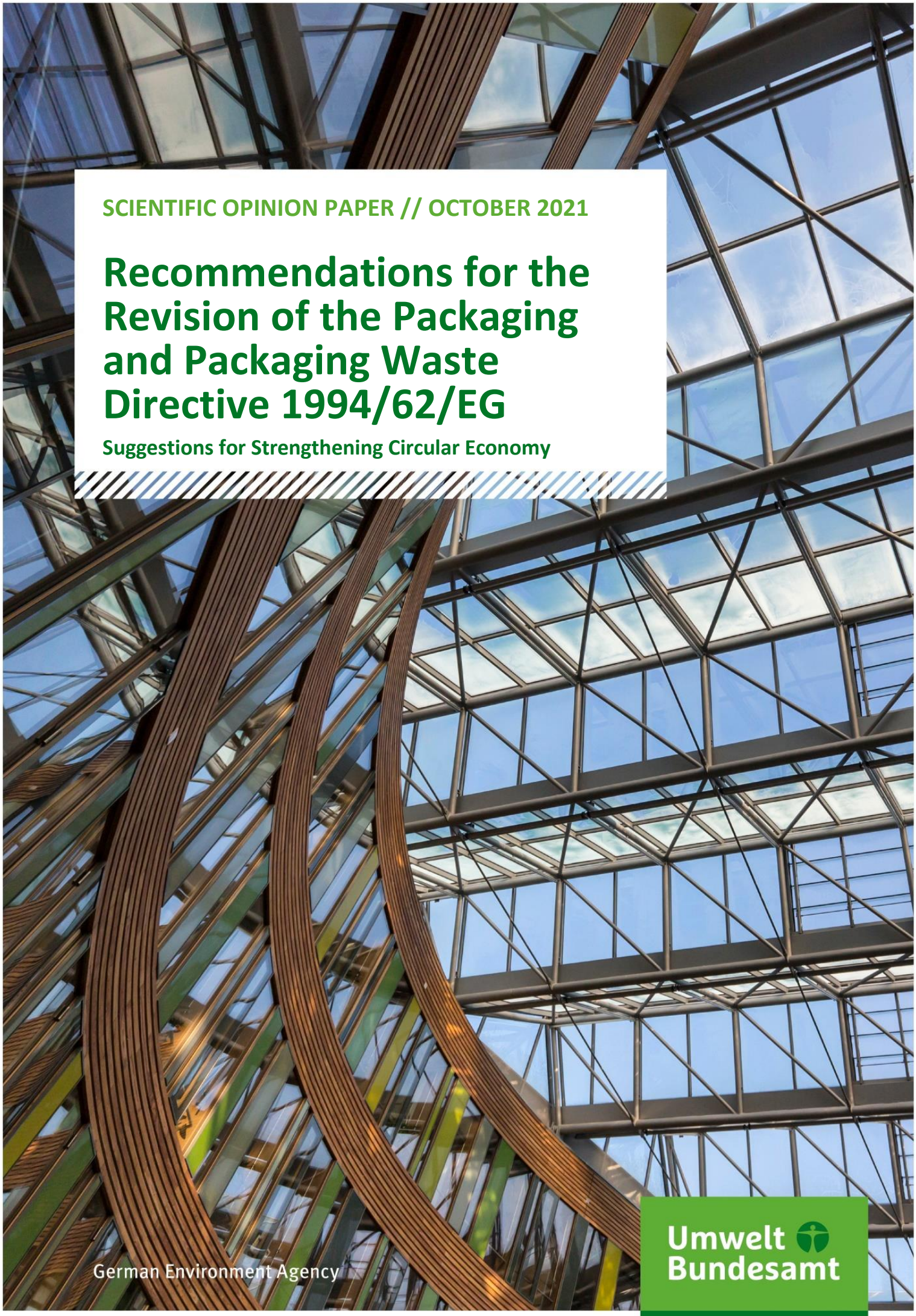


SCIENTIFIC OPINION PAPER // OCTOBER 2021

Recommendations for the Revision of the Packaging and Packaging Waste Directive 1994/62/EG

Suggestions for Strengthening Circular Economy

German Environment Agency

Umwelt Bundesamt

Imprint

Publisher
German Environment Agency
Umweltbundesamt
Woerlitzer Platz 1
06844 Dessau-Rosslau
Tel: +49 340-2103-0
Fax: +49 340-2103-2285
info@umweltbundesamt.de
Internet: www.umweltbundesamt.de

/umweltbundesamt.de
/umweltbundesamt

Responsible unit:
Section III 1.6 Plastics and Packaging

Translation:
Anja Gerdung, Ines Oehme, Janka Steinert

Dessau-Rosslau, October 2021

SCIENTIFIC OPINION PAPER // October 2021

Recommendations for the Revision of the Packaging and Packaging Waste Directive 1994/62/EG

Suggestions for Strengthening Circular Economy

by

Jasmin Boße, Matthias Fabian, Norman Friedrich, Anja Gerdung, Sonia Grimminger, Samir Kerellaj, Gerhard Kotschik, Franziska Krüger, Ines Oehme, Kim Seifert, Isabel Wagner

Umweltbundesamt, Dessau-Rosslau

Content

Summary

Packaging has important functions for the protection, handling and delivery of goods. However, it usually ends up as waste after a short period of use. The amount of packaging produced across the EU has increased by almost 18 per cent over the past 10 years. 66.3 per cent of packaging was recycled in 2018. Therefore, it is necessary to strengthen waste prevention and the recycling of packaging in the upcoming revision of the Packaging Directive.

The German Environment Agency strongly recommends to stipulate material requirements in the Directive itself, supplemented by the possibility to set, if necessary, more extensive requirements for certain types of packaging in secondary legislation (see chap. 3.1). It should be considered that, for areas where requirements and standards already exist in the Member States, EU regulations should not fall short of existing standards.

In order to strengthen the circular economy with regard to packaging, the revised Packaging Directive should include the following:

- Specifications for recyclability (definition, consideration of a uniform method for determining recyclability, specifications for incentivising highly recyclable packaging considering the functional mechanisms in monopoly systems and competitive systems, requirements regarding advertising recyclability, common specifications for labelling, if applicable) (see chap. 3.3);
- Specifications for the use of recyclates (addition to the Essential Requirements, specification of quotas for the content of plastic recyclates from waste after use (so-called post-consumer recyclates) differentiated in terms of packaging segments, requirements for verification, requirements for advertising the use of recyclates) (see chap. 3.4);
- Specifications for the information about the correct disposal route for packaging (separation instructions) or the provision of a possibility for national labelling requirements (see chap. 3.5); and
- More stringent requirements on oversized packaging, e.g. by adapting the Essential Requirements and specifying them in implementing regulations (see chap. 3.2.2).

Under certain, narrowly defined conditions, the possibility should be set to stipulate specifications going beyond the requirements of the Directive in supplementary legal acts (implementing Regulations) at European level. This may be particularly useful where regular updates of the requirements are necessary. For example, in order to avoid oversized packaging, the specification of maximum weights and maximum empty volumes per product/packaging group should be laid down in implementing regulations. This requires the power to issue statutory ordinances in the Packaging and Packaging Waste Directive as well as the definition of specific conditions, criteria, and procedures for the adoption of such legal acts.

The Directive should also lay down requirements or rather targets for the Member States, the achievement of which they must ensure through appropriate national measures:

- Member states should set ambitious waste prevention targets for packaging (see chap. 3.2.1);

- Specification of specific quota targets for the share of reusable packaging for reasonably selected segments in the Packaging Directive (national measures to ensure the achievement of the quota targets) (see chap. 3.2.3).

We recommend that the Directive stipulates that producers use modern management tools for the continuous ecological optimisation of their packaging, comparable to the proven environmental management system EMAS. For large producers this should be mandatory, smaller producers could use it voluntarily.

