

Schumacher Packaging's Position on the Draft EU Packaging and Packaging Waste Regulation (PPWR)

I. Executive Summary

Schumacher Packaging is a manufacturer of customised corrugated and solid board packaging. With 29 locations in Germany, Poland, the Czech Republic, Great Britain, Italy and the Netherlands, we are one of the largest family-run companies in the industry. We want to make our expertise as an industry pioneer for recyclable packaging available to the legislator.

Schumacher Packaging explicitly supports the goals of the EU Packaging and Packaging Waste Regulation (PPWR). These include minimising packaging, banning over-packaging, harmonisation of the European internal market and the further development of the circular economy for a climate-neutral Europe.

Single-use paper and cardboard packaging is currently the optimal choice, and will continue to be in the future, for achieving the goals of the PPWR in the e-commerce industry. Made from 90% recycled and 100% natural materials, it is a flagship product of the circular economy. Paper and cardboard packaging is lightweight and customisable, which can save material and CO₂ in transport. For retailers and customers, it is an established, uncomplicated and cost-effective packaging solution.

We therefore consider the demand for mandatory quotas for reusable packaging (Art. 26), especially for large household appliances (Art. 26 para. 1) as well as non-food items made available via e-commerce business (Art. 26 para. 8), to be a misguided approach. Reusable plastic packaging jeopardises the objectives of the PPWR. They incur additional costs and produce greater emissions than paper and cardboard packaging, due to their higher weight and complex return logistics. Independent studies show that reusable plastic packaging has a worse lifecycle assessment than single-use paper and cardboard packaging in realistic usage scenarios.

We therefore demand that the reusable quotas in Art. 26(1) and (8) of the PPWR can be met by paper and cardboard packaging with a recycled content of at least 90%. The PPWR should align with reality shown by lifecycle assessments, recognizing single-use paper and cardboard packaging as a proven solution within the European circular economy.

II. Our Recommendations

1. We recommend adding an exemption for high recycled content cardboard to Article 26(1) on the dispatch of large household appliances:

It is incomprehensible why Article 26(1) on packaging for large household appliances does not provide for an exemption for paper and cardboard packaging in line with paragraphs 10, 12 and 13. This is especially puzzling considering that single-use paper and cardboard packaging with a high recycled content is comparable to reusable packaging in terms of lifecycle assessment.

For example, Article 26(1) could read: “From 1 January 2030, economic operators making large household appliances listed in point 2 of Annex II to Directive 2012/19/EU available on the market for the first time within the territory of a Member State shall ensure that 90 % of those products are [either] made available in reusable transport packaging within a system for re-use, [or in single-use cardboard packaging that consists of a minimum of 90% recycled materials.]”

2. We recommend amending Article 26(8) on the dispatch of non-food products via e-commerce so that the re-use quota can alternatively be met by using single-use paper and cardboard packaging with a high recycled content:

The ecological superiority of reusable packaging in e-commerce cannot be proven and depends on many factors. The advantages of paper and cardboard disposable packaging with a high recycled content over reusable plastic shipping boxes, on the other hand, are well known. An unwavering commitment to promote only reusable packaging cannot be justified based on the available data or the objectives of the PPWR.

Article 26(8) could read, for example: “Economic operators using transport packaging for the transport and delivery of nonfood items made available on the market for the first time via e-commerce shall ensure that: (a) from 1 January 2030, 10 % of such packaging used is reusable packaging within a system for re-use [or single-use cardboard and paper packaging that consists of a minimum of 90% recycled materials]; (b) from 1 January 2040, 50 % of such packaging used is reusable packaging within a system for re-use [or single-use cardboard and paper packaging that consists of a minimum of 90% recycled materials];”

3. We recommend an ambitious formulation of the recyclability requirements and the respective performance levels, so that they correspond to the high recycling potential of paper and cardboard packaging:

In determining the performance levels under Article 6(4) and (5) for the types of packaging listed in Table 1 of Annex II, the delegated act should set high requirements in particular for the recyclability of category 3 and 4 paper and cardboard packaging, with the lowest performance level starting at 90%. To provide legal certainty to economic operators, this should include transparent and timely communication from the Commission.

