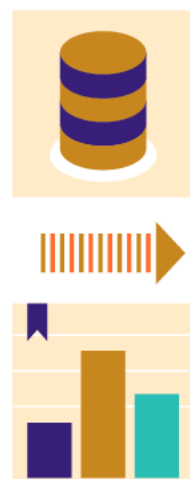




# Packaging EPR Fee in EU

## What are the differences?

November 2022





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## INTRODUCTION

The “Shared Responsibility principle” was introduced for the first time in 1994 by European Parliament and Council Directive 94/62/EC on packaging and packaging waste. Its scope was initially restricted only to the packaging’s end of life. In the following years, such principle became known as “**Extended Producer Responsibility**” (**EPR**), firstly introduced by Directive 2008/98/EC on waste. In 2018, through the amending Directive 2018/851, the EPR principle became the main measure used by Member States to ensure that packaging producers bear the financial and / or operational responsibility of packaging, from its design to its final disposal.

Finally, the Packaging and Packaging Waste Directive revision 2018/852/CE introduced a new obligation for EU Member States, which are now required to establish a specific EPR scheme for packaging by 2025, generally through organisations (financed by the producers and/or users of packaging themselves) that, on behalf of their members, take responsibility for it.

These organizations are known as **Producer Responsibility Organisations (PRO)**.

There are different models of EPR schemes for the management of packaging across Europe, as they must be developed in relation to each Country’s characteristics, based on socio-cultural, macro-economic and organizational variables of the waste system.

Within each EPR scheme, the responsible PROs adopt their own methodology for calculating the environmental contribution (so called ‘FEE ’) needed to cover the costs of collecting, sorting and recycling end-of-life packaging. Consequently, FEE values vary depending on the material of which the packaging is made. Other factors influencing FEE values are the so-called “modulation” requirements, based on the characteristics and sustainability of the packaging, introduced by the latest Waste Directive revision.

Through a study developed by the Italian National Packaging Consortium (CONAI) in collaboration with **Centro Materia Rinnovabile (CMR)**, a methodology to compare FEEs from 17 Countries was implemented by using a **single simplified indicator**. In particular, four packaging solutions common to all PROs were analysed, in order to identify the Countries where unit and aggregate values are lowest, as well as to assess trends of increasing or decreasing FEE values per material over the last two years (2021/2022).

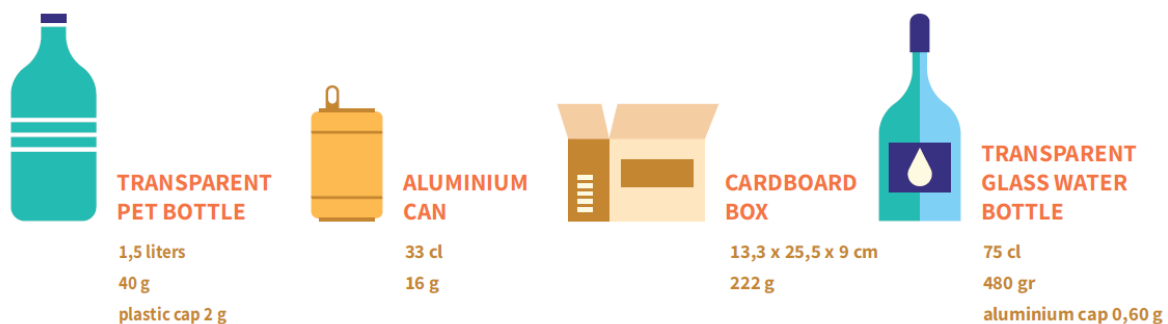
This document shows the **methodology** adopted and proposes a **comparison** between the **recycling rates** and the **FEEs’ values adopted** by the **PROs**, in order to verify whether a linear correlation between the 2 variables exists.

