

EPR in the EU Plastics Strategy and the Circular Economy

A focus on plastic packaging

Mia Pantzar, Institute for European Environmental Policy (IEEP)

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The study

E. Watkins, S. Gionfra, J-P. Schweitzer, M. Pantzar, C. Janssens and P. ten Brink (2017) EPR in the EU Plastics Strategy and the Circular Economy: A focus on plastic packaging

- How can EPR evolve to encourage eco-design?
- EU Plastics Strategy and Circular Economy Package
- Focus: modulated fees

Steering group:



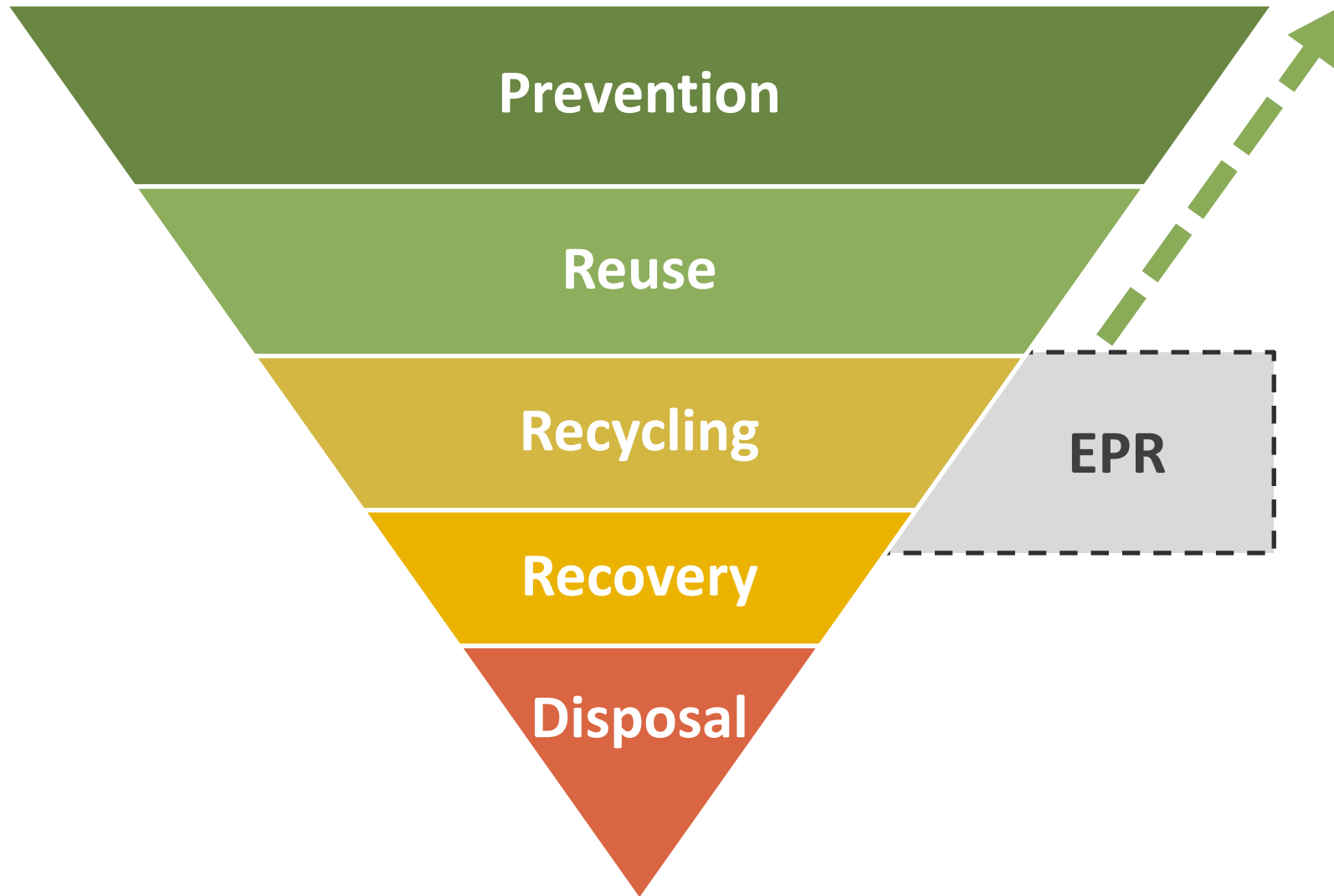
Outline

1. What is fee modulation and how might it bring about more sustainable packaging?
2. Insights from other EU countries
3. Opportunities for Denmark