III. Justification

Schumacher Packaging supports the objectives of the EU Packaging and Packaging Waste Regulation. We want to use our experience to help ensure that the PPWR effectively achieves its objectives in practice. Our recommendations are derived from an analysis that compares reusable packaging with single-use paper and cardboard packaging using various criteria to identify the most optimal approach. We aim to provide an overview of why we support the PPWR's goals, the contribution single-use paper and cardboard packaging can make to achieving these goals, and why reusable packaging and corresponding minimum quotas may not always be the most effective solution for meeting these objectives.

Schumacher Packaging fully supports the goals of the PPWR

We welcome the provisions on recyclability and the recycled content of packaging in Articles 6 and 7. This sets the packaging sector meaningful milestones for the further transition to a circular economy. The cardboard industry has already embraced recycling in the manufacturing of products and views the PPWR as an additional motivator to continue pushing for further progress.

We support the requirements for packaging minimisation in Article 9 and the proposed ban on excessive packaging in Article 21. Customisable packaging solutions, which are produced in consultation with customers to fit their products exactly, already meet these requirements. This helps save space and use less material, which is not only economically sensible, but also results in reduced weight, leading to savings in CO2 emissions during transportation routes.

We endorse the fact that paragraphs 10, 12 and 13 of Article 26 recognises the recyclability of disposable paper and cardboard packaging and include corresponding exemptions.

We welcome the chosen legal instrument of an EU regulation. The harmonisation of objectives and targets between countries strengthens a Europe-wide circular economy and the internal market. It corrects recent developments, in which a patchwork of national regulations has emerged. The enabling bases for delegated acts and implementing legal acts are sensible additions to the Commission's ability to shape the targets precisely.

Single-use paper and cardboard packaging is recyclable – and constantly getting better

At Schumacher Packaging, the recycled content for cardboard is currently at an impressive 85%, and we are committed to further increasing it through continuous technical innovation in the upcoming years. The 15% of virgin fibre added at Schumacher Packaging comes from sustainable forestry. A large proportion of this comes from salvage and thinning wood. The extraction of raw materials for cardboard is a responsible process that does not cause any environmental or climate damage. The European paper and cardboard industry plants three new trees for every one felled.¹

¹ FEFCO, "Bio-based and renewable", accessed on 23.03.2023 <https://www.fefco.org/circular-by-nature/bio-based-and-renewable>.

Paper and cardboard fibres can be recycled up to 20 times if collected and sorted correctly. Furthermore, the recycling rate for cardboard is among the highest of all packaging types at 89%. Plastic, on the other hand, has a recycling rate of only 60.4%.² Paper and cardboard recycling is highly effective and done in accordance with established industry standards³

Cardboard manufacturers produce a part of their own electricity. 75% of local heat in the German paper industry is generated through Combined Heat and Power (CHP). The share of self-generated electricity in the paper industry is 46.0 percent of overall consumption.⁴ Energy use in paper production has fallen by 35% from 2005 (at its peak) to 2023 and will continue to fall.^{5,6}

Cardboard is lightweight, highly stable and easily customisable.^{7,8} The use of cardboard allows for individualised packaging to be produced, which is tailored to suit each product. This saves material and reduces empty space. Schumacher Packaging cooperates with the software company Skrym. By optimizing packaging sizes and shapes, it is possible to achieve a significant reduction of up to 15% in the CO2 footprint.⁹