## THE ADOPTED METHODOLOGY

### Calculation model of the aggregate FEE indicator

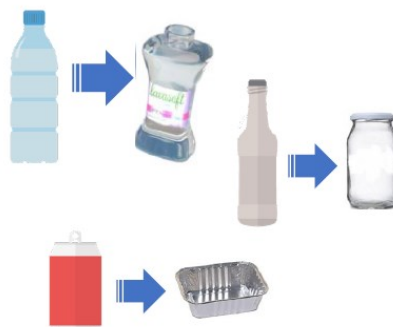
First of all, for each **Country** it was identified a so called “**Main PRO**”, which could represent the prevailing national organisational model, so that detailed reporting data could be retrieved.

The study identified **4 common packaging solutions** with the **same technical and composition characteristics** in all the **17 Countries/ Main PROs**:



**Figure 1:** *The 4 common packaging solutions chose in this study*

For countries where a Deposit Recycling System for Re-cycling (DRS) is active, for the Main PRO the value of the fee was calculated with reference to packaging of equivalent in weight and materials.



**Figure 2 :** *Alternative packaging solutions in case of a DRS for Re-cycling*

For each Main PRO, **the aggregate FEE indicator** was created by adding up the total of the 4 FEE's values of the packaging solutions into a **single value** expressed in € cents.

## DATA SOURCE

In most of the cases, the **2021/2022 data** came directly from the relative webpage of the Main PROs, but in some others it has been necessary to look into the data offered by EXPRA (*Members Compliances Contributions Overview*<sup>1</sup>) or PRO Europe (*PRO Europe Participation Costs Overview*<sup>2</sup>).

In the following cases, the path adopted was slightly different.

**Der Gruener Punkt (Germany):** a license calculator from the PRO website was used, as it allows to calculate the FEE value according to each material's quantity put on the market.

**Valpak (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).

**CITEO (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.

## CALCULATION'S METHOD EXAMPLE FOR SINGLE PACKAGING

For the purposes of this article, the example of **CITEO's method of FEE's calculation** for a **transparent PET bottle** will be taken into consideration.

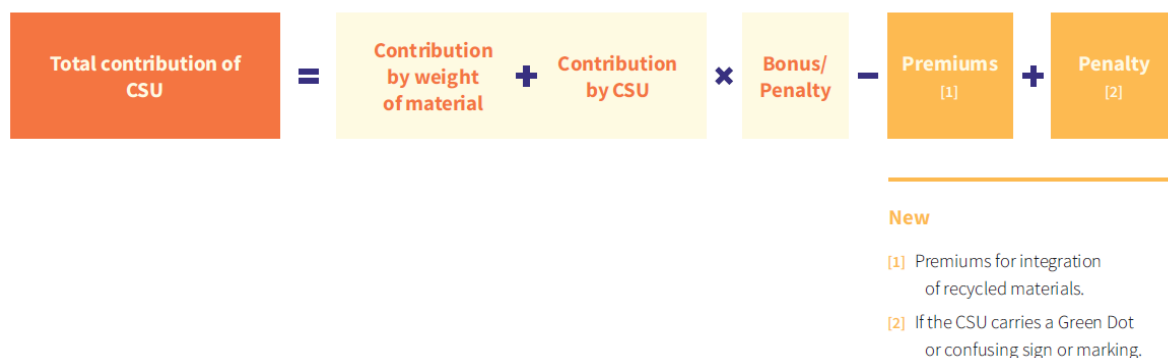
In this case, the total contribution of CSU is determined by the value per material and by a contribution's value based on the component's number of the packaging (2 components, cap and bottle).

In addition, the formula also takes into account a Bonus-Malus coefficient related to the recyclability and the quantity of recycled content (i.e. rPET in the figure 2) included in the packaging.

