



MAINE LEGISLATOR BRIEFING:

LD 1431

PACKAGING EPR

Victor Bell
US Managing Director

January 22, 2020

Specialists in global environmental packaging and product stewardship compliance



- For major international clients, Lorax/EPI analyzes EPR and stewardship legislation to help address new or existing requirements.
- Using our **redipoint**® software, we take customer data and provide EPR reports for any type or jurisdiction across the world.
- Our software can also create costs analyses against bills of materials in every market a product is sold. We apply our expensive knowledge of EPR rules in each country to improve report accuracy, minimize fee impacts and evaluate new packaging designs with respect to waste fees.

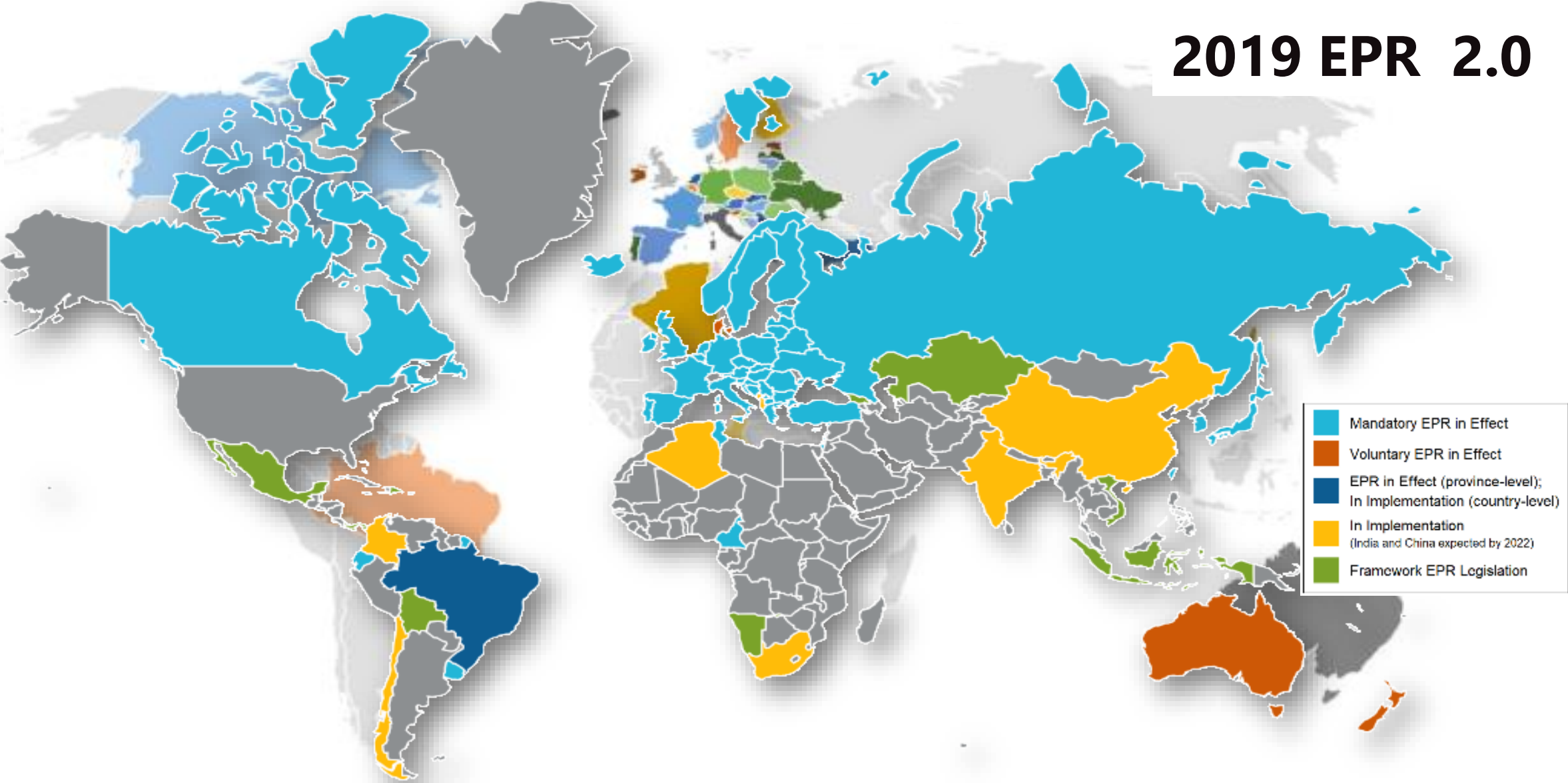
PACKAGING RECYCLING LEVIES

- The main purpose of **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
 - EPR subsidizes recycling markets
- In countries with packaging EPR, companies must pay levies on all product packaging (and sometimes printed paper) they sell
 - **The levies are designed to fund recycling efforts**
- Packaging levies started in Germany in the early 1990s (der Grüne Punkt or Green Dot) and quickly spread to all European countries
 - 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)

EVOLUTION OF PACKAGING EPR: 1990s TO PRESENT



2019 EPR 2.0



THE COST OF PACKAGING EPR CANADA 2018

Source: CSSA Report to Stewards 2019, EEQ Consultation on the 2020 Schedule of Contributions

British Columbia (100% EPR)

Citizens serviced: 4,578,000

Net cost: CAD \$88,728,670

\$14.55 USD per capita

(\$11.75 in 2017)

78.1% recovery rate

Manitoba (80% EPR)

Citizens serviced: 1,206,959

Net cost: CAD \$36,371,598

\$22.97 USD per capita

(\$16.26 in 2017)

77.2% recovery rate

Saskatchewan (75% EPR)

Citizens serviced: 852,331

Net cost: CAD \$6,040,044

\$5.36 USD per capita

(\$5.04 in 2017)

70.1% recovery rate

Québec (100% EPR)

Citizens serviced: 8,345,193

Net cost: CAD \$170,500,000

\$15.64 USD per capita

(\$13.50 in 2017)

63% recovery rate

Ontario (50% EPR)

Citizens serviced: 13,078,155

Net cost: CAD \$299,307,268

\$17.61 USD per capita

(\$14.26 in 2017)

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

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
	Other Plastics
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

THE COST OF PACKAGING EPR

EUROPE 2017



Italy – Conai

- Citizens serviced: 55,000,000
- Net cost: € 524,000,000
- Number of clients*: 8,500
- Municipalities covered: 6,700
- **\$10.61 USD per capita**



France – Citeo

- Citizens serviced: 64,850,000
- Net cost: € 665,000,000
- Number of clients*: 22,741
- Municipalities covered: 36,508
- **\$11.42 USD per capita**



