



COLLECTION - SORTING - REPROCESING - LEGISLATION - EXTENDED PRODUCER RESPONSIBILITY - DEPOSIT SYSTEMS - FUTURE TECHNOLOGIES

Everything you need to know for your brand
SESSION 4

GOOD MORNING!

WE WILL START

IN A FEW MINUTES





COLLECTION - SORTING - REPROCESING - LEGISLATION - EXTENDED PRODUCER RESPONSIBILITY - DEPOSIT SYSTEMS - FUTURE TECHNOLOGIES

Everything you need to know for your brand
SESSION 4

MASTERCLASS

RECYCLING

a deep dive into recycling of household packaging



The programm



Five sessions into recycling of household packaging

26-01-2021

10.00 – 11.30 CET

Collection & Sorting

1

- What is 'recyclable'?
- Legal background on packaging waste
- Collection systems
- Sorting of packaging & technologies used.
- Standard design & sorting issues in sorting
- New sorting technologies (digital watermarking & Image recognition)

02-02-2021

10.00 -11.15 CET

Reprocessing

2

- Reprocessing in Europe
- Additional sorting at the reprocessor explained
- Technologies in place
- Upcoming reprocessing technologies: Chemical recycling
- Recycling vs LCA vs CO₂-emission

09-02-2021

10.00 – 11.15 CET

Design & Certification

3

All participants will receive PDF with Design for recycling Guidelines

- Design for Recycling Guidelines;
- Training: How to make a self-assessment of recyclability for your packaging
- Mindeststandard in Germany, RecycleCheck in NL
- Certification conform RecyClass

16-02-2021

10.00 – 11.00 CET

Producer Responsibility

4

- Everything you want to know on Extended Producer Responsibility (EPR-systems) throughout the world
- What is changing in EPR for packaging
- Presented by Lorax for legislation & registration, supported by SUEZ.circpack for everything on recycling

60 minutes

Date to be aligned with you

One-on-one session

5

- Opportunity to ask additional questions in a one-on-one live session with a SUEZ.circpack expert.
- Get answers to your dedicated questions that are really important for you and your company
- No competitors listening!

The programm



February 16

09:30 – 10.30 CET

Producer Responsibility

4

- Everything you want to know on Extended Producer Responsibility (EPR-systems) throughout the world
- What is changing in EPR for packaging
- Presented by Lorax for legislation & registration, supported by SUEZ.circpack for everything on recycling



Michelle Carvell

Director and COO at Lorax EPI

MASTERCLASS IN EPR

Michelle Carvell, COO

Feb 2021

LORAX EPI

ABOUT LORAX EPI



Lorax Compliance Ltd. was founded in 2014 to help companies simplify the escalating scope and complexity of EPR around the world.



We calculate global EPR submission reports across a wide range of EPR areas using our bespoke software, including packaging, batteries, WEEE, textiles and deposit programs.



We support over 90 global businesses, and our team has multiple decades of experience in EPR and environmental stewardship.



We provide consulting expertise in EPR, packaging, and product sustainability for companies with an environmental conscience.

Specialists in global environmental packaging and product stewardship compliance

AGENDA

Overview of EPR

Legislation for EPR

How does it work

Compliance with EPR Legislation

Growth and Developments in EPR

Future of Sustainability and Waste reporting

Taxes and Pacts



EPR OVERVIEW



PACKAGING AND PRODUCT RECYCLING LEVIES

In many countries around the world, companies must pay levies on all product packaging and on the products they sell.

- **The levies are designed to fund recycling efforts**
- Extended Producer Responsibility (EPR) funding is to build infrastructure for collecting materials to be recycled
- Countries with EPR have more advanced recycling programs and technology

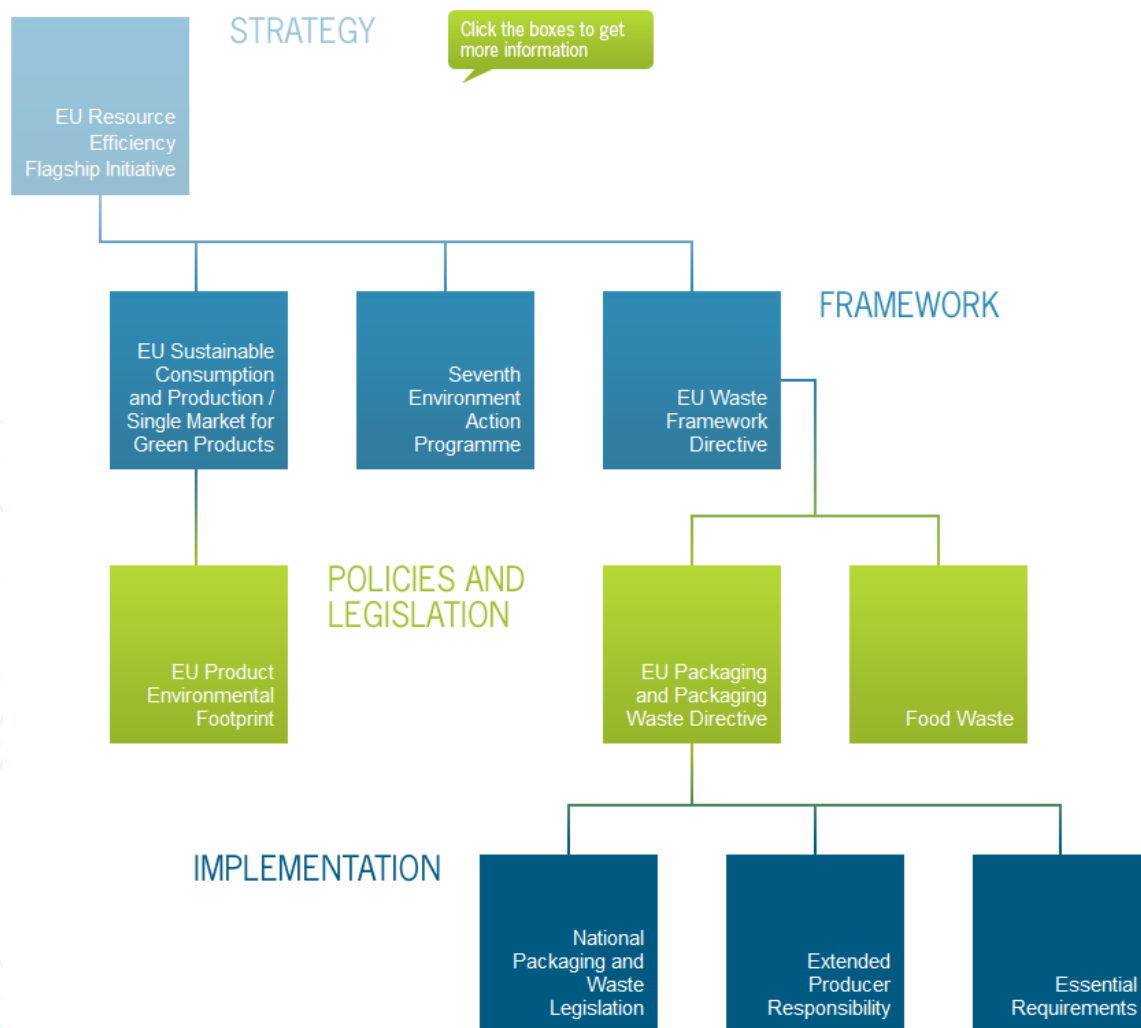
Packaging levies started in Germany in the early 1990s (der Grüne Punkt or Green Dot) and quickly spread to all European countries

- The compliance driver is the EU Packaging and Packaging Waste Directive
- More recently packaging levies have spread to other countries around the world
- The issue is referred to as green dot fees, packaging and product levies or EPR (Extended Producer Responsibility)



EPR LEGISLATION

EU LEGAL FRAMEWORK



Waste Framework Directive (WFD)

Packaging and Packaging Waste Directive (94/62/EC)

- Sets Targets
- Encourages use of recycled materials
- Requires compliance with Essential Requirements

Major amendment most recently 2018 (2018/852) via the Circular Economy Package

Image Source: European

EU CIRCULAR ECONOMY PACKAGE

The EU Circular Economy Package went into effect on July 4, 2018.

- ✓ **65%** of all municipal waste to be recycled by 2035
- ✓ **70%** of all packaging waste to be recycled by 2030
- ✓ **All** plastic packaging to be recyclable by 2030
- ✓ **Economic incentives** for producers to support recovery and recycling schemes for materials including packaging, batteries, electric and electronic equipment, vehicles, etc.

It includes the first **European Strategy for Plastics in a Circular Economy**, which focuses specifically on the design, reuse and recycling of plastic waste (particularly single use).

EU Member States have begun to introduce draft legislation transposing the CEP and its directives.