What is fee modulation and how might it bring about more sustainable packaging?

EPR objectives:

- Reduce products' environmental impacts at end-of-life
- **Encourage product eco-design**



What is fee modulation and how might it bring about more sustainable packaging?

Collective EPR – producers pay fees to a PRO

- Fees are differentiated to try to address “averaging” effects and free-riders
- Modulation generally designed to cover the costs of waste management
- Instead: modulate based on circular economy and sustainability objectives

”Eco-modulation”

Insights from other EU MS – overview of basic fee modulation

- All have basic modulation – different approaches
- Fees for plastic and composite packaging >> fees for other materials
- Fees for commercial/industrial packaging \leq fees for household packaging
- Majority of schemes have specific fees for beverage cartons
- Most common plastic packaging materials subject to different fees are PET/HDPE, expanded polystyrene, bio-plastics/bio-degradable plastics and plastic bags
- Some schemes differentiate fees for single-use vs reusable packaging (CY, CZ)

Insights from other EU MS – overview of basic fee modulation

	Rates EUR/kg							
	Plastic (general/ unspecified)		PET/ HDPE	Beverage cartons		Other composite material		Other
	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	-
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	-
Estonia (ETO)	0.409	0.109	-	0.105	-	-	-	-
France (Eco-Emballages) ^a	0.312	-	-	0.247	-	-	-	-
Germany (Der Grüne Punkt)	0.17	-	-	0.13	-	0.13	-	Organic materials (H): 0.02
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^	-	-	-	-
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	-
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*	-
Spain (Ecoembes)	0.472	-	0.377	-	-	-	-	-
Sweden (FTI)	0.244	0.003* 0.22^	-	-	-	-	-	-

“Eco-modulation” of fees: insights from current practice

France (CITEO) currently the most advanced on eco-modulation of fees

Italian (CONAI) scheme introduced modulation according to sortability and recyclability in 2018

	CITEO (France)	CONAI (Italy)	Fost Plus (Belgium)
Basic fee modulation	<p>Based on <u>weight</u> and <u>type</u> of packaging material:</p> <p>Plastic, glass, paper/ cardboard, steel, aluminium, bricks, and other materials.</p> <p>+ fee based on number of packaging units</p>	<p>Based on <u>weight</u> and <u>type</u> of packaging material:</p> <p>Plastic, glass, paper/ cardboard, steel, aluminium, wood, and glass.</p>	<p>Based on <u>weight</u> and <u>type</u> of packaging material:</p> <p>PET/HDPE, drink cartons, glass, paper/cardboard, steel, aluminium, other recoverable materials, and other non-recoverable materials.</p>
Eco-modulation	<p>Bonus/malus system for <u>all</u> packaging²:</p> <p>Total fee = (weight fee + units fee) x bonus/malus</p> <p>Bonus: fee is reduced by 4% - 24%</p> <p>Malus: fee is increased by 10% - 100%</p>	<p>Differentiated fees for <u>plastic</u> packaging¹:</p> <p>A. Sortable/recyclable industrial waste (179.00 EUR/tonne)</p> <p>B. Sortable/recyclable household waste (208.00 EUR/tonne)</p> <p>C. Non-sortable/ recyclable waste (228.00 EUR/tonne)</p>	<p>None</p>