Reusable packaging does not make sense everywhere

Reusable packaging is, in theory, a convincing idea. It only has to be produced once and with each subsequent use, its ecological footprint improves. However, the prerequisite for a sustainable reusable packaging system is that high return rates are achieved. Even with a return rate of 95%, statistically 40 boxes out of 100 reusable boxes are lost in 10 shipping cycles. The system can only be truly efficient if return rates are as high as in the German bottle deposit system, where 98% of bottles are returned. The PraxPack study tested reusable packaging in online retail and found an

² Umweltbundesamt, „Aufkommen und Verwertung von Verpackungsabfällen in Deutschland im Jahr 2020“, 2022, accessed on 01.03.2023, https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2022-09-29_texte_109-2022_aufkommen-verwertung-verpackungsabfaelle-2020-d.pdf, p. 145.

³ DKE, DIN, VDI, „Deutsche Normungsroadmap Circular Economy“, accessed on 01.03.2022, <https://www.dke.de/resource/blob/2229314/e51b2fd920cc239ad1ca0bc1b3a87395/deutsche-normungsroadmap-circular-economy-data.pdf>, p. 99.

⁴ H el ene Gogin, IER, „Energiewende in der Industrie Potenziale und Wechselwirkungen mit dem Energiesektor Branchensteckbrief der Papierindustrie“, published 2020, accessed on 02.03.2023, https://www.bmwk.de/Redaktion/DE/Downloads/E/energiewende-in-der-industrie-ap2a-branchensteckbrief-papier.pdf?__blob=publicationFile&v=4, p. 13.

⁵ Statista, „Dossier Wellpappenindustrie“, accessed on 01.02.2023, <https://de-statista-com.proxy.ub.uni-frankfurt.de/statistik/studie/id/85948/dokument/wellpappenindustrie/?locale=de>, p. 19.

⁶ Till Zimmermann, Rebecca Bliklen, Single-use vs. reusable packaging in e-commerce: comparing carbon footprints and identifying break-even points, *GAIA* 29, 3 (2020), p. 178.

⁷ Statista, „Dossier Wellpappenindustrie“, accessed on 01.02.2023, <https://de-statista-com.proxy.ub.uni-frankfurt.de/statistik/studie/id/85948/dokument/wellpappenindustrie/?locale=de>, p. 8.

⁸ Fraunhofer IWU, „Energieeffizienzpotenzial in der Planung am Beispiel der Papierherstellung“, published 2018, accessed on 02.03.2023, https://www.luft.sachsen.de/download/luft/4_3_Papierherstellung.pdf, p. 45.

⁹ Schumacher Packaging, „Schumacher Packaging und Skrym optimieren Einsatz von Verpackungsmaterial im E-Commerce“, accessed on 02.03.2023, <https://www.schumacher-packaging.com/de/news-downloads/pressemitteilungen/skrym.html>.

insufficient return rate of only 74%.¹⁰ Consumer motivation is a critical factor and economic incentives would therefore be imperative.¹¹ The failures of other reusable systems prove how difficult their implementation is.¹²

The introduction of reusable quotas jeopardises the packaging minimisation goals set by the PPWR. A mandatory reusable system promotes large-volume and material-intensive unit packaging. This results in: increased material use, more empty space, greater packaging weight and consequently higher costs and greenhouse gas emissions.¹³ Reusable packaging requires complex return logistics. Not only do they have to be returned to retailers, but they also have to be cleaned. This requires: increased transportation trips, greater capacity requirements, and higher labour costs. Reusable packaging, on average, travels twice the distance compared to single-use packaging and requires larger storage facilities.¹⁴ Emissions are generated again with every trip and every cleaning process.¹⁵ Moreover, the establishment and operation of return logistics and deposit systems is associated with high costs. If goods are not returned, retailers must incur the additional cost of €2.26 per product rotation when using reusable packaging, compared to the €0.62 earned when using a one-way solution.¹⁶ The practicability of reusable packaging is particularly questionable in B2C e-commerce. Taking Germany as an example, a recent McKinsey study estimates a cost increase of 50-200%, and a 10-40% increase in greenhouse gas emissions per shipment in the e-commerce sector.¹⁷

¹⁰ Otto Group, "Praxpack – Pilotprojekt mit RePack", 2020, accessed on 02.03.2023, https://www.praxpack.de/fileadmin/user_upload/materialien/praxpack_Ergebnisse_Pilottest_OTTO_2020_webversion.pdf.