EU CIRCULAR ECONOMY PACKAGE AMENDMENTS

Amended **Packaging & Packaging Waste Directive** is part of the CEP.

- ✓ Required Member States to update their packaging and textile EPR programs by July 5, 2020. Updates will include:
 - ✓ Material-specific **recycling targets** for product packaging through 2030
 - ✓ Establishment of **EPR schemes for all packaging, textiles, and some single-use plastics** by 2025
- ✓ Commission will **strengthen Essential Requirements** by the end of 2020

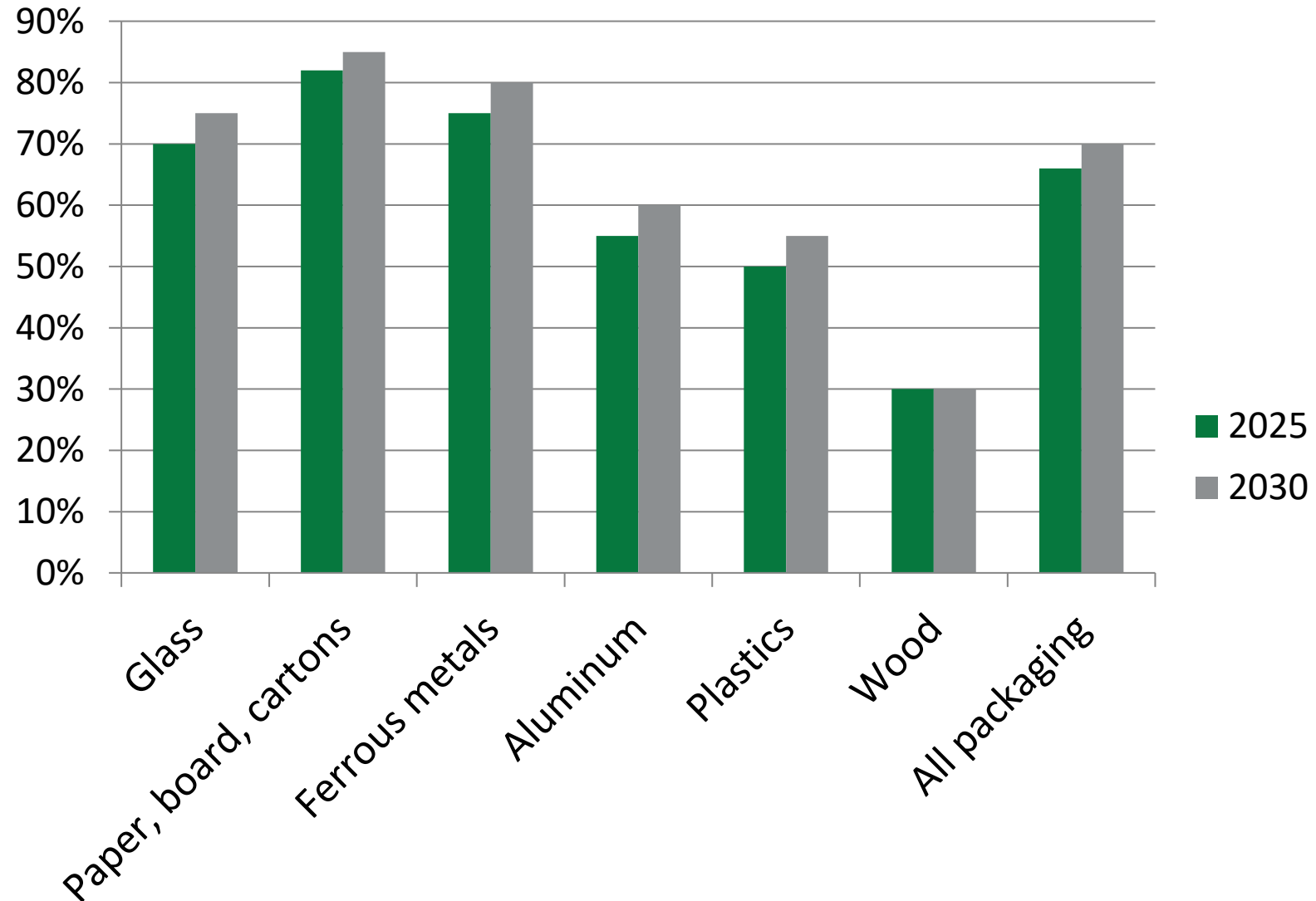
Amended **Waste Framework Directive** is also part of the CEP (Article 8a)

- ✓ Sets minimum operating requirements for EPR schemes, including:
 - ✓ Modulated fees should take into account durability, reparability, reusability and recyclability
 - ✓ Waste prevention measures taken for certain products, including food waste, beverage packaging, WEEE, textiles, etc.
- ✓ Member States have until January 5, 2023 to ensure preexisting EPR schemes comply with new rules

NEW EU RECYCLING TARGETS



EU Recycling Targets		
	2025	2030
Glass	70%	75%
Paper, board, cartons	82%	85%
Ferrous metals	75%	80%
Aluminum	55%	60%
Plastics	50%	55%
Wood	30%	30%
All packaging	66%	70%



EU WFD ARTICLE 8A AMENDMENTS

Minimum Standards Have Been Set for the Operation of EPR Programs

- Centralized body.
 - Where multiple bodies implement EPR obligations.
- Full cost coverage.
 - Moving toward 100 percent responsibility.
- Level playing fields.
 - Equal treatment of producers regardless of origin/size.
- Modulation of fees.
 - Rewards as well as penalties.
- Growth of EPR scope.
 - Printed paper/new schemes.

MATERIAL BANS AND RESTRICTIONS - SUPS

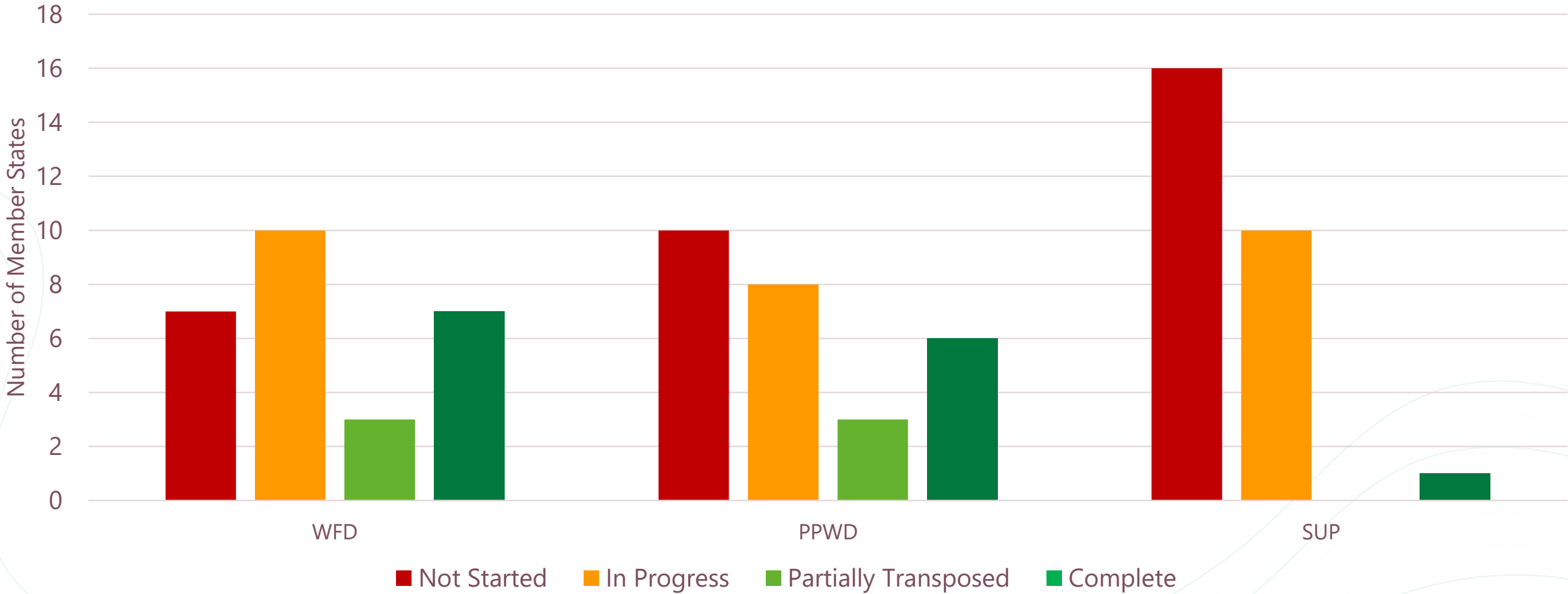
EU SINGLE-USE PLASTICS DIRECTIVE - 2019

- **Bans** on certain single-use plastic products that have alternatives
- **Measures to reduce** the use of plastic food and beverage containers
- **Measures to use specific labeling** with waste management options of certain products
- **EPR schemes for certain single-use plastic products (wet wipes) and fishing gear containing plastics in all Member States**
- **Recycled content targets** for PET bottles:
 - 25% by 2025
 - 30% by 2030
- **Recycling goals** for single-use plastic bottles:
 - 77% by 2025
 - 90% by 2029

*The Directive applies to products “**made wholly or partly from plastic** which is not designed for reuse and where ‘plastic’ is a material consisting of a polymer... **which can function as a main structural component of final products, with the exception of natural polymers that have not been chemically modified.**”*

Member States have two years to transpose legislation.

