REVIEW OF EPR FOR PACKAGING WASTE IN BELGIUM

FAIR RESOURCE FOUNDATION

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Paper 2
Recycling rates for PMD

Recycling is an invaluable part of the circular economy, and recent amendment to the EU legislation seek to standardize reporting of Member States performance. In this paper we look into how consistency and transparency is needed in the recycling rates that PROs report.

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Summary

This paper is the second of a series with the goal of elevating the discussion on producer responsibility for packaging, pushing it to a higher level, and stimulating better policy making. This series is intended to inform policy makers in Belgium, and in Europe, to review EPR and make it more environmentally effective.

Fost Plus reports high recycling rates, which contributes to Belgium reporting higher recycling rates than other Member States, and is one of the reasons why Fost Plus is widely considered a leading PRO in Europe. **In this paper, we explore the municipal packaging recycling rate for plastic, metal and drink cartons (PMD)**. Many think that Fost Plus has the recycling problem solved. We dive deeper into the reported recycling rates, and the activities of Fost Plus in achieving the high recycling rates in Belgium.

This report provides **a detailed analysis of publicly available information and data in Belgium**, complemented by some information provided by Fost Plus and IVC (however they have not been involved in the drafting of this report). We review current activities in Belgium in relation to design for recycling, eco-modulation, the roll out of the 'new blue bag' for PMD recycling, recycling infrastructure being developed in Belgium, and end destinations for recycling.

It can be concluded that **Belgium is indeed leading European PROs in certain aspects of their recycling efforts**. Significant investments were made in sorting infrastructure to support the roll out of the new blue bag, and efforts by Fost Plus to produce high-quality recycling have been corroborated by the IVC and other sources. In the coming years, this will be taken even further with the investment in new recycling facilities in Belgium, to shorten packaging supply chains, keep material quality high to maximize closed loop recycling, and keeping the material circulating in Belgium.

However, we identify two key issues, namely:

- the data reported by Fost Plus, in particular the recycling rates, are misleading and significantly overstate the performance of the system; and
- more transparency is needed at all stages of the supply chain, from the tonnage collected, to the tonnage sorted, to the tonnage recycled including end destinations.

Issues with Reported Recycling Rates

Based on our understanding of the data, we calculate that
the actual municipal packaging recycling rate is closer to 59%, not 64.8%.

For 2021, Fost Plus reports a recycling rate of 89.8% for all packaging. For PMD, this is broken down into 52% for plastic, 94% for aluminium, 105% for ferrous metal, and 73% for cartons. Based on data in the 2022 IVC activity report for reference year 2021, the overall PMD recycling rate was 64.8%.

All of these **recycling rates are calculated relative to the tonnage placed on the market by Fost Plus members** in the denominator, not the total municipal packaging tonnage in Belgium. This is inconsistent with the EU measurement method for recycling, which requires all packaging be included in the denominator; and does not compare like with like, since the numerator does include free-rider, producers less than 300 kg, and net parallel import tonnage.

We note that the adjustment for market coverage is made by the IVC in collaboration with Fost Plus before reporting to Eurostat, so is included in the final reported recycling rates, but adjustment details are not published. As Fost Plus is in a monopoly position for municipal packaging, and adjustments for market coverage are being done, reporting should be standardised to include it. As such, it can be concluded that the measurement method reported by Fost Plus and the IVC overstates the actual recycling rate, and is misleading to citizens, Belgian authorities, Eurostat, and producers.

	Tonnes Packaging POM by Members	Tonnes Recycled (New Method)	Reported Recycling Rate	POM Adjustment for Market Coverage	Total Municipal Packaging POM in Belgium	Actual Municipal Packaging Recycling Rate
Plastic (excl. cartons)	207,061	108,397	52.4%	90%	230,068	47.1%
Ferrous Metal	38,799	40,618	104.7%	94%	41,276	98.4%
Aluminium	32,007	30,014	93.8%	96%	33,341	90.0%
Cartons	15,977	11,298	70.7%	93%	17,180	65.8%
PMC Total	**293,844**	**190,327**	**64.8%**	**91%**	**321,864**	**59.1%**

Lack of Data Transparency

Greater transparency throughout the value chain is needed so that all parties involved can better understand the data and performance of the system. A system similar to WasteDataFlow in the UK needs to be implemented in Belgium in order to better monitor the performance of the system. This would also enable the results reported on recycling rates to be verified, and allow all stakeholders to understand what happens to the waste collected in Belgium. Monitoring and transparency are necessary to verify the impact and progress of packaging waste policies.

In particular, this level of detail of the whole value chain would help to understand what material is being lost at each stage of the process. Since implementing the new measurement method in 2020 for the tonnage recycled, we understand that Fost Plus measures the **real loss rates** between the measurement point, e.g., the tonnage output from a sorting plant, and the calculation point, e.g., the tonnage entering the final recycling process. This is done for Belgian waste flows in sorting plants and recycling installations using accredited lab and control bodies. The method used has been audited and approved by Eurostat, so there should be no barriers to sharing more information publicly.

However, **publicly available data reported in activity reports is not sufficient to calculate key elements of the process such as market coverage adjustments** (as discussed above) **and loss rates**. At the moment, Fost Plus assures us that loss rates are fully and correctly accounted for, but there is no evidence that would allow verification of the data. Separate loss rates should be reported for each fraction sorted by Fost Plus, and other streams separately collected, like they are in other countries because each material has a very different performance in the recycling process.

Way Forward

Spreadsheets with data supporting the activity report would be a straightforward way to communicate the data to those that are interested, without overwhelming the more casual reader and the general public who is only interested in headline data. This is not uncommon for data-heavy publications. But the headline figures also need to be correct based on the EU measurement method, and not mislead more casual readers by overstating the performance of the system.

It is clear that the municipal packaging recycling system in Belgium is ahead of many other countries in the EU. **As a leading PRO, Fost Plus should also be leading the way on data transparency and evidencing the achievements they make with PMD recycling in the transition to a more circular economy in the EU**.

1. INTRODUCTION

This paper is the second of a series with the goal of elevating the discussion on producer responsibility for packaging, pushing it to a higher level, and stimulating better policy making. This series of papers is intended to inform policy makers in Belgium, and in Europe, to review EPR with the ultimate goal of making it more environmentally effective.

Legislative context

Recycling is one of the lowest steps on the 'circular economy hierarchy', famously visualized in the 9R-diagram[1]. Recycling is R8, only above recovery (R9), and should only be used as a last resort after all other options to prevent, reduce, and reuse have been exhausted (the subject of the first paper in this series). Relying too heavily on recycling without exhausting these more circular options first can be an earmark of the linear economy, which the EU is trying to transition away from. All of this is put into legislation through the waste hierarchy in the EU's **Waste Framework Directive** (WFD, 2008/98/EC).

Nonetheless, recycling[2] is a vital component of the circular economy when products and packaging do eventually reach the end of their life; it generally conserves resources, saves energy, reduces carbon emissions, creates jobs, and can even be less expensive compared to using virgin materials. As such, the **Packaging and Packaging Waste Directive** (PPWD[3], Directive 94/62/EC) complements the WFD and goes into specific detail in relation to the management of packaging waste in the EU.

The PPWD makes producers responsible for the end of life of their packaging via **Extended Producer Responsibility** (EPR), and sets **targets for the recycling rates** of different packaging materials. The current targets were supposed to be achieved in 2008, and the 2018 amendments to the PPWD set new targets for 2025 and 2030, as outlined in *Figure 1*[4]. These new targets are according to a 'new measurement method,' which is discussed further below. In addition to the recycling targets, the currently ongoing revision to the PPWD (referred to as the PPWR) is likely to include further requirements regarding recyclability and recycled content for packaging.

	2008 Target (%)	By 2025 (%)	By 2030 (%)
All packaging	55	65	70
Plastic	25	50	55
Wood	15	25	30
Ferrous metal	50	70	80
Aluminium	50	50	60
Glass	60	70	75
Paper and Cardboard	60	75	85

Figure 1: EU recycling targets as set in the PPWD

1 https://www.researchgate.net/figure/The-9R-Framework-Source-Adapted-from-Potting-et-al-2017-p5_fig1_320074659

2 There are many definitions of recycling, but according to the WFD definition, which also applies to the PPWD, "recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances."

3 The most recent amendments to the 1994 PPWD were in 2018. The consolidated version can be found here: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01994L0062-20180704

4 https://environment.ec.europa.eu/topics/waste-and-recycling/packaging-waste_en

In comparison with other Member States, Belgium reports high recycling rates. For context, Figure 2 shows the data reported to Eurostat on recycling for all packaging for each Member State[5] in 2020. Belgium is shown in dashed orange, and the EU average is shown in light blue. Note that this includes glass and paper packaging, which can be heavier that plastic, metal and drink cartons – the subject of this paper – which skews the results towards higher glass and paper consuming and recycling countries; and some Member States are missing, having not completed their reporting at the time of publication. Nonetheless, **the recycling rate reported for Belgium exceeds the others by at least five percentage points, and exceeds the EU average by about 15 points**. Some counties have still not met the 2008 55% target, while Belgium is nearing 80%. Although there are criticisms of the Belgian system[6], the system put in place together with the sorting behaviour of Belgians is above average.

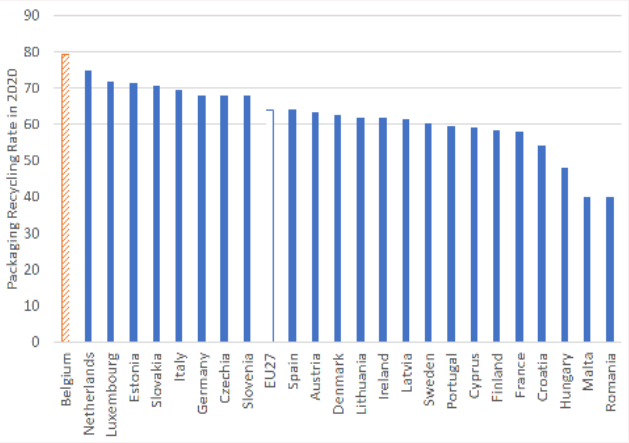

Figure 2: Eurostat reported data on all packaging recycling rate in 2020

New Measurement Method

The **recycling rate for packaging** is defined as the total tonnes of recycled packaging waste (numerator), divided by the total tonnes of packaging waste generated (denominator). These two values, the numerator and the denominator, must be measured by each Member State for each material in order to calculate their performance against the targets discussed above.

The European Commission adopts **implementing acts** to ensure uniform implementation of legislation, such as how to measure and calculate these recycling rates. The old legislation from 2005[7] stated that:

- packaging waste generated in a Member State may be deemed to be equal to the amount of packaging placed on the market (POM) in the same year within that Member State, and
- the weight of recycled packaging waste shall be the input of packaging waste to an effective recycling process. If the output of a sorting plant is sent to effective recycling processes without significant losses, it is acceptable to consider this output to be the weight of recycled packaging waste.

