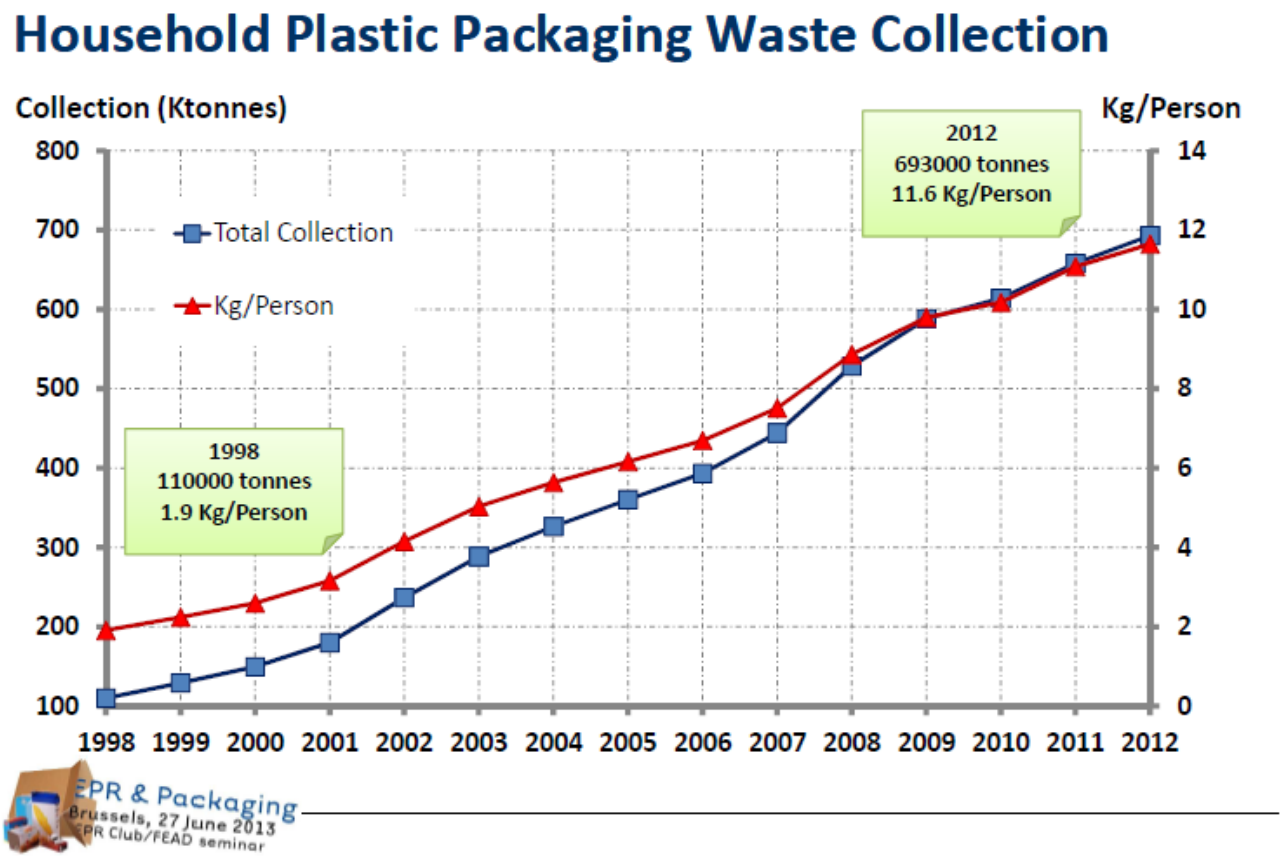

In 2016… 15 kg/person

Recycling of municipal plastic packaging waste in Italy

	2014	2015	2016	var. % 16/15
PUT on the MARKET	2.082.000	2.128.000	2.178.000	2,3%
COREPLA RECYCLING	466.725	539.827	549.918	1,9%
Other Recycling	324.000	336.000	344.000	2,4%
Total Recycling	790.725	875.827	893.918	2,1%
Recycling Rate	38,0%	41,2%	41,0%	-0,2%
COREPLA WTE	305.933	265.264	303.891	14,6%
Other WTE	503.000	605.000	615.000	1,7%
Total WTE	808.933	870.264	918.891	5,6%
WTE Rate	38,9%	40,9%	42,2%	1,3%
Total Recycling/Recovery	1.599.658	1.746.091	1.812.809	3,8%
Recycling/Recovery Rate	76,8%	82,1%	83,2%	1,1%