Belgium – Fost Plus

- Citizens serviced: 11,000,000
- Net cost: € 144,300,000
- Number of clients*: 5,000
- Municipalities covered: 589
- **\$14.61 USD per capita**

*Clients = brand owners or retailers paying fees into the system

REPORTING CATEGORIES VARY BY COUNTRY

Italy

Category	Material
PAPER	Paper
	Multimaterial Packaging Predominantly Paper
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

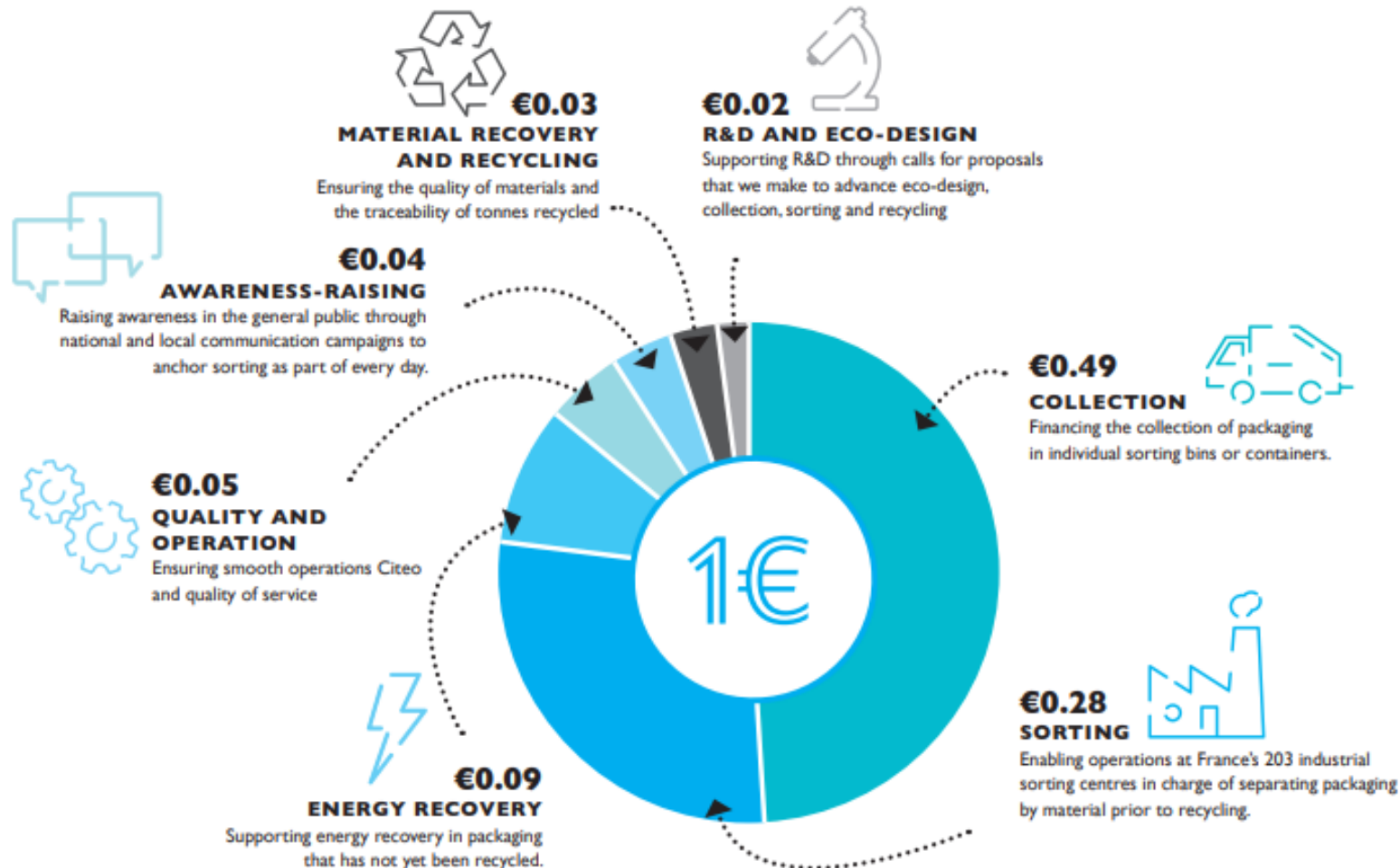
Category	Material
PAPER & CARDBOARD	Paper/Cardboard
	Brick
PLASTIC	Bottle/Vial in Clear PET
	Bottle/Vial in Coloured PET, PE or PP
	Rigid Packaging in PE, PP or PET
	Flexible PE
	PS Rigid
	Complex or Other Resins Excluding PVC
	Packaging Containing PVC
STEEL	Steel
ALUMINUM	Aluminum
GLASS	Glass
OTHER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

Belgium

Category	Material
PAPER & CARDBOARD	Paper/Cardboard (> 85%)
PLASTIC	PET Bottles & Flasks
	HDPE Bottles & Flasks
	Plastics Other
STEEL	Steel (> 50%)
ALUMINUM	Aluminum (> 50%)
GLASS	Glass
OTHER MATERIALS	Beverage Cartons
	Complex Packaging, Valued
	Complex Packaging, Non-Valued

CITEO – WHERE YOUR MONEY GOES

Thanks to your contribution, we finance recycling for your packaging








Source: Citeo, 2017 Annual Report

MRFs in the USA (where no packaging EPR is in place) lose an estimated \$64 for every ton of material processed.

Negative values come primarily from mixed paper, glass and residual streams rather than plastic.

FRANCE: CITEO 2020 RATES

CITEO currently only has one EPR fee for all plastics. Beginning in 2020, there will be **7 categories for plastic packaging “to reflect the level of development of recycling facilities”**:

Material Rates (ct €/kg):	
Plastic	
<div> <div>  </div> <div>  </div> <div>  </div> <div>  </div> <div>  </div> </div> <div>LEVEL OF DEVELOPMENT OF THE RECYCLING CHANNEL</div>	<div>Bottle and vial in clear PET</div> <div>28,88</div>
Bottle and vial in coloured PET, in PE or PP	30,92
Rigid packaging in PE, PP or PET	33,30
Flexible PE packaging	36,08
PS rigid packaging	38,85
Complex packaging or other resins excluding PVC	41,63
Packaging containing PVC	48,57

Source: CITEO 2020 rates for recycling household packaging

FRANCE: CITEO 2020 DISRUPTOR FEES

Penalty (malus) fees:

- **100%** for PET packaging using mineral opacifiers at a > 4% rate
- **100%** for bottles without a recycling channel (i.e. plastic bottles that are **not** made of PET, HDPE or PP)
- **50%** for disruptive packaging, such as:
 - Glass other than soda-lime, or glass with a disruptive infused element such as ceramic
 - Reinforced cardboard
 - Rigid colored PET combined with aluminum, PVC, or silicone
- **10% for disruptive packaging, such as:**
 - **Glass with a non-magnetic steel closing system**
 - **Rigid plastics that are dark in color and not detectable by optical sorting, or made of PE or PP with high density**
 - **PET containing glass beads**
 - **Cardboard/paper packaging with inks with mineral oils**

FRANCE: CITEO 2020 BONUS FEES

Bonus (discount) fees:

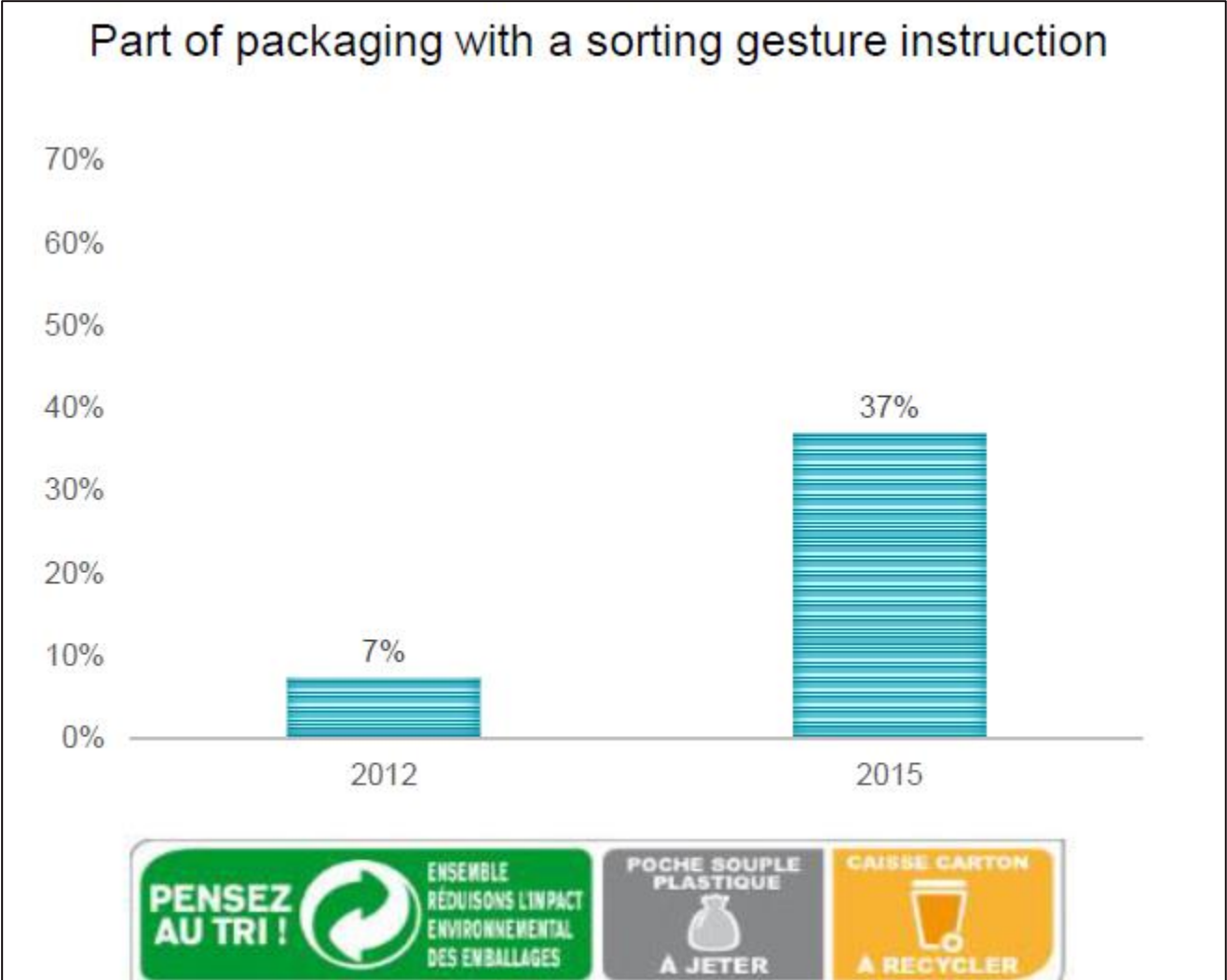
- **50%** for PE or PP packaging containing at least 50% recycled material
- **8%** for recyclability improvement (i.e. switching to a mono-material packaging system or reducing packaging units in a sales unit)
- **8%** for using complete sorting guidelines for all packaging units including Triman
- **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**



Triman logo:

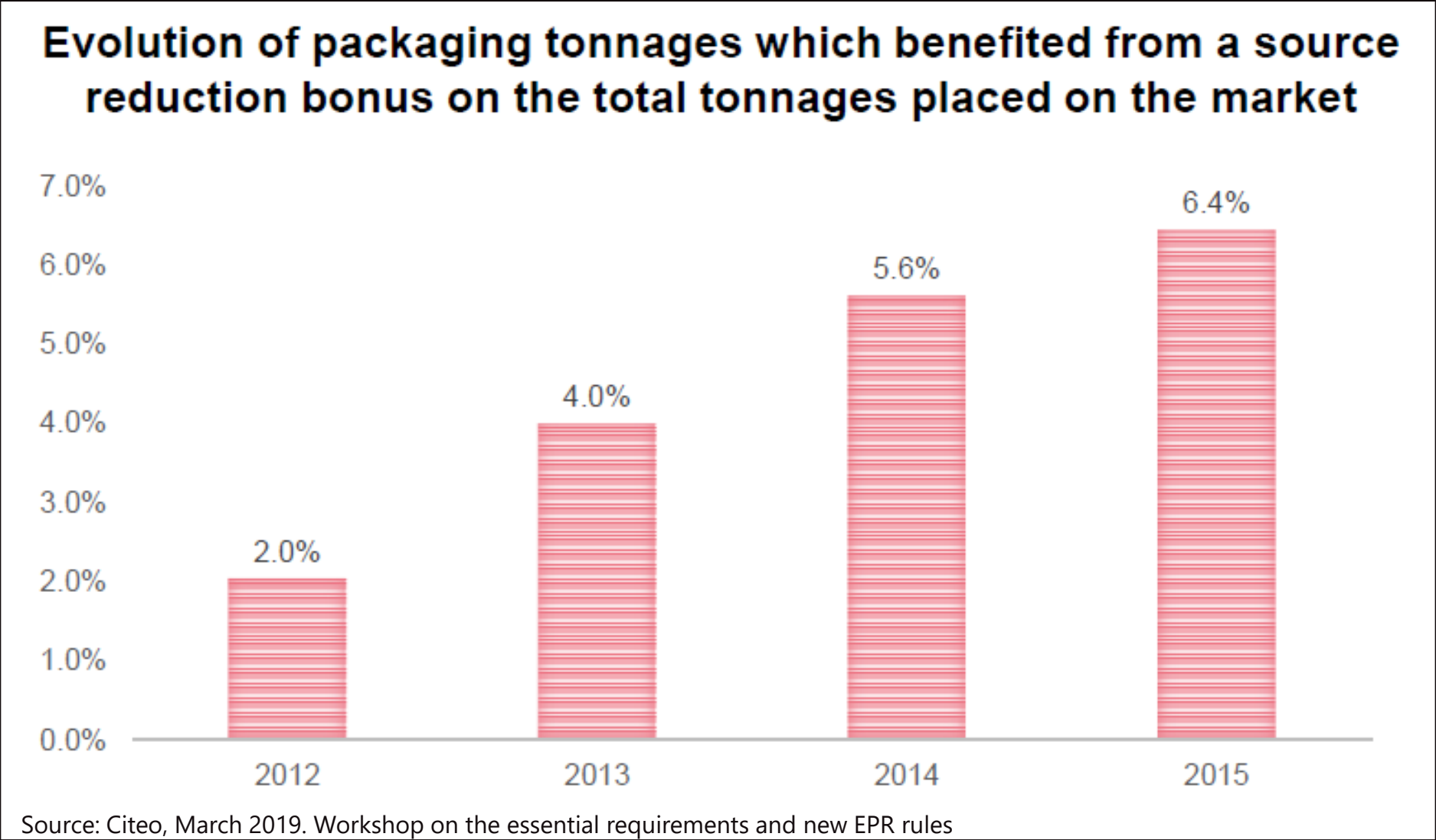
Mandatory in France. Its purpose is to provide a more understandable symbol for consumers to know what is recyclable (replaces Green Dot)