As such, Member States including Belgium reported the tonnage of packaging material output from sorting plants and sent to a recycler as the recycled packaging waste in the numerator, and the tonnage of packaging POM in the denominator. However, there are **significant losses in tonnage between the output of a sorting plant and what goes into the final recycling process on a pure material basis**. 'Products' that are output from a sorting plant, for example a bale of clear PET bottles, still contain non-target materials: residual moisture like product residues, labels and lids that are not made of PET and must be recycled separately – this is illustrated in *Figure 3*[8] – and other contaminants (such as wrongly sorted items).

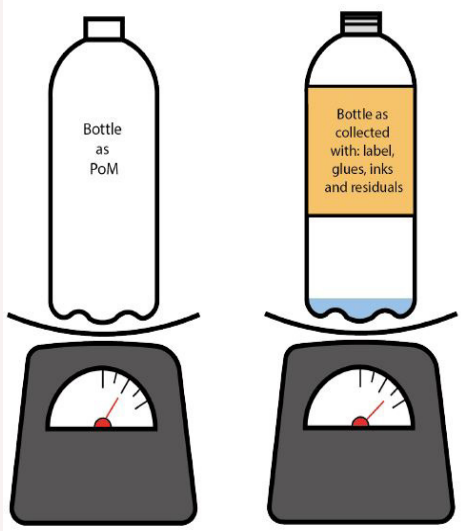

Figure 3: Reloop figure illustrating the difference in weight between what is POM and collected for recycling

5 https://ec.europa.eu/eurostat/databrowser/view/ENV_WASPAC__custom_7487931/default/table?lang=en

6 For example https://www.vrt.be/vrtnws/nl/2018/06/13/vlaanderen-recycleert-slechts-twee-derde-van-metalen-verpakkinge/ and https://recyclingnetwerk.org/2018/06/07/factcheck-werkelijke-recyclagecijfers-zijn-lager-dan-wat-fost-plus-beweert/

7 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32005D0270

8 https://www.reloopplatform.org/resources/getting-the-numbers-right-a-discussion-paper-on-calculating-and-reporting-separate-collection-of-plastic-beverage-bottles/

Measuring recycling in this way can lead to overstated recycling rates that could go over 100% in high performing systems. As an illustrative example, assume 100 tonnes are POM. Including non-target materials, assume this is 115 tonnes disposed of. If 90% of that is collected and sorted for recycling, then 103.5 tonnes would be in the material product, resulting in a recycling rate of over 100% according to the old measurement method.

Further, **the old measurement method was not consistent with the definition of recycling**, according to the WFD definition. So, the purpose of changing the method was to measure recycling as closely as possible to where the environmental benefit is achieved, and to do so in a clear and consistent way that reduces the tendency for companies or Member States to overstate their recycling performance by reporting at an early stage in the recycling process. It is important for all Member States to report in the same way, and set EPR targets in the same way, both to ensure fair implementation of the targets between Member States and to maintain the integrity of the single market, with companies in each Member State being treated equally.

As such, when the new recycling targets in the PPWD were implemented in 2018, and a new implementing act[9] was adopted in 2019, the way in which the recycling rate is measured was redefined – this is referred to as the '**new measurement method**'[10].

Article 6a of the PPWD reiterates that the amount of packaging POM can be used as a proxy for the packaging waste generated in a Member State in the same year to calculate the denominator, but **clarifies how to calculate the numerator** in more detail:

"the weight of packaging waste recycled shall be calculated as the weight of packaging that has become waste which, having undergone all necessary checking, sorting and other preliminary operations to remove waste materials that are not targeted by the subsequent reprocessing and to ensure high-quality recycling, enters the recycling operation whereby waste materials are actually reprocessed into products, materials or substances."

The new measurement method intends to exclude non-target materials from the equation, and counts only recycling on a pure material basis.

The implementing act distinguishes between the '**measurement point**', e.g., the tonnage output from a sorting plant, and the '**calculation point**', e.g., the tonnage entering the final recycling process[11]; the latter being what is used to calculate the recycling rate. The difference between the two is known as the loss rate, which includes all material removed as a result of sorting and other preliminary operations at the recycler, and will vary depending on a number of factors including the material, its quality, the recycling process, and the accuracy of the preliminary sort[12].

Recycling in Belgium

In Belgium, the PPWD targets are transposed into legislation via the **Cooperation Agreement on the prevention and management of packaging waste**[13] – an agreement between the three regions (Brussels Capital Region, Flanders, and Wallonia) that are responsible for waste management. In the Cooperation Agreement, recycling is defined as "the reprocessing in a production process of waste materials whether for the original purpose or for other purposes, including organic recycling but excluding energy recovery." Article 3, paragraphs 2 and 3 of the Cooperation Agreement were updated in 2020 and contain the Belgian recycling targets, which are reproduced here in *Figure 4* for municipal packaging; commercial and industrial packaging has separate targets, which are not in scope for this paper. As you can see, these targets for 2021 already exceed the 2030 EU targets by a considerable amount.

9 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019D0665

10 A detailed study on the recycling processes for each material was undertaken by the European Commission to inform the new calculations: https://op.europa.eu/en/publication-detail/-/publication/3d72ef00-bcac-11e9-9d01-01aa75ed71a1

11 Note that different materials have different measurement points, and these are detailed in Annex II of the implementing act.

12 The new measurement method is closer to the definition of recycling, but there are still limitations. Not all recycling processes are equally sensitive to the level of non-target materials left in the waste stream; and some streams have further losses after the measurement point before being made into a new product.

13 Cooperation agreement of 04-11-2008 on the prevention and management of packaging waste can be found here: https://www.ivcie.be/en/category/downloads-en/

	2009 Target (%)	By 2021 (%)	By 2023 (%)	By 2030 (%)	EU 2030 (%)
All Packaging	80	-	-	-	70
Plastic	-	50	65	70	55
Wood	-	80	-	-	30
Ferrous metal	-	90	-	-	80
Aluminium	-	75	-	-	60
Glass	-	90	-	-	75
Paper and Cardboard	-	90	-	-	85

Figure 4 : Belgian municipal recycling targets compared to EU target in 2030 from table above

Calculating the performance against these targets is the responsibility of the **Interregional Packaging Commission** (Interregionale Verpakkingscommissie, IVC), the government body responsible for overseeing and implementing packaging waste regulations. Article 3 of the Cooperation Agreement states that the recycling rates should be "expressed in terms of percentage by weight relative to the total weight of one-way packaging material placed on the Belgian market" and "calculated using the methods determined by the Interregional Packaging Commission, in accordance with European law." The packaging recycling rates reported for Belgium are completed by the IVC, then reported to Eurostat.

The responsibility for actually achieving the municipal recycling targets, and reporting recycling data to the IVC, is predominantly delegated to Fost Plus and Valipac, the Producer Responsibility Organizations (PROs) responsible for packaging in Belgium[14]. As stated in the first report in this series, Fost Plus[15] was founded in Belgium in 1994, around the time when the concept of companies jointly delivering their producer responsibilities was established in EU via the implementation of the PPWD[16]. Fost Plus is accredited by the IVC every five years, the most recent accreditation being from 2018[17]. This accreditation states that "the minimum recycling rate stipulated in the Cooperation Agreement must be achieved for each material," so Fost Plus is directly responsible for delivering these targets for the waste that they manage.

Municipal packaging in Belgium is split primarily into three streams for recycling collection:

- plastic packaging, metal packaging, and drink cartons (PMD) are collected in the 'blue bag';
- paper and cardboard, including non-packaging, are collected in the yellow bag; and
- glass packaging is collected via bring banks.

There are some variations to this system, e.g., blocks of flats with communal recycling bins, but these follow the same colour coding for the same materials; fundamentally, all Belgian residents have the same recycling collection system, shown in *Figure 5*[18]. In addition, there are some other routes for collecting and recycling metals and plastic. The metal lids collected in glass are recycled, metal and plastic packaging for household hazardous waste is collected through container parks, and metal is recycled from incinerator bottom ash – these are all outside the scope of the blue bag, but included in the recycling tonnages and rates.

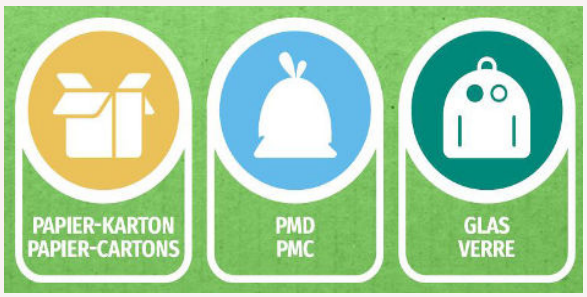

Figure 5: Fost Plus style guide iconography for the Belgian recycling collection system

In this paper, we explore one specific element of EPR for municipal packaging and packaging waste in Belgium : the municipal packaging recycling rate for PMD. The high recycling rates reported in Belgium, in comparison with other Member States, is one reason why Fost Plus is widely considered a leading PROs in Europe. Many think that Fost Plus has the recycling problem solved. We thus dive deeper into the reported recycling rates, and the activities of Fost Plus to achieve the high recycling rates in Belgium.

14 Some producers are not members of a PRO. These companies fulfil their takeback obligations themselves and report directly to the IVC.

15 https://www.fostplus.be/en

16 Article 7 on Return, Collection, and Recovery Systems introduces the idea of economic operator (e.g., producers) participating to deliver the required systems.

17 The Fost Plus accreditation of 2018 can be found here: https://www.ivcie.be/en/category/downloads-en/

18 https://www.fostplus.be/en/members/sustainable-packaging

2. FOST PLUS ACTIVITIES ON PMD RECYCLING

As the PRO for municipal packaging, Fost Plus is involved in all stages of the life-cycle of packaging, from design to recycling. In this section, we introduce Fost Plus activities at each of these stages, namely:

- **Design for Recycling (DfR)**: Fost Plus works with members on DfR to ensure recyclability of the packaging that is placed on the market;
- **Eco-modulation**: To support the DfR initiatives, the Fost Plus producer fees include eco-modulation which makes easier to recycle materials cheaper to place on the market;
- **New blue bag**: Starting in 2019, Fost Plus rolled out the collection of all plastic packaging from households via the new blue bag;
- **Sorting and recycling infrastructure**: To complement the collection of more plastics, Fost Plus has also made significant investments in the development of sorting and recycling infrastructure in Belgium; and
- **End destinations:** The final step in the process is the end destination where the material is recycled into a new product.

Design for Recycling

The PPWD includes essential requirements for packaging design to fulfil specific functions, e.g., containment and protection, while ensuring the minimum amount of material necessary and the ability to be reused, recycled, or recovered. The concept of 'design for recycling' (DfR) that follows from this considers the entire lifecycle of packaging, and aims to minimize environmental impacts. Fost Plus is clearly pushing the DfR agenda, and helps its members via two main resources:

- **Design4Recycling guidelines**[19] where Fost Plus offers companies help with improving the recyclability of their packaging, with a guidance document, workshops and more;
- **Pack It Better: Belgian hub for eco-designed packaging**[20] a collaboration with Valipac with the aim of knowledge sharing on making packaging more sustainable and more recyclable.