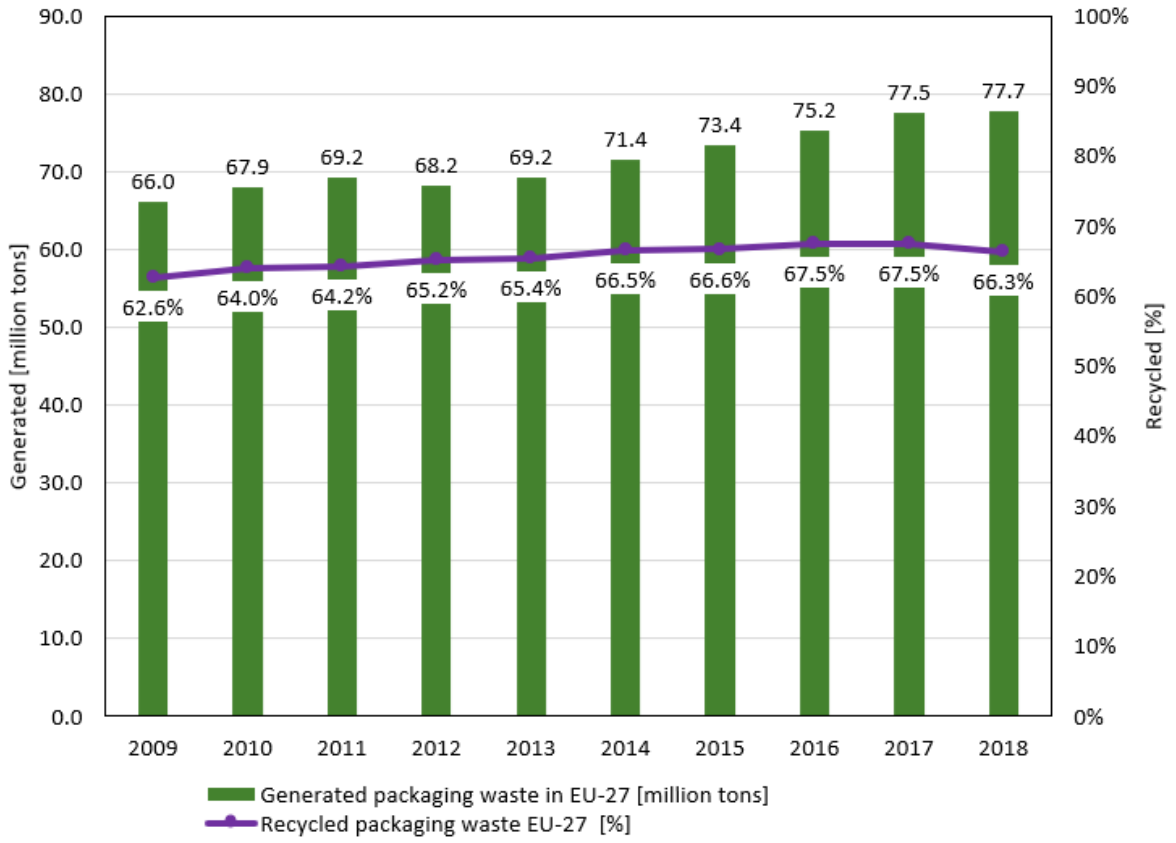
In order to enforce the extended obligations standardised in the Packaging Directive within the framework of Extended Producer Responsibility in the area of e-commerce, operators of electronic marketplaces and fulfilment service providers, particularly also those from abroad, are also to be included as addressees of obligations under waste law.

1 Introduction

Packaging facilitates the storage, the transport, and the presentation of goods and has functions for the information about, and the use of, a product. Packaging protects food by supporting storage life and hence helps avoid wasting perishable goods. It also protects goods of all kinds against mechanical damage and other kinds of damaging impact like moisture or oxygen. In this respect, packaging serves the protection of resources. However, the production of packaging itself requires resources, too, which mostly become waste after a short period of use, and which are not yet getting recycled to a sufficient amount EU-wide.

In past 10 years, the amount of packaging has risen by nearly 18 percent across the EU. While in 2009 the EU-27 generated an amount of 66.0 million tons of packaging waste, this amount rose to 77.7 million tons already in 2018. This equals 149.89 kilogram per capita in 2009 and 174.09 kilogram per capita in 2018, the highest amount so far. Of that packaging waste, 66.3 percent were getting recycled in 2018.[1]

Figure 1: Generation and Recycling of Packaging Waste in the EU-27



Source: Eurostat

Comparatively high recycling rates in the EU-27 are achieved with paper and cardboard packaging (84.2 percent), metals (82.9 percent) and glass (75.8 percent). Plastics, in contrast, hold potential for increase with currently only 41.4 percent recycling rate. Particularly low is the

[1] Eurostat data browser: Packaging waste by waste management operations. https://ec.europa.eu/eurostat/databrowser/view/env_waspac/default/table (09.07.2021).

recycling rate of wood with only 34.5 percent.[2] Since 2020, the recycling rate measuring point for the Packaging and Packaging Waste Directive[3] is no longer the feed into the first recycling plant in the recycling process but into the last recycling process by which the waste material is getting processed to products, materials or substances. This will result in significantly lower rates compared to the previous recycling rate measuring point. Thereby it becomes more obvious that there is an urgent need for measures for waste prevention and more recycling.

Therefore, the EU Commission set the aim with the Green Deal[4], that all packaging placed on the EU market shall be reusable or recyclable in an economically feasible way by 2030. With the new Circular Economy Action Plan[5] the Commission has substantiated this aim with further measures. It will, in particular, revise the Packaging and Packaging Waste Directive in order to tighten the essential requirements for packaging. With that the emphasis shall be on reducing (oversized) packaging and packaging waste, facilitate design for reuse and recyclability of packaging, and considering reducing the complexity of packaging materials, including the number of materials and polymers used. Contemporaneously, a study[6] commissioned by the EU Commission was submitted, which, in addition, looks at recycled content and the further restriction of harmful substances.

With all that it is necessary that the entities responsible for the waste according to waste law comply with their obligations and contribute to the costs for the collection and recovery of their products. This entails challenges as concerns the growing online trading sector in particular; those challenges have to be addressed.

This Opinion Paper provides scientifically based views and recommendations for revising the Packaging and Packaging Waste Directive, especially with a view to the Essential Requirements like waste prevention, recyclability, the use of recycled plastics, and the provision of information, aiming at reducing the environmentally detrimental effects of packaging.

[2] Eurostat data browser: Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging.
https://ec.europa.eu/eurostat/databrowser/view/env_waspacr/default/table (09.07.2021).
[3] European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (OJ L 365 of 31.12.1994, p. 10), last amended by Directive 2018/852/EU (OJ L 150 of 14.06.2018, p. 141).
[4] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions (11.12.2019): The European Green Deal, COM(2019) 640 final.
[5] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (11.03.2020): A new Circular Economy Action Plan. For a cleaner and more competitive Europe, COM(2020) 98 final.
[6] Eunomia Research & Consulting Ltd, COWI, Adelphi, Ecofys (Navigant), Milieu (2020): Effectiveness of the Essential Requirements for Packaging and Packaging Waste and Proposals for Reinforcement, Project conducted under Framework Contract No ENV.F.1/FRA/2014/0063.

2 Current Situation

2.1 Increasing Amounts of Packaging

The emergence of packaging has risen continuously during the last years. Of municipal waste, packaging accounts for the biggest amount by far. It is urgently necessary to reverse this trend.

Packaging is necessary to protect, handle, and deliver goods. However, there are goods, that need no packaging at all, or that are packaged with an unnecessary amount of materials or with oversized packaging. Therefore, it is important that producers/first distributors of packaging avoid unnecessary packaging, design necessary packaging as reusable packaging and in such a way that minimises material use.

2.1.1 Oversized Packaging

We are currently confronted with the issue that goods are often being distributed in oversized packaging, e.g.

- Packaging with a lot of empty volume without any use, like overdimensioned shipping packaging of online traders for small items that, in addition, need a lot of padding material, or
- Goods packaged with a lot of material or with several layers of packaging, like cosmetic jars with small amounts of product content, or packaging that expresses high quality and value through a sophisticated design, like chocolate gift boxes, liquor bottles, toothpaste tubes with additional cardboard packaging, or coffee capsules, or unnecessarily big packaging for sliced processed meats and sausages or for cheese.

Oversized packaging requires an unnecessary use of resources. We are confronted with oversized packaging despite the order in Annex II No. 1, first indent of the Packaging and Packaging Waste Directive and despite the, legally nonbinding, statements in EN 13428[7], which both state that packaging should not be oversized. However, this requirement is too unspecific and currently unenforceable. Hence, more detailed specifications are necessary in order to achieve packaging limited to the minimum necessary volume and weight appropriate for the safety and hygiene of a product.

[7] EN 13428:2004-10: Packaging - Requirements specific to manufacturing and composition - Prevention by source reduction.

Status of implementation in Germany

According to the *Gesetz über das Inverkehrbringen, die Rücknahme und die hochwertige Verwertung von Verpackungen*[8] (Packaging Act, abbr.: VerpackG), packaging has to be designed in such a way that the packaging volume and weight are kept to the minimum necessary to provide for safety and hygiene of the goods to be packaged and appropriate for consumer acceptance (Section 4 No. 1 VerpackG). The Packaging Act however does not set any sanctions for infringements of this obligation, like fines. Only the *Gesetz über das Inverkehrbringen und die Bereitstellung von Messgeräten auf dem Markt, ihre Verwendung und Eichung sowie über Fertigpackungen*[9] (Measurement and Calibration Act, abbr.: MessEG) and the *Verordnung über Fertigpackungen und andere Verkaufseinheiten*[10] (Prepackaging Ordinance) contain provisions for prepackaging and other sale units on the design of the size of packaging. An infringement of Section 43 Paragraph 2 MessEG (pretence of larger filling quantities) can be sanctioned with a fine of up to 50,000 Euro according to Section 60 Paragraph 1 No. 22 MessEG.