MODULATING FEES LEAD TO GREATER USE OF SORTING LABELS



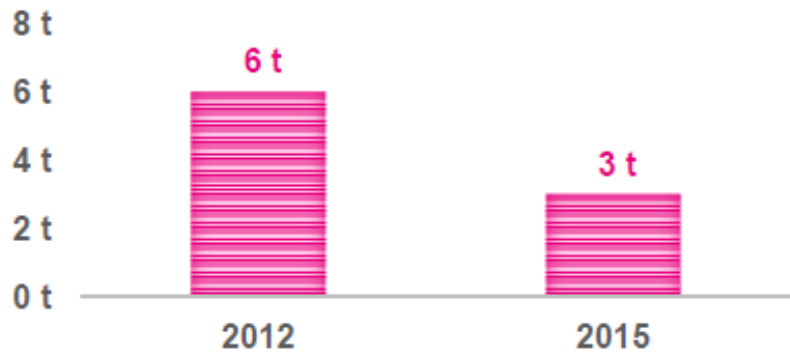
Source: Citeo, March 2019. Workshop on the essential requirements and new EPR rules

MODULATING FEES LEAD TO SOURCE REDUCTION

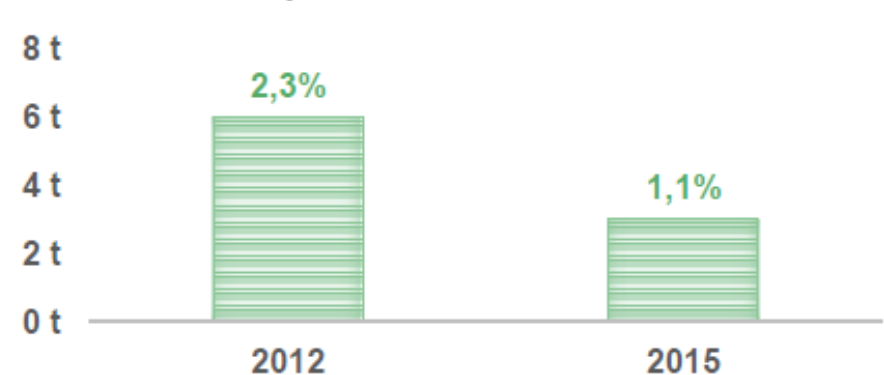


EVOLUTION OF PET BOTTLE DESIGN IN FRANCE

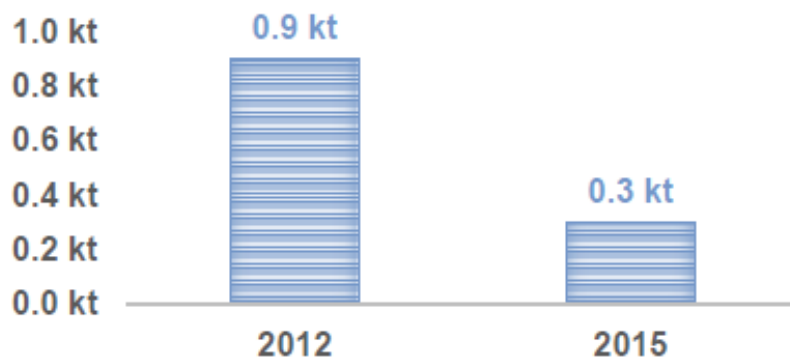
Evolution of clear PET bottles with presence of aluminum



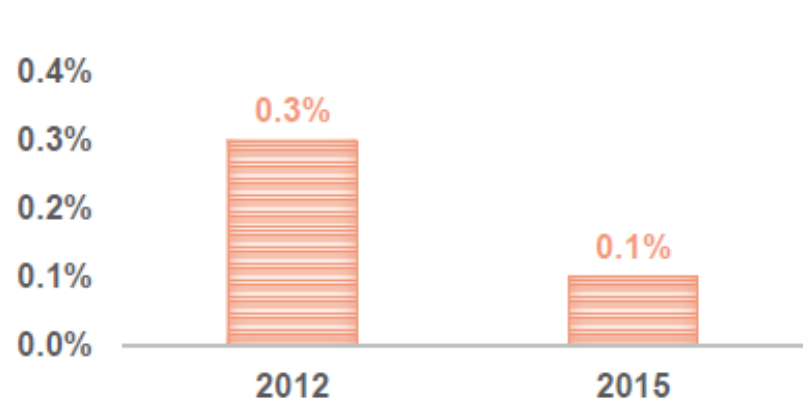
Share on the total deposit of clear PET bottles



Evolution of PVC bottles with malus



PVC bottles vs bottles total clear PET bottles



ITALY – CONAI FEES 2020

Material Type		EUR/kg
Plastic	LEVEL A Sortable and recyclable packaging – “Commerce & Industry” circuit	0.150
	LEVEL B1 Domestic circuit packaging with an effective and consolidated selection and recycling chain	0.208
	LEVEL B2 Packaging with a sorting and recycling chain in the process of consolidation and development, both domestic and C&I	0.263 0.436 (from 1/1/2020)
	LEVEL C Packaging not sortable/recyclable with current technologies	0.369 0.546 (from 1/1/2020)

A: Liners, large bags, water dispenser bottles, shrink film for over-wrapping, bubble wrap, cans over 5L, etc.