(*) Al netto della Frazione estranea

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Recycling/Recovery Rate	76,8%	82,1%	83,2%	1,1%

(*) Al netto della Frazione estranea

Recycling of municipal plastic packaging waste in Italy

	2014	2015	2016	var. % 16/15
PUT on the MARKET	2.082.000	2.128.000	2.178.000	2,3%
COREPLA RECYCLING	466.725	539.827	549.918	1,9%
Other Recycling	324.000	336.000	344.000	2,4%
Total Recycling	790.725	875.827	893.918	2,1%
Recycling Rate	38,0%	41,2%	41,0%	-0,2%
COREPLA WTE	305.933	265.264	303.891	14,6%
Other WTE	503.000	605.000	615.000	1,7%
Total WTE	808.933	870.264	918.891	5,6%
WTE Rate	38,9%	40,9%	42,2%	1,3%
Total Recycling/Recovery	1.599.658	1.746.091	1.812.809	3,8%
Recycling/Recovery Rate	76,8%	82,1%	83,2%	1,1%

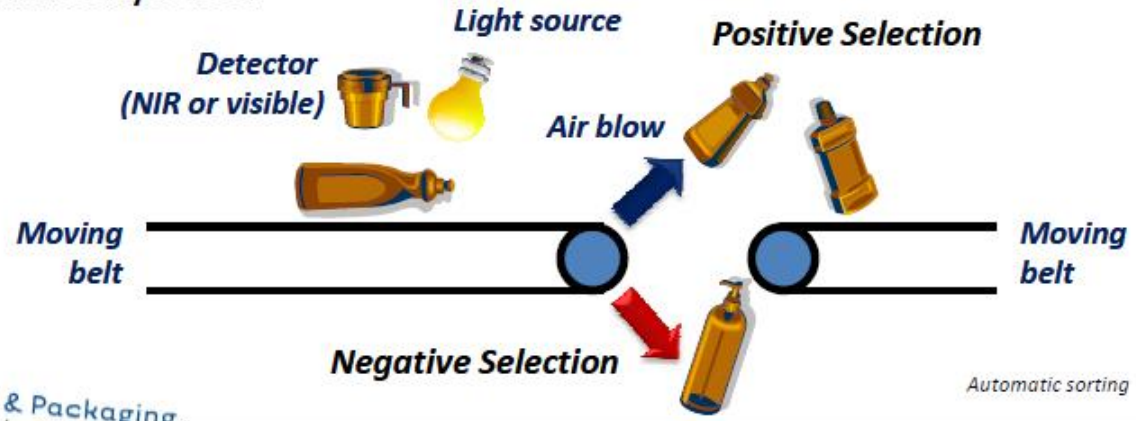
(*) Al netto della Frazione estranea

Recycling of municipal plastic packaging waste in Italy

The Sorting Challenge

- Household plastic packaging waste is a **mix of different articles and polymers**
- **Sorting** by polymer and/or article is a **challenge for COREPLA**
- **The technology is there: 94%** of plastic packaging waste managed by COREPLA is **automatically sorted**

Manual sorting



Automatic sorting

Recycling of municipal plastic packaging waste in Italy

COREPLA "Products"…

Recycling of municipal plastic packaging waste in Italy

Recycling of municipal plastic packaging waste in Italy

COREPLA 16

Fairness, Transparency, Accountability, …

Industry

- No profit organization
- Sustainable packaging fee (currently 110€/tonne, same for all plastics)