2.1.2 Reuse Systems are Decreasing

Notwithstanding the fact that reusable packaging can make a significant contribution to saving resources and preventing waste, their use is by now mostly limited to the field of beverages and shipping packaging; and even here, the use has continued to decrease for years. Therefore, from an environmental point of view, urgent action needs to be taken since there is no significant increase in reusable packaging in sight without additional measures.

Status of implementation in Germany

Obligation to offer reusable packaging for food and drinks to-go

Single-use drinks cups and food containers are among the most commonly found single-use plastic products in the environment, because of to-go consumption. In order to reduce the consumption and the impact of this waste on the environment, an obligation to offer reusable packaging will apply in Germany as of 2023. All final distributors that sell beverages and food in to-go plastic cups or containers have to offer them also in reusable packaging – at no worse conditions than nonreusable packaging. Information about the offer of reusable to-go packaging must be provided at the sales counter. Small selling points may instead fill drinks and food in reusable containers brought by the customers themselves.

Reusables target for beverage packaging

Section 1 paragraph 3 sentences 1 and 3 VerpackG set the target that the portion of drinks filled into reusable beverage packaging should be strengthened and reach at least 70 percent. The German Bundestag (parliament)[11] has called on the Federal Government to evaluate further measures regarding the promotion of reusable beverage packaging, taking into account findings

[8] Verpackungsgesetz of 5 July 2017 (BGBl. I S. 2234), last amended by Article 1 of that law on 9 June 2021 (BGBl. I S. 1699).
[9] Mess- und Eichgesetz of 25 July 2013 (BGBl. I S. 2722, 2723), last amended by Article 1 of that law on 9 June 2021 (BGBl. I S. 1663).
[10] Fertigpackungsverordnung of 18 November 2020 (BGBl. I S. 2504).
[11] BT-Drs. 18/11781, p. 4f.

from life cycle assessment studies and other sustainability aspects. If the legal reuse target is not achieved by 01.01.2022, proposals for further legal measures are to be developed.

In 2019, the portion of reusables in beverage packaging in the deposit segment was 41.8 percent. It must be assumed that the target of 70 percent will not be reached by 2022.

Therefore, a research project of the UBA is currently developing a strategy to promote reusable packaging systems. With that, a concept of measures will also be drawn up that will contribute to a significant increase in the portion of reusable beverage packaging as well as to the optimisation of reusable beverage packaging systems.[12] In order to take life cycle assessment findings into account, another research project is carrying out a life cycle assessment analysis of potentials for optimisation for beverage packaging.[13]

2.2 Insufficient Circular Economy of Packaging Materials

Recycling packaging, or rather packaging materials, conserves raw materials and saves energy and CO_2 emissions compared to the new production of primary raw materials. Among the recovery processes used on a large scale in practice, recycling is predominantly the most environmentally friendly recovery option. Within the waste hierarchy of the Waste Framework Directive (WFD)[14], the recycling of waste is therefore consistently placed at the top of the recovery options after preparation for reuse. The prerequisite for the best possible recycling in terms of quantity and quality is the recyclable design of packaging.

Status of Implementation in Germany

Of the packaging waste generated in Germany in 2018, 96.9 per cent were recycled or recovered energetically, with a recycling rate of 69.0 percent. Compared to other EU Member States, this is a very good rate. The recycling rates of packaging materials have changed little over the past 10 years (see Tab. 1), but the absolute quantities recycled have increased in conjunction with the rising volume of packaging waste (see Figure 2). However, due to the technical development and progressive waste management in Germany, the possibilities are far from exhausted.

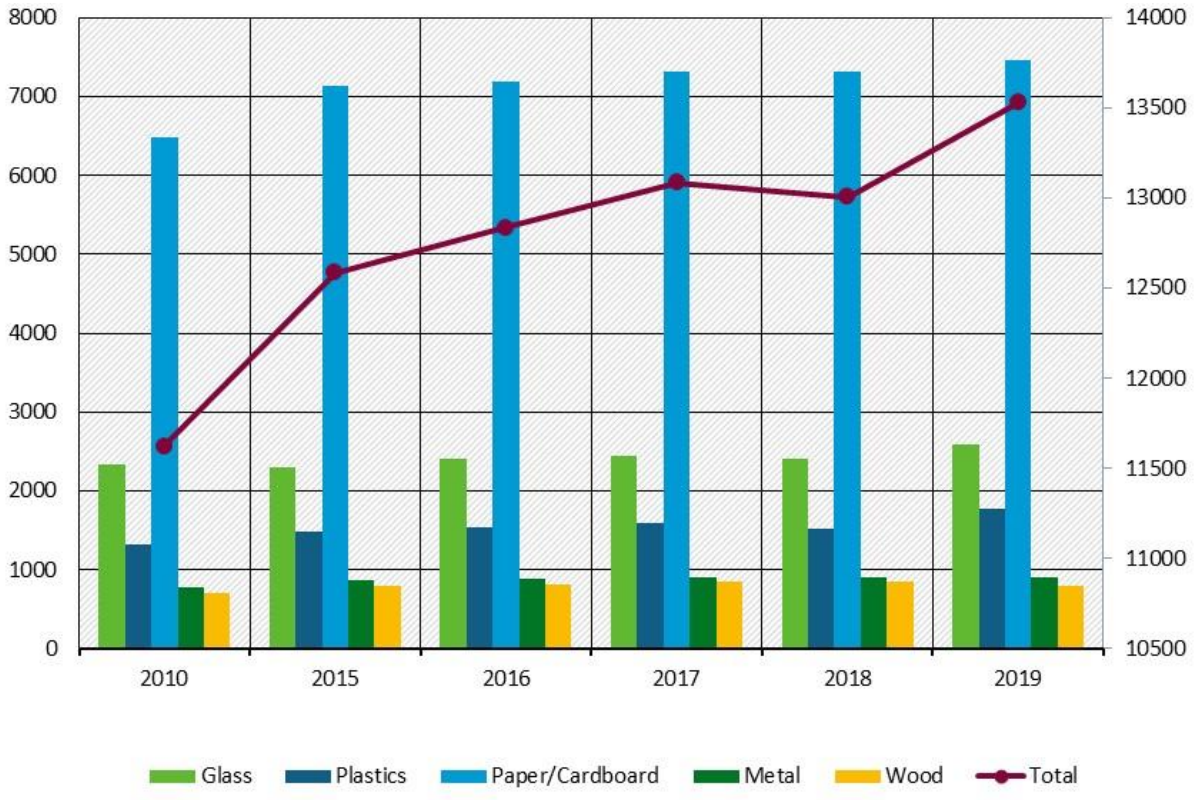
[12] FKZ 3720 34 3050 *Förderung von Mehrwegverpackungssystemen zur Verringerung des Verpackungsverbrauchs – Mögliche Maßnahmen zur Etablierung, Verbreitung und Verstetigung ökologisch vorteilhafter Mehrwegsysteme* [Promotion of reusable packaging systems to reduce packaging consumption – Possible measures for the establishment, dissemination and stabilization of ecologically beneficial reusable systems].
[13] FKZ 3721313020 *Ökobilanzielle Analyse von Optimierungspotentialen bei Getränkeverpackungen* [Life cycle assessment analysis of optimisation potentials for beverage packaging].
[14] Directive 2008/98/EG of the European Parliament and the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 of 22.11.2008, p. 3; L 127 of 26.05.2009, p. 24; L 297 of 13.11.2015, p. 9; L 42 of 18.02.2017, p. 43), last amended by Directive (EU) 2018/851 (OJ L 150 of 14.06.2018, p. 109).