B1: PET bottles and detergent bottles that are non-multilayer and transparent, HDPE and PP bottles, detergent bottles and cans over 5L that are not black and without covering labels, etc.

B2: Reusable bags, mechanical dispensers, caps, closures and lids, etc.

C: Rigid packaging, including presentation containers, cans and jars, etc. of any shape/size, foam crates, foam or rigid protective elements, labels, disposable plates and cups, tubes, etc.

NETHERLANDS – AFVALFONDS VERPAKKING

MODULATED FEES FOR PLASTIC PACKAGING

As of January 1, 2019, a lower rate applies to plastic goods that can be sorted and recycled with a positive market value. Modulated plastic fees for 2020:

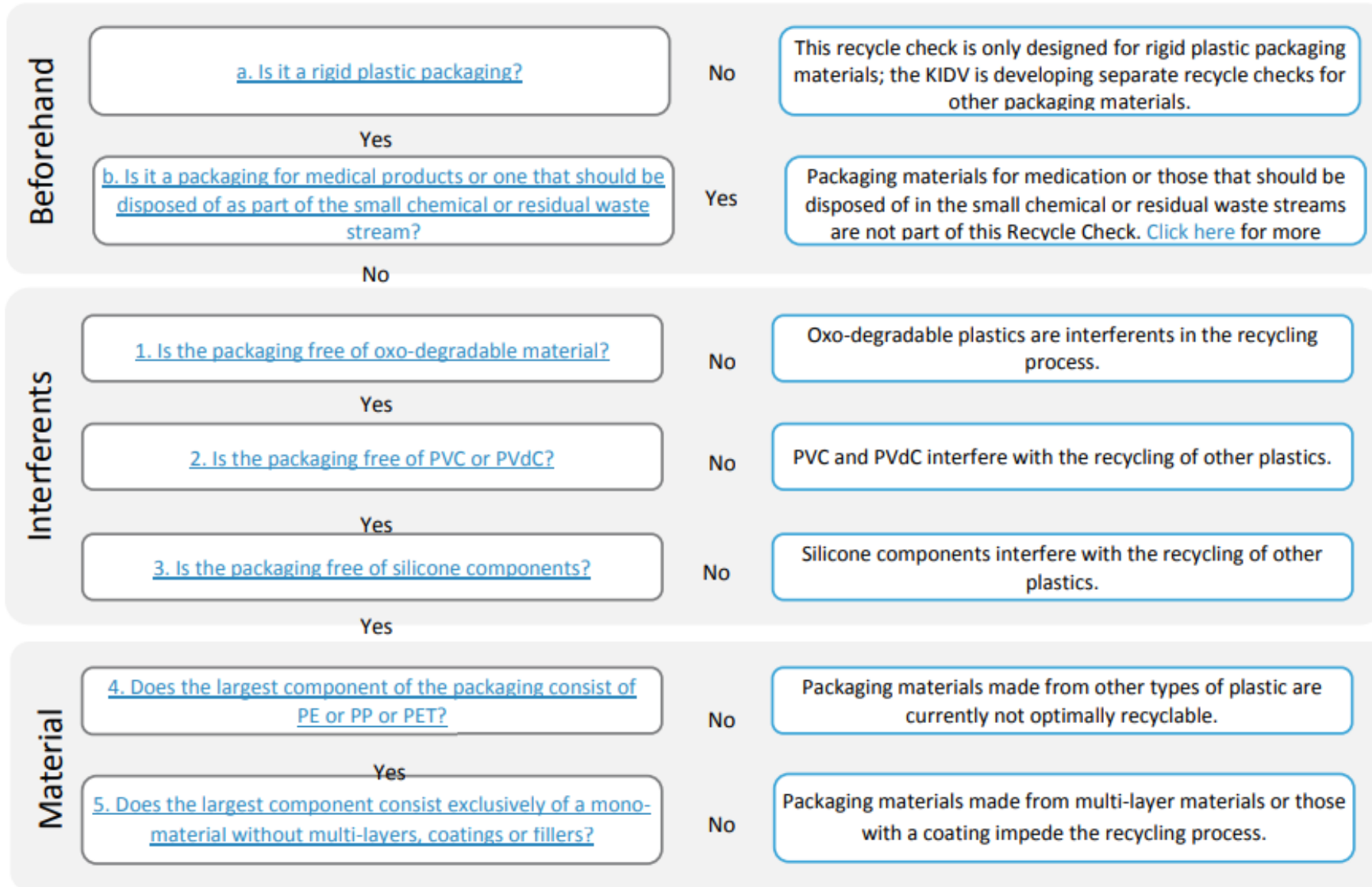
- **Non-Recyclable Plastics: € 0.60/kg**
 - “All plastic packaging that cannot be unequivocally identified as being recyclable within the current systems of collection, sorting and recycling existing in the Netherlands”, including biodegradable plastics
- **Easily Recyclable Plastics: € 0.34/kg**

“Recyclable” plastic packaging materials in the Netherlands must meet four conditions:

1. Made from type of plastic that is collected, has a market value and/or is supported by a legally mandated program
2. Sorted in predefined streams for recycling processes
3. Processed and recovered/recycled using commercial recycling processes
4. Recycled plastic is used as a raw material for the production of new products