Municipalities

- Nationwide agreement (> 90% municipalities, > 95% population)
- Compensation for separate collection based also on quality

Sorting Centers

- Sorting contract and product specifications
- Clear separation of non-COREPLA materials
- Resident inspectors (periodical rotation)
- Routine analyses on incoming waste, products and by-products

Recyclers

- Online auctions for products sale
- Sales specifications
- No sales to waste traders (periodical audits - Eucertplast)

Recycling of municipal plastic packaging waste in Italy

Keep the System as Simple and Effortless for Consumers as Possible

The average consumer is not a packaging expert

- Single collection stream: plastic packaging waste
- Municipalities decide their preferred way of separate collection (street or door-to-door)
- COREPLA manages plastic packaging sorting

The lower the effort/knowledge required, the higher the chance of cooperation

Recycling of municipal plastic packaging waste in Italy

Source: https://www.ilsole24ore.com/art/impresa-e-territori/2018-01-12/la-cina-blocca-l-import-rifiuti-caos-riciclo-europa-160732.shtml

Recycling of municipal plastic packaging waste in Italy

2018

Source: https://www.ilsole24ore.com/art/impresa-e-territori/2018-01-12/la-cina-blocca-l-import-rifiuti-caos-riciclo-europa-160732.shtml

Recycling of household plastic packaging in Belgium:

Blue bag (PMD)

organised by Fost Plus

curbside collection

full cost coverage

67 ktons recycled (5,8 kg/inh)

Other plastic streams

organised by local autorities

mainly bring method

partly financed by Fost Plus

14,3 ktons recycled

→ 2015: 81,3 ktons household plastic packaging recycled (38,4%)

Source: EPR Club - Fost Plus

Preparing the future

Fost Plus study june '12: The expansion of PMD collection: A feasible option today?

4 scenarios studied: Hard/soft plastics, collection scheme

Environmental benfits, costs and consumer perception

Results / Scenario	Additional costs	% recycled plastic	Cost/ ton CO_2 saved	Environment	Acceptance by citizens
PMD	/ (100%)	38,3% (100%)	€ 174/T CO_2 (100%)	😐	☺
Scenario 1	€ 45,6 mio (160%)	50,7% (132%)	€ 262 /T CO_2 (150%)	☺	☺
Scenario 2	€ 22,6 mio (130%)	52,3% (136%)	€ 206/T CO_2 (118%)	😐	😐
Scenario 3	€ 15,7 mio (121%)	45,7% (119%)	€ 199/T CO_2 (114%)	😐	☹
Scenario 4	€ 8,9 mio (112%)	46,7% (122%)	€ 190/T CO_2 (109%)	😐	☹

➔ According Fost Plus, expansion does not yet deliver the results hoped for!

Source: EPR Club - Fost Plus

Recycling of municipal plastic packaging waste in France

Eco-Emballages (now CITEO) is a collective EPR scheme for household packaging waste in France.

The scheme applies **to all packaging consumed by households as end-users** (European Commission, 2001) and **affects all companies, producers and importers** responsible for placing packaged products on the **French market** which then become household packaging waste (Eco-Emballages, 2015b). If the producers or importers of the packaged products cannot be identified, the scheme affects the person first responsible for placing the products on the market (European Commission, 2001).

Recycling of municipal plastic packaging waste in France

Since 2012, the fees charged to producers have been modulated according to environmental criteria, **rewarding good sorting practices and eco-design**, and penalising packaging which hampers recycling (Eco-Emballages, 2015c).