Table 1: Recycling of Packaging in Percentage

Material		Recycling [percentage]										
		2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Glass		82.2	82.5	86.0	88.4	84.7	88.7	89.0	85.2	85.5	84.4	83.0
Plastics		47.3	48.4	49.4	48.5	49.5	49.4	50.2	48.8	49.7	49.7	47.1
Paper / Cardboard		87.7	91.1	90.2	88.0	87.6	88.2	87.3	85.7	88.7	87.6	87.7
Metal	Aluminium	80.0	85.1	87.7	89.1	87.7	89.3	88.1	87.5	87.9	87.2	90.1
	Steel	93.1	92.4	93.3	93.3	92.9	93.7	93.0	92.0	92.1	92.2	91.9
	Total	91.7	91.7	92.7	92.8	92.3	93.2	92.5	91.5	91.6	91.6	91.7
Wood		30.2	28.8	30.8	27.5	30.1	30.3	25.5	26.8	25.8	25.9	25.8
Other		-	-	-	-	-	-	-	-	-	-	-
Total		**66.9**	**70.5**	**73.5**	**72.6**	**71.8**	**71.3**	**71.8**	**71.4**	**69.3**	**70.7**	**69.9**

Source: UBA (2020): www.umweltbundesamt.de/daten/ressourcen-abfall/verwertung-entsorgung-ausgewaehlter-abfallarten/verpackungsabfaelle

Figure 2: Development of Recycling in Germany by Material [kt]



Source: Schüler (2020)

2.2.1 Recyclability

Currently, there is no (uniform) definition for recyclability. Recyclability is a design criterion of packaging and the packaging design should enable the highest possible quality mechanical recycling.

Due to the broad recycling concept of the Waste Framework Directive (WFD), which includes mechanical and feedstock recovery processes for waste, an understanding of recyclability derived solely from this concept would include any ability of packaging to be suitable for any recycling in any proportion. As a consequence, already inferior recycling options, such as the usability of waste glass granules in road construction instead of in applications typical for glass, would meet the requirements of recyclability and recycling. With plastic packaging, the mere possibility of being remelted into thick-walled products would be sufficient to certify a packaging as recyclable. With such a low level understanding of recyclability, however, the goals of the circular economy would not be achieved, especially not the goal of keeping recyclable materials in high quality in the cycle for as long as possible and thus saving primary raw materials. Rather, this approach would require a constant supply of virgin material into material-specific applications that cannot use the recycled material. The environmental impact of packaging production would not decrease as a result of recycling to the same extent as it would be possible if virgin material for packaging were replaced by recycled packaging waste. In worse cases even additional environmental impacts could arise if it were sufficient as a yardstick

for recyclability that e.g. plastics may be used as wood and concrete substitutes in environmentally open applications, because then microplastics would be released into the environment through ageing or wear.

In addition, there is currently a trend that, in the course of the public discussion on the use of plastics, measures are being taken to replace pure plastic packaging as far as possible with other types of material, in particular fibre-based composite packaging in order to avoid plastic. However, the latter is sometimes more difficult to recycle than plastic packaging. The paper appearance also often leads to disposal in the paper path. It will not always be possible to recycle the fibre-based composite packaging there, as process parameters (especially material dissolution times) differ. The same is the case for bio-based or biodegradable packaging, which may also be perceived as environmentally friendly. Currently, there is no sorting pathway for biodegradable plastics and natural materials in Germany, so they are generally recovered for energy and not recycled. Composting of plastics would also not be desirable in principle for packaging: this is because the biodegradation of plastics produces almost exclusively CO_2 and water, while the valuable material is not preserved. For consumer packaging, recycling is not possible in this way. Moreover, the cultivation of bio-based raw materials for packaging can lead to land competition with food cultivation.

The conclusion is that in order to close high-quality material cycles and reliably achieve positive environmental impacts, packaging must be designed in such a way that it can be recycled to such a high quality that its waste, after it has passed through industrially available sorting and recycling processes, can replace virgin material in applications typical for that material.

Status of Implementation in Germany

According to Section 21 Paragraph 1 VerpackG the dual systems[15] are obliged to set incentives within the framework of the participation fees in order to promote the use of materials and material combinations in the production of packaging subject to system participation that can be recycled to the highest possible percentage, taking into account the practice of sorting and recovery.

In order to provide the dual systems with a uniform framework for determining the recyclability of packaging, the Central Agency Packaging Register must develop and publish a Minimum Standard every year in agreement with the German Environment Agency.[16] The Minimum Standard describes what is fundamentally important for packaging to be properly sorted and recycled according to current practice. For this, at least the following criteria have to be observed:

1) **Existence of a sorting and recovery infrastructure for high-quality mechanical recycling for this packaging.**
   The infrastructure must be available on the market in an industrial scale. Otherwise, a weighing-supported proof of the adequate supply of a recovery route and proof of the high quality of the recycling process in the sense of the substitutability of material-typical applications by the recyclate must be provided.

[15] Dual systems are the organisations that fulfill the obligations of extended producer responsibility on behalf of the producers (Producer Responsibility Organisations - PROs).
[16] Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 paragraph 3 VerpackG, https://www.verpackungsregister.org/en/foundation-authority/minimum-standard-pursuant-to-section-21/2021-edition.

2) **Sortability and separability of the portion of the packaging components to be recycled at high value.**

3) The packaging does **not contain any recycling-incompatible components or substances** that could hinder the recycling success in practice.

The standard also specifies the procedure for testing the recyclability of packaging in the form of a decision tree. The result of the test is the **proportion of recyclable materials in the total packaging** that is available taking these criteria into account. Recyclable materials are those that are to be recovered as recyclate via the recycling process (e.g. steel, PET, etc.). With a methodically uniform "baseline" for determining recyclability, the Minimum Standard prevents a "race to the bottom" through methods that are not sophisticated or not oriented towards practice. The standard makes it possible to identify which packaging is recyclable to a high standard and which is not.

The minimum standard is a widely accepted tool in industry circles for the ecological improvement of packaging. Numerous packaging producers use it to determine the recyclability of their packaging and optimise it accordingly.

2.2.2 Use of Recycled Material

The demand for, and the use of, secondary raw materials are a key driver for recycling of materials and increasing recycling rates. Even though secondary plastics obtained through recycling (so-called plastic recyclates) are used in a growing range of products, there is a great need to catch up, especially for this material group. In addition to replacing primary plastics, plastic recyclates are increasingly substituting metals, concrete or wood in almost all product areas. This trend of using recycled plastics in products not typically made of plastics might even be reinforced by high recycling targets. A true closed-loop recycling in the sense of substituting material-equivalent primary material cannot be achieved in this way. At the same time, as shown in 2.2, new and additional environmental impacts might be caused by that trend. One way to strengthen a true circular economy and at the same time reduce this problem is to set minimum recyclate contents for products that are indeed typically made of plastics.

Minimum recyclate contents targets can make a significant contribution to achieving the targets for increasing the recycling of plastics set out in the EU Plastics Strategy, the Green Deal and the EU Commission's Circular Economy Action Plan. This is because they cause an increased demand for plastic recyclates and thus guarantee plastic recyclers a foreseeable minimum sales volume. A stable recyclate market in the long term is in turn an essential prerequisite for the necessary investments in a high-quality sorting and processing plants and a growing recycling industry.

Status of Implementation in Germany

In Germany in 2019, 3,895 kt of primary plastics and 474 kt of recycled plastics were used for producing packaging.[17] Thus, recyclates account for 10.9 percent of the plastics used for packaging, with only about 40 percent of the recyclates processed stemming from post-consumer waste (PCR, waste after product use), while about 60 percent were obtained from post-industrial waste (PIR, manufacturing waste).

A study by the *Gesellschaft für Verpackungsmarktforschung mbH (GVM)* on behalf of the *BKV GmbH*[18] has shown that – under the conditions and barriers determined in the study – the potential use of plastics recyclates in packaging is 22 percent, with at the same time moderate restrictions on certain properties. If major restrictions are accepted, the potency rises up to 51 percent. The study did not differentiate between PCR and PIR in terms of potency though. The restrictions relate to physical-chemical as well as sensory properties, while however the basic requirements of primary packaging function and any necessary approvals remain fulfilled.[19]

Also, studies commissioned by the German Environment Agency demonstrate the potential for the use of recyclates.[20]

2.2.3 Labelling of the Correct Disposal Route

The current EU legal framework does not allow for mandatory national requirements on the labelling of the disposal route on packaging (Art. 18 of the Packaging and Packaging Waste Directive). Since the correct separation of waste is a prerequisite for high-quality recycling, it is also important to inform consumers about the correct disposal of packaging. This is a crucial component for a functioning circular economy.