NETHERLANDS RIGID PLASTIC PACKAGING DECISION TREE

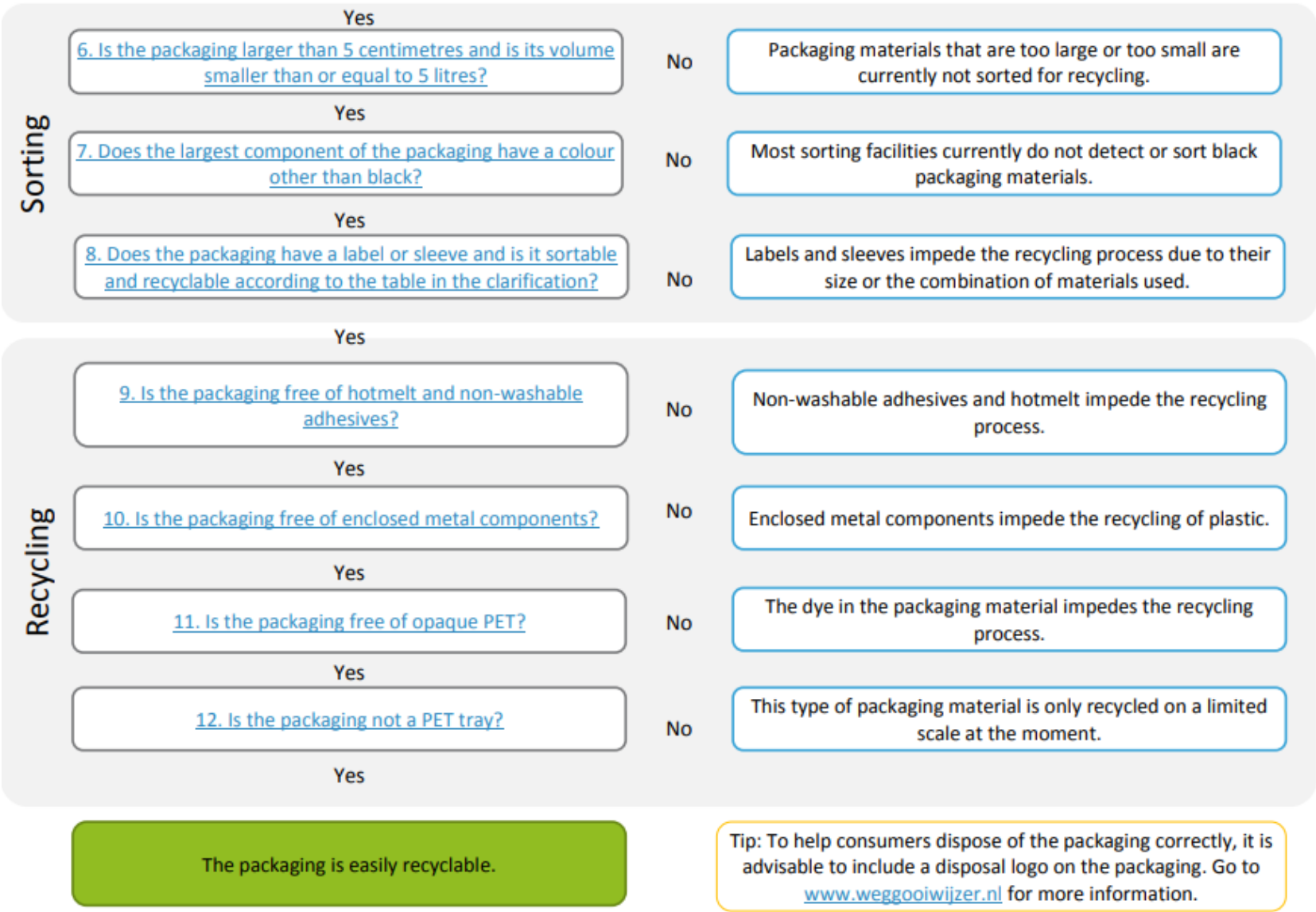
Source: KIDV Recycle Check rigid plastic packaging – version 2019, 20 November 2018



NETHERLANDS RIGID PLASTIC PACKAGING DECISION TREE



Source: KIDV Recycle Check rigid plastic packaging – version 2019, 20 November 2018



SWEDEN – FTI

MODULATED FEES FOR PLASTIC PACKAGING

As of April 1, 2019, there are now two plastic categories with different fees. For 2020:

- **Level 1 fee: 5.22 SEK/kg**
- **Level 2 fee: 3.47 SEK/kg**
 - Made from recommended types of plastic, i.e. PE, PP (excluding film) and transparent PET bottles
 - NOT black
 - Less than 2% EVOH barrier material
 - Not laminate
 - Maximum 60% printed area
 - No shrink sleeve made from other types of plastic than the packaging

Source: FTI, "A Quick Guide: The Right Plastic Packaging"

	Sorting	Treatment	Purchaser
LDPE foil	✓	✓	✓
PP	✓	✓	✓
HDPE	✓	✓	✓
PET trays and bottles*	✓	✓	Limited market
PP foil	✓	✓	Limited market
Other foil	✓	✓	Limited market
PVC	✓	✓	Limited market
PS	✓	Amount too low	–
EPS	✓	Technique not available	–
PLA	✓	Technique not available	–
Other biodegradable	Technique not available	Technique not available	–
OXO-degradable	Technique not available	Technique not available	–

*Materials from transparent PET bottles (such as canola or corn oil) have a market and can therefore be considered recyclable, unlike PET trays and colored PET bottles.

SWEDEN – FTI

MODULATED FEES FOR PAPER PACKAGING

Beginning in 2020, a new fee structure applies for paper packaging in order to “reflect the actual costs of recycling and to promote an increase in the share of recyclable packaging.”

- **Level 1 fee: 3.28 SEK/kg**
 - All paper packaging containing mixed/glue material.
- **Level 2 fee 2.23 SEK/kg**
 - All paper packaging consisting solely of paper:
 - No wax, aluminum, plastic, etc. barriers
 - No plastic “windows”
 - No composites, wet-strength paper or wax-treated paper