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<sup>1</sup><https://www.expra.eu/uploads/Compliance%20contributions%20overview%202021.pdf>

<sup>2</sup><https://www.pro-e.org/files/PRO-Europe-Participation-Costs-Overview-2022.pdf>



**Figure 3:** Methodologies indicated by CITEO (France) to calculate the FEES' value of a packaging solution

## RESULTS

### The FEES' value in 2022

The **FEES' value at 2022** were determined in relation to the **packaging solution identified** for each of the **17 Country/Main PRO selected**.

FEE's VALUE PER PACKAGING SOLUTION (2022)					
Countries	Main PRO	Cent/€	Cent/€	Cent/€	Cent/€
Slovenia	Slopack	0,78	0,28	0,01	0,30
<b>Italy</b>	Conai	0,16	0,01	0,11	1,39
<b>UK</b>	Valpack	0,72	0,06	0,23	0,98
Cyprus	Green Dot Cyprus	0,42	0,03	0,99	1,33
Luxembourg	Valorlux	1,06	0,08	1,01	1,11
Portugal	Spv	0,81	0,08	2,17	0,92
Belgium	Fostplus	0,50	0,07	2,24	2,38
<b>Spain</b>	Ecoembes	1,83	0,18	2,02	1,77
Netherlands	Afvalfonds	3,03*	0,26	0,49	2,31
<b>France</b>	Citeo	1,57	0,27	3,73	0,87
Bulgaria	Ecopack	0,38			

			0,07	1,82	4,54
Finland	Rinki	0,76*	0,19*	1,62	4,71
Romania	Eco-rom	0,60	0,23	1,75	4,71
Estonia	ETO	1,72*	0,41*	2,33	4,91
Czech Republic	Eko-com	0,71	0,29	3,61	5,56
Austria	ARA	3,00	0,50	2,66	4,20
<b>Germany</b>	Grune Punkt	3,31*	1,16*	3,97	2,73
Sweden	FTI	2,32*	1,28*	4,97	3,65

*\*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.*

*Countries with a population of > 20 millions are in "bold"*

**Table 1: FEE's value per packaging solution (2022)**

In the table above the lowest and the highest FEEs' values per packaging are highlighted in green and yellow respectively.

Therefore, the results indicate that the FEEs' values are:

- Lower in **Italy** (plastic and aluminium) and **Slovenia** (paper and glass);
- higher in **Germany** (plastic), **Sweden** (aluminium and paper) and **Czech Republic** (glass)

## THE AGGREGATE FEE INDICATOR 2022

The **aggregate FEE indicator 2022** for all the 17 Countries was determined by **adding up** the FEEs' value related to the **4 packaging solutions identified**.

The list below shows the indicator in ascending order, so the Country with the lowest indicator's amount is at the top of the table.

COMPARATIVE ANALYSIS OF THE AGGREGATE FEE INDICATOR (2022)		
Country	Main PRO	FEE's Value (€/cents)
Slovenia	Slopack	1,4
<b>Italy</b>	Conai	1,7
<b>UK</b>	Valpack	2
Luxembourg	Valorlux	3,3
Portugal	Spv	4
Belgium	Fostplus	5,2
<b>Spain</b>	Ecoembes	5,8
Netherlands	Afvalfonds	6,1
<b>France</b>	Citeo	6,4
Bulgaria	Ecopack	6,8
Finland	Rinki	7,3
Romania	Eco-rom	7,3
Estonia	ETO	9,4
Czech Republic	Eko-com	10,2
Austria	ARA	10,4
<b>Germany</b>	Grune Punkt	11,2
Sweden	FTI	12,2

**Table 2:** Comparative analysis of the aggregate FEE indicator (2022)

Comparing the above indicator 2022, the packaging recycling results to be less expensive in **Slovenia** (1,4 € cents), then in **Italy** (1,7 € cents) and **UK** (2 € cents); on the other hand, it results to be more expensive in **Sweden** (12,2 € cents), followed by **Germany** (11,2 € cents) and **Austria** (10,4 € cents).



## HOW FEES HAVE CHANGED FROM 2021 TO 2022?

In order to identify the economic trends related to the FEES, the study assessed a comparison between the two aggregate indicators from 2021 and 2022.