Status of Implementation in Germany

The initiative of the dual systems ”Mülltrennung wirkt!“ already provides information about proper waste separation in Germany on various channels.[21] The systems are obliged to do this by Section 14 Paragraph 3 German Packaging Act. However, also packaging producers and retailers can make important contributions. In the retail sector, it can currently be observed that some companies voluntarily affix labels on their packaging to indicate the correct disposal route. In this way, end consumers are informed directly on the packaging about its disposal. The German Environment Agency welcomes these developments and organised an exchange of experience on labelling the correct disposal route on packaging on 17 May 2021. Among others, representatives

[17] Conversio (2020): Material flow diagram of plastics in Germany 2019.
[18] Plastics industry think tank and competence center.
[19] GVM Gesellschaft für Verpackungsmarktforschung mbH: Potenzial zur Verwendung von Recycling-Kunststoffen in der Produktion von Kunststoffverpackungen in Deutschland. Im Auftrag der BKV GmbH, März 2020. [Potential for the use of recycled plastics in the production of plastic packaging in Germany. Commissioned by BKV GmbH, March 2020.]
[20] FKZ 371933430 *Prüfung konkreter Maßnahmen zur Steigerung der Nachfrage nach Kunststoffrezyklaten und rezyklathaltigen Kunststoffprodukten* [Examination of concrete measures to increase demand for plastic recyclates and plastic products containing recyclates]; FKZ 3719 34 314 *Förderung einer hochwertigen Verwertung von Kunststoffen aus Abbruchabfällen sowie der Stärkung des Rezyklateinsatzes in Bauprodukten im Sinne der europäischen Kunststoffstrategie* [Promoting high-quality recycling of plastics from demolition waste and strengthening the use of recycled materials in construction products in line with the European Plastics Strategy]. (Publishing in progress).
[21] Find more information about it here in German: www.muelltrennung-wirkt.de.

of distributors, operators of dual systems, the waste management industry, environmental protection associations, trade associations, the consumer association, enforcement authorities of the Länder (federal states), the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, and the Central Agency Packaging Register participated in the exchange.

At the event, retailers from the food and drugstore sector presented the waste separation labels that are currently used to inform about the disposal route on the packaging of their own brands. In addition, various dual systems presented a newly developed separation information label that is supposed to be made available free of charge to all producers registered in the national producer register LUCID.[22]

Many participants emphasised that labelling the disposal route of packaging, combined with information campaigns, can in many cases be an important assistance for consumers.

2.3 Including Electronic Marketplaces and Fulfilment Service Providers

As online trade/e-commerce has been generating an increasing share of retail sales for years, the problem is becoming more and more apparent that producers, especially those with their sole place of business outside the EU (so-called "third country producers"), unwittingly or knowingly fail to comply with the obligations under waste legislation with regard to the packaging they sell in, or to, Germany. This so-called free-riding typically takes the form of companies selling goods to a country where they do not contribute to organising or financing the collection and recovery of their packaging. Free-riding, both from EU Member States and from outside the EU, becomes a particular problem in this respect and undermines fair competition. This is because the producers who behave lawfully have to do more, and pay more, to compensate the non-contribution of the free-riders. Some waste legislation provisions provide the option for authorities to impose fines on the respective producers in the event of violations of, for example, the German registration and system participation obligations (see Section 36 Paragraph 1 Nos. 1 and 3 VerpackG). However, the enforcement of these sanctions in third countries is currently not possible, partly due to the lack of agreements with these countries.

On the internet, suppliers from third countries offer their products mainly via electronic marketplaces (including online auction houses and online brokerage platforms) or online shops – in some cases without complying with the requirements of the extended producer responsibility. If electronic marketplaces accept goods from sellers (from third countries), they are not themselves the seller in the civil law sense; neither are they "producers" or "distributors" in the sense of Art. 8 (1) of the Waste Framework Directive and thus they cannot be subjected to extended producer responsibility. The same is the case with the use of fulfilment service providers, i.e. service providers who offer services such as storing, packaging or shipping of goods as part of their business activities. Thus, there is currently no possibility of action against these actors, and also the third-country free riders are mostly intangible.

[22] Further information available in German on www.trenn-hinweis.de.

Status of Implementation in Germany

Regarding packaging, online marketplaces and fulfilment service providers will be indirectly subject to an extended verification obligation in Germany as of 01.07.2022[23], similar to the first Act amending the Electrical and Electronic Equipment Act.[24] They must check in advance that the packaging offered is being participated in a system (PRO) and that the producers are registered with the Central Agency Packaging Register. In practice, this will require a check prior to admitting the packaging for offer on the online marketplace or before serving the packaging. This serves to implement the 'polluter-pays'-driven contribution of the producers to the obligations and costs of an ecologically sensible design, collection, and recycling of packaging also in e-commerce, especially from abroad.

Furthermore, the terms 'electronic marketplace' and 'fulfilment service' provider are legally defined in the German Packaging Act.

[23] Gesetz zur Umsetzung von Vorgaben der Einwegkunststoffrichtlinie und der Abfallrahmenrichtlinie im Verpackungsgesetz und in anderen Gesetzen vom 09.06.2021 (BGBl. I S. 1699).
[24] Erstes Gesetz zur Änderung des Elektro- und Elektronikgerätegesetzes vom 20.05.2021 (BGBl. I, S. 1145). ff.

3 Recommendations for Measures

Based on the need for action described above, the German Environment Agency hereby presents recommendations for measures to revise the Packaging Directive. Fundamental to this is the regulatory concept outlined in chapter 3.1. This concept makes it possible to set material requirements in the Directive, supplemented by the option to regulate more extensive requirements for certain packaging in implementing regulations. Further continuous improvements can be achieved through packaging management. The other sub-chapters contain recommendations for measures to prevent waste (chapter 3.2), to enhance recyclability (chapter 3.3), to strengthen the use of recycled plastics (chapter 3.4) and to label the correct disposal route (chapter 3.5).

3.1 Regulatory Concept

Recyclability, minimum contents of recyclates in packaging, oversized packaging, reusable packaging and information about the disposal route require a uniform European regulation because different legal and administrative provisions of the individual Member States in these areas can create barriers to trade, distort competition in the EU and thus impair the functioning of the internal market. The requirement to address these areas in principle at European level is already found in the basic requirements for the composition, reusability and recyclability, including material recyclability of packaging (Essential Requirements) in Annex II of the Packaging Directive. However, the existing regulations do not go far enough or are too vague and therefore difficult to enforce, which is why further regulations are necessary.

The most environmentally beneficial packaging on the market - also at international level - and the technologies behind it can serve as a reference, and the requirements for packaging should be defined on the basis of a technical, economic and environmental analysis.

In this context, it may be necessary and justified to lay down specific quantitative and qualitative requirements for certain packaging or its environmental aspects in order to minimise the environmental impact they cause.[25]

A flexible method for setting and continuously adapting the requirements can facilitate rapid improvement of the environmental properties of packaging. Therefore, the regulatory concept should contain, among other things, the authorisation to issue implementing regulations to adopt downstream legal acts setting the requirements for specific, particularly environmentally relevant packaging. Packaging especially harmful to the environment could be banned from the European single market by implementing regulations. This would be beneficial in meeting the European and national climate and resource protection targets. In this context, it should be taken into account that for areas in which requirements and standards already exist in the member states, the EU regulations should not lag behind the existing standards. Uniform requirements throughout Europe should also consider the fact that nationally established solutions already exist, e.g. in the area of reusable packaging. Representatives of the Member States and affected involved stakeholders, such as representatives from industry, trade, wholesale and retail, importers, environmental and consumer protection organisations, shall be consulted in the process of drafting the regulation. Additionally, they should actively participate in the development of the implementing measures. Such consultations may lead to the necessity

[25] See also recital 13 of Directive 2005/32/EG of the European Parliament and the Council of 6 July 2005 (old version of Ecodesign Directive).

of a phased implementation of the provisions. Establishing intermediate objectives increases predictability of policies. It also allows taking product development cycles into account and facilitates long term planning for the involved parties.[26]

Such a regulatory concept has shown positive results in the European Union concerning the Ecodesign Directive[27] which has established itself as an effective instrument to achieve cost-efficient product improvements.[28]

Experience with EMAS also shows, that environmental management tools in companies can lead to continuous improvement of environmental performance and reduce negative environmental impacts.[29] Experience has shown that by systematically reviewing their packaging, companies can often significantly improve their packaging from an ecological point of view. Hence, it seems effective to encourage companies to make such systematical reviews and undertake resulting adjustments. The intended effects of the voluntary participation in EMAS are limited significantly by the low uptake. Spreading EMAS is not sufficient to lead to overall substantial changes in production and consumption patterns. This again hinders meeting substantial environmental advantages which encompass more than the participating companies and organisations.[30] Concerning the great environmental impact of packaging and the current developments on the market a fundamental transformation of the regulatory framework seems inevitable. Significant environmental benefits could be expected if large companies were to optimise their packaging ecologically across the board using modern management tools and report on this.
In connection to that we recommend the following multi-stage and parallel process for the Packaging Directive:

3.1.1 Adjustments in the Packaging Directive for More Ecological Packaging Design

- We recommend that basic requirements for packaging design be made binding at European level. This should be done directly through amendments to the Packaging Directive. We consider specifications on the following topics to be expedient:
  - Specifications for recyclability (definition, uniform method for determining recyclability, specifications for incentivising highly recyclable packaging, requirements regarding advertising with recyclability, possibly specifications for labelling, see also chapter 3.3);
  - Requirements for the use of recyclates (addition to the Essential Requirements, specification of a general PCR quota differentiated according to packaging segments,

[26] See also recital 15 of Directive 2005/32/EG of the European Parliament and the Council of 6 July 2005 (old version of Ecodesign Directive).
[27] Directive 2009/125/EG of the European Parliament and the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285 of 31.10.2009, p. 10).
[28] European Parliament resolution of 31 May 2018 on the implementation of the Ecodesign Directive (2009/125/EC) (2017/2087(INI)) (OJ C 76 of 09.03.2020).
[29] Report from the Commission to the European Parliament and the Council on the review of implementation of Regulation (EC) No 122/2009 of the European Parliament and of the Council on 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) and the Regulation (EC) No 66/2010 of the parliament and of the Council of 25 November 2009 on the EU Ecolabel (COM (2017) 355 final).
[30] ibid.

requirements for verification, requirements regarding the advertising of the use of recyclates, see also chapter 3.4);

- Requirements for labelling the correct disposal route (separation information) on packaging or the creation of a possibility for national labelling requirements (see also chapter 3.5); as well as
- stricter requirements, e.g. by adapting the regulations in the Essential Requirements on oversized packaging (see also chapter 3.2.2).

- Under certain, narrowly defined conditions, the possibility should be created of setting requirements that go beyond the requirements of the directive in supplementary legal acts (implementing regulations) at the European level. The model for this could be implementing regulations similar to the Ecodesign Directive. This may be particularly useful where regular updates of the requirements are necessary. To this end, the Packaging Directive should contain an authorisation to issue regulations as well as the concrete conditions, criteria and procedures for the adoption of such legal acts.[31]
- Prohibitions on the placing on the market of packaging that does not comply with the requirements laid down in the Directive or supplementary legal acts should be established. Member States should be obliged to enforce them. In addition, accompanying mechanisms to ensure enforcement (e.g. market surveillance, labeling) should be introduced.
- The directive should set requirements for the member states, the achievement of which they must implement through appropriate measures.
  - Member states should set themselves ambitious targets for the prevention of packaging waste;
  - Specification of concrete quotas for the share of reusable packaging for sensibly selected segments in the Packaging Directive (national measures to ensure quota achievement).
- Comparable to the proven environmental management system EMAS, we recommend that the Directive stipulate that producers use modern management tools for the continuous ecological optimisation of their packaging. This should be mandatory for large producers, smaller producers could use it voluntarily.[32]

3.1.2 Inclusion of Marketplaces and Fulfilment Service Providers

In order to enforce the extended producer responsibility obligations as stipulated in the Packaging Directive within the framework of extended producer responsibility, operators of electronic marketplaces and fulfilment service providers, particularly also those from abroad, are also to be included as addressees of obligations under waste legislation in the field of e-commerce.

[31] For details see Annex 1.
[32] For more details see Annex 2.

- Definitions for the terms "electronic marketplace" and "fulfilment service provider" should be included in the Packaging Directive in order to be able to transfer obligations to these actors.
- Prohibitions should be introduced for the operators of electronic marketplaces and fulfilment service providers in order to disable the legally noncompliant offering of, or rather handling of, packaging. This is accompanied by compulsory verification obligations:
  - Operators of electronic marketplaces are obliged to ensure the proper system (PRO) participation of the producers offering packaged products on their websites. This is only possible with legal certainty if the marketplaces carry out appropriate verifications.
  - Fulfilment service providers should also only be allowed to provide their services in the future if the products originate from producers properly participating in a system (PRO). This means that they will have to carry out the same verification checks as the operators of electronic marketplaces. The obligation of fulfilment service providers is particularly relevant if either the operators of electronic marketplaces with a branch in the EU do not fulfil their obligations or if they have their registered office abroad.
- In case a national producer register exists in the respective Member State, electronic marketplaces and fulfilment service providers could also check the existence of a registration. For this purpose, registers can be equipped with electronic interfaces.[33]

The UBA had commissioned a research project, the results of which form the basis for the above-mentioned proposals.[34]

3.2 Waste Prevention

3.2.1 Prevention Targets

- The example of setting reduction targets for plastic carrier bags in the Packaging Directive (cf. Art. 4(1)) has shown that such targets linked to reporting obligations lead to effective measures in the Member States. In order to promote the circular economy also in the sense of prevention, it is necessary to set prevention targets that lead to an absolute reduction in packaging consumption. Since the structural conditions in the Member States differ, the Member States should set themselves packaging prevention targets and back these up with measures. As a first step, the aim should at least be to reduce the 20 percent increase in packaging of the past 10 years through clever concepts of avoidance, reuse and material efficiency.

[33] Cf. on the semi-automated solution in Germany to date https://www.verpackungsregister.org/information-orientierung/hilfe-erklaerung/faq?=FAQ, FAQ 4.16.2. Full automation is envisaged.
[34] Hermann, Andreas; Gailhofer, Peter; Schomerus, Thomas (2020): Producer responsibility of third-country producers in e-commerce. UBA-Texte 191/2020, Dessau-Roßlau.

3.2.2 Oversized Packaging

- We recommend to adapt the essential requirements of the Packaging Directive: The requirement of consumer acceptance with a view to packaging should be deleted. In detail, this concerns the wording "and its acceptance by the consumer" in Annex II No. 1, 1st indent of the Packaging Directive. The deletion of this requirement would prevent producers from claiming this – difficult to prove – point in order to justify oversized packaging.
- Furthermore, Annex II No. 1, 1st indent of the Packaging Directive should no longer refer to "appropriate" but to "necessary" requirements. This would make it clear that only an absolute minimum level of packaging is envisaged by the Directive's legislator.
- Introduction of a tangible limitation of the maximum empty volume and weight in relation to the contents of the packaging in the Packaging Directive.
- We recommend providing for legal regulations to avoid oversized packaging subdivided according to goods/packaging groups. This could take the form of implementing regulations, for example. These should contain:
  - a precise definition of the packaging covered (e.g. disposable plastic bottles of carbonated drinks; packaging for liquid detergents and cleaning agents);
  - the stipulation of maximum weights and maximum empty volumes; these could be derived e.g. via best-in-class weight limits, if oversizing is excluded there. A stipulation would be possible for both non-food and food packaging. The specifications are to be updated regularly;
  - the date of entry into force, any phasing or transitional arrangements and deadlines.
- In parallel to the adoption of the respective implementing regulation, the problem should be generally addressed by the proposed packaging management. This makes it possible to achieve a broad effect also for packaging that is not regulated in an implementing regulation.

3.2.3 Reusables

- We recommend specifying targets in the Packaging Directive for the share of reusable packaging in certain segments.
  - For starters, the following packaging and product segments should be considered: transport packaging such as pallets, outer packaging containing several units of sales packaging, e.g. plant trays and fruit and vegetable crates, but also those for food, shipping packaging and sales packaging, e.g. beverage packaging and replacement of disposable glass packaging for food. The product and packaging segments selected at the beginning are to be continuously expanded.
  - Sanctions must be defined if the targets are not met. For this purpose, the Member States can also be obliged to implement their own measures.

- First of all, at least low reusable targets are to be set, which must be achieved soon in order to ensure a rapid start of the development of reusable packaging systems in the Member States. For packaging segments with an already high proportion of reusable packaging, such as beverage packaging, correspondingly more demanding quotas must be set.
- The reuse targets are staggered; hence, increases are already stipulated.

► The EU and the Member States should support initiatives for the standardisation of reusable packaging, since reusable packaging from pool systems are in many cases more ecologically advantageous than reusable individual containers, in particular due to the optimisation possibilities of logistics.

► There should be an examination by the COM of the extent to which uniform labelling of disposable and reusable packaging in the EU directly on the packaging makes sense and is possible.

3.3 Recyclability

The recyclability of packaging must be pushed in order to increase the amount of high quality and, if possible, multiple recycling in the interest of resource conservation. In addition to sanctions, incentivising approaches are available for this purpose. In order not to restrict competition in the internal market or rather to keep it fair, there could be EU-wide requirements for that. So far, no such requirements exist, except for the overarching declaration of intent in the EU Plastics Strategy and the Green Deal that all (plastic) packaging on the EU market should be recyclable by 2030. In order to effectively achieve this goal, more demanding requirements for the recyclability of packaging are needed, specifically, uniform regulations for

(1) the definition of recyclability and

(2) the methodology for determining recyclability,

(3) the incentivisation of high recyclability or (supplementary) the 'penalisation' of poor recyclability and

(4) requirements regarding advertising with recyclability.