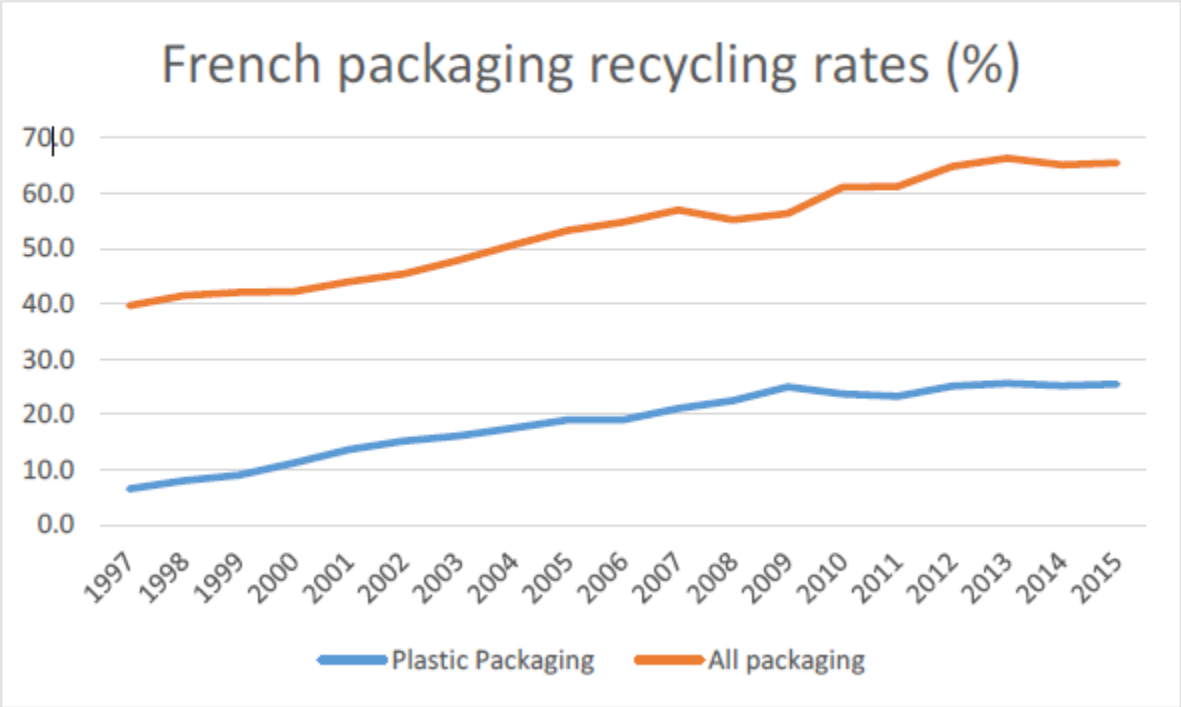
Table 5 Eco-modulation of 2018-2022 tariffs of the CITEO scheme

BONUS		
Awareness bonus	**On-Pack bonus[1]**	
	8%	Sorting instruction on packaging
	5%	Triman logo on packaging
	4%	QR code that links to a validated sorting instruction
	Off-Pack bonus[2]	
	4%	Off-pack awareness actions (e.g. TV/radio, advertisement, press)
Reduction bonus	**Reduction and recyclability Bonus[3]**	
	8%	≥ 1 action(s) for reduction of packaging or improvement of recyclability
	+ 4%	Additional bonus if the action is documented and published in the catalogue of good practices of CITEO
	Bonus for sortable plastic packaging	
	12%	Bottles in PET, HDPE or PP
	Bonus for hard plastic packaging that can join existing recycling channels	
	8%	Hard packaging that is made out of PET, HDPE or PP (besides bottles)
Total Bonus = awareness bonus + reduction bonus = min. 0% - max. 24%		
MALUS[4]		
Malus for packaging included in sorting instructions, but without a recycling channel		100%
Malus for packaging with mineral opacifiers		100%
Malus for disruptive packaging (damage to recyclability)		50%
Malus for paper and cardboard with mineral oil-based ink		10%

[1] *On-pack bonuses cannot be cumulated.*
[2] *Off-Pack bonus can be cumulated with On-Pack bonus; the maximum awareness bonus is thus 12%.*
[3] *This bonus can only be applied the first year the packaging is brought on the market.*
[4] *Packaging that is subject to a malus cannot benefit from a bonus.*
Source: (Citeo, 2017a)

Recycling of municipal plastic packaging waste in France

Figure 4 Recycling rates for packaging and plastic packaging in France (Eurostat, 2017b)