Further, it was first announced in the 2019 activity report[21], that Fost Plus with its sector federations would put only recyclable, reusable, compostable, or biodegradable packaging on the Belgian market by 2025. This has been repeated and grown in prominence in subsequent report; see *Figure 6*. This is five years ahead of the EU legislation, which does not require this until 2030[22].

Heading for 100% recyclable packaging together with our members

Sustainable packaging stands high on our members' agenda. Together with the sector federations, they have proposed ambitious goals: by the end of 2025, all non-recyclable packaging must be removed from the assortment. Fost Plus is helping its members to achieve these ambitions.

Figure 6: Excerpt from the 2022 Fost Plus activity report announcing the ambition for 100% recyclability by 2025

19 https://www.fostplus.be/en/projects/design4recycling-guidelines
20 https://www.fostplus.be/en/projects/pack-it-better
21 The 2019 Fost Plus activity report is no longer available on their website.
22 The objective in the European Strategy for Plastics to ensure that by 2030 all plastic packaging placed on the Union market is re-usable or easily recycled, see "What will change for the plastics industry and its value chain?" here: https://ec.europa.eu/commission/presscorner/detail/sv/MEMO_18_6. The PPWR takes this further, with the objective to make all packaging on the EU market recyclable in an economically viable way by 2030: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7155

There are also case studies on the Fost Plus blog related to design for recycling for specific packaging – six already in 2023: two from Coca-Cola, and one from each of Pringles, Carrefour, Colruyt Group, and Senseo. Of course, Fost Plus does not claim that it is the result of their work – only the Pringles article[23] says that the redesign of the iconic Pringles tube to be 100% paper was done with the support and expertise of Fost Plus. However, some of these case studies are not necessarily the result of Fost Plus (or its members') initiatives, but simply the application of EU legislation. For example, Coca-Cola transitioning to tethered caps in Belgium and Luxembourg from 9 February 2023[24] is the result of EU legislation that applies in all Member States requiring tethered caps from July 2024, and will have been part of Coca-Cola's packaging plan since that legislation was announced.

One producer confirmed that they have good and regular contact with Fost Plus and follow existing design for recycling guidelines; but have a lot of experience internally, and if necessary they search for information in their existing network, for example pack4food. **It would be great to see more case studies related to Fost Plus's own activities in relation to recyclability, and some metrics in terms of the impacts**. Further, given that other international knowledge sharing hubs, like pack4food[25] exist, resources like the Pack It Better hub seem like duplication.

In addition, **Fost Plus's activities on DfR are wrongly classified as prevention activities**. They come under Section 7, Article 33, Paragraph 1 of the Fost Plus accreditation, which is in titled "Prevention", but includes the promotion of easy-to-recycle packaging and the use of recycled materials, which are not prevention activities; see Paper 1[26] for the definition of prevention and a more detailed discussion of DfR in relation to prevention. In order to align with the essential requirements for packaging, and to distinguish between packaging prevention and recyclability, **a separate section in the accreditation is needed for recyclability and circularity of packaging recycling**.

23 https://www.fostplus.be/nl/blog/de-iconische-pringles-koker-wordt-recycleerbaar

24 https://www.fostplus.be/en/blog/coca-cola-introduces-caps-stay-attached-to-plastic-bottle

25 https://pack4food.be/en/

26 https://recyclingnetwerk.org/en/2023/10/11/fost-plus-paper-prevention-reuse/

Eco-modulation

To encourage DfR further, Fost Plus implements **eco-modulation** by having different fees for different materials placed on the market (see *Figure 7*). Eco-modulation tends to be defined as a fee structure that penalises the use of materials that are less environmentally friendly, and rewards the use of those that are better. For example, a new category recently introduced at the request of the IVC[27] for obstructive packaging[28], with a fee of €2.75 per kilogram – this is the category Fost Plus is trying to get to zero by 2025.

Investing in sustainable recycling

In the years ahead, we will be investing heavily in new infrastructure to sort and recycle the packaging materials we will be collecting via the new blue bag. Sorting plants will be completely renovated and equipped with advanced technology to separate and recover as much packaging as possible. Together with our partners, we are also working to stimulate the markets so that greater use is made of recycled material in new products. In addition, we are providing incentives to our members to increase the recyclability of their packaging through further eco-modulation of the Green Dot rates.

Figure 7: Extract from the 2018 activity report that highlights the use of eco-modulation to incentivise members to increase the recyclability of packaging

According to the 2022 Fost Plus activity report, "the share of non-recyclable packaging was estimated at around 2% of the total volume in 2019", so we hope that the fee for obstructive packaging will help push this down further. We note however, that there are derogations granted for laminated packaging, and more derogations are being added for 2024, so it is clear that some obstructive packaging is being accepted and may not be included in the 2%. In addition, it is unclear how composite materials, other than drink cartons, are

27 Fost Plus announced in its 2022 activity report that this category had been introduced in 2022 in the members' declarations, however we note that there was already a fee for this category in the 2021 list of fees.

28 Obstructive packaging is defined as household packaging that obstruct collection, sorting, or recycling in the 2024 Fost Plus green dot fees (https://www.fostplus.be/sites/default/files/media/document/2023-08/Tarifs%20Point%20Vert%202024%20%28v16.8.2023%29.pdf). This category includes, for example, plastic cans with a metal bottom or top, oxo-degradable packaging, biodegradable (and compostable) plastic packaging, and various categories of laminated packaging.

being dealt with. For example, most metal food packaging has a plastic lining on the inside and a coating or lacquer on the outside. This does not inhibit the metal recycling, so is not obstructive, but is lost in the recycling process and should be subject to a higher fee since it is not recyclable. Similarly for other composite packaging[29], it is not clear from the publicly available green dot fee document if or how this lining is included in the fees.

In addition, there are some unusual trends in the producer fees set by Fost Plus. From 2023 to 2024 the producer fee for steel packaging has gone up by 322% from €0.014 to €0.0591 per kilogram, while the fee for transparent PET dropped by 79% from €0.3125 to €0.0646 per kilogram. This may reflect fluctuations in material markets, but does not seem to reflect ease of recycling and circularity. In fact, the Fost plus website even says that the producer fees are adapted each year based on the costs Fost Plus incurs for the collection, sorting and recycling of the packaging, and that the revenues that Fost Plus generates from the sale of the materials are also taken into account[30] – it says nothing about recyclability or modulating fees based on environmental impact (see *Figure 8*).

Article 13, paragraph 4 of the Cooperation Agreement states that Fost Plus should calculate members contributions based on four criterial. Costs and revenues from each material are the first two, which are included as per the above. However, the third and fourth criteria, i.e., the extent to which each material serves to attain the objectives of the take-back obligation, and each material's durability, repairability, reusability and recyclability, do not seem to be taken into consideration. So one could argue that the modulated fees implemented by Fost Plus are not intended to reward the use of materials that are better for the environment, thus are not eco-modulated at all.

As such, we would like to see the Fost Plus fees align more with circularity principles and their environmental impacts:

- The fee difference between **more and less easy to recycle materials** should increase even more over time. For example, the relative fees for PET and aluminium should be more like in 2023 when PET had 13 times the fee per kilogram, rather than in 2024 when the fee for PET was only three times the fee for aluminium, because aluminium is significantly more circular[31].
- The fee for more difficult to recycle materials should **increase over time**, in the direction of fee for the obtrusive packaging category to shift more and more packaging into easy-to-recycle materials. For example, materials like EPS (expanded polystyrene) and cork should have fees going up, not down.
- The fees should be based not just on recyclability, but also on **circularity**. Where closed-loop recycling[32] is possible, a lower fee should be applied compared to materials that cannot be made back into the same product again. For example, mixed polyolefins that are currently not being made back into packaging applications[33], e.g., building and construction, agricultural products, should have higher fees.
- Packaging that could be part of a **reuse system** should carry higher fees if it is single use[34]. This currently only applies to glass beverage bottles. An at-scale reuse system already exists in Belgium, so single-use glass beverage bottles should have a higher fee.
- Packaging with higher levels of **recycled content** should have lower fees than packaging from virgin material. For instance, rPET should have a lower rate than virgin PET; same for glass, metal etc.

The WFD[35] specifies that the financial contributions made by producers should not exceed the cost necessary to provide waste management services in a cost-efficient way, so Fost Plus is currently passing the costs directly to producers. However, like the Cooperation Agreement, it also specifies

29 Paper coated with wax or a polymer, aluminium-adhesive-paper-plastic laminates, PET-PE top-seals, PET-Alu-PE, thermoform film with PA-EVOH-PA-PE, laminates that are made with PUR as adhesive layer, printed films with nitrocellulose based inks or lacquers, etc.

30 https://www.fostplus.be/en/members/green-dot-rates

31 Paper coated with wax or a polymer, aluminium-adhesive-paper-plastic laminates, PET-PE top-seals, PET-Alu-PE, thermoform film with PA-EVOH-PA-PE, laminates that are made with PUR as adhesive layer, printed films with nitrocellulose based inks or lacquers, etc.

31 https://www.fostplus.be/en/members/green-dot-rates`

32 https://www.recyclingproductnews.com/article/38303/new-research-shows-aluminum-cans-better-support-circular-economy-than-pet-and-glass-container

32 Closed-loop recycling is the reprocessing in a production process of waste materials the original purpose, and not for another purposes or energy recovery.

33 Note that regulations currently prevent mechanically recycled polyolefins from being used in food contact applications.

34 Note that in Belgium there is already a federal packaging contribution that distinguished between single-use and reusable beverage containers packaging. The rate for single-use is seven times that for reusable containers: https://finances.belgium.be/fr/entreprises/accises

35 Article 8a, paragraph 4

The Green Dot rates

How are the Green Dot rates calculated?

The Green Dot rates are adapted each year based on the costs Fost Plus incurs for the collection, sorting and recycling of the packaging. Revenues that Fost Plus generates from the sale of the materials are also taken into account.

Figure 8: An explanation of how green dot rates are calculated, from the Fost Plus website

that fees should take into account durability, reparability, re-usability and recyclability of packaging, which we do not see being done. Thus, the way Fost Plus is currently modulating fees is not in line with this latter condition. It would be better to include **specific principles of eco-modulation in the next accreditation to ensure that Fost Plus modulates fees to encourage reducing the environmental harmfulness of packaging waste.**

New Blue Bag

One of the big initiatives implemented by Fost Plus during the current accreditation was the roll out of the '**new blue bag**.' The new blue bag was first mentioned in the 2015 Fost Plus activity report, where test projects in six municipalities in 2016 were announced.