¹¹ bifa Umweltinstitut, „Treibhausgas-Bilanz von Wellpappenverpackungen & Alternativen Mehrwegverpackungen“, published in 2021, accessed on 02.03.2023, https://www.wellpappen-industrie.de/data/04_Verband/05_Publikationen/Handreichung-Treibhausgasbilanz-Wellpappe-vs-Mehrweg.pdf.

¹² Reloop & Zero Waste Europe, "Reusable vs single-use packaging", p. 32. https://zerowasteurope.eu/wp-content/uploads/2020/12/zwe_reloop_report_reusable-vs-single-use-packaging-a-review-of-environmental-impact_en.pdf.pdf_v2.pdf.

¹³ *ibid.* p. 27. ; Fraunhofer, "Kunststoffbasierte Mehrwegsysteme in der circular economy", 2022, accessed on 02.03.2023, https://www.umsicht.fraunhofer.de/content/dam/umsicht/de/dokumente/publikationen/2022/2022-04_Kunststoffbasierte-Mehrwegsysteme-in-der-Circular-Economy_Fraunhofer-UMSICHT.pdf, p. 71.

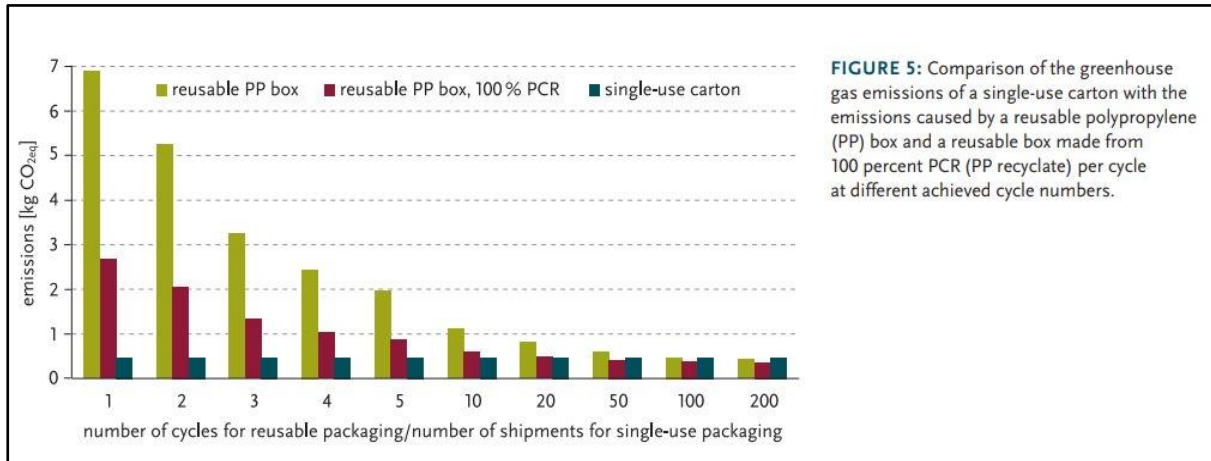
¹⁴ *ibid.* p. 23.

¹⁵ *Ebd.* S. 38.

¹⁶ Zimmermann, Rödiger, „Praxpack Werkstattpapier – Ökonomische Bewertung von Mehrwegversandsystemen“, 2021, accessed on 02.03.2023, https://www.praxpack.de/fileadmin/user_upload/Werkstattpapier_OEkononische_Betrachtung.pdf, S.9.