CEP DIRECTIVES TRANSPOSITION STATUS



EU/UK: PACKAGING ESSENTIAL REQUIREMENTS

In the EU, no packaging can be placed on the market unless it meets the **Packaging (Essential Requirements) Regulations** established in 2010 – **now being updated under the new Packaging and Packaging Waste Directive.**

- Volume and weight of packaging must be kept to a minimum to ensure necessary levels of safety, hygiene and consumer acceptance
- Packaging must be suitable for one of the following: material recycling, energy recovery (burning it must produce more energy than incineration process), organic recovery (composting)
- If reuse is claimed, the packaging must be suitable for that purpose as well as at least one of the recovery methods stated above

Regulations apply to most people in the EU/UK who handle packaging (Design, Pack/Fill, Import)

EUROPEAN GREEN DEAL

DECEMBER 11, 2019

Announced by the European Commission, the Green Deal sets a **carbon neutral target of 2050 for the European Union** (first ever Climate Law proposal introduced March 4). It also proposes **separate waste collection** throughout the EU and **rules on minimum recycled content** for several product categories, including packaging. According to the text, “where waste cannot be avoided, its economic value must be recovered and its impact on the environment and on climate change avoided or minimized.”

The Commission also unveiled a second **Circular Economy Action Plan (CEAP)** on March 11, 2020, which focuses on:

- **Reducing packaging and packaging waste** through targets and waste prevention measures
- **Designing for reuse and recyclability of packaging** by restricting some materials for certain applications
- **Reducing the complexity of packaging materials**, such as polymers used and number of materials

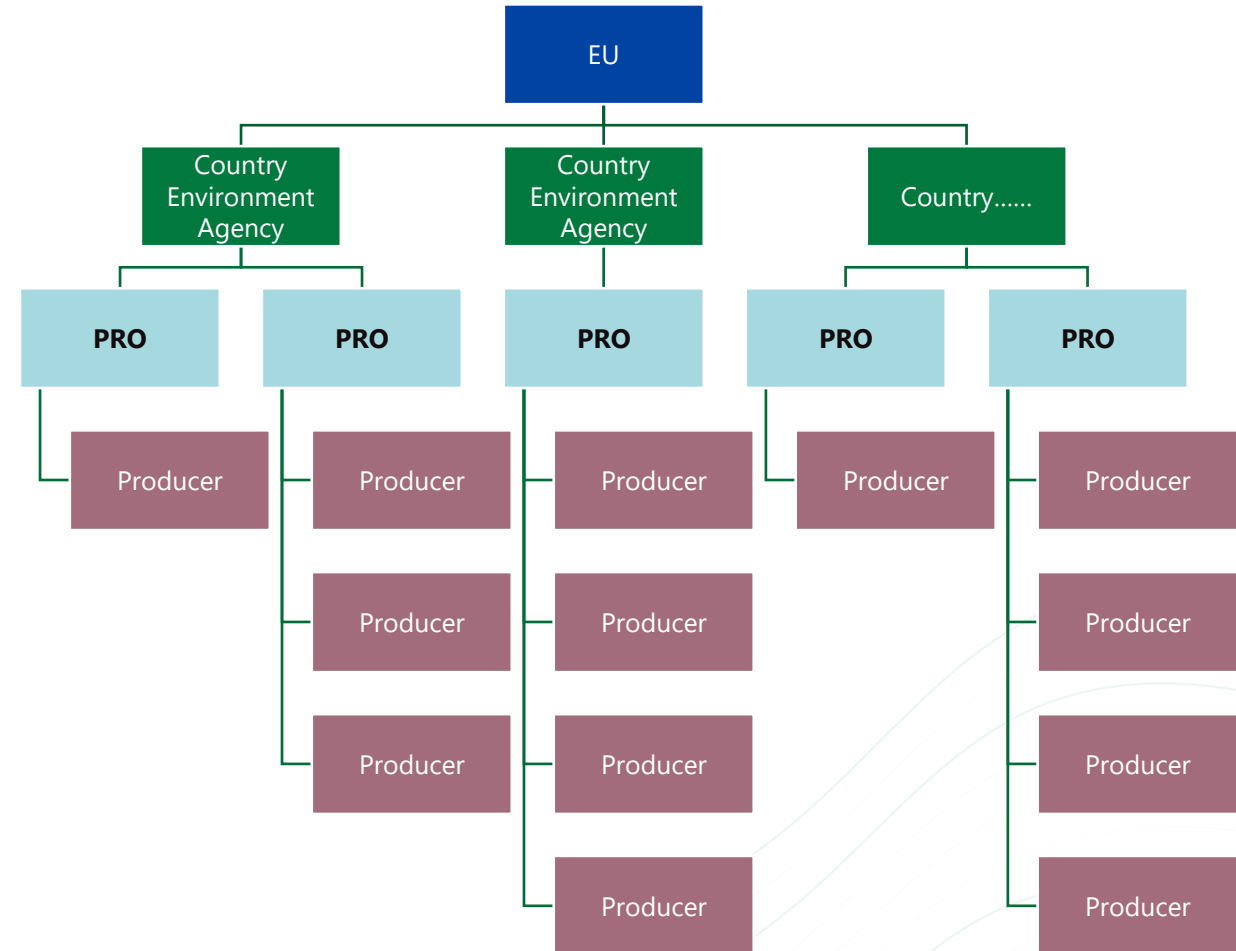


EPR: HOW DOES IT WORK?



HOW DOES EPR WORK (EU)

- EU sets recycling targets
- Countries are required to report data on targets to the EU
- In each market, PROs will set up to manage a range of Producers
- Producers report to PROs / Compliance Schemes
- Report data on packaging materials placed on the market
- All packaging should be counted
- Costs based on weights by material
- Fees can be modulated based on additional