These projects tested the expansion of the plastic collected in the blue bag, which at the time included only plastic bottles and flasks, to include other rigid plastics and plastic films. By 2017 the expansion of the PMD collections to include all plastic packaging was the first of five focus points Fost Plus set out for a circular economy in Belgium. The new blue bag including all plastic packaging (except household hazardous packaging and EPS) was then included in the 2018 accreditation, in Section 1 Article 2 paragraph 2 (see Figure 9) and was set to be rolled out by 1 January 2021.

The new blue bag was rolled out gradually, staring on 1 April 2019 with two intermunicipalities[36], followed quickly by six more in June, with about three million people having the new blue bag by the end of 2019. The roll out continued in 2020 and was completed on 1 October 2021.

2) With regard to the expanded collection of plastics, as described in the implementation plan approved by the Interregional Packaging Commission on 7 June 2018, the projects based on a contract within the meaning of article 13(1)(7) of the Cooperation Agreement may include the following scenarios:

a. until 31 December 2019 at the latest: collection of "conventional" PMD, where the P stands for "plastic bottles", without collection of residual household plastic packaging (i.e. the sum total of household plastic film packaging plus household rigid plastic packaging, other than bottles);
b. until 31 December 2020, but the deadline may be extended, subject to approval by the regional authority concerned after discussion within the Interregional Packaging Commission: collection of "conventional" PMD, where the P stands for "plastic bottles", supplemented by collection of residual household plastic packaging (i.e. the sum total of household plastic film packaging plus household rigid plastic packaging, other than bottles), where appropriate collected with other plastics, or supplemented by collection of only household plastic film packaging at the recycling centres;
c. until 31 December 2020, but the deadline may be extended, subject to approval by the regional authority concerned after discussion within the Interregional Packaging Commission: collection of P+MD "rigid plastics", where the P+ stands for "all household rigid plastic packaging", supplemented by collection of household plastic film packaging;
d. collection of P+MD "all plastics", where the P+ stands for "all household plastic packaging, with the exception of household hazardous waste and EPS (non-food)".

Figure 9: Section 1 Article 2 paragraph 2 for the 2018 Fost Plus accreditation, which sets deadlines and options for rolling out the new blue bag in Belgium

36 In Belgium, waste collection is generally done by intermunicipal waste organisations (referred to as intermunicipalities). Only three municipalities in Belgium collect their own waste. The rest have partnered with other municipalities to collect waste together. These intermunicipalities are composed of an average of 18 municipalities, but range in size from two municipalities (IVAGO, consisting of Ghent and Destelbergen) to 84 municipalities (the whole province of Liège).

Figure 10: Fost Plus communications on the new blue bag (data from the 2020 activity report)

but it is interesting to note here that there is little transparency on how much waste is actually collected through the blue bag. The terminology used by Fost Plus is somewhat misleading, because the terms 'collected' and 'recycled' are sometimes used interchangeably. For example, the 2018 activity report claims that "extending the collection of plastic bottles, metal packaging and drink cartons (PMD) to include all plastic packaging, we can *collect and recycle* 8 kg of extra packaging per person per year." Similarly, there is an infographic in the activity report every year since 2018 showing the kilograms per inhabitant of PMD, paper, and glass that is sometimes labelled 'collected,' sometimes labelled 'recycled,' and sometimes not labelled – using the same infographic for different data is confusing and misleading to readers.

Transparent and reliable data

Various parties are involved in the collection and recycling process: local authorities, intermunicipal authorities , waste collection companies, sorting plants and recycling companies. Using efficient processes and monitoring systems enables us to get a better view of material flows right from the beginning of the process and give everyone access to accurate and up-to-date data at all times. This not only improves transparency, it also provides a reliable basis on which to make decisions. We are also working on a simplified declaration for members and we will continue our fight against free riders so that everyone makes a fair contribution to the system.

Figure 11: Extract from the 2018 activity report that contains claims about data transparency and reliability that have not been implemented

Fost Plus clarified that when they say collected, they mean collected from households and taken to the first tip (either a transfer station or directly delivered to a sorting plant) and includes bags and non-target material, and this is what the additional 8 kg refers to (see *Figure 10*). **Fost Plus should be consistent in their terminology and report on the total tonnage collected via the blue bag system**, including non-target materials and input into the sorting process, as a separate value from what is output from the sorting plants (the measurement point), as well as what is finally recycled (the calculation point).

This level of detail, particularly at the municipality or intermunicipality level, is necessary to communicate how much non-target material is in the blue bag. This would help those responsible for collecting waste to implement policies such as not picking up heavily contaminated bags - non-target materials are visible through the transparent bag after all - and contribute to educating people who use the bags wrongly. **Fost Plus makes almost the exact same points regarding data transparency** in their 2018 activity report (see *Figure 11*), but has not followed through on giving "everyone access to accurate and up-to-date data at all times."

Further, we understand from conversations with intermunicipalities that the approach of Fost Plus can be strict with regards to the level of non-target materials, and there have been penalties applied in the past. Ultimately, **the cost of communicating to and educating residents, and the cost of collection, are the responsibility of the producers**. If the system is not performing as it should in certain areas, then it may be that the fees paid by the producers are not high enough to cover the full costs in certain geographies or demographics.

Recycling Infrastructure

None of the benefit from collecting more plastic packaging would be realized without investment in new recycling infrastructure. Fost Plus has invested in upgrading and/or building five new sorting plants in Belgium[37] (see *Figure 12*):

- **Indaver** (in Willebroek)[38] – operational December 2020, annual tonnage: 60,000
- **Valtris** (in Couillet)[39] – operational June 2021, annual tonnage: 40,000
- **Prezero** (in Evergem)[40] – operational since January 2021, annual tonnage: 78,000
- **Val'Up** (in Ghlin)[41] – operational since May 2022, annual tonnage: 50,000
- **Sitel** (in Engis)[42] – operational May 2023, annual tonnage: 40,000

The annual tonnages specified indicate the average annual tonnage the facility processes in a year. In addition, the existing sorting plant Vanheede (in Rumbeke) is also used to sort the new PMD fractions, and specialises in sorting PMD collected from companies and post-sorting the residues output from the first PMD sorting process.

Further small improvements are still being made to what is accepted in the blue bag and the sorting plants. According to the 2021 activity report, since 1 January 2022, all metal spray cans have also been accepted in the PMD bag, where previously only food and cosmetics sprays can were allowed. Since the start of 2023, opaque PET has also been sorted as a separate fraction, and the producer fee for this fraction dropped from €1.7379 per kilogram in 2022 to €0.7044 in 2023. And additional sorting of fines (sorting residues) allows for the recovery of small aluminium and coffee capsules[43].

It is interesting to note that the total sorting capacity of these plants is around 268,000 tonnes, while the tonnage placed on the market of PMD by Fost Plus members was already at 303,204 tonnes in reference year 2020 according to the 2021 IVC activity report. Adding roughly 10% for market coverage (discussed further below) and another 10% for wrongly sorted, non-target materials gives a total of over 360,000 tonnes that would need to be sorted in Belgium if it were all collected for recycling. So, the existing capacity only accounts for about 75% of the packaging in Belgium. Fost Plus clarified that since the capacities for these plants are average annual capacities, the operations of the plants can easily be adapted to handle more material. At the moment, they mostly operate with two 8-hour shifts, five days per week; so, a third shift or weekend shifts can be added to increase capacity. For example, according to Fost Plus, the Indaver sorting plant could easily be changed from 60,000 tonnes to 80,000 tonnes with additional shifts and no other significant adjustments.

Figure 12: Map of sorting plants in Belgium

End Destinations

The final step in the recycling value chain is sending the sorted materials to a recycler. The material collected in the blue bag is the property of Fost Plus. They then sell the sorted material to recyclers according to rules set by the IVC. They have to sell the sorted materials to companies in the EU with the highest purchase price, to be recycled in the EU. They have to sell to a final recycler, so it cannot be sold to waste traders, and they have to have sufficient free capacity at their recycling facility to recycle it. Specifications are agreed with the IVC during the tendering process, and, for example, strict quality criteria are specified for each contract so the recyclers can reject loads and impose financial penalties on sorting plants and indirectly Fost Plus who is ultimately responsible for covering the costs if material is not to the agreed standard.

37 https://www.fostplus.be/en/projects/new-pmd-sorting-centres
38 https://indaver.com/news/single/press-release-indaver-is-the-first-to-start-up-a-new-pmd-sorting-installation
39 https://www.fostplus.be/en/blog/opening-of-valtris-sorting-centre
40 https://www.fostplus.be/en/blog/prezero-punctual-opening-of-sorting-facility-for-lightweight-packaging
41 https://www.fostplus.be/en/blog/official-opening-of-fourth-new-sorting-centre-for-new-blue-bag
42 https://www.fostplus.be/en/blog/last-sorting-centre-opens-its-doors
43 https://www.fostplus.be/en/blog/green-dot-fees-2024

According to conversations with the IVC, the quality of the Belgian waste is higher than in other countries, and is often used by the recyclers to increase the quality of this other waste. The high quality of Belgian waste has been corroborated by other sources as well. However, recyclers **mixing Belgian material with material from other sources effectively downgrades the quality of the Belgian material**, which we agree is counterproductive after the efforts being put in to sort material to a high quality.

Figure 13 shows a map of where the Fost Plus materials were recycling in 2021[44]. The data only indicates the EU-country in which the material was recycled. Further detail is not available, which means that it is not possible to understand exactly where it goes, how it is recycled, and what it is made into. If the material is as high quality as is being claimed, then much of it should be going into closed-loop recycling, and being made into the same products again. **Much more transparency on end destinations and recycling fates is needed to understand how well Belgium is really recycling**.

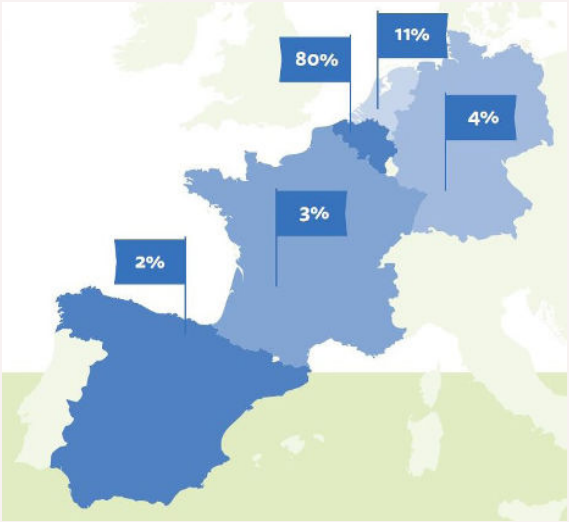

Figure 13: Map from Fost plus's 2021 activity report showing where the Fost Plus material was recycled in 2021

Fost Plus is now investing in building new recycling facilities in Belgium, because they want to control the quality of recycling, which is more difficult when it is sent abroad[45]. They want PET to go back into PET in Belgium to have an as short and circular supply chain as possible. The 2020 Fost Plus activity report says that there are already agreements with producers in Belgium to buy the material and put PET back into bottles in Belgium (*Figure 14*), and based on conversations with Fost Plus it is our understanding that they are expecting to achieve 80% recycled content. They are trying to achieve the same for other materials, like getting PET films back into PET films.

