

Packaging EPR fee in EU: What are the differences?

Overview and comparison of PRO fees between 2022 and 2023.

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1 Introduction

Packaging has become an indispensable part of our everyday lives. Yet they have a considerable impact on the environment. Packaging is one of the main users of virgin materials (40 % of plastics and 50 % of paper used in the EU is destined for packaging) and accounts for 36 % of municipal solid waste. The increased use of packaging combined with low re-use and recycling rates hinder the development of a low-carbon circular economy.¹

In 1994, the Packaging and Packaging Waste Directive (PPWD) was introduced, which first presented the concept of "shared responsibility", which in the following years became known as "Extended Producer Responsibility" (EPR). In 2018, the EPR principle became the main measure for Member States to ensure that producers of packaging bear the financial and/or operational responsibility for packaging, from design to final disposal, through the amending Directive 2018/851. Finally, the revision of Directive 2018/852/CE on packaging and packaging waste introduced a new obligation for EU Member States, which are now required to set up a specific EPR system for packaging by 2025, usually through organizations (funded by the producers and/or users of packaging themselves, so-called Producer Responsibility Organizations (PROs)) that take responsibility for it on behalf of their members. The recently presented proposal for an updated PPWD specifically highlights the options to set incentives for more circular packaging solutions by eco-modulated licensing fees.

European countries have different EPR models for packaging as they are developed depending on specific characteristics of the countries (e. g. socio-cultural, macro-economic and organizational variables of the waste system). In each model, an environmental contribution, i. e. a fee, is set, which is used to cover all costs of the necessary activities (collection, sorting, recycling). The fees are also based on environmental factors and are different for the materials considered.

In this report, fees from 18 countries are compared. Five packaging solutions common to all PROs were analyzed to compare countries and identify trends.

¹ <https://environment.ec.europa.eu/system/files/2022-11/Proposal%20for%20a%20Regulation%20on%20packaging%20and%20packaging%20waste.pdf>

2 Methodology

First, the Main PRO representing the functionality of the respective national EPR system for packaging was identified for each country. In addition, five packaging solutions were pre-defined for which the corresponding fee indicator was calculated in each country. The packaging solutions are shown in Figure 1:

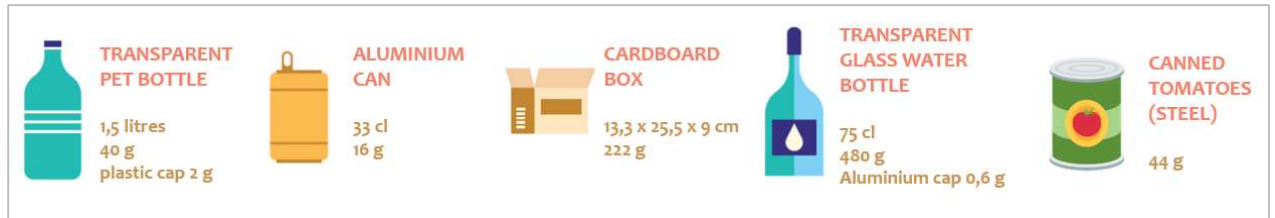


Figure 1: Overview of the four packaging solutions

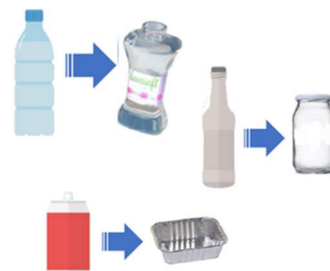
For the calculation, the fee indicators of the individual materials were identified on the respective PRO website. The fee indicators were given by weight, so that the respective indicator was multiplied by the respective weight of the product for the calculation. In some countries, other fees were also added. The detailed calculation for the five packaging solutions in the 18 countries for the years 2022 and 2023 can be found in the Annex.

Finally, the aggregate fee indicator was calculated for each Main PRO by summing up all five fee values. All fee values are expressed in euro cents.

For the following countries, the calculation approach was slightly different:

- **Germany:** a license calculator from PRO website was used, as it allows to calculate the fee value according to each material's quantity put on the market.
- **UK:** an average estimated cost value per material was used, as the national system is dynamic and prices vary continuously in relation to the market's performance of raw materials and the recycling cost (the fee for material is replaced by Certificates attesting the recycling quantities -Packaging Recycling Notes, PRN - at the expense of each obliged entity).
- **France:** The main PRO of France uses an articulated mechanism to calculate fees per material with detailed formulas. In this case, assumptions have been made about the inclusion of Bonus and Malus.

For some countries (in particular those East-European), the fee's value declared in local currency has been converted into euro currency of the period considered at the exchange. For countries where a Deposit Recycling System for Recycling (DRS) is active, for the Main PRO the value of the fee was calculated with reference to packaging of equivalent in weight and materials.



3 Fee indicators for 2023

The following table shows all calculated fee indicators for 2023. The indicators are all stated in cents and are presented in ascending order. They were determined according to the calculations in chapter 2. The 2023 values for two countries have not yet been published (as of Jan. 31, 2023).

Table 1: Overview of the fee indicators for 2023

Countries	Main PRO	PET bottle	Aluminum Can	Cardboard Box	Glass Bottle	Steel Can	Aggregate Fee Indicator (cent)
Italy	CONAI	0,1500	0,0112	0,1110	1,1044	0,0220	1,399
Luxembourg	VALORLUX	0,5212	0,0458	0,9857	0,7745	0,0471	2,374
Portugal	SPV	0,6787	0,0648	2,3687	0,9816	0,6956	4,790
Belgium	FOST PLUS	1,3990	0,0374	1,7338	2,7900	0,0616	6,022
Spain	ECOEMBES	1,7712	0,0768	1,9536	1,8956	0,5852	6,282
France*	CITEO	1,4836	0,2826	3,8754	0,7329	0,3006	6,375
Bulgaria	ECOPACK	0,3780	0,0728	1,8204	4,3227	0,1778	6,772
Romania	ECO-ROM	0,6326	0,2361	1,7849	4,7959	0,3573	7,807
Netherlands*	AFVALFONDS	3,3180	0,2560	0,2664	2,8896	1,1000	7,830
Finland*	RINKI	1,1550	0,1536	1,9092	4,7090	0,4224	8,349
UK	VALPAK	1,9577	0,3164	1,1289	6,2495	0,3978	9,652
Estonia*	ETO	1,7178	0,4096	2,3310	4,9114	1,1264	10,496
Austria	ARA	3,2760	0,5440	2,2200	4,5800	1,3200	11,940
Sweden*	FTI	2,1000	1,2960	4,4400	3,1686	1,6632	12,668
Czech Republic	EKO-COM	2,5688	0,4585	5,7687	3,7160	0,4380	12,950
Germany*	GRUNE PUNKT	3,3558	1,1312	3,7962	2,3532	3,3440	13,980
Cyprus	GREEN DOT	n/a	n/a	n/a	n/a	n/a	0,000
Slovenia	SLOPAK	n/a	n/a	n/a	n/a	n/a	0,000

*For countries where a Deposit Recycling System is active, the value of the fee was calculated with reference to packaging of equivalent in weight and materials.