¹⁷ McKinsey, "The potential impact of reusable packaging", 2023, accessed on 05.04.2023

The greenhouse gas balance of reusable packaging decreases with each additional cycle because the emissions for production and disposal only occur once. Only the emissions caused by transport and processing occur again in each cycle. An independent study by the Ökopol Institute compares the carbon footprint of disposable and reusable shipping boxes:¹⁸



This data shows that after multiple uses, reusable plastic shipping boxes catch up with the greenhouse gas emissions of single-use paper and cardboard packaging, i.e. single-use cardboard boxes, but do not significantly outperform them. For multiple use to be possible, reusable shipping boxes must be made of sturdy, heavy plastic. These boxes have a significantly worse greenhouse gas footprint than corrugated cardboard boxes. A returnable shipping box made of recycled plastic is only as environmentally friendly as a single-use cardboard box after 20 shipping cycles, and only overtakes it after 50 shipping cycles. Statistically, however, even with a return rate like that of the German bottle deposit system, most shipping boxes are broken or lost by this time. Reusable plastic shipping bags perform better than single-use paper and cardboard packaging because of their low weight,¹⁹ but many products cannot be transported safely in them.

The overall picture shows that reusable systems are not only costly and time-consuming, but also do not offer better environmental properties:

Reusable plastic shipping box	Single-use cardboard box
made from plastic derived from fossil fuels, recycling rate 60%	made from renewable resources, recycling rate 89%
Heavy	Lightweight
Standardised sizes	Tailored, so only as large as necessary
Low emissions after 20-50 shipping cycles	Low emissions even with single shipment
Complex return logistics	Established material cycle
Higher costs for retailers and customers	Lower costs for retailers and customers

¹⁸ Bliklen, Zimmermann, Single-use vs. Reusable packaging in e-commerce: comparing carbon footprints and identifying break-even points, 2020, accessed on 02.03.2023, p.181-182.

¹⁹ *ibid.*

The PPWR succeeds when the lifecycle assessment determines the choice of methods

Reusable packaging and single-use paper and cardboard packaging are complementary means to achieve a functioning circular economy. The promotion of reusable packaging is in many cases a correct and important step. However, it should only take place where reusable packaging demonstrably serves the objectives of the regulation. In the B2B sector, reusable systems are a promising and already established practice in many trades. However, it is incomprehensible why the cardboard box should be phased out, particularly for the shipment of large household appliances and in B2C e-commerce (Art. 26 (1) and (8)). In the case of products that require a stable outer packaging, reusable plastic packaging offers little to no environmental benefits. At the same time, the sustainable operation of reusable systems requires significant prerequisites. Return logistics and a deposit system must first be established and then continuously operated. In this context, the effort significantly outweighs the benefit.

Article 26(10), (12) and (13) already acknowledge the recyclability of paper and cardboard packaging and provide appropriate exceptions in line with this recognition. Redrafting paragraphs 1 and 8 in line with our recommendations would not diminish the ambition of Article 26, but rather maintain flexibility in pursuing various approaches to achieve the goals of the PPWR.

Optimising packaging has been at the heart of our business for 75 years. In doing so, we are continually improving our products, not only for the requirements of our customers, but also for the environment. That is why Schumacher Packaging is constantly striving to improve, by developing innovative and environmentally friendly packaging solutions, with the overarching goal of achieving carbon-neutral production by 2035. We, and the European cardboard industry, are already achieving exemplary levels of recycled content and recycling rates. We want to and can achieve even better. Our third demand reflects our willingness to meet rigorous requirements for the recyclability of paper and cardboard packaging.

The challenge in designing the PPWR is to choose rules and exemptions that make sense for plastic, as well as paper and cardboard packaging. The goal of avoiding plastic waste must not hinder the use of recyclable paper and cardboard packaging with a good lifecycle assessment. This demand is not only in our interest, but also in line with the objectives of the PPWR.

We would be happy to enter into a professional exchange with you about your perspectives on the PPWR.

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