Mineral water producer Sources ALMA, together with waste expert Suez, is investing in a *bottle-to-bottle* recycling plant in Charleroi. PET bottles collected from Belgian consumers will be recycled here and then used as raw materials for new bottles, intended mainly for the Belgian market.

Bionerga and ECO-oh! are building a plant together to recycle polyethylene film – from outer packaging and bags, among other things – to make new film. A first for Europe, certainly on this scale. In addition, ECO-oh! is also developing new capacity to recycle non-polyethylene films and mixed hard plastic packaging. This closes the circle, and all packaging from the New Blue Bag is effectively recycled.

Figure 14: Extract from the 2020 Fost Plus activity report explaining the plans for closed-loop recycling within Belgium

There does not seem to be a plan yet for cartons, 0% of which are currently recycled in Belgium; nor for the 29% of aluminium that went to Germany in reference year 2021, as reported in the 2022 IVC activity report. Even the metals that are recycled in Belgium, without knowing where they are going to be recycled, it is unclear if they are going into closed-loop recycling and being made into packaging again, or if they are being used in other applications, like car parts.

Fost Plus is heavily focused on the recycling part of the circular economy, but it is not clear how circular any of the recycling really is. The plans in place for keeping the Belgian material quality high and creating a circular plastics value chain, i.e., investing in building local recycling infrastructure, are a great step forward, but there needs to be supporting evidence to substantiate the results of the efforts.

In the UK, a waste data reporting system, WasteDataFlow[46], has been in use since 2004 (see *Figure 15*). Data is reported quarterly for each municipality, and tonnages can be interrogated through

44 The 2022 IVC activity report also presents a table on where the Fost Plus material was recycled in 2021. The two do not match, which reduces confidence in the methodology employed by Fost Plus and IVC. This is because the reporting deadline is after Fost Plus publishes their activity report, so small changes continue to be made to the data until the IVC activity report. A small note in both activity reports to explain this would clarify the difference to the keen readers. This has been discussed with Fost Plus.

45 See the quote from Fost Plus managing director here: https://www.fostplus.be/en/blog/morssinkhof-plastics-opens-recycling-center-for-hdpe-and-pp-in-lommel

46 https://www.wastedataflow.org/

the whole supply chain: from collection, input to sorting, output from sorting, all the way to the final recycler. There are issues with this system as well, such as reporting inconsistencies, but the data is publicly available so anyone can download and analyse it to find out what is happening to their waste (or any waste in the country).

In comparison to this, the Belgian data is a black box. **A similar system should be put in place in Belgium to provide evidence for the claims being made on the recycling quantities** (and the recycling rates that are calculated from them). In fact, Fost Plus claims to already have such a system in place, but it is not open source, and Belgian consumers and residents are critically missing from the list of stakeholders Fost Plus engages with (see *Figure 16*). Access to information is crucial for order for people to effectively participate in the system and be engaged with matters affecting them.

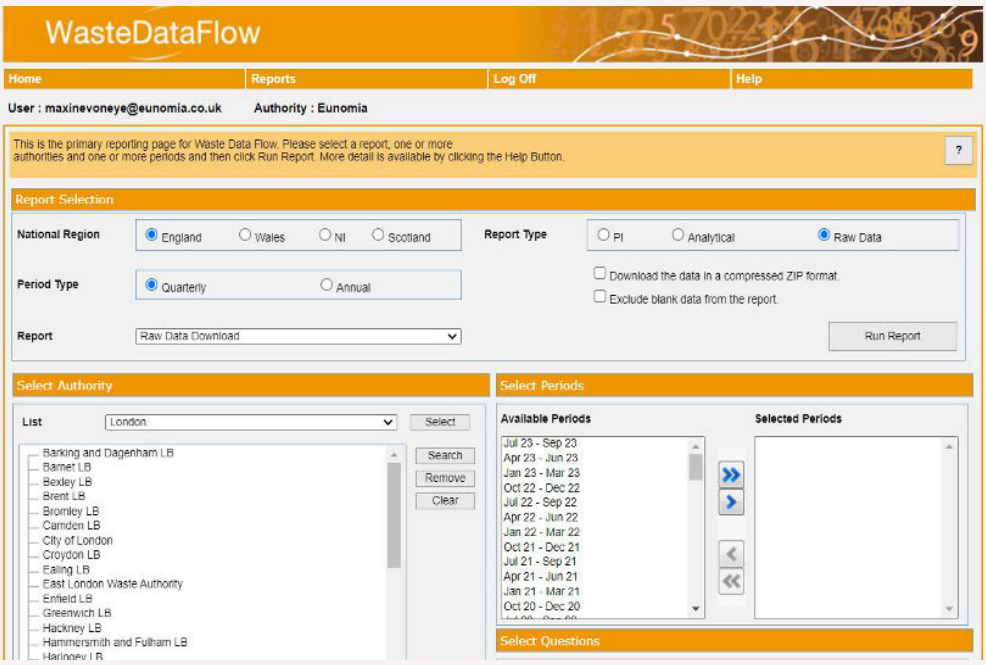

Figure 15: Screen shot of the UK's open-source waste data system, WasteDataFlow

Data for optimal cooperation

Fost Plus is the driving force behind an extensive and varied ecosystem where different partners work closely together: intermunicipal companies and local authorities, producers and distributors, operators, sorting and recycling centres, etc. Optimal data exchange is crucial to gear all the activities in the recycling chain to one another as well as possible.

Our basic systems generate huge quantities of data on all aspects of the recycling chain. What packaging is put on the market and what materials does it consist of? How much PMD do we collect from members of the public and how are the figures evolving over time? What is the quality of the materials collected and which packaging causes problems in sorting and recycling centres?

Thanks to Business Intelligence, we can use these data to take the right decisions and ensure that our partners can work together better. For instance, analyses of collection data help us to optimise the entire chain, from the organisation of the collection rounds to the forecasting for sorting centres and recycling plants. Insight into new packaging trends enables us to respond faster to new developments and adjust our policy where necessary.

Figure 16: Extract from the 2021 Fost Plus activity report that talks about the data system in place

Finally, with all these plans for circularity, and given the high quality of the material sorted in Belgian sorting plants, producers in Belgium should be held to account on their ambitions. **The next Fost Plus accreditation should include circularity targets, in addition to recycling targets**. For example, a certain percent of material must go to high quality recycling, whereby the waste material is used in the production of similar packaging again. These targets should be set for each packaging material fraction and/or packaging application, and should increase over time like the recycling rates.

3. REPORTED RECYCLING RATES

In this section we investigate what the recycling rates reported by Fost Plus really mean. *Figure 17* shows the recycling rates reported by Fost Plus in their annual reports compared to the recycling rates reported by the IVC to Eurostat. Obviously these two metrics cannot be compared directly, because the Eurostat data also contains non-municipal packaging recycled by Valipac, and companies that fulfil their takeback obligations themselves[47]. However, both the Fost Plus reported recycling rates, as well as the Valipac reported recycling rates, exceed the rates reported to Eurostat. For example, in 2020 the recycling rate reported by Fost Plus in their activity report was 94.9%, the recycling rate reported by Valipac in their activity report was 91.5%, and the official Eurostat recycling rate for Belgium was 79.2% - a significant difference if you consider that the Eurostat value should be a combination of the municipal and non-municipal recycling rates. **This difference leads to many questions, which we attempt to address below**.

In the sections below, we discuss our understanding of the Belgian data regarding the following aspects of the reported recycling rates:

- We start with a discussion of the overall **measurement method** – the main differences between the Fost Plus/Valipac recycling rates and those reported to Eurostat come from the fact that the recycling rates are reported using different methodologies.
- We then dig into some of the details of the methodology, starting with a discussion of the denominator for the reported recycling rate, i.e., the **tonnages placed on the market** (POM), and how these are calculated and reported.
- Next, we investigate adjustments are made for packaging POM to account for market coverage adjustments such as **free-riding**[48].
- We discuss the last step to calculating the recycling rate according to the new measurement method: applying the **loss rates** to remove the tonnage of non-target material.
- Finally, we present adjusted **PMD recycling rates** based on IVC reported tonnages, accounting for total tonnage of municipal packaging POM in Belgium, compared to what is reported by Fost Plus and the IVC.

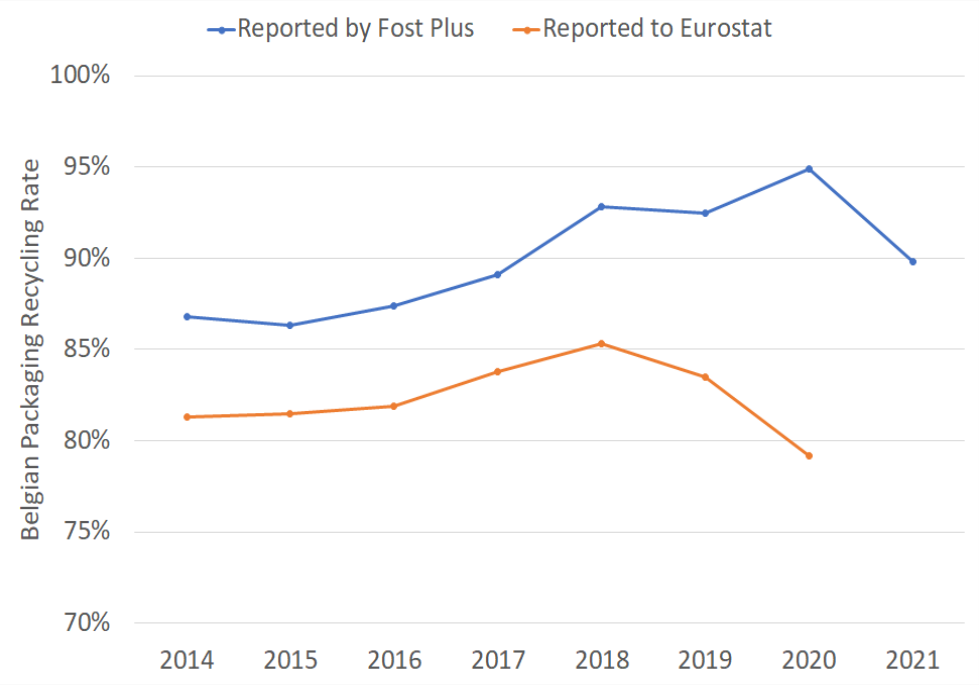

Figure 17: Recycling rates reported by Fost Plus compared to recycling rates reported by the IVC to Eurostat

47 Only companies that place over 300 kg of packaging waste on the market are subject to the takeback obligation, so must either be a member of a PRO or report directly to the IVC. https://www.ivcie.be/en/obligations/take-back-obligation/

48 Free riding is defined in the recent Eunomia, Reloop and ZWE report on mixed waste sorting as: "an EPR system phenomenon in which producers who are not registered with the scheme, and therefore do not pay EPR fees (including, for example, online sellers and producers below any de-minimus thresholds for EPR obligations), place packaging on the market that goes unrecorded. This also includes situations in which registered packaging producers mis-declare their tonnages POM such that this is underestimated, as well as packaging POM by private importers (i.e. individuals who bring in products from other countries)."