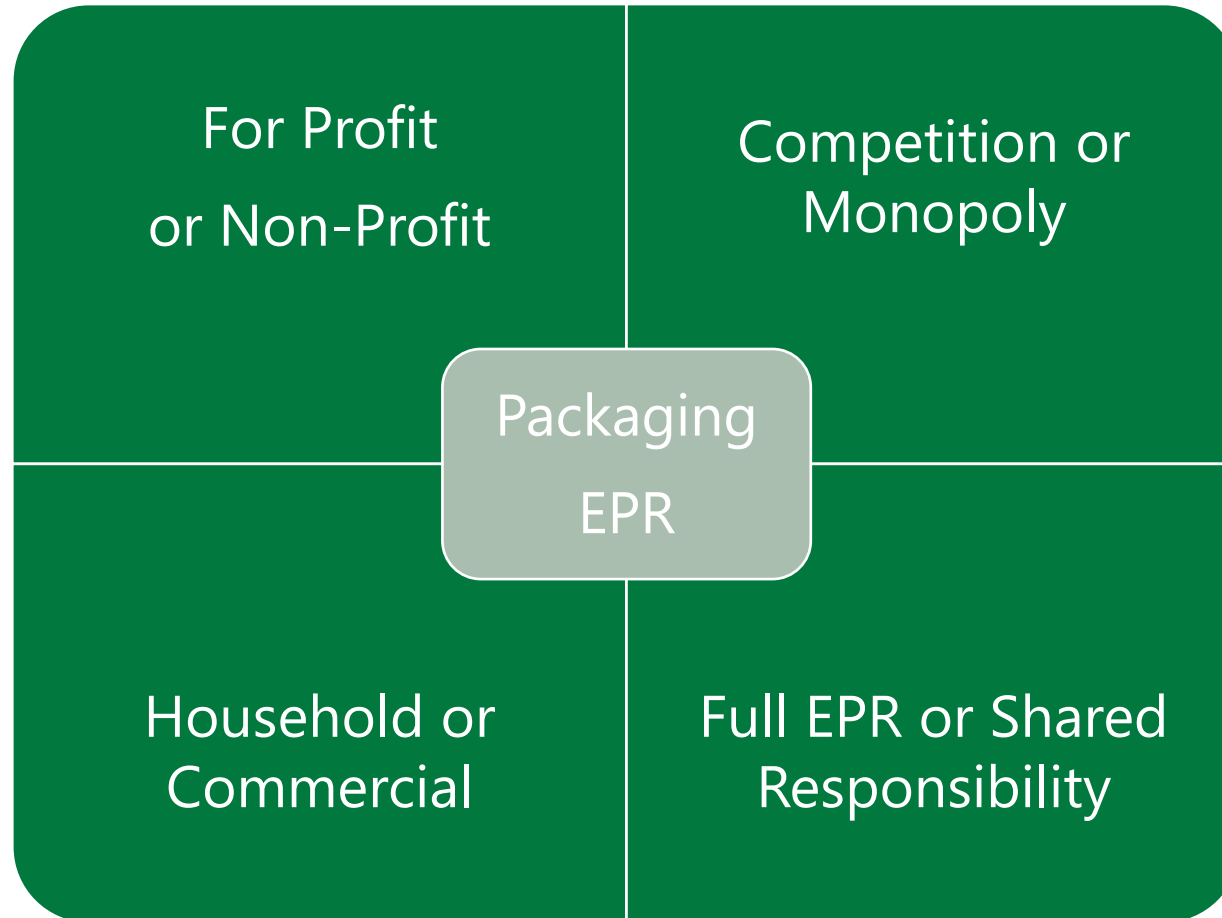
TYPES OF PROS – PACKAGING EPR

For Profit: UK, Austria, Germany

Non-Profit: Canada, Belgium

France / Canada: Household only

Spain / UK: Commercial included

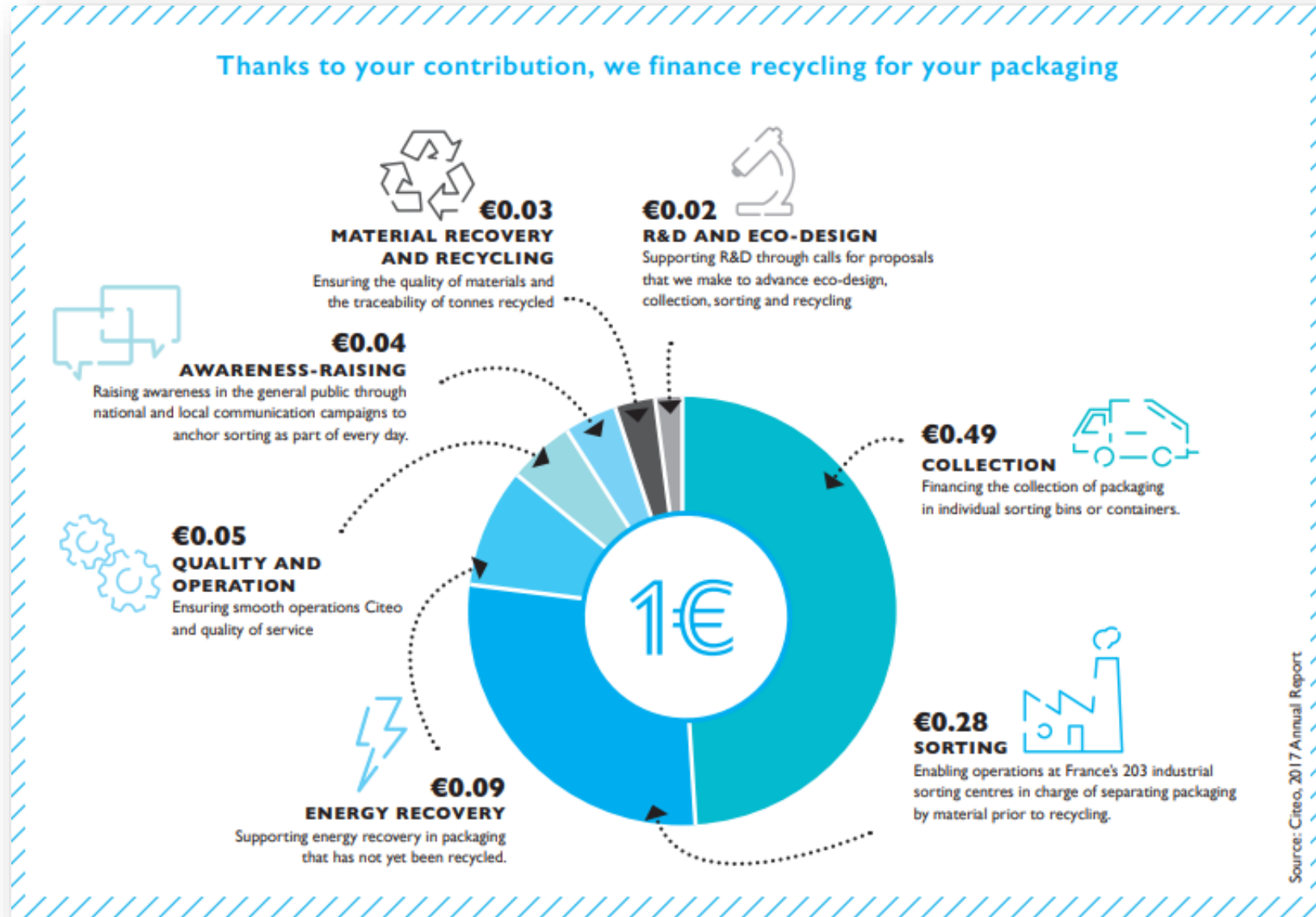


UK: Currently 20+ schemes but considering a move to one non-profit scheme.

Germany: Several schemes, and as of 2019 producers must also report to the government.

Many countries moving toward 100% producer responsibility.

WHERE YOUR MONEY GOES



THE COST OF PACKAGING EPR CANADA 2019

Source: CSSA Report to Stewards 2020, EEQ Consultation on the 2020 Schedule of Contributions

British Columbia (100% EPR)

Citizens serviced: 4,587,000
 Net cost: CAD \$101,236,146
\$22 CAD per capita
 (\$19 in 2018)
78.2% recovery rate

Saskatchewan (75% EPR)

Citizens serviced: 902,402
 Net cost: CAD \$10,617,712
\$12 CAD per capita
 (\$7 in 2018)
77.4% recovery rate

Québec (100% EPR) – 2018 Data

Citizens serviced: 8,345,193
 Net cost: CAD \$170,500,000
\$15.64 USD per capita
 (\$13.50 in 2017)
63% recovery rate

Manitoba (80% EPR)

Citizens serviced: 1,208,607
 Net cost: CAD \$37,642,703
\$31 CAD per capita
 (\$30 in 2018)
80.3% recovery rate

Ontario (50% EPR)

Citizens serviced: 13,205,235
 Net cost: CAD \$336,293,874
\$25 CAD per capita
 (\$23 in 2018)
60.2% recovery rate

MMSM Net Cost = 100% municipal costs, 100% commodity revenues, Promotion & Education, regulatory, market development and all other program management costs

SO Net Cost = supply chain costs, commodity revenues, P&E, market development and program management costs

COMPLIANCE WITH EPR LEGISLATION



EPR/PRODUCT STEWARDSHIP MANAGEMENT PROCESS

1. **Emerging Legislation Tracking**
 - Continuous monitoring of global environmental stewardship developments.

2. **Assessment**
 - Types of products, scale of products, possible exemptions.

3. **Registration**
 - Appropriate information to the correct entities; in place before a product goes to market.

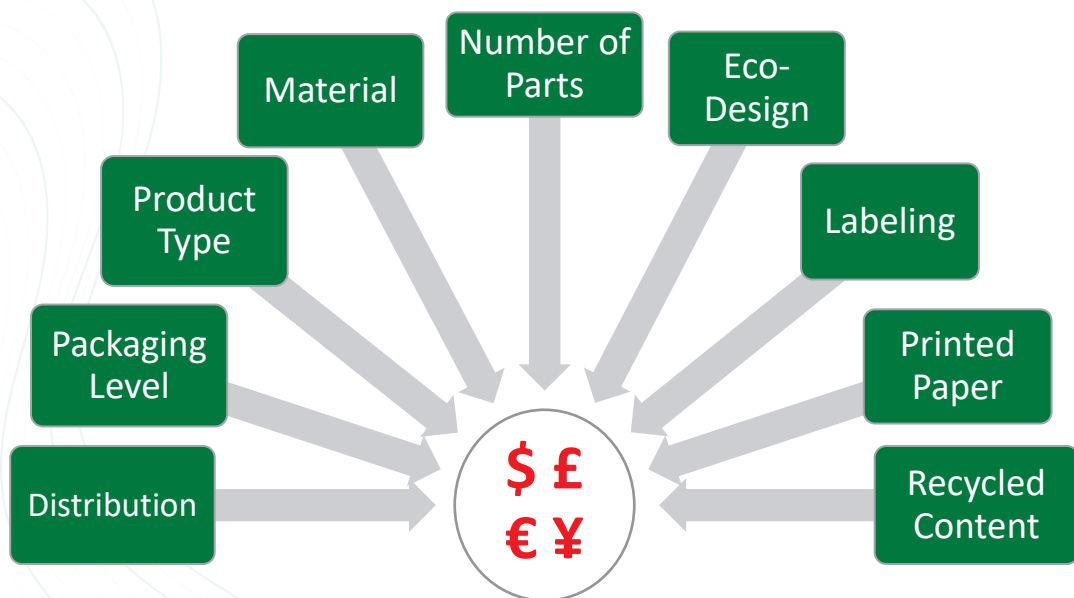
4. **Reporting**
 - All necessary data at the correct level by certain deadlines.