National target of 75% of recycling by 2022

A 110M€ INVESTMENT TO SECURE A CIRCULAR ECONOMY

+

=

A 110M€ investment:

- **To double plastics recycling** as well as other materials' recycling
- **To recycle or recover 100% of plastics**, e.g. energy recovery, RDF
- To reduce costs per ton & **to control total costs evolution**

ECO EMBALLAGES

56% of plastics packaging are expected to be recycled in 2030 (+ 400,000 t)

		Today's situation	Estimate for 2022	Estimate for 2030
Plastic packaging sold on French market (kt/year)		**1 090**	**1 147**	**1 207**
Of which	Bottles	435	445	449
	Trays, pots and other rigids	375	396	424
	Films	280	305	334
Packaging waste recycled (kt/year)		**256**	**445**	**675**
Of which	Bottles	250	311	368
	Trays, pots and other rigids	4	100	232
	Films	2	34	75
Plastic packaging recycling rate		**23%**	**39%**	**56%**
Of which	Bottles	**57%**	**70%**	**82%**
	Trays, pots and other rigids	**1%**	**25%**	**55%**
	Films	**1%**	**11%**	**23%**

Examples of collection schemes optimisation

90 new bring banks installed out of 186

393 bring banks to be installed

New bring banks

Customised bring banks in EuroMétropole of Strasbourg

Examples of collection schemes optimisation

Trilib: Paris collection experimentation

FOCUS ON THE NEW STREAMS & THEIR MARKET

PET bottles, & flasks
PET trays & pots

Already in place

PEHD/PP, bottles, & flasks
PEHD,/PP trays & pots

Already in place

Flexible films
PEBD/PEHD

Already in place, to be consolidated

PS/XPS/PSE trays & pots

Difficult to sort, limited outlets

Complex /multilayer PET trays
& pots; PP/complex or too tiny flexible films

Design to improve recyclability or energy recovery

PVC

Non conclusive recycling tests : chlored plastics not fit for energy recovery. Elimination as a waste.