The measurement method now required by Eurostat is clearly defined in the PPWD and related implementing act. The 2018 Fost Plus accreditation pre-dates this update to the EU legislation, so we do not expect the measurement methods to fully align. However, **the measurement method utilized by Fost Plus does not even align with the measurement method that was in place when the 2018 accreditation took place**.

Fost Plus does not try to hide how it calculates its recycling rate. The 2021 activity report stated clearly that "In 2021, Fost Plus recycled 89.8% of the household packaging put on the market by its members"[49]. Similarly, in the most recent 2022 activity report, it states that "In 2022, our members marketed 765,758 tonnes of packaging, of which 725,816 tonnes were recycled, accounting for a 95% recycling rate"[50]. In other words, the denominator used in the Fost Plus recycling rate calculation is the tonnage placed on the market by its members, not the total tonnage of municipal packaging placed on the market.

However, the wording is misleading, because Fost Plus is claiming to recycle 725,816 tonnes out of the 765,758 tonnes placed on the market by its members. In reality, many tonnes that Fost Plus recycles contain waste due to free riders and net parallel imports. So, in a way, Fost Plus is understating the denominator by *excluding* non-member tonnage, but also over-stating the numerator by *including* non-member tonnage. The wording suggests that Fost Plus members are recycling more of their own waste than they actually are. **This needs to change so that the recycling rate compares like with like**.

In addition, the Fost Plus calculation method is often lost in translation, and misinterpreted. For example, a recent Fost Plus blog article[51] was titled "Fost Plus recycled 95% of all household packaging in 2022," which is an incorrect simplification of the more complete explanation in the activity report – it is not 95% of *all* household packaging; it is 95% of the packaging declared by Fost Plus members. And this follows through to other media outlets that pick up these stories. The Brussels Times, for example, reported the Fost Plus recycling rate as a national recycling rate, with no reference to tonnage placed on the market by members[52].

Of course, the average reader of these articles will not understand this distinction – that it is a percentage relative to what is reported by Fost Plus members, and not a percentage of all packaging placed on the market in Belgium. Which further supports the fact that **the Fost Plus calculation method is not a particularly meaningful metric, and sends the wrong signals to users of the Belgian recycling system, to policy makers, and to those responsible for the packaging**.

The method of calculating the recycling rate is discussed in the 2018 accreditation:

- Article 3 states that "for each material, Fost Plus shall report on the beverage packaging placed on the market by its members and also on their selective collection and recycling. The practical arrangements regarding this reporting shall be made by the monitoring committee"; and
- Article 4 states that Fost Plus must comply with the methods of calculating the recycling rates developed by the IVC. Some details are spelled out, but they mostly pertain to the calculation of the numerator, with the exception of bullet point C that says "The method of calculating the recycling rates shall comply with Decision 2005/270/EC of the European Commission or with any other European legislation that replaces it," meaning the new measurement method should be used for the numerator and denominator in the recycling rate calculation.

To elaborate on these two points, firstly, we note that Fost Plus does not report on each material separately in the main activity report; since 2021, they include material sheets separately in a PDF download. This is not mentioned in the download version of the activity report, so is easily missed. These sheets provide some clarity on the material specifics, but are missing key pieces of information. The tonnages placed on the market, sorted (old measurement method) and recycled (new measurement method), for each material, should be included in the annual report. This was reported each year until 2017, as shown in *Figure 18*, but was not included in the annual reporting from 2018 onward.

And secondly, Fost Plus should be calculating the recycling rate relative to all municipal packaging placed on the market, as a proxy for the packaging waste generated. Especially since Fost Plus is

49 Previously here: https://com.fostplus.be/activityreport2021en/, the 2021 Fost Plus activity report is no longer available on their website.

50 https://com.fostplus.be/en/activityreport2022/

51 https://www.fostplus.be/en/blog/fost-plus-recycled-95-of-all-household-packaging-in-2022

52 https://www.brusselstimes.com/170706/belgians-improve-recycling-rate-for-fifth-consecutive-year

the only PRO for municipal packaging, and works with the IVC to calculate the market coverage for municipal packaging in Belgium, there is no reason why this measurement method is not being used.

One could argue that the two requirements above only apply to the IVC who do comply with these articles[53]. **There is no reason why these requirements should not be passed on to Fost Plus**, especially since the organisation is in a monopoly position for municipal packaging, and given how confusing and misleading the current reporting is.

As such, **the reporting requirements for Fost Plus should align with the new EU measurement method, for each material separately and relative to the total placed on the market** and not just the total reported by Fost Plus members. Fost Plus and the IVC should not have the flexibility to decide what and how to report. What Fost Plus reports should align with the official data reported from the IVC to Europe, because doing any different is disinformation.

Tonnages Placed on the Market

To elaborate on the **denominator** in Fost Plus calculation method, the tonnage placed on the market by Fost Plus members is reported in both the Fost Plus and the IVC activity reports – these two metrics are shown in *Figure 19*. One would expect that, for a given reference year, the two values would be the same. However, in some years the Fost Plus reported tonnage is higher, and in others the IVC reported tonnage is higher. Note that since we are focussing on only PMD in this report, it would be ideal to get this data for PMD only, but the breakdown by material has not been published in the Fost Plus annual report since reference year 2017 and therefore does not allow for this level of precision.

53 The 2022 IVC activity report for 2021 reference year states that "the new calculation method relates to the results obtained by the accredited compliance organisation under the take-back obligation set out in the Cooperation Agreement and does not include corrections for free-riders or parallel imports (minus parallel exports). These corrections will be made when calculating the Belgian Figures to be reported to Eurostat."

Recycling and valorization results (tons):

Material	Recycled tons	Market (estimate)		Fost Plus Members	
		Tons on market	% market	Tons declared by members	% members
Paper-cardboard	**194,140**	**220,141**	**88.2%**	**194,827**	**99.6%**
Paper-cardboard	178,276	202,370	88.1%	177,400	100.5%
Beverage cartons	15,864	17,771	89.3%	17,427	91.0%
Glass	**340,440**	**315,511**	**107.9%**	**297,298**	**114.5%**
Plastic	**87,989**	**231,809**	**38.0%**	**213,420**	**41.2%**
Bottles and flasks	70,446	87,723	80.3%	84,990	82.9%
Metals	**75,702**	**77,316**	**97.9%**	**73,773**	**102.6%**
Others	43	4,648	0.9%	4,172	1.0%
TOTAL RECYCLING	**698,314**	**849,425**	**82.2%**	**783,490**	**89.1%**
PMD-residu (energy recovery)	**22,534**				**2.9%**
TOTAL VALORISATION	**720,848**				**92.0%**

Figure 18: Table of data in 2017 Fost Plus activity report showing tonnes recycled compared to both tonnes placed on the market by members, as well as an estimate of the total tonnes placed on the market

The two reports are not published at the same time, so Fost Plus confirmed that corrections and updates are made to the data in the interim – the final reporting deadline for members is between the publication of the two activity reports, so the Fost Plus data is an indicative snapshot shortly before the time of publishing. However, if this is the case, then a note to that effect should be included in both reports, and details on what adjustments have been made should be included in the latter report, i.e., in the IVC annual report. **It can be concluded that the way it is reported at the moment lacks transparency, and reduces confidence in the methodology employed by Fost Plus and IVC**. This has been discussed with Fost Plus.

In addition, there is no transparency on what checks are being done on the tonnages POM. A few examples are as follows:

- Producers could be under stating the number of units and/or the unit weights of items they place on the market. As far as we are aware, no adjustments are being made for this.
- We are aware the adjustments are being made for producers putting less than 300 kg of packaging on the market (the threshold for

reporting to the IVC), but it is not clear how this is done, or the magnitude of the adjustments. Similar for other market coverage adjustments (discussed further below).

- Adjustments are required for composite packaging where a component makes up for more than 5% of the weight; we understand that Fost Plus does not adjust for tonnagesbelow this threshold, e.g., the aluminium layer in cartons. We are unsure of what this means for the declarations of members. For example, for metal food packaging that has a plastic lining, is the weight of that lining declared? Or is it included in the weight of the metal? Or is it excluded altogether? And how about polymer coated paper, aluminium lids with a plastic seal coating, etc.?

Both Fost Plus and its members benefit from under reporting tonnages, so **more through, detailed, and transparent checks on the tonnages POM are needed**.

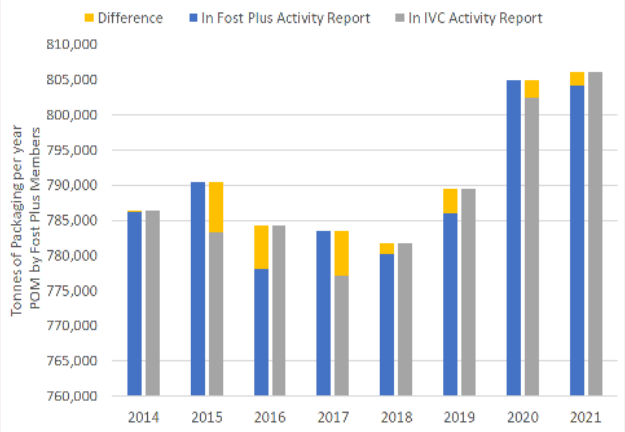

Figure 19: Tonnes of packaging placed on the market by Fost Plus members each year from 2014 to 2021

Market Coverage

The tonnages declared by Fost Plus members are then adjusted to account for market coverage. This is meant to ensure that all packaging placed on the market by all producers, including those that are not members of a PRO or are below the reporting threshold, are also included in the calculations.

However, **transparency on the market coverage data and related calculations has reduced since the last accreditation**. Until 2017, the Fost Plus activity report included an estimate of the total tonnes placed on the market, in addition to the tonnes declared by members for each material (see *Figure 18*), so the estimate of free riding could be calculated. The tonnes of PMD packaging from 2014 to 2017 are reproduced here in *Figure 20*. The difference between the two metrics, i.e., the amount not covered by Fost Plus, over these years was 6-7% of the total POM.