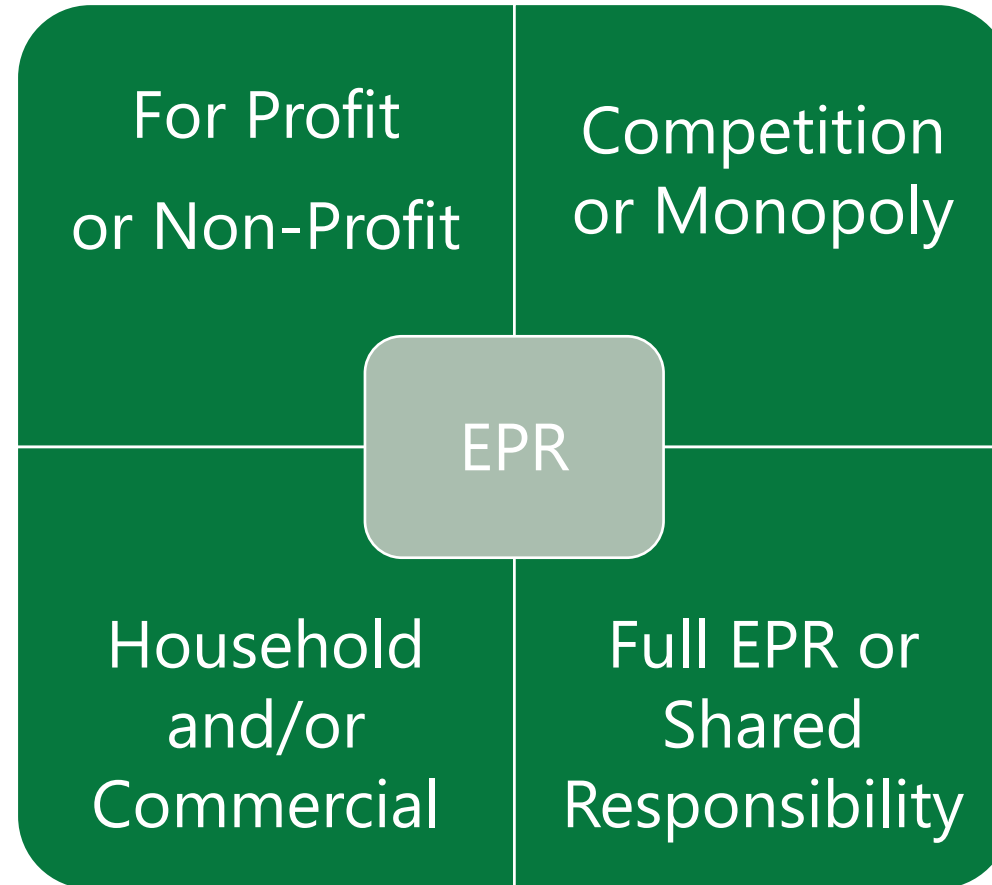
TYPES OF SCHEMES

For Profit: UK, Austria, Germany

Non-Profit: Canada, Belgium

France / Canada: Household only

Austria / UK: Commercial included



UK: Currently 10 schemes but considering a move to one non-profit scheme.

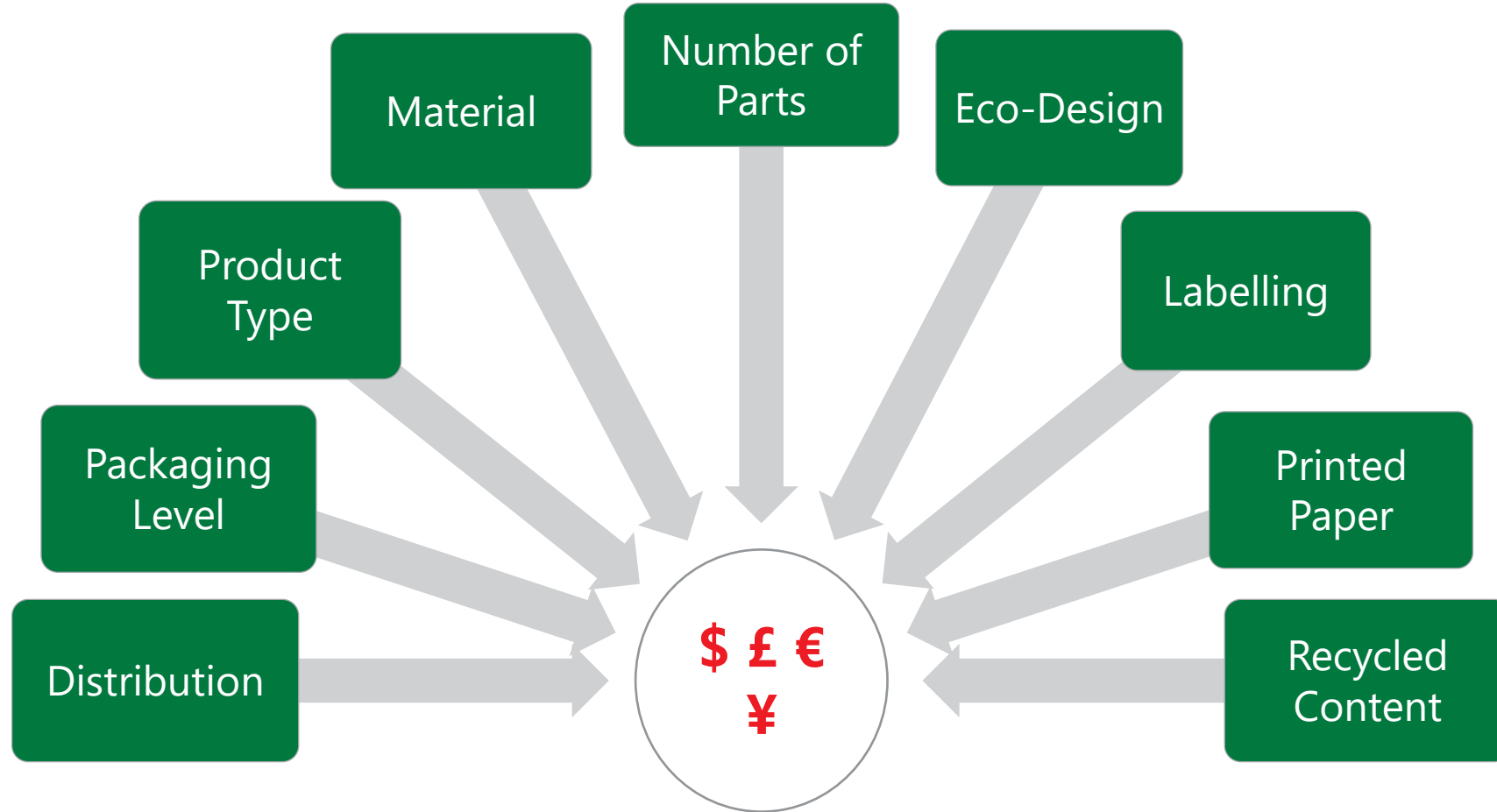
Germany: Several schemes, but as of 2019 producers must also report to the government.

Many countries moving toward 100% producer responsibility.