5. **EOL Management**
 - Take-back schemes/recycling and reuse.

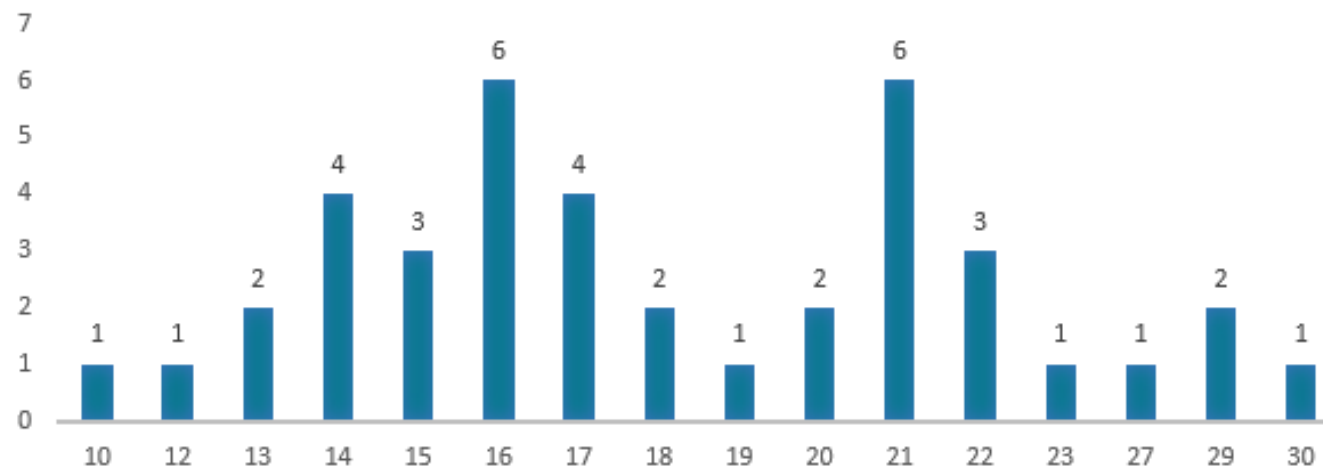
DATA, DATA & MORE DATA

REPORTING COMPLEXITY

- Little harmonization.
- Fee structure complexity.
- Extensive data collection to take advantage of modulation.



NUMBER OF REPORTING DATA POINTS FOR ALL PACKAGING EPR PROGRAMS (2020)



PACKAGING EPR FEES

REPORTING CATEGORIES VARY BY COUNTRY

Italy

Category	Material
PAPER	Paper
	Multimaterial Packaging Predominantly Paper (6 Categories)
PLASTIC	Level A – Sortable & Recyclable C&I
	Level B1 – Household w/ Effective & Consolidated Sorting/Recycling
	Level B2 – Household Other Sortable & Recyclable
	Level C – Not Sortable/Recyclable
STEEL	Steel
ALUMINUM	Aluminum
GLASS	Glass
Wood	Wood

France

Category	Material
PAPER	Paper/Cardboard
	Brick
PLASTIC	Bottle/Vial in Clear PET
	Bottle/Vial in Coloured PET, PE or PP
	Rigid Packaging in PE, PP or PET
	Flexible PE
	PS Rigid
	Complex or Other Resins Excluding PVC
	Packaging Containing PVC
STEEL	Steel
ALUMINUM	Aluminum
GLASS	Glass
OTHER MATERIALS	Wood, Cork, Textiles, Etc.
	Stoneware, Porcelain, Ceramic

Belgium

Category	Material
PAPER	Paper/Cardboard (>85%)
PLASTIC	PET Bottles & Flasks – Transparent colourless
	PET Bottles & Flasks – Transparent blue
	PET Bottles & Flasks – Transparent other
	PET Rigid other - transparent
	HDPE Bottles & Flasks
	PP rigid
	PS hard packaging
	PE films
	Plastics Other
STEEL	Steel (>50%)
ALUMINUM	Aluminum (>50%)
GLASS	Glass
OTHER MATERIALS	Beverage Cartons
	Valorised
	Non-valorised
	Hazardous Household Waste
	Obstructive Packaging

REPORTING CATEGORIES VARY BY PROVINCE

Category	Material
PRINTED PAPER	Newsprint
	Magazines and Catalogues
	Telephone Books
	Other Printed Paper
PAPER PACKAGING	Corrugated Cardboard
	Boxboard
	Gable Top Cartons
	Paper Laminates
	Aseptic Containers
PLASTICS	PET Containers
	HDPE Containers
	Plastic Film
	Plastic Laminates
	Polystyrene
STEEL	Other Steel Packaging
	Steel Aerosols
	Steel Paint Cans
ALUMINUM	Aluminum Food & Milk Containers
	Other Aluminum Packaging
GLASS	Clear Glass
	Coloured Glass

Recycle BC
VS.
Éco Entreprises
Québec

Category	Material
PRINTED MATTER	Newsprint Inserts & Circulars
	Printed Matter
PAPER/ CARDBOARD	Corrugated Carton & Kraft Paper
	Boxboard & Other Paper Packaging
	Gable-Top Containers
	Aseptic Containers
	Laminated Paper
PLASTICS	PET Bottles & Containers
	HDPE Bottles & Containers <5 L.
	Plastic Film, Bags & Plastic Laminates
	PVC, PLA and Polystyrenes
	Other Plastics
STEEL	Steel
ALUMINUM	Aluminum
GLASS	Clear Glass
	Coloured Glass

ECO-MODULATED PACKAGING FEES EXAMPLES

Sweden: Effective April 1, 2019, plastics categories changed, and an increased level of fees is applied to non-recommended resins and design choices (such as labels that cover >60% of the bottles, EVOH barrier>2%, black plastic). From 2020, paper packaging also has two fee levels based on the actual cost of recycling disruptive packaging formats.

Italy: Modulated plastics from April 2019, there are now four plastics categories with increasing fee levels based on recoverability. From October Paper is modulated

Spain: Effective Jan 1, 2020, plastics categories are separated by component type, material and format.

Ireland: Beginning July 2020, plastics were be reported in six different categories.

Netherlands: From 2019, plastics modulated by Non-Recyclable and easily recyclable levels.

	Sorting	Treatment	Purchaser
LDPE foil	✓	✓	✓
PP	✓	✓	✓
HDPE	✓	✓	✓
PET trays	✓	✓	Limited market
PET bottles*	✓	✓	✓
PP foil	✓	✓	Limited market
Other foil	✓	✓	Limited market
PVC	✓	✓	Limited market
PS	✓	Volume too low	-
EPS	✓	Volume too low	-
PLA	✓	Technology not available	-
OXO-degradable	Technology not available	Technology not available	-

Source: FTI Sweden

3 checkmarks shows the material works through the entire recycling process

FRANCE – CITEO: 2020 ECO-MODULATION FEES

Material	2019 (EUR/kg)	2020 (EUR/kg)	% Variance
Steel	0.0456	0.0455	-0.2%
Aluminum	0.1104	0.1145	3.6%
Paper & Cardboard	0.1628	0.1653	1.5%
Bricks	0.2497	0.2461	-1.5%
Glass	0.0140	0.0135	-3.6%
Bottle and vial in clear PET	0.3463	0.2888	-18.1%
Bottle and vial in colored PET, PE or PP	0.3463	0.3092	-11.3%
Rigid packaging in PE, PP or PET	0.3463	0.3330	-3.9%
Flexible PE packaging	0.3463	0.3608	4.1%
Rigid PS packaging	0.3463	0.3885	11.5%
Complex packaging/other resins excluding PVC	0.3463	0.4163	18.4%
Packaging containing PVC	0.3463	0.4857	33.5%
Wood, cork, textiles, etc.	0.3463	0.4163	18.4%
Stoneware, porcelain, ceramic	0.3463	0.4857	33.5%

FRANCE: CITEO 2021 RATES

PENALTY (MALUS) FEES

Level 1 penalties with a 10% rate:

- **Rigid PE/PP plastics** with a density greater than 1

Level 2 penalties with a 50% rate:

- **Glass** with a non-magnetic steel closing system; other than soda-lime; or soda-lime with non-separable contaminants (porcelain, ceramic, etc.)
- **Cardboard/paper packaging** that is reinforced or contains inks manufactured with the addition of mineral oils
- **Rigid plastics** containing carbon black or are otherwise not detectable by optical sorting
- **Bottle and vial in PET** containing glass beads

Level 3 penalties with a 100% rate:

- **Bottle and vial in PET** combined with aluminum, PVC or silicone with density greater than 1; or opacity > 4%
- **Bottle and vial in PVC**

FRANCE: CITEO 2021 RATES

BONUS (DISCOUNT) FEES

For Awareness Raising:

- **8%** for using complete sorting guidelines for all packaging units including Triman logo
- **5%** for using the Triman logo without related sorting instructions
- **4%** for awareness actions on sorting, such as on TV/radio, display, press or digital medium with purchase of space

For Reduction at the Source:

- **8%** for recyclability improvement (i.e. switching to a mono-material packaging system or reducing packaging units in a sales unit)

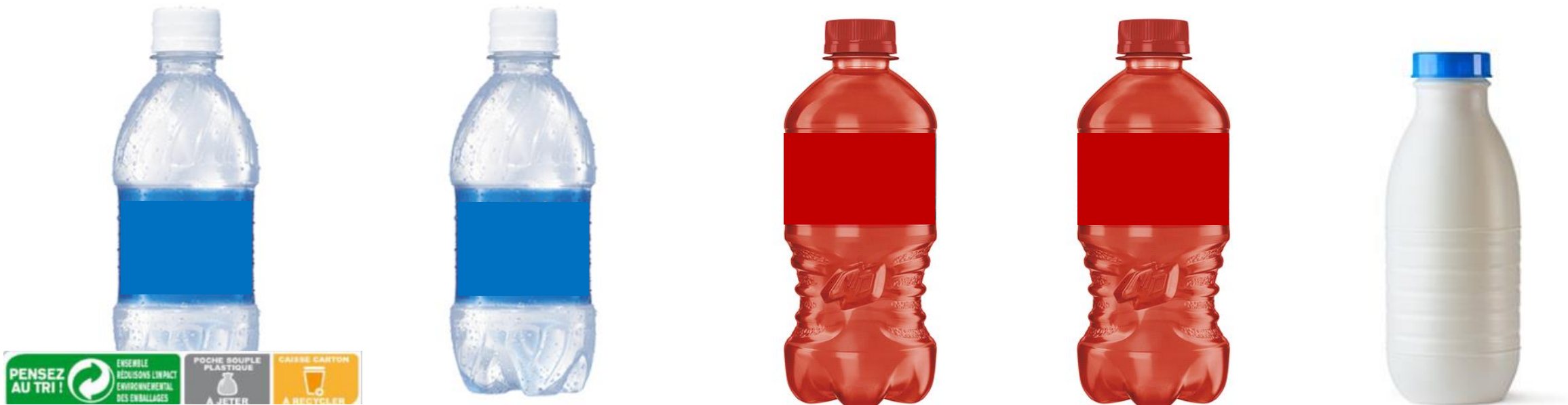
For Integrating Recycled Materials: (for packaging containing at least 50% recycled materials from household, industrial or commercial sectors)

- **50%** for PE or PP packaging containing at least 20% household PCR
- **30%** for PE or PP packaging containing less than 20% household PCR
- **20%** for PS packaging containing at least 50% household PCR



Sorting guideline ***must be shown along with Triman (mandatory in 2022) when at least one component*** in packaging is subject to recycling requirements in a national channel

CITEO 2020 FEES FOR 350ML PET BOTTLES (IN USD/1,000 UNITS)



Clear PET with sorting instructions	Clear PET (no sorting instructions)	Colored PET	Colored PET with PVC	Opaque PET
\$8.00	\$8.69	\$10.01	\$18.99	\$18.21

FINANCING SYMBOLS – THE GREEN DOT

The Green Dot is a widely recognized financing symbol. It is meant to indicate that the brand owner has paid membership fees to a compliance organization and has fulfilled its financial obligations to recover packaging under the EU Packaging Directive.

Currently, it is used as a financing symbol in nearly 30 countries and is trademarked in over 170 countries around the world.

The Green Dot is not intended to and should not be used to make an environmental or recycling claim.

The use of the Green Dot requires a valid membership agreement with an authorized Green Dot licensing or recovery organization in applicable countries or regions where the packaging is put on the market.

The Green Dot is now only mandatory in one EU market



The Green Dot will also incur a **malus fee in France** from April 2021. Products made or imported before then will benefit from an 18 month sell-through period. Products sold in identical packaging in a country which still mandates its use will be exempt until January 2022.

EPR FEES COMPARISON

YOGURT CONTAINERS

Glass Yogurt Container

(141 g)



- Clear glass container: 131.24 g
- Aluminum lid: 0.87 g
- Paper label: 0.2 g

Plastic Yogurt Container

(150 g)



- PP plastic container: 9.18 g
- Aluminum lid: 0.84 g



EUR/1,000 units
Rounded

	Canada		Belgium	France*	Italy
	BC	Ontario			
Glass Container	\$24	\$7	\$7	\$2	\$5
Plastic Container	\$7	\$2	\$4	\$3	\$5

Exchange rates (October 2020): CAD = 0.64 EUR

*Using 2020 fees in France, as the 2021 fee schedule has not yet been released

EPR FEES COMPARISON

COFFEE CONTAINERS

Steel Can (283 g)



- Steel can: 108.5 g
- PP label: 1.9 g
- Aluminum seal: 1.8 g
- HDPE cap: 5.8 g

Plastic Canister (292 g)



- HDPE can: 68.5 g
- PP label: 1.1 g
- Multi-material film seal: 1 g
- LDPE cap: 10.2 g

Flexible Pouch (311 g)



- Plastic/aluminum blend pouch: 17 g
- LDPE closure strip: 1.5 g

EUR/1,000 units
Rounded

	Canada		Belgium	France*	Italy
	BC	Ontario			
Steel Can	\$33	\$6	\$23	\$8	\$4
Plastic Canister	\$42	\$9	\$35	\$25	\$21
Flexible Pouch	\$13	\$4	\$40	\$8	\$12

Exchange rates (October 2020): CAD = 0.64 EUR

*Using 2020 fees in France, as the 2021 fee schedule has not yet been released

EPR FEES COMPARISON BABY FOOD PACKAGING

Glass Jar (128 ml)



- Clear glass: 89 g
- Metal lid: 6.3 g
- Paper label: 0.6 g

Multilayer Pouch (128 ml)



- Flexible resin pouch: 5.76 g
- Plastic closure: 2.78 g

2-Pack Plastic Pot/Lid (100 ml per unit)



- Plastic pot/lid: 9.74 g
- Plastic lid film: 0.75 g
- Carton sleeve: 2.9 g

EUR/1,000 units Rounded	Canada		Belgium	France*	Italy
	BC	Ontario			
Glass Jar	\$18	\$5	\$5	\$2	\$3
Multilayer Pouch	\$7	\$2	\$7	\$4	\$6
2-Pack Plastic Pot/Lid	\$8	\$2	\$9	\$5	\$7

Exchange rates (October 2020): CAD = 0.64 EUR

*Using 2020 fees in France, as the 2021 fee schedule has not yet been released

EPR FEES COMPARISON

E-COMMERCE



Corrugated (138.7 g)
HDPE (5.7 g)



LDPE (21.7 g)



Paper Laminate (21.7 g)



LDPE (17.2 g)

EUR/1,000 units Rounded	Canada		Belgium	France*	Italy
	BC	Ontario			
Shipping Box w/ Air Pillow	\$42	\$13	\$22	\$25	\$11
Plastic Bubble Mailer	\$16	\$4	\$20	\$8	\$12
Paper Bubble Mailer	\$10	\$3	\$25	\$9	\$2
Plastic Bag Mailer (no bubble)	\$12	\$3	\$16	\$6	\$10

Exchange rates (October 2020): CAD = 0.64 EUR

*Using 2020 fees in France, as the 2021 fee schedule has not yet been released

FTI 2021 FEES FOR PASTA BOXES/1,000 UNITS



Pasta box w/o window	Pasta box w/ window
€5.15	€7.89

Exchange rate (Oct 2020): 1 SEK = 0.097 EUR

ECO-MODULATION EXAMPLES

	Material Type	Lowest Fee/Ton	Highest Fee/Ton
Italy	Plastics	€ 150	€ 660
Sweden	Household plastics	€ 545*	€ 850*
Netherlands	Plastics (recyclable and non-recyclable)	€ 410	€ 670
Belgium	Household plastics	€ 200	€ 1,134
France	Plastics	€ 330	€ 485
British Columbia, Canada	Plastics	€ 495*	€ 910*