¹ Rates from 2018 onwards

² Rates for the period 2018 - 2022

Effects of existing modulation

- Design changes as result of weight-based fees
 - **light-weighting + shift to other materials**
- Lighter packaging not always better from a sustainability perspective
- Example: opaque PET

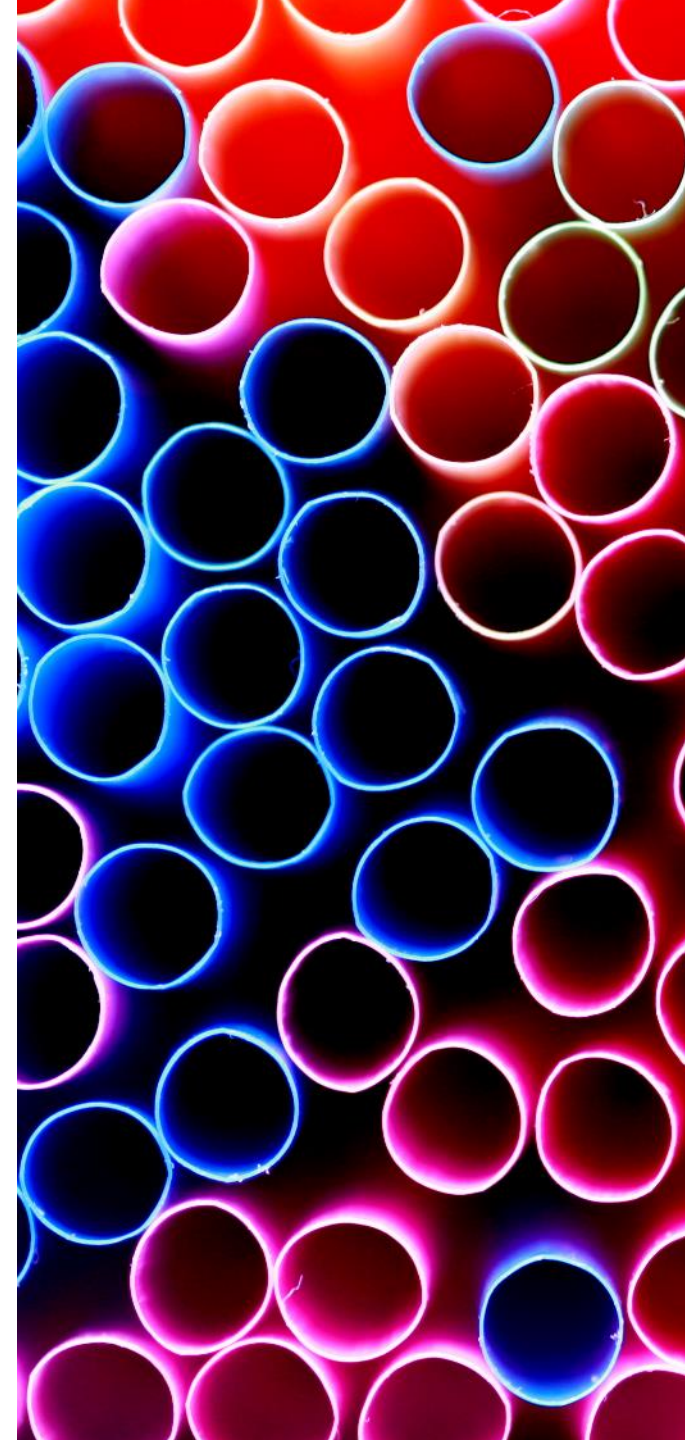
Challenges identified

- Fees too low
 - Low cost of compliance
 - Incentive for innovation undermined
 - Lack of cost coverage
 - Lack of transparency

1. Recyclability

Aspects related to level of recyclability:

- a) **Existence of technology to sort/recycle** (CITEO, CONAI)
- b) **Composite packaging** (separability/recyclability of parts/layers)
- c) **Presence of disruptive additives** (e.g. opacifiers)
- d) **Packaging format design** (e.g. form, labels, glues, inks, lids)
- e) **Existence of markets** for secondary raw materials (CONAI)





Promising options for modulated fees

2. Recycled content

Amount of recycled content of plastic packaging, including:

- a) Definition of recycled content
- b) Quality standards
- c) System of traceability for recycled material

Make harmful more expensive rather than the good cheaper.