In detail:

► (1) At EU level, a demanding recyclability concept should be set, which is defined with a view to achieving the circular economy goals. Ideally, it should be possible to recycle material more than once. To this end, it must be kept at a high (material) level of the use cascade for as long as possible.

- As a definition of recyclability, we suggest the following: 'Recyclability is the fundamental and gradual suitability of a packaging to substitute virgin material in applications typical for that material after passing through industrially available recovery processes.'

- Biological degradation/composting of plastics is not to be defined as recycling because both processes almost only leave CO_2 and water as the "product", while the valuable material is not retained and no material benefit is generated. In contrast, the composting of organic waste [biowaste] generates compost. Processes of biodegradation or composting of plastics can therefore not lead to the recognition of recyclability.

► (2) As far as the actual framework conditions allow, the recyclability of packaging should be determined according to a uniform methodology. According to European recycling associations, the newly built sorting and recovery facilities in the Member States are similar (high level of ambition due to recovery quota targets); the differences in waste processing, however, arise prior to that, with the collection of packaging waste.[35] Therefore, it should be further investigated whether a largely uniform methodology for determining the recyclability of packaging can be applied throughout the EU. Such an EU-wide requirement would prevent packaging producers from engaging in "forum shopping", i.e. having the recyclability of their packaging certified in Member States where a methodology is being applied that is undemanding in terms of recycling quality or not corresponding to practice. However, if an assessment comes to the conclusion that the sorting and recycling infrastructure still differs too much across the EU, we recommend refraining from an EU-wide uniform method for the time being in order to maintain a close practical relevance. Otherwise the method would either be impractical or too unambitious. In this case, the Member States should be instructed to set national methodological specifications. For that, minimum criteria could be set at EU level.

- The method should refer to the sorting and recycling infrastructure that actually exists in practice. Processes which, by now, are only available theoretically or at laboratory scale should not be taken into account in order to avoid greenwashing by unrealistic recyclability assumptions. In addition, an openness to innovation should remain through suitable measures, such as the admissibility of evidence in individual cases, without setting a blanket exception for processes and packaging that have not been tested.

► (3) Furthermore, in order to avoid competitive disadvantages, the consequences for non-recyclable or poorly recyclable packaging should be predetermined at EU level. Here, bans on placing on the market or financial disadvantages are considerable options. Since organisations that fulfil the obligations of Extended Producer Responsibility on behalf of producers (Producer Responsibility Organisations – PROs) in a competitive system always receive waste collection mixtures and not only the packaging "contracted" by them, they would suffer a disadvantage if they themselves sweep out bonus payments for well-recyclable packaging, but have to receive and recycle also poorly recyclable packaging that comes with the waste collection mixture. Therefore, framework requirements at EU level should take into account that some Member States have monopoly PRO systems while others have competitive PRO systems. For example, a requirement to spread bonus payments to

[35] To this end, basic collection requirements could be considered in order to establish the necessary conditions for the widest possible high-quality recycling in all Member States.

producers according to environmental criteria would be effective in monopolies, but probably practically ineffective in competitive systems where a basic price for packaging collection, sorting, and recovery has to be negotiated.[36]

- (4) In addition, there should be harmonised requirements for the labelling of (well) recyclable packaging in order to avoid greenwashing. For example, the advertising of recyclability in relation to packaging could be linked to the condition that this has been determined using a specified method or in compliance with certain minimum criteria with close practical relevance.

3.4 Minimum Recyclate Content

- The requirement for a minimum recyclate content in packaging should relate exclusively to recyclates from waste after use (according to DIN EN ISO 14021), (so-called post-consumer waste).
- The essential requirements of the Packaging Directive should be expanded to include a target formulation regarding the use of recycled materials in packaging, e.g.: "... Packaging should be produced with the highest possible use of recyclates from post-consumer waste (post-consumer recyclate = PCR) ...". This target formulation should apply equally to packaging of all materials.
- In addition, specific requirements on the minimum recyclate content (PCR quota targets) should be set in the Packaging Directive:
  - The PCR quota target should refer to plastic packaging in order to provide the necessary incentives for improved recycling especially for this field, while limiting the effort necessary to enforce the quota requirement. If, as a result of setting the PCR quota, there are evasive movements and ecologically disadvantageous material substitutions, the setting of PCR quotas should alternatively also be extended to packaging made of paper, cardboard and paperboard and, as far as possible, fiber-based composites.
  - The stipulation of minimum recyclate shares in packaging should be specific to the different packaging areas (packaging segments). The advantage over a collective PCR quota for all packaging sectors is that the PCR requirements can be better adapted to the packaging specifics and that the recyclate availability and the obligated parties are clearly addressed. The latter is also particularly relevant with regard to the consequences of failing to meet the quota.
  - The PCR quotas should also apply to food contact packaging without exception. However, since the use of PCRs in food packaging is much more regulated and therefore more

[36] The German Environment Agency is currently researching into questions of effective incentivisation in the competitive system. The project „Überprüfung der Wirksamkeit des § 21 VerpackG und Entwicklung von Vorschlägen zur rechtlichen Weiterentwicklung“ (FKZ: 3719 33 204 0) will run until November 2021.

difficult, they can therefore make a smaller contribution to meeting the quota target fulfilment than non-food packaging. This has to be taken into account when setting the quota target level. Nevertheless, it is important to include food packaging in the quota target, also in order to avoid the deduction of recyclates generated from such packaging into other product areas.

- The quota target levels should be set depending on availability and should ambitiously address what is technically feasible. A future increase in the quota target level should be the goal from the beginning.
  - Proposal for PCR quota target levels on average per packaging segment from 2030:

Packaging segment	Level of the PCR quota from 2030 in percent
Bottles and closures	
PET-bottles[37]	45
Other bottles[37]	35
Closures	10
Foils and small containers	
Cups	10
Bags, trays, wraps	10
Transportfoils	20
Planting pots	75
Bulk packaging	
Canisters, buckets, barrels, IBCs	50
Boxes, crates, pallets	80
Packaging tapes	60

(Source: UBA estimation based on the GVM study (2020), accepting substantial restrictions in packaging properties due to the use of recyclates)

  - Optionally, additionally individual types of packaging could also be assigned PCR quotas, e.g.: shipping packaging made of plastic with material-specific quotas of 80 % PCR

[37] The Single-Use Plastics Directive ((EU) 2019/904) stipulates in Article 6 para. 5 that "(a) from 2025, beverage bottles consisting mainly of polyethylene terephthalate ("PET bottles"), shall consist of at least 25 % recycled plastic, calculated as the average of all PET bottles placed on the market in the territory of the respective Member State; (b) from 2030 [...] beverage bottles shall consist of at least 30 % recycled plastic, calculated as the average of all beverage bottles placed on the market in the territory of the respective Member State." In order not to override these targets, to which economic operators are attuned, the update of the quotas for beverage bottles could be done separately and chronologically subsequent to the introduction of the PCR quotas for PET bottles and other non-beverage bottles proposed here.

content. For this purpose, an additional definition for "shipping packaging" would have to be included in the Packaging Directive (in analogy to the Packaging Act);

- Requirements for verification:
  - Obliged are those actors who place packaging from the quoted packaging segments or packaging types on the EU market.
  - The evidence should be provided annually per company and in each case as an average for the packaging placed on the market. The direct link between the recyclate used and the end product must be guaranteed. Certificates issued by independent third parties can be used for this purpose.
- For the communication regarding the recyclate content in the packaging, specifications should be made that ensure transparency (e.g. with regard to the indication of the origin of the recyclates (PCR or PIR or mix of PCR and PIR)) and comparability of the information.
- The stipulation of minimum recyclate contents at EU level could be flanked by economic instruments in the Member States. This could provide additional incentives for improving recyclability and the use of recyclates.
- The Directive should provide that Member States shall provide for effective sanctioning of the responsible companies in case of the latter's failure to meet the quota targets.

3.5 Labelling of the Correct Disposal Route

- Producers subject to extended producer responsibility should be obliged to provide information on the correct disposal route for their packaging. Organisations carrying out extended producer responsibility obligations for producers (PROs) should also carry out this obligation for producers.
- Similar to the material labelling on packaging[38], we recommend prescribing uniform symbols for the voluntary labelling of the disposal route of packaging at European level. Uniform labelling in the Member States promotes recognition for consumers and the cohesion of the EU internal market.
  - EU specifications on the content and appearance of the symbols used are necessary in order to create the greatest possible standardisation and thus a recognition value for consumers. If a uniform EU implementation is not (yet) possible, the concrete implementation can be left to the member states.
  - Orientation to consumers is important: they need to understand from the symbols how the packaging should be separated and disposed of. Often there are different disposal

[38] Cf. Commission Decision 97/129/EC of 28 January 1997 establishing the identification system for packaging materials pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste (OJ L 50 of 20.02.1997, p. 28).

routes for packaging depending on the material. The symbols for labelling therefore not only concern the separate collection of packaging waste in general, but in particular the question of which collection system the various packaging materials should be put into.