Increasing plastics packaging recyclability with packers & fillers

Packaging innovation: MERALLIANCE

Reducing aluminium: ALBEA, ELVIR

Guide of best practices: SYNDIFRAIS

Mono-material trays: KERMENÉ, ELIVIA, HERTA, BEL

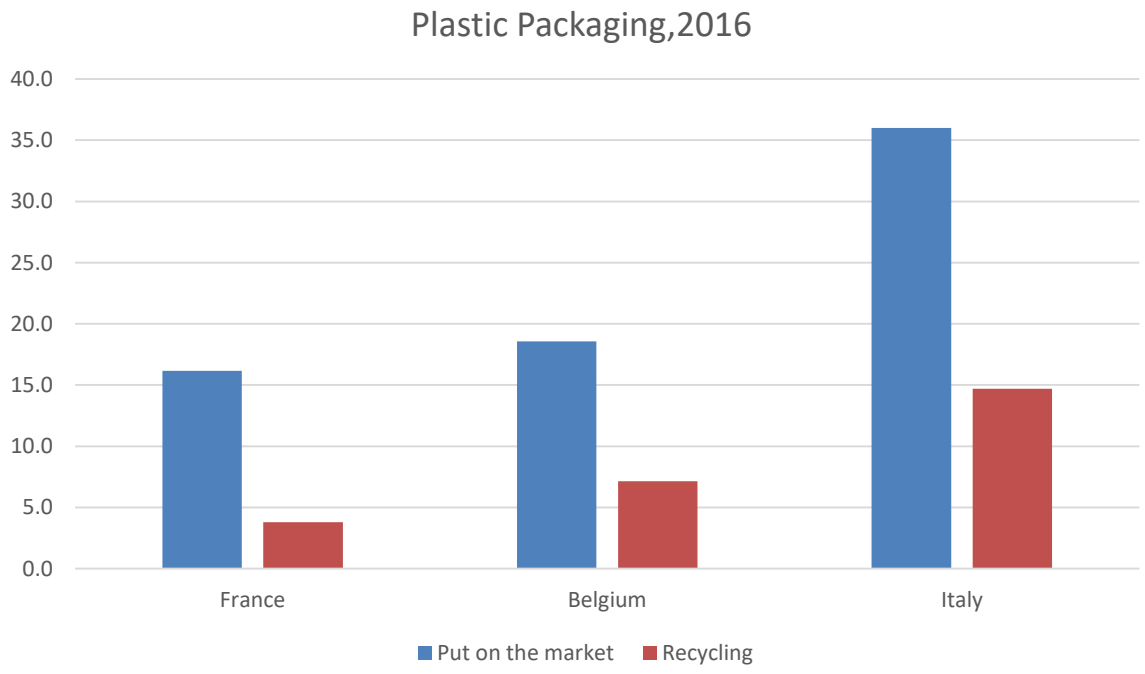
Eco-Emballages CONCLUSIONS

- **Need to involve all actors of the packaging value chain:**
  - Packers & fillers (« design for recycling »)
  - Consumers (in sorting their waste properly)
  - Municipalities (optimised selective collection)
  - Recycling industry (expertise sharing)

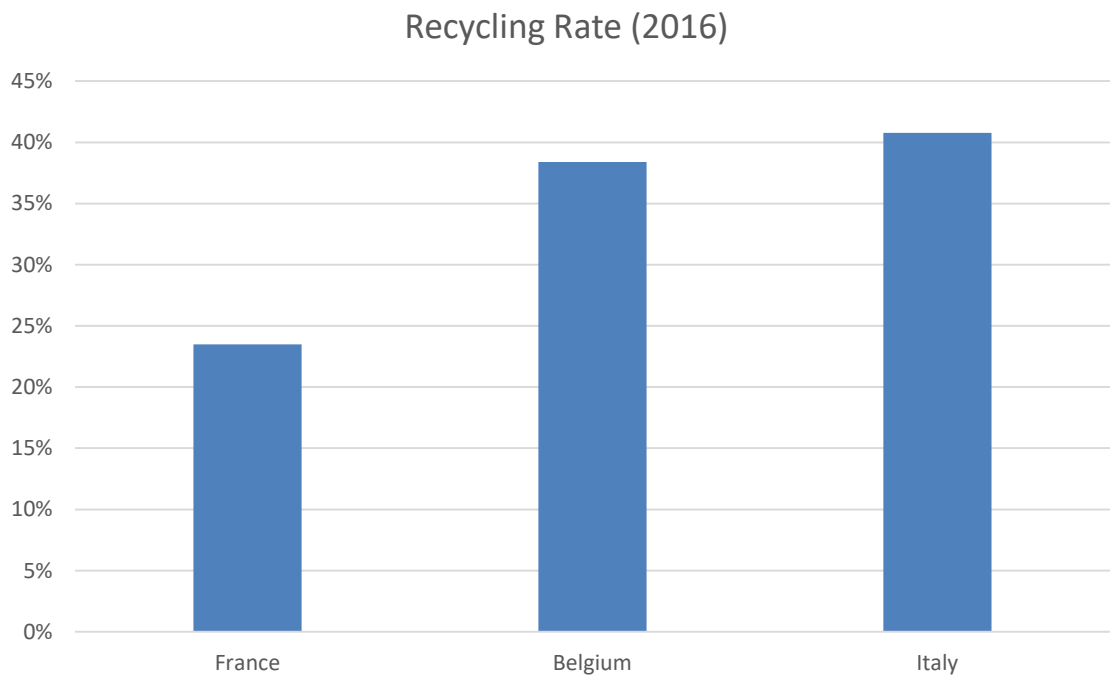
- **Need to modernise sorting:** fewer sorting centres (240 today, i.e. an average of 1 for 250,000 inhabitants), automatisation, industrialisation

- **Need for a stable and well-defined quality of recycled materials** so as to allow sound market developments, to ensure outlets, and to avoid dependency on exports