### DELTA 2021 VS 2022 OF THE AGGREGATE FEE INDICATORS

Country	Main PRO	Aggregate FEE indicator 2021	Delta 2021/2022
<b>Italy</b>	Conai	4	-58%
Slovenia	Slopack	2,4	-42%
<b>UK</b>	Valpack	2,6	-25%
Portugal	Spv	5,1	-23%
Luxembourg	Valorlux	4,1	-21%
Belgium	Fostplus	6	-13%
<b>Germany</b>	Grune punkt	12,1	-8%
Finland	Rinki	7,5	-3%
Romania	Eco-rom	7,5	-3%
Netherlands	Afvalfonds	6,2	-1%
Estonia	Eto	9,4	0%
Sweden	Fti	12,2	0%
Bulgaria	Ecopack	6,8	0%
Austria	Ara	10,3	1%
<b>France</b>	Citeo	6,3	2%
<b>Spain</b>	Ecoembes	5,7	2%

**Table 3: Delta 2021 vs 2022 of the aggregate FEE indicators**

The delta between the values of the two years shows that in 10 out of 17 Countries (59%) was recorded a decrease in the FEEs from 2021 to 2022, with a significant reduction in **Italy (-58%)** and **Slovenia (-42%)**; on the other hand, the Country who registered the most significant increase is **Czech Republic (+13%)**.

## RECYCLING RATES AND FEES

Comparing the aggregate FEE indicator and the recycling rate performances per Country/Main PRO, **no correlation between the two variables has been found.**

The following table lists significant data and elements for each Country/Main PRO, although referring to different years:

- the recycling rate of packaging per Country in 2018 (Eurostat);
- the Main PRO's recycling rate of packaging in relation to his financial responsibility (i.e.. related to the put on market's quantities which fall under the responsibility of the PRO);
- the aggregate FEE indicator 2021;
- the Main PRO's recycling rate of packaging in relation to his operational responsibility (i.e.. on the quantities managed by the PRO).

	Recycling rate for packaging by Country	MAIN PRO	PRO's recycling rate on financial resp.	Aggregate FEE indicator	Profit / No profit
	2018		2018	2021	
Country	%		%	€/cents	
Germany	69	Grune punkt	91,9	12,1	Profit
Sweden	70	Fti	85,6	12,2	No profit
Spain	69	Ecoembes+Ecovidrio	82,6	5,7	No profit

Belgium	85	Fost plus+Valipac	81,1	6	No profit
Netherlands	78	Afvalfonds (sav)	79,4	6,2	No profit
Finland	69	Rinki	73,7	7,5	No profit
Luxembourg	71	Valorlux	73,2	4,1	No profit
<b>France</b>	66	Citeo+adelphe	69,6	6,3	No profit
<b>Italy</b>	66	Conai	66,3	4	No profit
Estonia	60	Eto	63,7	9,4	No profit
<b>UK</b>	62	Valpak	62,1	2,6	Profit
Bulgaria	60	Ecopack	60,7	6,8	No profit
Austria	66	Ara	59,5	10,3	No profit
Romania	58	Eco-rom	55,5	7,5	No profit
Czech Republic	70	Eko-com	50,3	9	No profit
Portugal	58	Spv	47,1	5,1	No profit
Slovenia	68	Slopak	45,6	2,4	No profit

**Table 4:** Aggregate FEE indicator 2021 and countries/main Pro's recycling rate on financial responsibility at 2018

In most of the cases, the higher value of a FEE, given the socio-economic background, is seen as a necessary condition to guarantee the achievement of high recycling rate.

However, such a simplification could be misleading.