3. Bio-plastics

a) Bio-based non-degradable plastics

- Many can be recycled through same channels as fossil-based plastics
- Low market share

b) Biodegradable or compostable plastics

- Contamination in many existing technologies
- Future potential, but comes with challenges





Non-preferred options at this point

- a) Product lifecycle assessment/ environmental footprint**
- b) Reusability**
- c) Size of packaging/ number of units**
- d) Eco-design criteria**

Opportunities/ policy options for Denmark

Concluding points

- **Modulate fees** to support the waste hierarchy
- **Fees need to be high enough**
- **Harmonised criteria in Europe**
- **Combine with other instruments for increased efficiency**
- **Monitoring and traceability KEY** – new technology



Thank you!

Mia Pantzar
mpantzar@ieep.eu

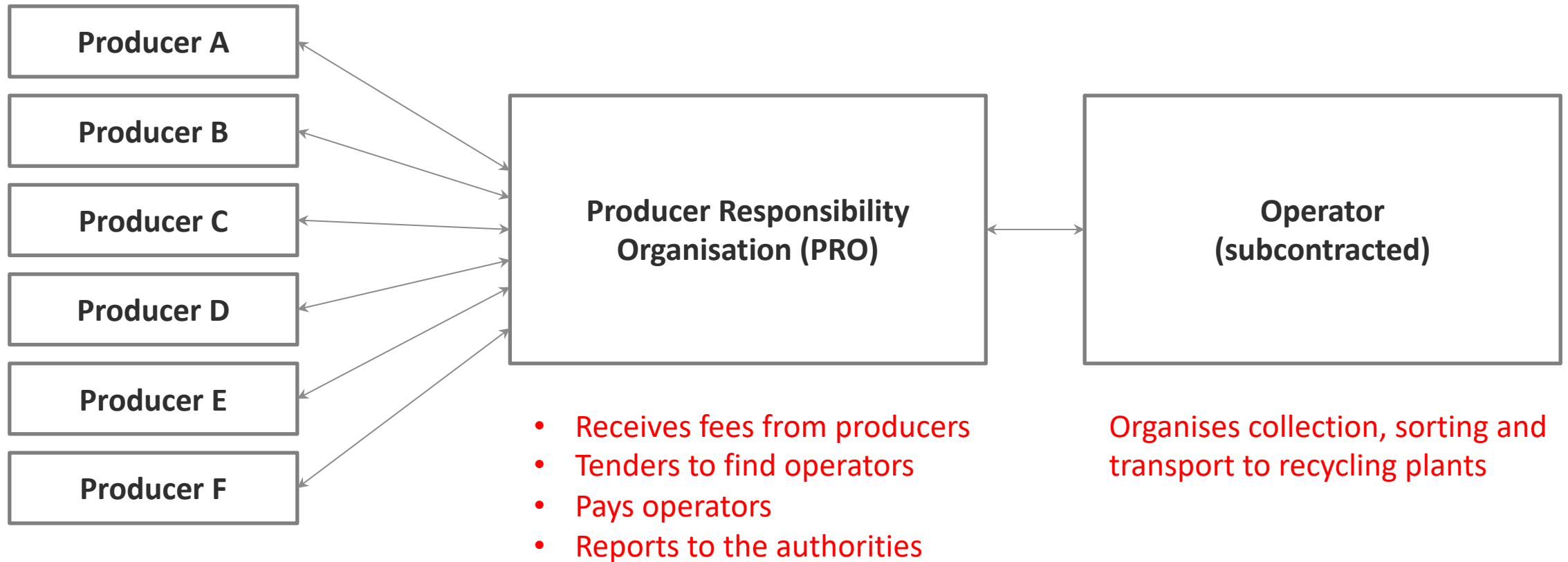
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ANNEXES