EPR schemes performance

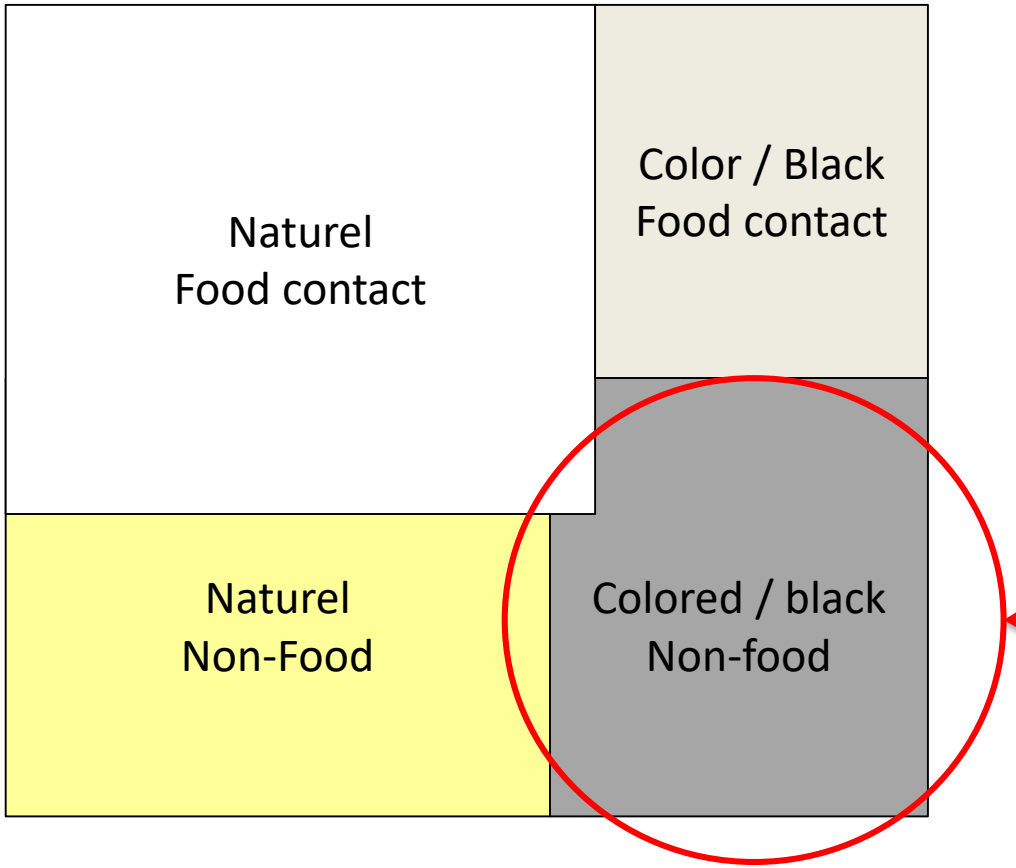


EPR schemes performance

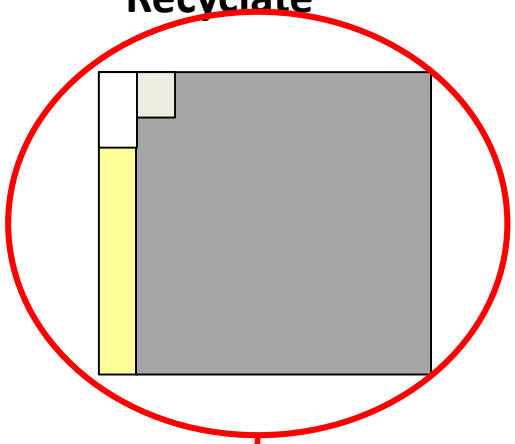


According to Virgin Plastic Producers , Key barriers for recyclate to access virgin markets : *food contact* and *mass coloration*

Virgin markets segmentation



Recyclate



99%

Moon-shot developments required !

- *Ecodesign*
- *Technology*
- *Regulation*

SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

Thank you for your attention.

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SWIM-H2020 SM

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