In the table above the lowest and the highest fee values per packaging are highlighted in green and yellow respectively. Therefore, the results indicate that the fee values are:

- Lower in Italy (plastic, aluminum, cardboard and steel) and France (glass).
- Higher in Germany (plastic and steel), Sweden (aluminum), Czech Republic (cardboard) and UK (glass).

Overall, the aggregate fee indicator is lowest in Italy (1,399 cents), Luxembourg (2,374 cents) and Portugal (4,790 cents). On the other hand, the highest aggregate fee indicators were found in Germany (13,980 cents), Czech Republic (12,950 cents) and Sweden (12,668 cents).

4 Comparison of the 2022 and 2023 values

In order to identify the economic trends related to the fee, the study assessed a comparison between the two aggregate indicators from 2022 and 2023.² The list below is sorted according to the Trend 2023, from highest reduction to highest increase.

Table 2: Comparison between the fees of 2022 and 2023

Country	Main PRO	Aggregate Fee Indicator (cent) 2022	Trend 2023
Luxembourg	VALORLUX	3,341	- 28,9 %
Italy*	CONAI	1,705	- 18,0 %
Sweden	FTI	13,883	- 8,8 %
France*	CITEO	6,727	- 5,2 %
Bulgaria	ECOPACK	6,988	- 3,1 %
Spain*	ECOEMBES	6,407	- 1,9 %
Germany*	GRUNE PUNKT	14,106	- 0,9 %
Estonia	ETO	10,496	0 %
Belgium	FOST PLUS	6,011	+ 0,2%
Romania	ECO-ROM	7,657	+ 2,0%
Austria	ARA	11,570	+ 3,2%
Portugal	SPV	4,490	+ 6,7%
Finland	RINKI	7,818	+ 6,8%
Netherlands	AFVALFONDS	7,102	+ 10,3%
Czech Republic	EKO-COM	10,721	+ 20,8%
UK*	VALPAK	2,477	+ 289,7%
Slovenia	SLOPAK	2,334	n/a
Cyprus	GREEN DOT	n/a	n/a

*Countries with a population of more than 20 million.

² The Trend 2023 represents the delta of the absolute values; inflation rates were not taken into account.

The delta between the values of the two years shows that in 7 out of 18 Countries (38 %) was recorded a decrease in the fees from 2022 to 2023 with a significant reduction in Luxembourg (- 29 %) and in Italy (- 18 %); on the other hand, in 8 countries (40 %) an increase was recorded: the Country who registered the most significant increase is UK (+ 289,7 %), which is due to a sharp increase in PRN values between the beginning of 2022 and 2023.

5 Conclusion

As of end of January 2023, the aggregate fee indicator of Italy was the lowest. However, it remains to be seen how high Slovenia's fee indicator will be, as it was usually even lower than the Italian indicator in the past.

Overall, a decline in the aggregate fee indicator was only observed in seven countries between 2022 and 2023, while an increase was observed in eight countries. Luxembourg experienced the largest decrease with 29 %. Furthermore, UK has by far the highest delta due to high increases in PRN values between January 2022 and January 2023.

Annex

I. Austria

Main PRO: ARA

Source: <https://www.ara.at/uploads/Dokumente/Tarifbl%C3%A4tter/ARA-Tarifblatt-2023.pdf>

i. Transparent PET Bottle

2022:

Fee indicator:	1.04.1 "Kunststoffe Haushalt": 0,715 €/kg
Calculation	$42 \text{ g} * 0,0715 \text{ cent/g} = 3,003 \text{ cent}$

2023:

Fee indicator:	1.04.1 "Kunststoffe Haushalt": 0,780 €/kg
Calculation	$42 \text{ g} * 0,078 \text{ cent/g} = 3,276 \text{ cent}$



ii. Aluminum Can

2022:

Fee indicator:	1.03.2 „Aluminium Haushalt“: 0,31 €/kg
Calculation	$16 \text{ g} * 0,031 \text{ cent/g} = 0,496 \text{ cent}$

2023:

Fee indicator:	1.03.2 „Aluminium Haushalt“: 0,34 €/kg
Calculation	$16 \text{ g} * 0,034 \text{ cent/g} = 0,544 \text{ cent}$



iii. Cardboard Box

2022:

Fee indicator:	1.01.0 „Papier Haushalt“: 0,120 €/kg
Calculation	$222 \text{ g} * 0,012 \text{ cent/g} = 2,664 \text{ cent}$

2023:

Fee indicator:	1.01.0 „Papier Haushalt“: 0,100 €/kg
Calculation	$222 \text{ g} * 0,01 \text{ cent/g} = 2,22 \text{ cent}$



iv. Transparent Glass Water Bottle

2022:

Fee indicator:	1.02.0 „Glas Haushalt“: 0,087 €/kg 1.03.2 „Aluminium Haushalt“: 0,31 €/kg
Calculation	480 g * 0,0087 cent/g = 4,176 cent 0,6 g * 0,031 cent/g = 0,0186 cent Total: 4,195 cent



2023:

Fee indicator:	1.02.0 „Glas Haushalt“: 0,095 €/kg 1.03.2 „Aluminium Haushalt“: 0,34 €/kg
Calculation	480 g * 0,0095 cent/g = 4,56 cent 0,6 g * 0,034 cent/g = 0,0204 cent Total: 4,58 cent

v. Canned Tomatoes

2022:

Fee indicator:	1.03.1 „Eisenmetall Haushalt“: 0,275 €/kg
Calculation	44 g * 0,0275 cent/g = 1,21 cent



2023:

Fee indicator:	1.03.1 „Eisenmetall Haushalt“: 0,3 €/kg
Calculation	44 g * 0,03 cent/g = 1,32 cent

II. Belgium

Main PRO: FOST PLUS

Source: <https://www.fostplus.be/en/members/green-dot-rates>

i. Transparent PET Bottle

2022:

Fee indicator:	PET bottles and flasks - transparent colourless: 0,1039 €/kg
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	PET rigid packaging other than bottles and flasks transparent: 0,7784 €/kg
Calculation	$40 \text{ g} * 0,01039 \text{ ct/g} = 0,4156 \text{ cent}$ $2 \text{ g} * 0,07784 \text{ ct/g} = 0,15568 \text{ cent}$ Total: 0,57128 cent



2023:

Fee indicator:	PET bottles and flasks - transparent colourless: 0,3125 €/kg PET rigid packaging other than bottles and flasks transparent: 0,7431 €/kg
Calculation	$40 \text{ g} * 0,03125 \text{ ct/g} = 1,25 \text{ cent}$ $2 \text{ g} * 0,07431 \text{ ct/g} = 0,14862 \text{ cent}$ Total: 1,399 cent

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 0,0411 €/kg
Calculation	$16 \text{ g} * 0,00411 \text{ ct/g} = 0,06576 \text{ cent}$



2023:

Fee indicator:	Aluminum: 0,0234 €/kg
Calculation	$16 \text{ g} * 0,00234 \text{ ct/g} = 0,03744 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper-Cardboard: 0,1007 €/kg
Calculation	$222 \text{ g} * 0,01007 \text{ ct/g} = 2,23554 \text{ cent}$



2023:

Fee indicator:	Paper-Cardboard: 0,0781 €/kg
Calculation	$222 \text{ g} * 0,00781 \text{ ct/g} = 1,73382 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 0,0494 €/kg Aluminum: 0,0411 €/kg
Calculation	480 g * 0,00494 ct/g = 2,3712 cent 0,6 g * 0,00411 ct/g = 0,002466 cent Total: 2,374 cent



2023:

Fee indicator:	Glass: 0,0581 €/kg Aluminum: 0,0234 €/kg
Calculation	480 g * 0,00581 ct/g = 2,7888 cent 0,6 g * 0,00234 ct/g = 0,001404 cent Total: 2,79 cent

v. Canned Tomatoes

2022:

Fee indicator:	Steel: 0,1888 €/kg
Calculation	44 g * 0,01888 cent/g = 0,83072 cent



2023:

Fee indicator:	Steel: 0,014 €/kg
Calculation	44 g * 0,0014 cent/g = 0,0616 cent

III. Bulgaria

Main PRO: Ecopack

Source: <https://www.ecopack.bg/en/members/pricing-and-business-policy>

Currency exchange: 1 BGN = 0,5114 €

Fees of 2023 remained unchanged compared to those in force until the end of 2022.

i. Transparent PET Bottle

2022 + 2023:

Fee indicator:	Plastic, Base fee rate for recover: 0,175 BGN/kg → 0,09 €/kg
Calculation	42 g * 0,009 cent/g = 0,378 cent



ii. Aluminum Can

2022 + 2023:

Fee indicator:	Aluminum, base fee rate: 0,089 BGN/kg → 0,0455 €/kg
Calculation	16 g * 0,00455 ct/g = 0,0728 cent



iii. Cardboard Box

2022 + 2023:

Fee indicator:	Paper and cardboard, base rate: 0,16 BGN/kg → 0,082 €/kg
Calculation	222 g * 0,0082 ct/g = 1,8204 cent



iv. Transparent Glass Water Bottle

2022 + 2023:

Fee indicator:	Glass, base fee rate: 0,185 BGN/kg Aluminum: 0,089 BGN/kg → Glass: 0,09 €/kg → Aluminum: 0,0455 €/kg
Calculation	480 g * 0,009 ct/g = 4,32 cent 0,6 g * 0,00455 ct/g = 0,00273 cent Total: 4,3227 cent



v. Canned Tomatoes

2022 + 2023:

Fee indicator:	Steel Base Amount: 0,079 BGN/kg → 0,0404 €/kg
Calculation	44 g * 0,00404 cent/g = 0,17776 cent



IV. Cyprus

Main PRO: Green Dot Cyprus

Source: <https://greendot.com.cy/en/packaging-definition-and-fees/packaging-fees/>

Values for 2023 not available yet

Values for 2022 were copied from the CONAI and CMR Study from November 2022.

i. Transparent PET Bottle

2022:

Fee indicator:	0,42 cent
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2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>



ii. Aluminum Can

2022:

Fee indicator:	0,03 cent
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2023:

Fee indicator:	<i>Not available</i>
alculation	<i>Not available</i>



iii. Cardboard Box

2022:

Fee indicator:	0,99 cent
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2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>



iv. Transparent Glass Water Bottle

2022:

Fee indicator:	1,33 cent
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2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>

v. Canned Tomatoes

2022 + 2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>



CANNED
TOMATOES
(STEEL)

44 g

V. Czech Republic

Main PRO: Ekokom

Source: https://www.ekokom.cz/wp-content/uploads/2021/11/EKOKOM_fees_valid_from_1_1_2022.pdf

Currency exchange: 1 CZK = 0,0419 €

All fees are from the category “Sales one-way packaging”

i. Transparent PET Bottle

2022:

Fee indicator:	PET clear transparent, beverage, soft flexible: 11.910 CZK/t → 498,975 €/t PET colored opaque, beverage, up to 3L: 9.880 CZK/t → 413,95 €/t
Calculation	40 g * 0,04989 ct/g = 1,9956 cent 2 g * 0,04139 ct/g = 0,08278 cent Total: 2,078 cent



TRANSPARENT
PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	PET clear transparent, beverage, soft flexible: 14.651 CZK/t → 613,85 €/t PET colored opaque, beverage, virgin up to 3L: 13.533 CZK/t → 567,01 €/t
Calculation	40 g * 0,061385 ct/g = 2,4554 cent 2 g * 0,056701 ct/g = 0,1134 cent Total: 2,5688 cent

ii. Aluminum Can

2022:

Fee indicator:	Aluminum, beverage, soft: 4.440 CZK/t → 184,35 €/t
Calculation	$16 \text{ g} * 0,0184 \text{ ct/g} = 0,2944 \text{ cent}$



2023:

Fee indicator:	Aluminum, beverage, soft: 6.839 CZK/t → 286,54 €/t
alculation	$16 \text{ g} * 0,028654 \text{ ct/g} = 0,458464 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paperboard, non-beverage: 4.010 CZK/t → 168,01 €/t
Calculation	$222 \text{ g} * 0,0168 \text{ ct/g} = 3,7296 \text{ cent}$



2023:

Fee indicator:	Paperboard, non-beverage: 6.202 CZK/t → 259,85 €/t
Calculation	$222 \text{ g} * 0,025985 \text{ ct/g} = 5,76867 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass, clear transparent, beverage: 2.850 CZK/t → 119,41€/t Aluminum, beverage, rigid, < 3L: 4.440 CZK/t → 184,35 €/t
Calculation	$480 \text{ g} * 0,011941 \text{ ct/g} = 5,73168 \text{ cent}$ $0,6 \text{ g} * 0,018435 \text{ ct/g} = 0,011061 \text{ cent}$ Total: 5,7427 cent



2023:

Fee indicator:	Glass, clear transparent, beverage: 1.843 CZK/t → 77,22 €/t Aluminum, beverage, rigid, virgin, up to 3L: 3.575 CZK/t → 157,41 €/t
Calculation	480 g * 0,007722 ct/g = 3,70656 cent 0,6 g * 0,015741 ct/g = 0,0094446 cent Total: 3,716 cent

v. Canned Tomatoes

2022:

Fee indicator:	Metals Fe, non-beverage, rigid, up to 3L: 2.990 CZK/t → 125,281 €/t
Calculation	44 g * 0,012528 ct/g = 0,55123 cent



CANNED
TOMATOES
(STEEL)

44 g

2023:

Fee indicator:	Metals Fe, non-beverage, rigid, up to 3L: 2.376 CZK/t → 99,5544 €/t
Calculation	44 g * 0,009955 ct/g = 0,43802 cent

VI. Estonia

Main PRO: ETO

Source: <https://www.eto.ee/en/producerimporter/service-fees/>

Fees of 2023 remained unchanged compared to those in force until the end of 2022.