'Typical' CPR scheme





Existing EPR for packaging in the EU – packaging categories

(PRO-Europe membership examples; **case studies**)

Household (H)/equivalent packaging only	Commercial (C)/industrial (I) packaging only	H and C/I packaging
Belgium: Fost-Plus France: 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

Pros and cons of options for modulated fees

	Ambition	Examples	Is PRO EPR-fee modulation promising?
Modulated fees on plastic packaging: basic/general	Sustainable (plastic) packaging	Most EU countries	
Reusability	Encourage reuse	CY, CZ, IT	Better addressed through deposit refund?
Recyclability of plastic packaging:	Encourage recycling		
• Existence of technology to sort and/or recycle	Enable recycling	FR, IT	
• Composite packaging	Use where particular added-value	Many EU countries	
• Non-hazardous but disruptive additives	Minimise	FR	
• Packaging format design	Simplify recycling	IT, FR	
• Hazardous additives	Avoid		
• Existence of markets for secondary raw material	Supply for market	IT	
Recycled content of plastic packaging	Helps sustainable sourcing / circularity	DE (2019)	
Compostability/biodegradability	Encourage bio-economy/ non-fossil	AT, LV, NL	
Eco-design criteria	Encourage eco-design		Already covered by other criteria
Size of packaging	Discourage excessive packaging	IT	
Lifecycle assessment	Full life cycle impacts integrated		
Number of units	Reduce number of items		

Relevant policy options for EPR in general

- Extend EPR to additional types/applications of plastics
- Set high recycling and collection targets
- Clearly allocate responsibilities *[WFD, Art 8a, 1(a)]*
- Ensure full cost coverage of EPR schemes *[WFD, Art 8a, 4(a)]*
- Facilitate fair competition *[WFD, Art 8a, 1(d)]*
- Ensure transparency of information *[WFD, Art 8a, 3(e)]*

CASE France: Eco-modulation of 2018-22 CITEO tariffs

BONUS		
Awareness bonus	On-Pack bonus¹	
	8%	Sorting instruction on packaging
	5%	Triman logo on packaging
	4%	QR code that links to a validated sorting instruction
	Off-Pack bonus²	
	4%	Off-pack awareness actions (e.g. TV/radio, advertisement, press)
Reduction bonus	Reduction and recyclability Bonus³	
	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%

CASE Italy: Modulation according to CONAI product groups (from Jan 2018)

Product group	Fees (EUR/tonne)	Example products
A <i>Sortable/recyclable industrial waste</i>	179.00	<ul style="list-style-type: none"> - Liners, big bags and similar fabric bags for industrial use - Water dispenser bottles - Caps to cover pallets/big bags - Crates and industrial/agricultural boxes/large boxes - Bottle baskets
B <i>Sortable/recyclable household waste</i>	208.00	<ul style="list-style-type: none"> - Compliant reusable bags - Mechanical dispensers (e.g. spray pumps, triggers, etc.) - Compliant disposable carrier bags - Cans - up 5 litre capacity - Caps, closures, lids
C <i>Non-sortable/recyclable waste</i>	228.00	<ul style="list-style-type: none"> - Cases, boxes and other presentation containers - Emptied beverage system capsules - Labels - Protective film (e.g. removable film) - Adhesive tapes - Film for garments (e.g. film used by laundries) - Net and string bags (e.g. for fruit and vegetables)
Additional product criteria		
Sortability	<ul style="list-style-type: none"> - Packaging is large enough to be sortable (min. 5 cm x 5 cm) - Packaging is identifiable on the sorting line by optical readers - Minimum sorting quantities are met (homogenous quantities > 2% of total volume must be met) 	
Recyclability	<ul style="list-style-type: none"> - There are one or more recyclers that sort the material to produce a secondary raw material - There are one or more companies that use the secondary raw material - Any minimum quantity of material to supply a recycling line is met - Packaging is compatible with existing technology 	