**According to the Profit/No Profit nature of a PRO**, the elements that characterize the **value of the FEE** could even **change**. Regarding No Profit PROs, the value of the FEE only covers the management costs of the process. On the other hand, in case of Profits PROs, the value

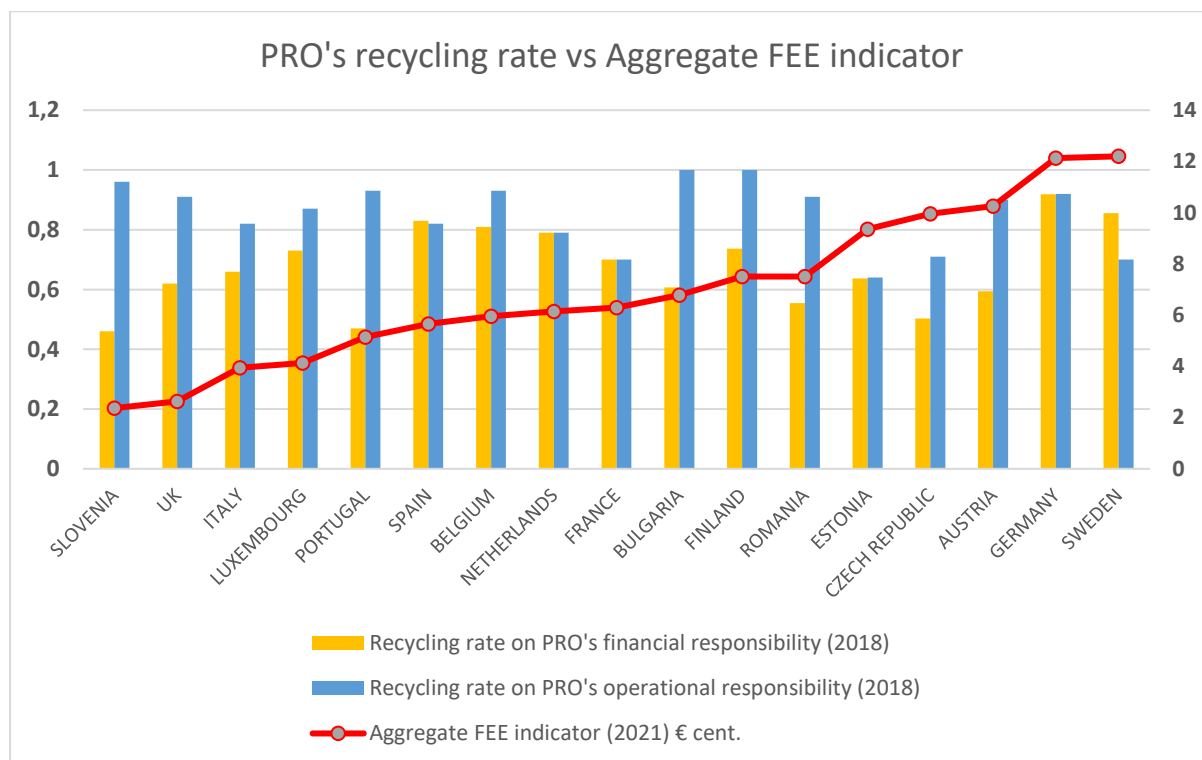
considered incorporates also the profit's margins and consequently expresses a low return on the FEE of the economic benefits of recycling.

Within an EPR scheme, each PRO is characterized by a “financial” and/or “operational” responsibility.

→ The **PRO's financial responsibility** is the percentage of packaging's put on market (charged by the environmental contribution) by the PRO's members in relation to the total packaging released at consume at Country level.

→ The **PRO's operational responsibility** is the percentage of packaging's waste which are directly managed by the PRO in relation to his financial responsibility. This parameter describes better the concrete activities of the PRO and its role in the packaging waste management market.

The graph below shows that, both in respect to the operational and financial responsibilities, **no linear relation has been found between the increase of FEEs' values and a corresponding increase in recycling rates.**



**Graph 1:** Pro's recycling rate on financial and operational responsibility (2018) & aggregate FEE indicator (2021)

## CONCLUSIONS OF THE STUDY

The **CONAI Italian's aggregate FEE indicator** is one of the **lowest**, compared to the other 17 EU Countries studied in 2022.