BURDEN OF REPORTING

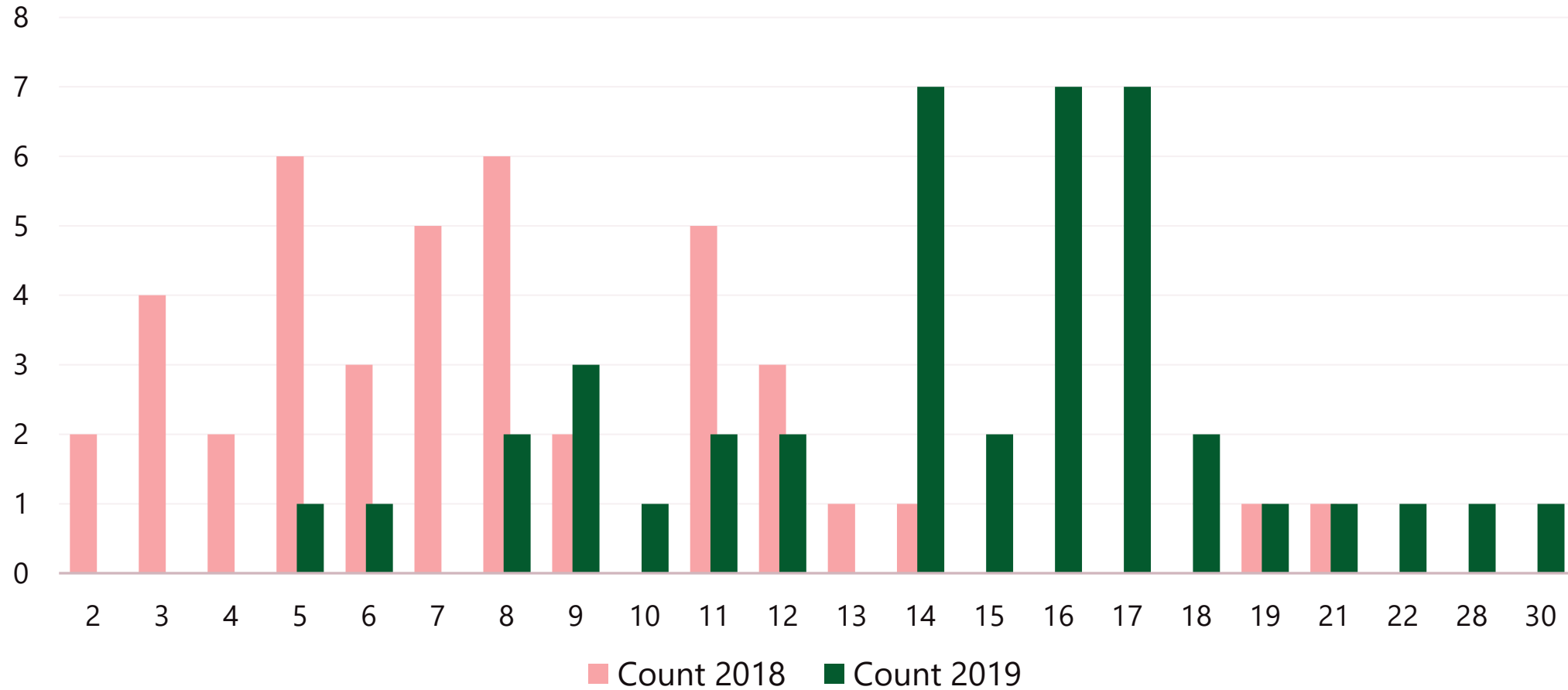
- In the US, brand owners and retailers often do not have data necessary for accurate packaging EPR reports – they require time to gather it.
 - **Solution:** Establish a transitional period for companies to use estimated data, then require real data reporting (typically more advantageous for producers)
- Many programs upon startup will use a **simple fee calculator**, which potentially costs companies more than using real data – phase out simple fee calculator over time.
 - Many programs also have a **flat fee option for small stewards** (\$1M to \$5M).
 - Many programs also require **reviews by a fiscal auditor**.

WHAT AFFECTS EPR COSTS



REPORTING COMPLEXITY

Data Points by Scheme



EPR FEES COMPARISON – GLOBAL

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

USD/1,000 units

	BC	Ontario	Québec*	Belgium	France**	Italy
Glass Container	\$17.49	\$4.13	\$21.29	\$5.92	\$2.08	\$3.95
Plastic Container	\$8.24	\$2.61	\$2.66	\$7.28	\$3.50	\$4.45

Exchange rates (20 Jan 2020): CAD = 0.766099; EUR = 1.10868

*Québec fees are draft

**France also adds a CSU (consumer sales unit) fee which has not been calculated

EPR FEES COMPARISON – GLOBAL

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

USD/1,000 units

	BC	Ontario	Québec*	Belgium	France**	Italy
Steel Can	\$29.57	\$6.58	\$15.87	\$24.15	\$7.94	\$3.20
Plastic Canister	\$50.67	\$10.57	\$11.75	\$36.60	\$28.09	\$21.86
Flexible Pouch	\$15.87	\$5.20	\$5.09	\$17.27	\$8.40	\$11.02

Exchange rates (20 Jan 2020): CAD = 0.766099; EUR = 1.10868

*Québec fees are draft

**France also adds a CSU (consumer sales unit) fee which has not been calculated

www.loraxcompliance.com | info@loraxcompliance.com | www.enviro-pac.com

EPR FEES COMPARISON – GLOBAL

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

USD/1,000 units

	BC	Ontario	Québec*	Belgium	France**	Italy
Glass Jar	\$13.12	\$3.13	\$15.27	\$5.24	\$1.66	\$2.70
Multilayer Pouch	\$8.61	\$2.40	\$3.16	\$7.17	\$3.94	\$4.83
2-Pack Plastic Pot/Lid	\$9.80	\$3.20	\$3.52	\$10.00	\$5.37	\$6.46

Exchange rates (20 Jan 2020): CAD = 0.766099; EUR = 1.10868

*Québec fees are draft

**France also adds a CSU (consumer sales unit) fee which has not been calculated

EPR FEES COMPARISON – GLOBAL E-COMMERCE



Corrugated (**138.7 g**)
HDPE (**5.7 g**)



LDPE (**21.7 g**)



Paper Laminate (**21.7 g**)



LDPE (**17.2 g**)

USD/1,000 units

	BC	Ontario	Québec*	Belgium	France**	Italy
Shipping Box w/ Air Pillow	\$43.14	\$13.59	\$25.51	\$13.63	\$27.70	\$8.14
Plastic Bubble Mailer	\$18.62	\$6.10	\$9.02	\$17.11	\$8.68	\$10.49
Paper Bubble Mailer	\$13.80	\$4.71	\$5.67	\$20.53	\$3.98	\$1.32
Plastic Bag Mailer (no bubble)	\$14.76	\$4.83	\$7.15	\$13.56	\$6.88	\$8.31

Exchange rates (20 Jan 2020): CAD = 0.766099; EUR = 1.10868

*Québec fees are draft

**France also adds a CSU (consumer sales unit) fee which has not been calculated

This information is copyrighted and cannot be copied or distributed without prior consent from EPI.

MAINE DRAFT DEFINITION OF “PRODUCER”

38 M.R.S. §1771

“Producer” means a person that:

- A. Has legal ownership of the brand of a product sold in or into the State;
- B. Imports a product branded by a person that meets the requirements of paragraph A and has no physical presence in the United States; or
- C. Sells a product in the State at wholesale or retail, does not have legal ownership of the brand of the product and elects to fulfill the responsibilities of the producer for that product.



Questions?

Victor Bell

US Managing Director,
Environmental Packaging International/
Lorax Compliance

vbell@enviro-pac.com

+1 (401) 423-2225 ext. 800

enviro-pac.com