All values represent the “calculated rate of service fee EUR/t”.

i. Transparent PET Bottle

2022 + 2023:

Fee indicator:	Plastic (monomaterial): 409 €/t
Calculation	42 g * 0,0409 ct/g = 1,7178 cent



TRANSPARENT
PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

ii. Aluminum Can

2022 + 2023:

Fee indicator:	Aluminum: 256 €/t
Calculation	$16 \text{ g} * 0,0256 \text{ ct/g} = 0,4096 \text{ cent}$



**ALUMINIUM
CAN**
33 cl
16 g

iii. Cardboard Box

2022 + 2023:

Fee indicator:	Paper and carton: 105 €/t
Calculation	$222 \text{ g} * 0,0105 \text{ ct/g} = 2,331 \text{ cent}$



**CARDBOARD
BOX**
13,3 x 25,5 x 9 cm
222 g

iv. Transparent Glass Water Bottle

2022 + 2023:

Fee indicator:	Glass and ceramics: 102 €/t Aluminum: 256 €/t
Calculation	$480 \text{ g} * 0,0102 \text{ ct/g} = 4,896 \text{ cent}$ $0,6 \text{ g} * 0,0256 \text{ ct/g} = 0,01536 \text{ cent}$ Total: 4,91136 cent



**TRANSPARENT
GLASS WATER
BOTTLE**
75 cl
480 gr
aluminium cap 0,60 g

v. Canned Tomatoes

2022 + 2023:

Fee indicator:	Ferrous metal: 256 €/t
Calculation	$44 \text{ g} * 0,0256 \text{ ct/g} = 1,1264 \text{ cent}$



**CANNED
TOMATOES
(STEEL)**
44 g

VII. Finland

Main PRO: Rinki

Source: <https://rinkiin.fi/en/for-companies/join-rinki/price-list/>**i. Transparent PET Bottle**

2022:

Fee indicator:	Plastic packaging B2c: 182 €/t
Calculation	$42 \text{ g} * 0,0182 \text{ ct/g} = 0,7644 \text{ cent}$



**TRANSPARENT
PET BOTTLE**
1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	Finnish Plastics Recycling Ltd, Plastic, B2c, Multi-plastic-packaging: 275 €/t
Calculation	$42 \text{ g} * 0,0275 \text{ ct/g} = 1,155 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator:	Metals, Aluminum packaging, B2c: 120 €/t
Calculation	$16 \text{ g} * 0,012 \text{ ct/g} = 0,192 \text{ cent}$



2023:

Fee indicator:	Metals, Aluminum packaging, B2c: 96 €/t
Calculation	$16 \text{ g} * 0,0096 \text{ ct/g} = 0,1536 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper fibre, carton and paper packaging, B2C: 73 €/t
Calculation	$222 \text{ g} * 0,0073 \text{ ct/g} = 1,6206 \text{ cent}$



2023:

Fee indicator:	Paper fibre, carton and paper packaging, B2C: 86 €/t
Calculation	$222 \text{ g} * 0,0086 \text{ ct/g} = 1,9092 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass packaging: 98 €/t Aluminum: 120 €/t
Calculation	$480 \text{ g} * 0,0098 \text{ ct/g} = 4,704 \text{ cent}$ $0,6 \text{ g} * 0,0120 \text{ ct/g} = 0,0072 \text{ cent}$ Total: 4,7112 cent



2023:

Fee indicator:	Glass packaging Class A: 98 €/t Aluminum: 96 €/t
Calculation	480 g * 0,0098 ct/g = 4,704 cent 0,6 g * 0,0096 ct/g = 0,00576 cent Total: 4,709 cent

v. Canned Tomatoes

2022:

Fee indicator:	Steel Packaging consumer: 120 €/t
Calculation	44 g * 0,012 cent/g = 0,528 cent



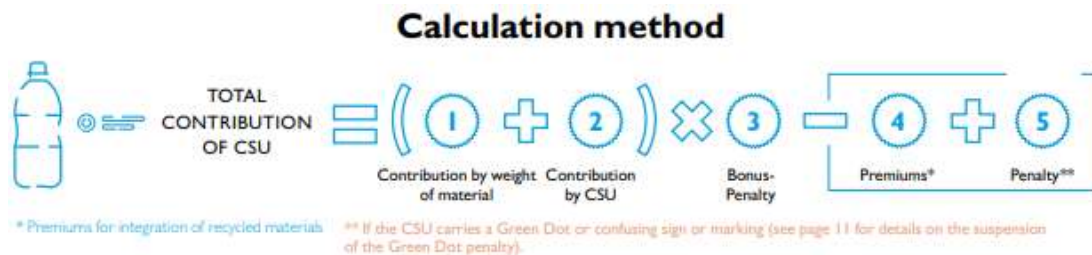
2023:

Fee indicator:	Steel Packaging consumer: 96 €/t
Calculation	44 g * 0,0096 cent/g = 0,4224 cent

VIII. France

Main PRO: CITEO

Source: <https://www.citeo.com/tarifs-citeo-emballages-et-papiers>



i. Transparent PET Bottle

2022:

Fee indicator:	Plastic Bottle and vial in clear PET: 32,58 ct/kg Rigid packaging in PE, PP or PET: 37,43 ct/kg
Units per CSU:	2 → 0,135 ct

Bonus/ Premium / Penalty:	4 % / 0 / 0
Calculation	$(40 \text{ g} * 0,03258 \text{ ct/g} + 2 \text{ g} * 0,03743 \text{ ct/g} + 0,135 \text{ cent}) * 0,96 = 1,4525 \text{ cent}$



2023:

Fee indicator:	clear PET bottles: 33,04 ct/kg Rigid PET packaging: 38,91 ct/kg
Units per CSU:	2 → 0,146 ct
Bonus/ Premium / Penalty:	4 % / 0 / 0
Calculation	$(40 \text{ g} * 0,03304 \text{ ct/g} + 2 \text{ g} * 0,03891 \text{ ct/g} + 0,146 \text{ cent}) * 0,96 = 1,4836 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 12,57 ct/kg
Units per CSU:	1 → 0,0794 cent
Bonus/ Premium / Penalty:	4 % / 0 / 0
Calculation	$(16 \text{ g} * 0,01257 \text{ ct/g} + 0,0794 \text{ cent}) * 0,96 = 0,2693 \text{ cent}$



2023:

Fee indicator:	Aluminum: 13,03 ct/kg
Units per CSU:	1 → 0,0859 cent
Bonus/ Premium / Penalty:	4 % / 0 / 0
Calculation	$(16 \text{ g} * 0,01303 \text{ ct/g} + 0,0859 \text{ cent}) * 0,96 = 0,2826 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper/cardboard: 16,43 ct/kg
Units per CSU:	1 → 0,0794 cent
Bonus/ Pre-mium / Penalty:	0 % / 0 / 0
Calculation	$(222 \text{ g} * 0,01643 \text{ ct/g} + 0,0794 \text{ cent}) * 1 = 3,72686 \text{ cent}$



2023:

Fee indicator:	Paper/cardboard: 17,07 ct/kg
Units per CSU:	1 → 0,0859 cent
Bonus/ Pre-mium / Penalty:	0 % / 0 / 0
Calculation	$(222 \text{ g} * 0,01707 \text{ ct/g} + 0,0859 \text{ cent}) * 1 = 3,8754 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 1,31 ct/kg Aluminum: 12,57 ct/kg
Units per CSU:	2 → 0,135 cent
Bonus/ Pre-mium / Penalty:	4 % / 0 / 0
Calculation	$(480 \text{ g} * 0,00131 \text{ ct/g} + 0,6 \text{ g} * 0,01257 \text{ ct/g} + 0,135 \text{ cent}) * 0,96 = 0,7405 \text{ cent}$



2023:

Fee indicator:	Glass: 1,27ct/kg Aluminum: 13,03 ct/kg
Units per CSU:	2 → 0,146 cent
Bonus/ Pre-mium / Penalty:	4 % / 0 / 0

Calculation	$(480 \text{ g} * 0,00127 \text{ ct/g} + 0,6 \text{ g} * 0,01303 \text{ ct/g} + 0,146 \text{ cent}) * 0,96 = 0,7329 \text{ cent}$
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v. Canned Tomatoes

2022:

Fee indicator:	Acier: 4,72 ct/kg
Units per CSU:	1 → 0,0794 cent
Bonus/ Pre-mium / Penalty:	0 % / 0 / 0
Calculation	$(44 \text{ g} * 0,00472 \text{ ct/g} + 0,0794 \text{ ct}) * 1 = 0,2871 \text{ cent}$



CANNED TOMATOES (STEEL)

44 g

2023:

Fee indicator:	Acier: 4,88 ct/kg
Units per CSU:	1 → 0,0859 cent
Bonus/ Pre-mium / Penalty:	0 % / 0 / 0
Calculation	$(44 \text{ g} * 0,00488 \text{ ct/g} + 0,0859 \text{ ct}) * 1 = 0,3006 \text{ cent}$

IX. Germany

Main PRO: Grüner Punkt

Source: <https://www.verpackgo.com/de/license-calculator/>

To calculate the fees, 1 ton of each material was entered into the calculator. The respective values for the materials were then used for the product specific indicator.

Fees include the use of the label.

i. Transparent PET Bottle

2022:

Fee indicator:	Plastic: 758 €/t
Calculation	$42 \text{ g} * 0,0758 \text{ ct/g} = 3,1836 \text{ cent}$



TRANSPARENT PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	Plastic: 799 €/t
Calculation	$42 \text{ g} * 0,0799 \text{ ct/g} = 3,3558 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 712 €/t
Calculation	$16 \text{ g} * 0,0712 \text{ ct/g} = 1,1392 \text{ cent}$



2023:

Fee indicator:	Aluminum: 820 €/t
Calculation	$16 \text{ g} * 0,082 \text{ ct/g} = 1,312 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Carton: 167 €/t
Calculation	$222 \text{ g} * 0,0167 \text{ ct/g} = 3,7074 \text{ cent}$



2023:

Fee indicator:	Carton: 171 €/t
Calculation	$222 \text{ g} * 0,0171 \text{ ct/g} = 3,7962 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 54,5 €/t Aluminum: 712 €/t
Calculation	$480 \text{ g} * 0,00545 \text{ ct/g} = 2,616 \text{ cent}$ $0,6 * 0,0712 \text{ ct/g} = 0,04272 \text{ cent}$ Total: 2,6587 cent



2023:

Fee indicator:	Glass: 48 €/t Aluminum: 820 €/t
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Calculation	$480 \text{ g} * 0,0048 \text{ ct/g} = 2,304 \text{ cent}$ $0,6 \text{ g} * 0,082 \text{ ct/g} = 0,0492 \text{ cent}$ Total: 2,3532 cent
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v. Canned Tomatoes

2022:

Fee indicator:	Ferrous metals: 665 €/t
Calculation	$44 \text{ g} * 0,0665 \text{ cent/g} = 2,926 \text{ cent}$



2023:

Fee indicator:	Ferrous metals: 760 €/t
Calculation	$44 \text{ g} * 0,076 \text{ cent/g} = 3,344 \text{ cent}$

X. Italy

Main PRO: CONAI

Source: <https://www.conai.org/en/businesses/environmental-contribution/> and <https://www.conai.org/impres/contributo-ambientale/>

i. Transparent PET Bottle

December 2022:

Fee indicator:	Plastic B1: 20 €/t Plastic B2: 410 €/t
Calculation	$40 \text{ g} * 0,002 \text{ ct/g} = 0,08 \text{ cent}$ $2 \text{ g} * 0,041 \text{ ct/g} = 0,082 \text{ cent}$ Total: 0,162 cent



January 2023:

Fee indicator:	Plastic B1.2: 20 €/t Plastic B2.1: 350 €/t
Calculation	$40 \text{ g} * 0,002 \text{ ct/g} = 0,08 \text{ cent}$ $2 \text{ g} * 0,035 \text{ ct/g} = 0,07 \text{ cent}$ Total: 0,15 cent

ii. Aluminum Can

December 2022:

Fee indicator:	Aluminum: 7 €/t
Calculation	$16 \text{ g} * 0,0007 \text{ ct/g} = 0,0112 \text{ cent}$



January 2023:

Fee indicator:	Aluminum: 7 €/t
Calculation	$16 \text{ g} * 0,0007 \text{ ct/g} = 0,0112 \text{ cent}$

iii. Cardboard Box

December 2022:

Fee indicator:	Paper level 1: 5 €/t
Calculation	$222 \text{ g} * 0,0005 \text{ ct/g} = 0,111 \text{ cent}$



January 2023:

Fee indicator:	Paper level 1: 5 €/t
Calculation	$222 \text{ g} * 0,0005 \text{ ct/g} = 0,111 \text{ cent}$

iv. Transparent Glass Water Bottle

December 2022:

Fee indicator:	Glass: 29 €/t Aluminum: 7 €/t
Calculation	$480 \text{ g} * 0,0029 \text{ ct/g} = 1,392 \text{ cent}$ $0,6 * 0,0007 \text{ ct/g} = 0,00042 \text{ cent}$ Total: 1,39242 cent



January 2023:

Fee indicator:	Glass: 23 €/t Aluminum: 7€/t
Calculation	$480 \text{ g} * 0,0023 \text{ ct/g} = 1,104 \text{ cent}$ $0,6 * 0,0007 \text{ ct/g} = 0,00042 \text{ cent}$ Total: 1,10442 cent

v. Canned Tomatoes

2022:

Fee indicator:	Steel: 8 €/t
Calculation	$44 \text{ g} * 0,0008 \text{ cent/g} = 0,0352 \text{ cent}$



CANNED
TOMATOES
(STEEL)

44 g

2023:

Fee indicator:	Steel: 5 €/t
Calculation	$44 \text{ g} * 0,0005 \text{ cent/g} = 0,022 \text{ cent}$

XI. Luxembourg

Main PRO: Valorlux

Source: https://www.valorlux.lu/media/634doafc6db92_gruener-punkt-tarife-2023-detailliert-.pdf

i. Transparent PET Bottle

2022:

Fee indicator:	PV06: 0,2515 €/kg PV10: 0,275 €/kg
Calculation	$40 \text{ g} * 0,02515 \text{ ct/g} = 1,006 \text{ cent}$ $2 \text{ g} * 0,0275 \text{ ct/g} = 0,055 \text{ cent}$ Total: 1,061 cent



TRANSPARENT
PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	PV06: 0,1226 €/kg PV10: 0,1538 €/kg
Calculation	$40 \text{ g} * 0,01226 \text{ ct/g} = 0,4904 \text{ cent}$ $2 \text{ g} * 0,01538 \text{ ct/g} = 0,03076 \text{ cent}$ Total: 0,52116 cent

ii. Aluminum Can

2022:

Fee indicator:	PV05: 0,0526 €/kg
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Calculation	$16 \text{ g} * 0,00526 \text{ ct/g} = 0,08416 \text{ cent}$
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2023:

Fee indicator:	PV05: 0,0286 €/kg
Calculation	$16 \text{ g} * 0,00286 \text{ ct/g} = 0,04576 \text{ cent}$



iii. Cardboard Box

2022:

Fee indicator:	PV02: 0,0457 €/kg
Calculation	$222 \text{ g} * 0,00457 \text{ ct/g} = 1,01454 \text{ cent}$



2023:

Fee indicator:	PV02: 0,0444 €/kg
Calculation	$222 \text{ g} * 0,00444 \text{ ct/g} = 0,98568 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	PV01: 0,023 €/kg PV05: 0,0526 €/kg
Calculation	$480 \text{ g} * 0,0023 \text{ ct/g} = 1,104 \text{ cent}$ $0,6 \text{ g} * 0,00526 \text{ ct/g} = 0,003156 \text{ cent}$ Total: 1,107 cent



2023:

Fee indicator:	PV01: 0,0161 €/kg PV05: 0,0286 €/kg
Calculation	$480 \text{ g} * 0,00161 \text{ ct/g} = 0,7728 \text{ cent}$ $0,6 \text{ g} * 0,00286 \text{ ct/g} = 0,001716 \text{ cent}$ Total: 0,7745 cent

v. Canned Tomatoes

2022:

Fee indicator:	PV04: 0,0162 €/kg
Calculation	44 g * 0,00162 cent/g = 0,07128 cent

2023:

Fee indicator:	PV04: 0,0107 €/kg
Calculation	44 g * 0,00107 cent/g = 0,04708 cent



CANNED
TOMATOES
(STEEL)

44 g

XII. Netherlands

Main PRO: Afvalfonds (SAV)

Source: <https://www.afvalfondsverpakkingen.nl/en/node/450>

i. Transparent PET Bottle

2022:

Fee indicator:	Plastic (lower rate): 0,44 €/kg
Calculation	42 g * 0,044 ct/g = 1,848 cent

2023:

Fee indicator:	Plastic (lower rate): 0,79 €/kg
Calculation	42 g * 0,079 ct/g = 3,318 cent



TRANSPARENT
PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 0,16 €/kg
Calculation	16 g * 0,016 ct/g = 0,256 cent

2023:

Fee indicator:	Aluminum: 0,16 €/kg
Calculation	16 g * 0,016 ct/g = 0,256 cent



ALUMINIUM
CAN

33 cl
16 g

iii. Cardboard Box

2022:

Fee indicator:	Paper and cardboard: 0,022 €/kg
Calculation	222 g * 0,0022 ct/g = 0,4884 cent



CARDBOARD
BOX

13,3 x 25,5 x 9 cm
222 g

2023:

Fee indicator:	Paper and cardboard: 0,012 €/kg
Calculation	$222 \text{ g} * 0,0012 \text{ ct/g} = 0,2664 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 0,048 €/kg Aluminum: 0,16 €/kg
Calculation	$480 \text{ g} * 0,0048 \text{ ct/g} = 2,304 \text{ cent}$ $0,6 * 0,016 \text{ ct/g} = 0,0096 \text{ cent}$ Total: 2,3136 cent



2023:

Fee indicator:	Glass: 0,06 €/kg Aluminum: 0,16 €/kg
Calculation	$480 \text{ g} * 0,006 \text{ ct/g} = 2,88 \text{ cent}$ $0,6 * 0,016 \text{ ct/g} = 0,0096 \text{ cent}$ Total: 2,8896 cent

v. Canned Tomatoes

2022:

Fee indicator:	Other metals: 0,23 €/kg
Calculation	$44 \text{ g} * 0,023 \text{ cent/g} = 1,012 \text{ cent}$



2023:

Fee indicator:	Other metals: 0,25 €/kg
Calculation	$44 \text{ g} * 0,025 \text{ cent/g} = 1,1 \text{ cent}$

XIII. Portugal

Main PRO: SPV

Source:

https://www.pontoverde.pt/aderentes_uk/Green%20Dot%20Fees%202022.pdf and
https://www.pontoverde.pt/aderentes_uk/Green%20Dot%20Fees%202023.pdf

i. Transparent PET Bottle

2022:

Fee indicator:	Plastic: 0,10350 €/kg
Calculation	$42 \text{ g} * 0,010350 \text{ ct/g} = 0,4347 \text{ cent}$



2023:

Fee indicator:	Plastic: 0,1616 €/kg
Calculation	$42 \text{ g} * 0,01616 \text{ ct/g} = 0,67872 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 0,0221 €/kg
Calculation	$16 \text{ g} * 0,00221 \text{ ct/g} = 0,03536 \text{ cent}$



2023:

Fee indicator:	Aluminum: 0,0405 €/kg
Calculation	$16 \text{ g} * 0,00405 \text{ ct/g} = 0,0648 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper and Cardboard: 0,0344 €/kg
Calculation	$222 \text{ g} * 0,00344 \text{ ct/g} = 0,76368 \text{ cent}$



2023:

Fee indicator:	Paper and Cardboard: 0,1067 €/kg
Calculation	$222 \text{ g} * 0,01067 = 2,36874 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 0,01790 €/kg Aluminum: 0,0221 €/kg
Calculation	480 g * 0,001790 ct/g = 0,8592 cent 0,6 * 0,00221 ct/g = 0,001326 cent Total: 0,860526 cent



2023:

Fee indicator:	Glass: 0,0204 €/kg Aluminum: 0,0405 €/kg
Calculation	480 g * 0,00204 ct/g = 0,9792 cent 0,6 * 0,00405 ct/g = 0,00243 cent Total: 0,98163 cent

v. Canned Tomatoes

2022:

Fee indicator:	Steel: 0,1181 €/kg
Calculation	44 g * 0,01181 cent/g = 0,51964 cent



2023:

Fee indicator:	Steel: 0,1581 €/kg
Calculation	44 g * 0,01581 cent/g = 0,69564 cent

XIV. UK

Main PRO: VALPAK

Source: <https://www.letsrecycle.com/prices/prns/prn-prices-2022/>

Currency exchange: 1 Pound → 1,13 €

Fees for January 2023 are not available yet

i. Transparent PET Bottle

December 2022:

Fee indicator (average):	Plastic: 397,5 £/t → 449,18 €/t
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Calculation	$42 \text{ g} * 0,044918 \text{ ct/g} = 1,886556 \text{ cent}$
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January 2023:

Fee indicator:	Plastic: 412,5 £/t → 466,13 €/t
Calculation	$42 \text{ g} * 0,046613 \text{ ct/g} = 1,9577 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator (average):	Aluminum: 130 £/t → 146,90 €/t
Calculation	$16 \text{ g} * 0,014690 \text{ ct/g} = 0,23504 \text{ cent}$



2023:

Fee indicator:	Aluminum: 175 £/t → 197,75 €/t
Calculation	$16 \text{ g} * 0,019775 \text{ ct/g} = 0,3164 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator (average):	Paper: 46,5 £/t → 52,55 €/t
Calculation	$222 \text{ g} * 0,005255 \text{ ct/g} = 1,16661 \text{ cent}$



2023:

Fee indicator:	Paper: 45 £/t → 50,85 €/t
Calculation	$222 \text{ g} * 0,005085 \text{ ct/g} = 1,1289 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator (average):	Glass (remelt): 115 £/t → 129,95 €/t Aluminum: 130 £/t → 146,90 €/t
Calculation	$480 \text{ g} * 0,012995 \text{ ct/g} = 6,2376 \text{ cent}$ $0,6 \text{ g} * 0,014690 \text{ ct/g} = 0,008814 \text{ cent}$



	Total: 6,246414 cent
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2023:

Fee indicator:	Glass (remelt): 115 £/t → 129,95 €/t Aluminum: 175 £/t → 197,75 €/t
Calculation	480 g * 0,012995 ct/g = 6,2376 cent 0,6 g * 0,019775 ct/g = 0,0119 cent Total: 6,2495 cent

v. Canned Tomatoes

2022:

Fee indicator:	Steel: 100 £/t → 113 €/t
Calculation	44 g * 0,0113 cent/g = 0,4972 cent



2023:

Fee indicator:	Steel: 80 £/t → 90,40 €/t
Calculation	44 g * 0,00904 cent/g = 0,3978 cent

XV. Romania

Main PRO: ECO-ROM

Source: <https://ecoromambalaje.ro/informatii-publice/tarife/>

Currency exchange: 1 Lei → 0,203 €

Fees of 2023 remained unchanged compared to those in force until the end of 2022.

i. Transparent PET Bottle

2022 + 2023:

Fee indicator:	PET: 740 lei/t → 150,62 €/t
Calculation	42 g * 0,015062 ct/g = 0,632604 cent



ii. Aluminum Can

2022 + 2023:

Fee indicator:	Aluminum: 725 lei/t → 147,56 €/t
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Calculation	$16 \text{ g} * 0,014756 \text{ ct/g} = 0,236096 \text{ cent}$
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ALUMINIUM CAN
33 cl
16 g

iii. Cardboard Box

2022 + 2023:

Fee indicator:	Carton: 395 lei/t → 80,40 €/t
Calculation	$222 \text{ g} * 0,008040 \text{ ct/g} = 1,78488 \text{ cent}$



CARDBOARD BOX
13,3 x 25,5 x 9 cm
222 g

iv. Transparent Glass Water Bottle

2022 + 2023:

Fee indicator:	Glass: 490 lei/t → 99,73 €/t Aluminum: 725 lei/t → 147,56 €/t
Calculation	$480 \text{ g} * 0,009973 \text{ ct/g} = 4,78704 \text{ cent}$ $0,6 \text{ g} * 0,014756 \text{ ct/g} = 0,0088536 \text{ cent}$ Total: 4,7958936 cent



TRANSPARENT GLASS WATER BOTTLE
75 cl
480 gr
aluminium cap 0,60 g

v. Canned Tomatoes

2022 + 2023:

Fee indicator:	Otel: 400 lei/t → 81,2 €/t
Calculation	$44 \text{ g} * 0,00812 \text{ cent/g} = 0,35728 \text{ cent}$



CANNED TOMATOES (STEEL)
44 g

XVI. Slovenia

Main PRO: Slopak

Source: <https://www.slopak.si/slopak-storitve>

Values for 2023 are not published yet

i. Transparent PET Bottle

2022:

Fee indicator:	Plastika PET: 185 €/t
Calculation	$42 \text{ g} * 0,0185 \text{ ct/g} = 0,777 \text{ cent}$



TRANSPARENT PET BOTTLE
1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>

ii. Aluminum Can

2022:

Fee indicator:	Metal Aluminum: 175 €/t
Calculation	$16 \text{ g} * 0,0175 \text{ ct/g} = 0,28 \text{ cent}$



ALUMINIUM CAN
33 cl
16 g

2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>

iii. Cardboard Box

2022:

Fee indicator:	Papir: 0,4 €/t
Calculation	$222 \text{ g} * 0,00004 \text{ ct/g} = 0,00888 \text{ cent}$



CARDBOARD BOX
13,3 x 25,5 x 9 cm
222 g

2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass: 0,4 €/t Metal Aluminum: 175 €/t
Calculation	$480 \text{ g} * 0,00004 \text{ ct/g} = 0,0192 \text{ cent}$ $0,6 \text{ g} * 0,0175 \text{ ct/g} = 0,0105 \text{ cent}$ Total: 0,0297 cent



TRANSPARENT GLASS WATER BOTTLE
75 cl
480 gr
aluminium cap 0,60 g

2023:

Fee indicator:	<i>Not available</i>
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Calculation	<i>Not available</i>
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v. Canned Tomatoes

2022:

Fee indicator:	Kovine jeklo: 219 €/t
Calculation	$44 \text{ g} * 0,0219 \text{ cent/g} = 0,9636 \text{ cent}$



CANNED
TOMATOES
(STEEL)

44 g

2023:

Fee indicator:	<i>Not available</i>
Calculation	<i>Not available</i>

XVII. Spain

Main PRO: Ecoembes

Source: <https://www.ecoembes.com/en/companies/packaging-declaration/green-dot-fees>

i. Transparent PET Bottle

2022:

Fee indicator:	PET Packaging: 0,44 €/kg PET rigid: 0,415 €/kg
Calculation	$40 \text{ g} * 0,044 \text{ ct/g} = 1,76 \text{ cent}$ $2 \text{ g} * 0,0415 \text{ ct/g} = 0,083 \text{ cent}$ Total: 1,843 cent



TRANSPARENT
PET BOTTLE

1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	PET Packaging: 0,423 €/kg PET rigid: 0,396 €/kg
Calculation	$40 \text{ g} * 0,0423 \text{ ct/g} = 1,692 \text{ cent}$ $2 \text{ g} * 0,0396 \text{ ct/g} = 0,0792 \text{ cent}$ Total: 1,7712 cent

ii. Aluminum Can

2022:

Fee indicator:	Beverage cans: 0,113 €/kg
Calculation	$16 \text{ g} * 0,0113 \text{ ct/g} = 0,1808 \text{ cent}$



ALUMINIUM CAN
33 cl
16 g

2023:

Fee indicator:	Beverage cans: 0,048 €/kg
Calculation	$16 \text{ g} * 0,0048 \text{ ct/g} = 0,0768 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper and cardboard: 0,091 €/kg
Calculation	$222 \text{ g} * 0,0091 \text{ ct/g} = 2,0202 \text{ cent}$



CARDBOARD BOX
13,3 x 25,5 x 9 cm
222 g

2023:

Fee indicator:	Paper and cardboard: 0,088 €/kg
Calculation	$222 \text{ g} * 0,0088 \text{ ct/g} = 1,9536 \text{ cent}$

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	Glass (weight): 0,02833 €/kg Glass (unit): 0,00402 € / unit Other aluminum: 0,096 €/kg
Calculation	$480 \text{ g} * 0,002833 \text{ ct/g} + 0,402 \text{ ct} = 1,76184 \text{ cent}$ $0,6 \text{ g} * 0,0096 \text{ ct/g} = 0,00576 \text{ cent}$ Total: 1,7676 cent



TRANSPARENT GLASS WATER BOTTLE
75 cl
480 gr
aluminium cap 0,60 g

2023:

Fee indicator:	Glass (weight): 0,03045 €/kg Glass (unit): 0,00432 € / unit Other aluminum: 0,034 €/kg
Calculation	$480 \text{ g} * 0,003045 \text{ ct/g} + 0,432 \text{ ct} = 1,8936 \text{ cent}$ $0,6 \text{ g} * 0,0034 \text{ ct/g} = 0,00204 \text{ cent}$ Total: 1,89564 cent

v. Canned Tomatoes

2022:

Fee indicator:	Other steel packaging: 0,138 €/kg
Calculation	$44 \text{ g} * 0,0138 \text{ cent/g} = 0,6072 \text{ cent}$



**CANNED
TOMATOES
(STEEL)**

44 g

2023:

Fee indicator:	Other steel packaging: 0,133 €/kg
Calculation	$44 \text{ g} * 0,0133 \text{ cent/g} = 0,5852 \text{ cent}$

XVIII. Sweden

Main PRO: FTI

Source: <https://fti.se/en/company/packaging-fees>

Source for Glass: <https://glasatervinning.se/for-producenter-och-importorer/pris-lista/>

Currency exchange: 1 SEK → 0,09 €

i. Transparent PET Bottle

2022:

Fee indicator:	Plastic (low): 5,52 SEK/kg → 0,5 €/kg
Calculation	$42 \text{ g} * 0,05 \text{ ct/g} = 2,1 \text{ cent}$



**TRANSPARENT
PET BOTTLE**

1,5 liters
40 g
plastic cap 2 g

2023:

Fee indicator:	Plastic (low): 5,52 SEK/kg → 0,5 €/kg
Calculation	$42 \text{ g} * 0,05 \text{ ct/g} = 2,1 \text{ cent}$

ii. Aluminum Can

2022:

Fee indicator:	Aluminum: 8 SEK/kg → 0,72 €/kg
Calculation	$16 \text{ g} * 0,072 \text{ ct/g} = 1,152 \text{ cent}$



**ALUMINIUM
CAN**

33 cl
16 g

2023:

Fee indicator:	Aluminum: 6 SEK/kg → 0,81 €/kg
Calculation	$16 \text{ g} * 0,081 \text{ ct/g} = 1,296 \text{ cent}$

iii. Cardboard Box

2022:

Fee indicator:	Paper (low): 2,24 SEK/kg → 0,2 €/kg
Calculation	222 g * 0,02 ct/g = 4,44 cent



2023:

Fee indicator:	Paper (low): 2,24 SEK/kg → 0,2 €/kg
Calculation	222 g * 0,02 ct/g = 4,44 cent

iv. Transparent Glass Water Bottle

2022:

Fee indicator:	3,65 cent
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2023:

Fee indicator:	Glass: 0,72 SEK/kg → 0,065 €/kg Aluminum: 6 SEK/kg → 0,81 €/kg
Calculation	480 g * 0,0065 ct/g = 3,12 cent 0,6 g * 0,081 ct/g = 0,0486 cent Total: 3,1686 cent



Note: Fees for glass will change starting from 1 April 2023 to 0,83 SEK/kg.

v. Canned Tomatoes

2022 + 2023 (values remained the same):

Fee indicator:	Steel plate: 4,20 SEK/kg → 0,378 €/kg
Calculation	44 g * 0,0378 cent/g = 1,6632 cent