Inoltre, nei **10** dei **17** Paesi osservati (59%), è **diminuito l'indicatore aggregato di FEE** dal 2021 al 2022 per le 4 soluzioni di imballaggio individuate, e l'Italia, con **CONAI**, si attesta al primo posto con una **riduzione** pari al **58%**.

Furthermore, **a decrease between 2021 and 2022 has been observed in relation to the aggregate FEE indicator** for the 4 packaging solutions in **10 out of 17** EU Countries (59%), and **Italy**, with **CONAI**, has ranked in **first place** with a **58% decrease**.

With regards to other EU Countries, the most significant **decrease** was noted in **Slovenia** (42%), while the most substantial **growth** was experienced in the **Czech Republic** (13%).

Finally, **since no linear correlation between a higher value of the FEE and better recycling rate performances has been found**, it can be stated that **a higher FEE value does not necessarily correspond to an higher recycling percentage**.

## ANNEX List of the PRO's analysed in the study

COUNTRY	MAIN PRO	MAIN PRO'S WEBSITE
Austria	ARA	<a href="https://www.ara.at/">https://www.ara.at/</a>
Belgium	FOST PLUS+VALIPAC	<a href="https://www.fostplus.be/nl">https://www.fostplus.be/nl</a> <a href="https://www.valipac.be/en/">https://www.valipac.be/en/</a>
Bulgaria	ECOPACK	<a href="https://www.ecopack.bg/bg">https://www.ecopack.bg/bg</a>
Estonia	ETO	<a href="https://www.eto.ee/">https://www.eto.ee/</a>
Finland	RINKI	<a href="https://rinkiin.fi/en/for-households/">https://rinkiin.fi/en/for-households/</a>
France	CITEO+ADELPHE	<a href="https://www.citeo.com/">https://www.citeo.com/</a> <a href="https://www.adelphe.fr/">https://www.adelphe.fr/</a>
Germany	GRUNE PUNKT	<a href="https://www.gruener-punkt.de/de/">https://www.gruener-punkt.de/de/</a>
Italy	CONAI	<a href="https://www.conai.org/">https://www.conai.org/</a>
Luxembourg	VALORLUX	<a href="https://www.valorlux.lu/en">https://www.valorlux.lu/en</a>
Netherlands	AFVALFONDS (SAV)	<a href="https://www.afvalfondsverpakkingen.nl/">https://www.afvalfondsverpakkingen.nl/</a>
Portugal	SPV	<a href="https://www.pontoverde.pt/">https://www.pontoverde.pt/</a>
UK	VALPAK	<a href="https://www.valpak.co.uk/">https://www.valpak.co.uk/</a>
Czech Rep.	EKO-COM	<a href="https://www.ekokom.cz/">https://www.ekokom.cz/</a>
Romania	ECO-ROM	<a href="https://ecoromambalaje.ro/">https://ecoromambalaje.ro/</a>
Slovenia	SLOPAK	<a href="https://www.slopak.si/">https://www.slopak.si/</a>
Spain	ECOEMBES+ECOVIDRIO	<a href="https://www.ecoembes.com/es">https://www.ecoembes.com/es</a> <a href="https://www.ecovidrio.es/">https://www.ecovidrio.es/</a>
Sweden	FTI	<a href="https://fti.se/en/company">https://fti.se/en/company</a>



## About CONAI

CONAI, the Italian National Packaging Consortium, is a private, non-profit consortium with around 760,000 members consisting of packaging producers and users. The CONAI system is a private sector response to a collective environmental challenge in accordance with the policies and goals set politically. CONAI works with Italian municipalities on the basis of specific individual agreements regulated by the ANCI CONAI Framework Agreement and constitutes a guarantee for citizens that materials from separate collection are fully used in appropriate recycling and recover processes.