* Converted to Euro

SIGNIFICANT FEE INCREASES 2020-2021

PLASTICS EXAMPLES

	Material Type	2020 Fee/kg	2021 Fee/kg	% Increase
Italy (Conai)	Level B2 – Other selectable and recyclable domestic plastic packaging	€0.436	€0.560	28.4%
Belgium (Fost Plus)	Transparent EPET bottles and flasks other than blue	€0.2461	€0.4706	62.6%
Spain (Ecoembes)	Flexible HDPE, LDPE, biodegradable and other plastics	€0.739	€0.856	15.8%
Netherlands (Afvalfonds Verpakkingen)	Plastics, reduced fee	€0.340	€0.410	20.6%
Ontario, Canada (Stewardship Ontario)	HDPE containers and bottles	CAD \$0.1392	CAD \$0.2444	75.6%
Québec, Canada (ÉÉQ) (draft 2021)	HDPE bottles and containers < 5 l.	CAD \$0.16266	CAD \$0.18579	14.2%

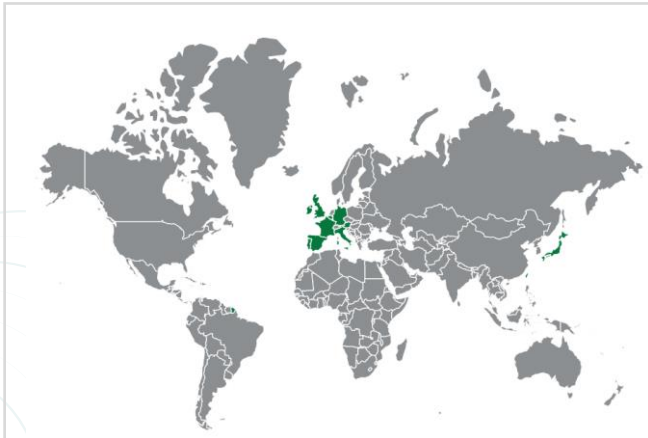


GROWTH, DEVELOPMENT AND THE FUTURE OF EPR

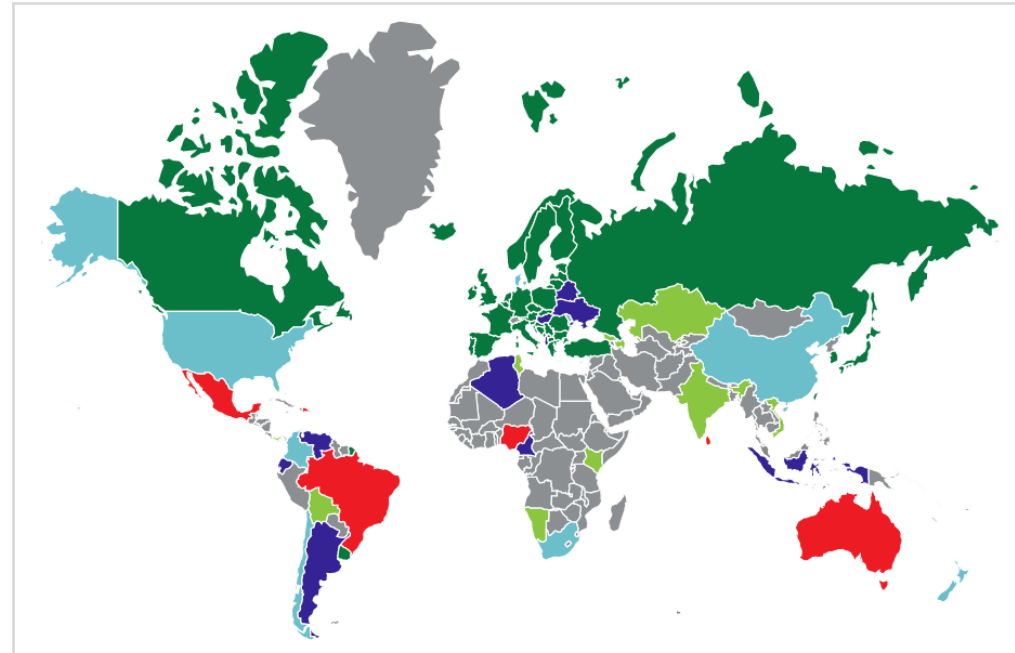
EPR LANDSCAPE EVOLVING AT FAST PACE

UPDATED JANUARY 2021

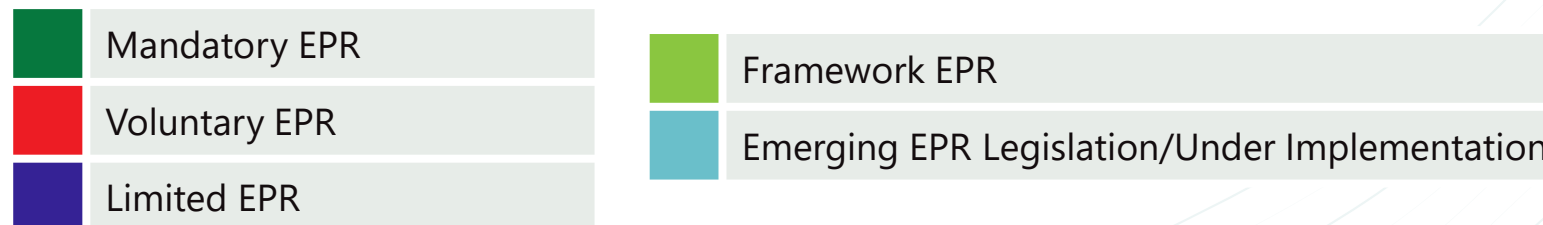
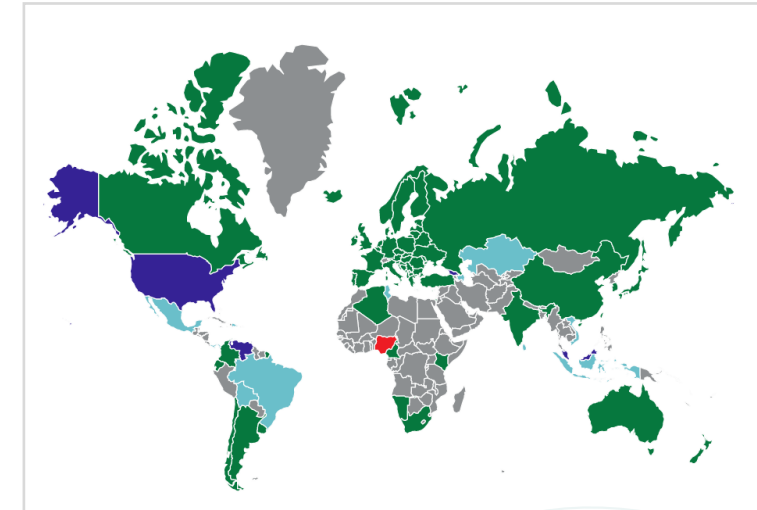
Packaging EPR in 2000



Packaging EPR in 2021



Packaging EPR in 2025



EPR EXPECTATIONS THROUGH 2030: OVERVIEW

Europe	Circular Economy Package and its Directives have set new material-specific recycling targets for packaging materials through 2030
	EPR fees will increase in order to meet these targets – expected to double and become more granular in the next 5-10 years
China	EPR program to be developed in the next few years; full system implementation expected by 2025
	50% recycling target for 2025 will help determine fees on a material basis
India	Also expected to implement EPR systems within the next few years
	Bans on all single-use plastics nationwide by 2022 will influence fees
North America	Canadian fees increasing, especially in Ontario
	No current packaging EPR in the USA, but Lorax EPI projects that 1-2 states will pass legislation in 2021; the West Coast and Northeast will implement systems in the next 5 years; 50% of states by 2030

GLOBAL PLASTIC TAXES EXAMPLES

Country	USA	France	EU	Germany	Spain	UK	Italy
Status	Discussed	Law passed, implementing regulations required	Leaders agreed to a tax in July 2020	Draft law leaves room for possible tax	Draft bill was open to public consultation until July 3, 2020	Passed, coming online in April 2022	Passed, coming online in July 2021
Scope	Virgin resin	Certain products and packaging materials	Unrecycled plastic packaging	Materials "that have been recycled or prepared for recycling"	Disposable plastic packaging/ products used for food or goods	Plastic packaging containing less than 30% recycled content	Certain plastic products, mostly SUPs. Exemptions for recycled content, etc.
Amount	N/A – currently a concept supported by the Consumer Brands Assoc.	May be a tax or minimum recycled content requirements	€0.80-2.00/kg	Economic incentives – taxes or other	€0.45/kg	£200/tonne	€0.45 EUR/kg (10% tax credit for compostable plastics)
Other Info	Expected to become a political issue soon	Part of anti-waste law for a circular economy	Part of EU budget 2021-27 proposal	Part of draft Act to implement Waste Framework Directive	Expected to come into force on July 1, 2021	Consultations until August 2020 regarding scope, imposition, etc.	Minimum €250 for tax evasion + other fines for non-compliance