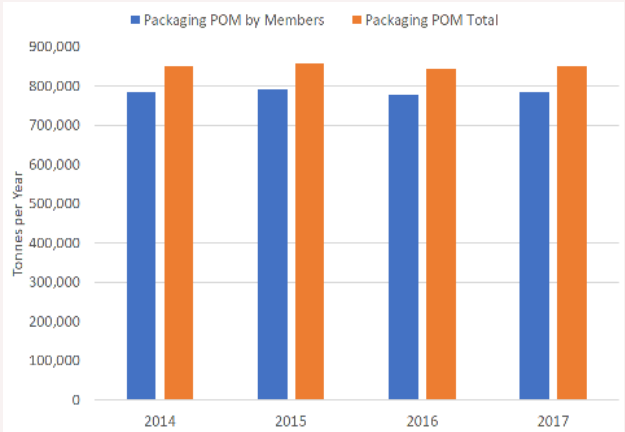

Figure 20: Tonnage of municipal packaging placed on the market by Fost Plus members compared against estimate of total packaging placed on the market from 2014 to 2017

According to Fost Plus, a study is done every five years to validate this percentage of free riders, during which a detailed regression analysis is undertaken based on NACEBEL codes and economic activity to interpolate the tonnages placed on the market by non-members. In between the five-year updates, the tonnages are adjusted annually to account for shifts in the economy. In addition, an estimate of the cross-border purchases and net parallel imports is carried out separately. The underlying assumption is that there is more import than export (of PMD), but the magnitude is more difficult to estimate, and is done based on a consumer panel and sector federation expertise. **Studies like this, and information on how they are used, should be made publicly available**, like they are in other countries[54].

Although no longer published in the activity reports, based on conversations with Fost Plus and data provided by the IVC, free riding, etc. for PMD is now estimated to be 8-9% of the total POM – an increase compared to the 6-7% in the previous period. However, none of this is published or explained. And the impact on the recycling rate is significant. *Figure 21* shows the tonnages reported as POM and recycled by Fost Plus members in the 2021 activity report – the recycling rate reported is 89.8%. **If the denominator were adjusted**

54 For example, in Germany, the Environment Agency (Unwelt Bundesampt, UBA) publishes a very detailed report annually on the model and methodology used to calculate their packaging statistics. See for 2020: https://www.umweltbundesamt.de/publikationen/aufkommen-verwertung-von-verpackungsabfaellen-in-16.

for market coverage based on 7% free riders, etc. to account for all municipal packaging POM in Belgium, then the Fost Plus recycling rate would drop to 83.5%. If it were 10%, then the recycling rate would drop further to 80.8%.

Figure 21: Illustrative example of the impact of including market coverage in the Fost Plus reported recycling rates

Loss Rates

Applying loss rates is the last step in the recycling rate calculation. In order to minimize any bias introduced from a change in the measurement method, Fost Plus, like many other organisations in Europe, has maintained the same measurement point; and have applied loss rates to account for the difference between the measurement point and the calculation point.

For Fost Plus tonnage, the loss rate calculation is done by applying their own measurements, not by using average loss rates. Since the EU's new measurement method was implemented, **Fost Plus measures the real losses that occur for the Belgian waste flows in sorting plants and recycling installations using accredited labs and control bodies**. According to Fost Plus, this is possible because Fost Plus has contracts with all these parties and imposes a strict follow-up; and this method is more reliable than the average loss rates that are based on European averages because it is focussed on only Belgian material. They do not rely on data from recyclers, because streams from different countries are often mixed together before the calculation point, so it is physically not possible to measure the Belgian material alone at that point. The applied methodology has been verified by Eurostat, so Fost Plus considers that this method corresponds to the Commission's new measurement method.

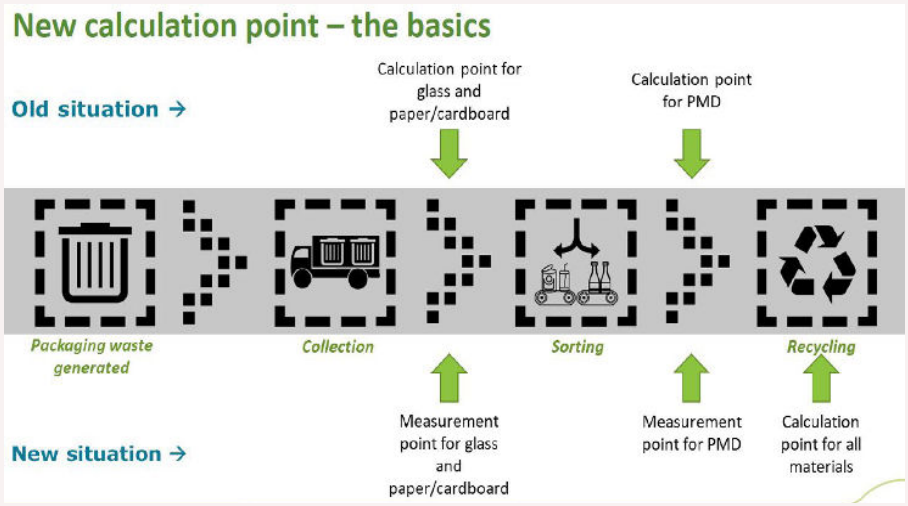

Figure 22: Illustration of old and new measurement method applied by Fost Plus from a Fost Plus presentation

According to the Fost Plus activity report, since the 2020 reference year, they have been reporting to the IVC based on the old and new measurement method. However, **Fost Plus does not report on loss rates in their activity report**, and does not report these two methods to the public.

The IVC does report both the old and new measurement method for Fost Plus tonnage in their activity report, which gives some insight into how the loss rates (defined in the introductions) are applied. *Figure 23* shows a summary of the data in the IVC activity report for plastic (excluding the part of drink cartons that is made of plastic) and cartons (also broken down into the paper and plastic fractions). Note that for the plastic part of drink cartons, the loss rate is particularly high because this material is generally not targeted for recycling (discussed further below).

	Tonnes POM by Fost Plus Members	Recycling in Old Measurement Method	Tonnes Recycled - New Measurement Method	Tonnes Lost: Difference between Old and New Measurement Method (tonnes)	Inferred Loss Rate: Tonnes Lost Relative to Recycling in Old Measurement Method
Plastic (excl. cartons)	207,061	126,235	108,397	17,838	14.1 %
Drink cartons	15,977	18,257	11,298	6,959	38.1 %
Carton - Paper	11,983	13,693	10,666	3,027	22.1 %
Carton - Plastic	3,994	4,564	632	3,932	86.2%

Figure 23: Summary of data from the 2022 IVC activity report (for reference year 2021) on loss rates based on old and new measurement methods for plastic and cartons

Plastic Loss Rates

Here we can see that for plastic, a total of 14.1% is lost between the old measurement method, in this case mostly that tonnage that is output from the sorting plants as a 'plastic' product, and what is recycled as plastic on a pure material basis. This is not broken down into different packaging types (beverage bottles, etc.), nor into different polymers (PET, HDPE, etc.), which all have very different performances in the recycling process. **We would like to see more transparency on these tonnages**. Even though the methodology has been verified by Eurostat, none of the data can be interrogated by Belgian citizens and consumers who fund the system through their purchases. Nor can key stakeholders compare the data against data in other Member States to ensure that the new measurement method is indeed being implemented consistently across the EU. This holds true for the other materials as well. It can be concluded that Fost Plus is very unclear and does not provide data about their plastic loss rates and recycled tonnes.

Carton Loss Rates

For cartons the loss rate is higher: 38.1% of the tonnage is lost from what is output from the sorting plants to what is recycled, but this loss rate is a little bit more complicated to interpret because cartons are composite packaging made out of layers of paper and plastic. Fost Plus splits the carton tonnage into 25% plastic and 75% paper up until the measurement point. This means that both the paper and the plastic output from sorting contains non-target tonnage. For technical reasons, most of the paper in cartons is recycled, while most of the plastic is incinerated; so, the paper fraction has a much lower loss rate than the plastic.

It is important to note in *Figure 23* that **the tonnage of 'carton' product output from the sorting plants is greater than the tonnage of pure cartons placed on the market**. This is not impossible, since the tonnage placed on the market is on a pure material basis, the output from sorting is on a product basis including non-target materials (including product residues, which can be high with cartons), and the

tonnage recycled is again on a pure material basis. With separate collection rates increasing in the future, we expect to see more of this across Europe.

It is somewhat surprising that it is so much higher though. Carton packaging is less likely to be consumed outside of home compared to plastic and metal (beverage) packaging, but this is not enough to fully explain why sorting rates for cartons are so much higher than the other PMD materials. Assuming the carton paper recycled (10,666 tonnes) is 100% of the paper output from PMD sorting on a pure material basis, and the 22.1% loss is pure non-target material, then this implies that 89%[55] of the cartons placed on the market is collected in blue bags and sorted for recycling. In reality, a part of the fibres will be lost when the paper and plastic are separated from each other, so the collection rate of pure cartons would need to be above 89% to achieve this tonnage.

Metal Loss Rates

The reporting of metals is more complicated and less transparent again. The tonnages recycled includes metal recovered from incinerator bottom ash (IBA). This now has to be reported separately to Eurostat, but is not reported separately in the IVC activity reports, which **should be standardised** in order to be able to distinguish between selective collection and other recycling. Some metal tonnage also comes from what is referred to as 'article 8 tonnage' – additional tonnage collected by the intermunicipality, e.g., from container parks and household hazardous waste packaging. Plus, since the implementation of the new measurement method, metal recycled from the glass collections is now included in the metal recycling rate rather than the glass recycling rate. So, there are actually four different metal streams (PMD, article 8, metal from glass, and IBA metals) feeding into the Fost Plus tonnage recycled.

Based on data previously provided by the IVC for 2020, we understand that approximately 5,700 tonnes of ferrous metal and 13,000 tonnes of aluminium from IBA are included in the calculations[56]. This is the maximum allowed based on the limits in the EU legislation of 85% of ferrous metal not selectively collected, and 80% of aluminium not *selectively collected*[57].

We are unsure if these are compared against actual tonnages of metal extracted from IBA in Belgium. Although this is not the subject of this report, we note that simply applying these maximum allowed tonnages for IBA recycling is likely to overstate the recycling rate for metal packaging. A recent report on metal recycling from IBA in Flanders showed that there was much less metal packaging in the IBA than expected, reducing the recycling rate for the study reference year from 93.9% to 62.3% - a remarkable difference[58].

Nonetheless, subtracting these off the recycling in the old and new measurement method gives us an estimate of the tonnes recycled from separate collection. Comparing these gives us a loss rate of 0.02% for ferrous metal, and 1.3% for aluminium, which are both very low[59].

We know that these calculations are incorrect, but still present them here to illustrate the lack of transparency in the data reported by Fost Plus and the IVC. Two further adjustments need to be made to calculate an actual loss rate: for the metal from glass and the article 8 tonnage. The article 8 tonnages have always been reported according to the new measurement method, so have little impact on the calculation of the losses. But the metal recycling from glass was only added to the recycling tonnage since the new measurement method was implemented in 2020, and offsets the losses from the recycling process also implemented in the same year, so that is why the loss rates we calculate are so close to zero. As an illustrative example:

- Assume 40,000 tonnes of metal were reported as recycled according to the old measurement method, and this includes 5,000 tonnes of metal from article 8 and IBA tonnage, so 35,000

55 10,666 tonnes recycled divided by 11,938 tonnes POM is 89%.

56 We understand from Fost Plus that this dropped significantly from 2020 to 2021, but even reducing it by 50% does not have a significant impact on the loss rates calculated here.

57 The exact wording in the IVC activity report is: "In accordance with the new calculation method, metals recovered from incinerator scrap are limited to the estimated quantities of metal packaging waste in the streams destined for incineration, and to which the average extraction rates of the ferrous metal (0.85) and aluminium (0.80) processing plants are then applied. Where necessary, all figures are capped at 100%."

58 Van Caneghem et al. (2019) Closing the household metal packaging cycle through recovery of scrap from waste-to-energy bottom ash: The case study of Flanders, Resources, Conservation & Recycling, https://doi.org/10.1016/j.resconrec.2019.01.028

59 The plastic lining in metal cans alone is around 2% (see table 3 of https://www.rijksoverheid.nl/documenten/rapporten/2020/10/09/bijlage-03-onderzoek-kunststof-coatings-in-blikjes) so loss rates below this are likely to be unrealistic.

tonnes were collected through the blue bag.

- Fost Plus assures us that loss rates of 5-12% areapplied to the different metal streams, so if we subtract 2,500 tonnes (about 7%) from the tonnes collected through the blue bag, we actually only have 32,500 tonnes recycled from the blue bag according to the new measurement method.
- However, if we have a further 2,500 tonnes of lids from glass recycling subtracted from the glass tonnage and added to the metal recycling, plus 5,000 tonnes from article 8 and IBA then we are back at 40,000 tonnes recycled according to the new measurement method.
- And it looks like the loss rate is zero, but is actually 7%.

These are all illustrative values and have not been confirmed by Fost Plus. But it shows again how untransparent the data reported by Fost Plus and the IVC is. We do not deny the complexity of the situation, but **additional supporting spreadsheets with more detailed information could be provided with the IVC activity report** where all the tonnages are finally added together. For example, tables in the German report mentioned above show each of the recycling streams separately, with separate loss rates, and cross checks between materials[60].

	POM by Fost Plus Members	Recycling in Old Measurement Method*	Recycled (Old) Excluding from IBA	Recycling In New Measurement Method*	Recycled (New) Excluding from IBA	Loss Rate
Ferrous metal	38,799	40,626	34,926	40,618	34,918	0.02 %
Aluminium	32,007	30,232	17,232	30,014	17,014	1.3 %

Figure 24: Summary of data from the 2022 IVC activity report (for reference year 2021) on loss rates for metals, assuming recycling tonnages (*) include 5,700 tonnes of ferrous metal and 13,000 tonnes of aluminium from IBA

60 See, for example, the loss rates for various streams of ferrous metal, aluminium, plastic in tables 58, 59, and 61 respectively of the UBA report mentioned above.

PMD Recycling Rate

In this section, we report a summary of our understanding of the final data reported publicly in Belgium to **calculate what the recycling rate might actually be for the PMD fraction** of municipal packaging. Other similar exercises have also been undertaken[61] with similar results that show that Fost Plus and IVC consistently overstate the recycling rates in their public communications. Here we use the latest data for reference year 2021 from the 2022 IVC activity report to get a current view on the performance of the system.

Figure 25 shows the tonnage POM by Fost Plus members, the tonnes recycled by Fost Plus, and the reported recycling rate for plastic, metal, cartons, and PMC in total. Since details of the different streams within each material category are not available, and we cannot verify the loss rates applied, we do not adjust the total tonnes recycled for any additional losses.

However, the tonnes POM by Fost Plus members does not cover the whole market, so adjustments have to be made to account for market coverage tonnages. Based on data provided by the IVC, we assume the Fost Plus tonnage accounts for a total of 91% of the municipal packaging, and the other 9% is free riders, etc. This varies by material asper the table below.

Adding this tonnage results in a total of 321,864 tonnes of municipal PMD packaging POM, rather than 293,944 tonnes in the denominator of the recycling rate calculation, and **reduced the recycling rate from 64.8% to 59.1% for PMD**.

This includes metal recycling from IBA, so the recycling from selective collection is even lower than this, which is definitely not the impression that Fost Plus gives with the +90% recycling rates it reports. We note that tonnages from companies that fulfil their takeback obligation themselves does not need to be included here because it is excluded from the numerator and denominator of the calculation. But **including the total municipal packaging POM by all companies in Belgium in the denominator of the recycling rate calculation is necessary in order to compare like with like** – after all, the numerator includes free rider tonnage that is recycled via the blue bag and other collection routes. IT can be concluded that Fost Plus should report on this total municipal packaging, to which the IVC then adds the Valipac tonnage for non-municipal waste, adjusted for market coverage in the same way, and any tonnage from companies that report directly to get the total recycling rate for Belgium in an easy to understand and transparent way.

	Tonnes Packaging POM by Members	Tonnes Recycled (New Method)	Reported Recycling Rate	POM Adjustment for Market Coverage	Total Municipal Packaging POM in Belgium	Actual Municipal Packaging Recycling Rate
Plastic (excl. cartons)	207,061	108,397	52.4%	90%	230,068	47.1%
Ferrous Metal	38,799	40,618	104.7%	94%	41,276	98.4%
Aluminium	32,007	30,014	93.8%	96%	33,341	90.0%
Cartons	15,977	11,298	70.7%	93%	17,180	65.8%
PMC Total	**293,844**	**190,327**	**64.8%**	**91%**	**321,864**	**59.1%**

Figure 25: Details of PMC recycling rate calculation, including adjustment for market coverage in the denominator. No adjustments are made to the tonnes recycled in the numerator of the recycling rate.

61 For example, https://recyclingnetwerk.org/2018/06/07/factcheck-werkelijke-recyclagecijfers-zijn-lager-dan-wat-fost-plus-beweert/ and https://www.reloopplatform.org/mixed-waste-sorting/

4. THE WAY FORWARD

In order to give citizens, the Belgian authorities, Eurostat and producers more confidence in what Fost Plus is reporting for the PMC recycling system, more transparency and checks are needed:

- **More transparency is needed at all stages of the supply chain**, from the tonnage collected, to the tonnage sorted, to the tonnage recycled including end destinations. Municipalities should push for a system that is similar to WasteDataFlow in the UK to be put in place in Belgium so they can monitor their own data and performance. This would also provide evidence for the results being reported on the recycling rates, and to allow citizens, the government, Eurostat, and producers to understand what happens to the waste collection in Belgium; and allow all stakeholders to undertake checks of the data. If we want to check the impact and progress of the policy on packaging waste, monitoring and transparency is necessary.

In addition, **design for recycling is wrongly included in the waste prevention section of the 2018 Accreditation**, so a *separate* section in the accreditation in relation to recyclability and circularity of packaging recycling is needed.

- At the **product design stage**, there should be more case studies related to Fost Plus's own activities in relation to recyclability, rather than the activities of its members that may have happened anyway due to regulatory drivers. This should include some metrics in terms of the impacts.
- Regarding the **eco-modulation** of packaging that is placed on the market, one could argue that the modulated fees implemented by Fost Plus are not eco-modulated at all. Specific principles of eco-modulation should be included in the next accreditation to ensure that Fost Plus modulates fees to encourage reducing the harmfulness for the environment and human health of packaging waste.
- The next Fost Plus accreditation should **include circularity targets**, in addition to recycling targets. For example, a certain percent of material must go to high quality recycling, whereby the waste material is used in the production of similar packaging again. These targets should be set for each packaging material fraction and/or packaging application, and should increase over time like the recycling rates.

One possible explanation for not sharing more data is that Fost Plus is not actually achieving the recycling rates they report – as we have seen in this report the recycling rates are being overstated due to the fact that Fost Plus is not comparing like with like in their metrics. With regards to data reporting, more transparency is needed on the calculation method:

- Fost Plus and the IVC use what looks like two completely different datasets for reporting recycling rates: Fost Plus reports relative to the tonnage of packaging placed on the market by its members, and the IVC reports to Eurostat relative to the total tonnes placed on the market in Belgium.
  - The **reporting requirements for Fost Plus in the next accreditation should align with the new EU measurement method**, for each material separately and relative to the total placed on the market (not the total reported by their members).
  - The current Fost Plus calculation method is not a particularly meaningful metric, because it always **overstates the real recycling rate**. This sends the wrong signals to users of the Belgian recycling system, to policy makers, and to those responsible for the packaging.
  - Further, Article 3 of the cooperation agreement specifies that the recycling rates should be "expressed in terms of percentage by weight relative to the total weight of one-way packaging material placed **on the Belgian market**" and should "be calculated using the methods determined by the Interregional Packaging Commission, **in accordance with European law**" – neither of these are implemented in the Fost Plus calculation method.
- The way the **tonnage placed on the market** by Fost Plus members is reported at the moment lacks transparency, and reduces confidence

in the methodology employed by Fost Plus and IVC. More transparency is needed on the method for calculating Fost Plus's market coverage in Belgium, and the tonnage adjustments made for municipal (Fost Plus) and non-municipal (Valipac) tonnages separately, to calculate the totals for Eurostat.

- We understand that Fost Plus measures the **real loss rates** that occur for the Belgian waste flows in sorting plants and recycling installations using accredited lab and control bodies, but we would like to see more transparency on these rates in the future. The method used has been audited and approved by Eurostat, so there should be no barriers to sharing more information with interested stakeholders. Separate loss rates should be reported for each fraction sorted by Fost Plus, because each material has a very different performance in the recycling process.
- Most critically, the recycling rates reported by Fost Plus and the IVC need to fully include all of these elements of the calculation method. **Our calculations show that for 2021 the recycling rate for PMD should have been 59.1% and not 64.8%.** It can be concluded that the current presentation of the data is misleading.

There is nothing commercially confidential about local-, regional-, or national-level data collected by and on behalf of the government, that is then reported to the EU, another public institution. And Fost Plus is in a monopoly position as the only PRO for municipal packaging waste, so competition does not apply to them. Ultimately, Fost Plus is performing a public administration function in relation to the environment, so they should be doing everything within its power to substantiate the recycling rates they report, starting with data transparency.

Spreadsheets with data supporting the activity report would be a straightforward way to communicate the data to those that are interested, without overwhelming the more casual reader and the general public who is only interested in headline data. This is not uncommon for data-heavy publications.

Fost Plus is equating the PMD recycling collection in the blue bag to the circular economy (see *Figure 26*), and it is clear that the municipal packaging recycling system in Belgium is ahead of many other countries in the EU. **As a leading PRO, Fost Plus should also be leading the way on data transparency and evidencing the achievements they make with PMD recycling in the transition to a more circular economy in the EU**.

The New Blue Bag, a guarantee of success for the circular economy

The New Blue Bag has given a significant boost to the circular economy in our country. The expanded collection of PMD brings almost 100,000 additional tons of packaging materials to the market and attracts investment in local processing capacity. With five new sorting centers and five new recycling plants, Belgium is gradually becoming a true recycling hub in Europe.

Figure 26: Extract from the 2021 Fost Plus activity report

FRF