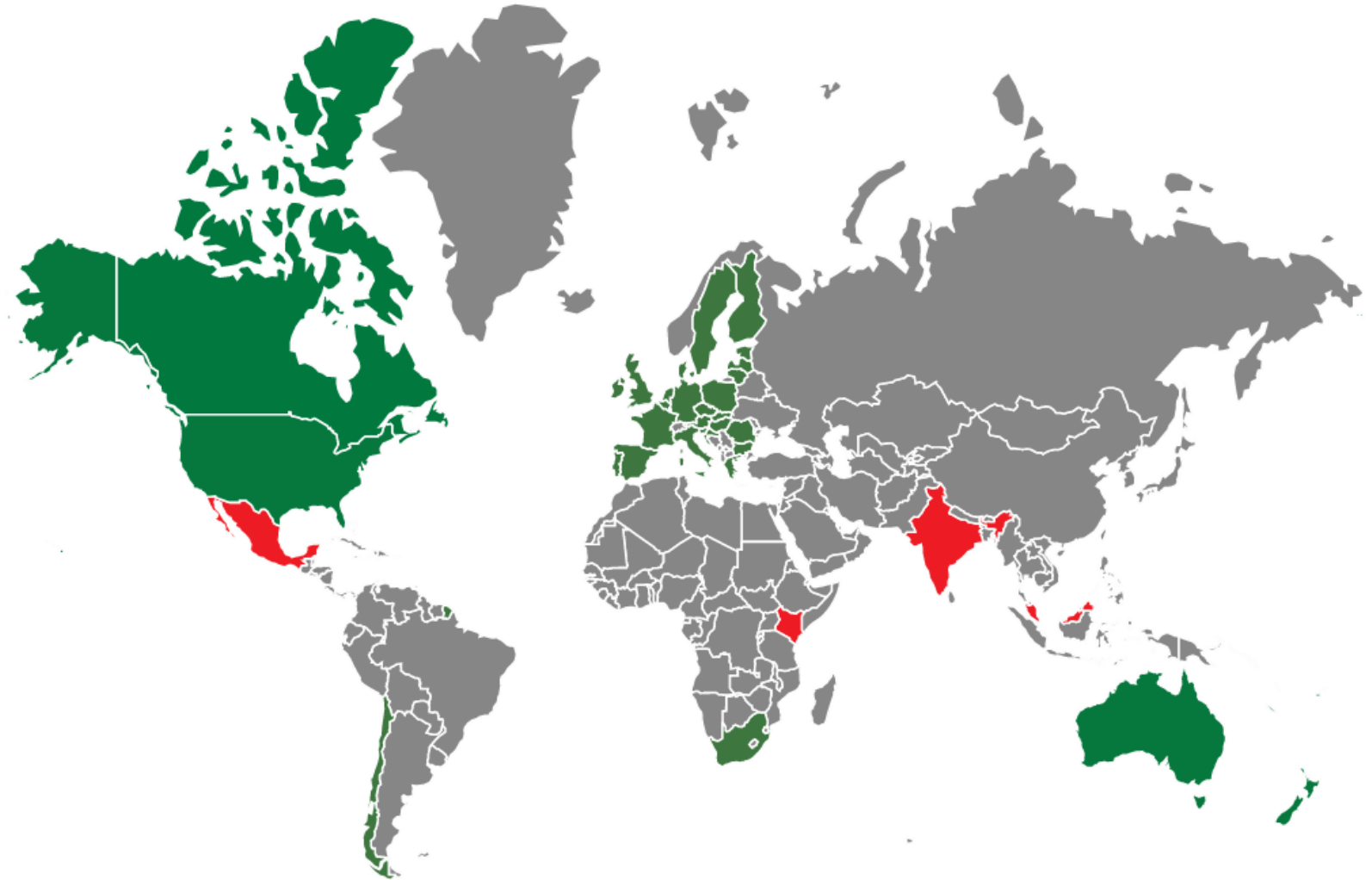
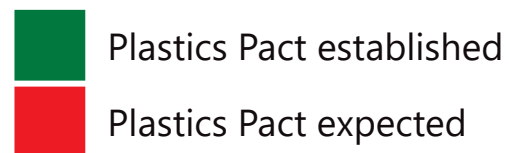
GLOBAL PLASTICS PACTS

Established Plastics Pacts

UK, France, Netherlands,
Chile, South Africa, Portugal,
Europe, USA, Poland,
ANZPAC, Canada

Expected Plastics Pacts

Malaysia, Mexico, India,
Kenya



GLOBAL PLASTICS PACTS GOALS AND TARGETS FOR 2025

	UK	France	Netherlands	Chile	South Africa	Portugal	Europe	USA	Poland	ANZPAC	Canada
Education Initiatives		Yes							Yes		
Eliminate problematic/unnecessary items	Single-use packaging	Packaging		Plastic packaging and single-use utensils	Plastic packaging	Single-use plastic items		Packaging	Plastic packaging	Plastic packaging	Plastic packaging
Plastic reduction			20% less than in 2017				20% less virgin plastics		30% less virgin plastics compared with 2018		
Reusable, recyclable, compostable	100% for plastic packaging	100% for packaging	SUPs reusable where possible, 100% recyclable	100% for plastic containers and packaging	100% for plastic packaging	100% for plastic packaging	Plastic packaging/SUPs reusable if possible, 100% recyclable	100% for plastic packaging	100% for plastic packaging	100% for plastic packaging	100% for plastic packaging
Recycling Rate (Plastic Packaging)	70% recycled or composted	60% by 2022	70%	33% reused, recycled or composted	70%	70%	Increase collection, sorting and recycling capacity by 25%	50% recycled or composted	55%	Increase collection and recycling by 25%	50% recycled or composted
Recycled Content	30%	30%	35%	25%	30%	30%	30%	30% (or "responsibly sourced bio-based content")	25%	25%	30%

MATERIAL BANS AND RESTRICTIONS - SUPS

Below are a few global single-use plastic bans that were announced in recent years:

	EU	UK	Canada	China	Australia
Items to be Banned	Cotton bud sticks Cutlery Plates Straws Stirrers Sticks for balloons Expanded polystyrene (EPS) cups EPS food containers EPS beverage containers Oxo-degradable plastic products	Cotton bud sticks Cutlery Plates and bowls Straws Stirrers Polystyrene (PS) packaging Oxo-degradable plastic products PVC packaging	Plastic grocery bags Straws Stirrers Six-pack rings Cutlery Food containers made from difficult to recycle plastics (Not officially established, but will include "harmful" SUPs)	Tableware Cotton swabs Microbeads in household products Bags in some locations Straws Hotel disposables	Priority items to be eliminated, replaced or optimized: EPS food and beverage service containers EPS packaging fill Non-certified compostable packaging Lightweight bags
Date of Ban	2021	End of 2020	As early as 2021	2020-2025	2025
Other Info	Part of EU Single-Use Plastics Directive	Applicable to UK Plastics Pact signatories	Comments accepted until 9 Dec 2020		Part of 2025 National Packaging Targets

SUP BANS EXPANDING RAPIDLY

Single-use plastic regulations are occurring on municipal, state/provincial, national and regional (EU) levels.

Examples of some recent regulations:

NATIONAL	STATE/PROVINCIAL	LOCAL
<p>Guatemala gave businesses two years to eliminate single-use plastic bags, straws, cups, plates, mixers and plastic/EPS containers on September 21, 2019.</p>	<p>California banned small plastic bottles in hotels, which will go into effect in 2023.</p>	<p>California San Francisco International Airport banned single-use plastic water bottles on August 20, 2019.</p>
<p>France banned cups, lids, plates, straws, stirrers, cutlery, steak spikes, meal trays, ice cream jars, salad bowls, etc. on January 1, 2020.</p>	<p>South Australia recently passed legislation to prohibit straws, cutlery, beverage stirrers, EPS food and beverage containers, oxo-degradable plastics, etc.</p>	<p>Sao Paulo, Brazil banned plastic straws in February 2020, which will expand to tableware in 2021.</p>



COLLECTION - SORTING - REPROCESING - LEGISLATION - EXTENDED PRODUCER RESPONSIBILITY - DEPOSIT SYSTEMS - FUTURE TECHNOLOGIES

**THANK YOU FOR
PARTICIPATING!**

Masterclass Recycling



Questions?



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