- It seems advisable to consider requirements that go beyond purely voluntary labelling. For example, the organisations that carry out the obligations of extended producer responsibility for producers could be required to provide financial incentives for the labelling of the disposal route on packaging. Possible economic incentives for producers and first distributors in packaging design could support a broad use of the symbols. Another option would be to set the legal basis for a national regulation on mandatory labelling of the disposal route. In this case, corresponding sanction options should also be considered.

4 References

BellandVision GmbH; Der Grüne Punkt – Duales System Deutschland GmbH; EKO-PUNKT GmbH & Co. KG; INTERSEROH Dienstleistungs GmbH; Landbell Gesellschaft für nachhaltige Kreislaufwirtschaft mbH; NOVENTIZ Dual GmbH; PreZero Dual GmbH; Reclay Systems GmbH; Veolia Umweltservice Dual GmbH; ZENTEK GmbH & Co. KG (2020): *Mülltrennung-wirkt.de Eine Initiative der dualen Systeme.* URL: https://www.muelltrennung-wirkt.de/ [last accessed: 26.08.2021]

BellandVision GmbH; EKO-PUNKT GmbH & Co. KG; INTERSEROH Dienstleistungs GmbH; Landbell Gesellschaft für nachhaltige Kreislaufwirtschaft mbH; NOVENTIZ Dual GmbH; PreZero Dual GmbH; Reclay Systems GmbH; Veolia Umweltservice Dual GmbH; ZENTEK GmbH & Co. KG (2021): *Ein herstellerübergreifendes Aufklärungssymbol für Mülltrennung*. URL: https://www.trenn-hinweis.de/ [last accessed: 25.08.2021]

Central Agency Packaging Register (2020): *Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 (3) VerpackG*. URL: https://www.verpackungsregister.org/fileadmin/files/Mindeststandard/Minimum_standard_Packaging-Act_2021.pdf [last accessed: 13.09.2021]

Conversio Market & Strategy GmbH (2020): *Stoffstrombild Kunststoffe in Deutschland 2019*. URL: https://www.plasticseurope.org/download_file/force/4020/319 [last accessed: 25.08.2021]

Deutsches Institut für Normung e.V. (2004); DIN EN 13428: *Packaging - Requirements specific to manufacturing and composition - Prevention by source reduction*. URL: https://www.din.de/en/getting-involved/standards-committees/navp/wdc-beuth:din21:74137167?destinationLanguage=&sourceLanguage [last accessed: 24.08.2021]

Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council (OJ L 191 of 22.07.2005, p.29).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 of 22.11.2008, p. 3; L 127 of 26.05.2009, p. 24; L 297 of 13.11.2015, p. 9; L 42 of 18.02.2017, p. 43), last amended by Directive (EU) 2018/851 (OJ L 150 of 14.06.2018, p. 109).

Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285 of 31.10.2009, p. 10).

Directive (EU) 2019/904 2001 of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (OJ L 155 of 12.06.2019, p. 1).

Erstes Gesetz zur Änderung des Elektro- und Elektronikgerätegesetzes vom 20.05.2021 (BGBl. I S. 1145).

Eunomia Research & Consulting Ltd, COWI, Adelphi, Ecofys (Navigant), Milieu (2020): *Effectiveness of the Essential Requirements for Packaging and Packaging Waste and Proposals for Reinforcement.* Project conducted under Framework Contract No ENV.F.1/FRA/2014/0063. URL: https://www.eunomia.co.uk/reports-tools/effectiveness-of-the-essential-requirements-for-packaging-and-packaging-waste/ [last accessed: 24.08.2021]

European Commission (1997): *97/129/EC: Commission Decision of 28 January 1997 establishing the identification system for packaging materials pursuant to European Parliament and Council Directive 94/62/EC on packaging and packaging waste* (OJ L 50 of 20.02.1997, p. 28).

European Commission (2017): Report from the Commission to the European Parliament and the Council *on the review of implementation of Regulation (EC) No 122/2009 of the European Parliament and of the Council on 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) and the Regulation (EC) No 66/2010 of the parliament and of the Council of 25 November 2009 on the EU Ecolabel.* COM(2017) 355 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0355&qid=1632855034498&from=EN [last accessed: 25.08.2021]

European Commission (2019): Communication from the Commission to the European Parliament, the European Council, to the Council, the European Economic and Social Committee and the Committee of the Regions. *The European Green Deal.* COM/2019/640 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN [last accessed: 24.08.2021]

European Commission (2020): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *A new Circular Economy Action Plan For a cleaner and more competitive Europe.* COM/2020/98 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2020%3A98%3AFIN [last accessed: 24.08.2021]

European Commission (2020): Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability.* COM/2020/474 final. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0474 [last accessed: 25.08.2021]

European Commission (2021): *Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging*. URL: https://ec.europa.eu/eurostat/databrowser/view/env_waspacr/default/table [last accessed: 09.07.2021]

European Commission (2021): *Packaging waste by waste management operations.* URL: https://ec.europa.eu/eurostat/databrowser/view/env_waspac/default/table [last accessed: 09.07.2021]

European Parliament (2018): *European Parliament resolution of 31 May 2018 on the implementation of the Ecodesign Directive (2009/125/EC).* (2017/2087(INI)), (OJ C 76 of 09.03.2020).

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (OJ L 365 of 31.12.1994, p. 10), last amended by Directive 2018/852/EU (OJ L 150 of 14.06.2018, p. 141).

Gesetz über das Inverkehrbringen, die Rücknahme und die hochwertige Verwertung von Verpackungen (Verpackungsgesetz) vom 5. Juli 2017 (BGBl. I S. 2234), zuletzt geändert durch Artikel 1 des Gesetzes vom 9. Juni 2021 (BGBl. I S. 1699).

Gesetz über das Inverkehrbringen und die Bereitstellung von Messgeräten auf dem Markt, ihre Verwendung und Eichung sowie über Fertigpackungen (Mess- und Eichgesetz) vom 25. Juli 2013 (BGBl. I S. 2722, 2723), zuletzt geändert durch Artikel 1 des Gesetzes vom 9. Juni 2021 (BGBl. I S. 1663).

Gesetz zur Umsetzung von Vorgaben der Einwegkunststoffrichtlinie und der Abfallrahmenrichtlinie im Verpackungsgesetz und in anderen Gesetzen vom 09.06.2021 (BGBl. I S. 1699).

GVM - Gesellschaft für Verpackungsmarktforschung mbH (2020): *Potenzial zur Verwendung von Recycling-Kunststoffen in der Produktion von Kunststoffverpackungen in Deutschland*. Im Auftrag BKV GmbH.

Hermann, Andreas; Gailhofer, Peter; Schomerus, Thomas (2020): *Producer responsibility of third-country producers in e-commerce*. UBA-Texte 191/2020, Dessau-Roßlau, URL: https://www.umweltbundesamt.de/publikationen/producer-responsibility-of-third-country-producers [last accessed: 25.08.2021]

Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) (OJ L 114 of 24.04.2001, p. 1).

Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC (OJ L 342 of 22.12.2009, p. 1).

Schüler, Kurt (2018): *Aufkommen und Verwertung von Verpackungsabfällen in Deutschland im Jahr 2016.* UBA-Texte 58/2018, Dessau-Roßlau. URL: https://www.umweltbundesamt.de/sites/default/files/medien/2546/publikationen/aufkommen_und_verwertung_von_verpackungsabfaellen_in_deutschland_im_jahr_2016_final.pdf [last accessed: 25.08.2021]

Schüler, Kurt (2020): *Aufkommen und Verwertung von Verpackungsabfällen in Deutschland im Jahr 2018. UBA-Texte 166/2020*, Dessau-Roßlau. URL: https://www.umweltbundesamt.de/publikationen/aufkommen-verwertung-von-verpackungsabfaellen-in-13 [last accessed 25.08.2021]

Umweltbundesamt (2020): *Verpackungsabfälle*. URL: https://www.umweltbundesamt.de/daten/ressourcen-abfall/verwertung-entsorgung-ausgewaehlter-abfallarten/verpackungsabfaelle#verpackungen-uberall [last accessed: 25.08.2021]

Verordnung über Fertigpackungen und andere Verkaufseinheiten (Fertigpackungsverordnung) vom 18. November 2020 (BGBl. I S. 2504).

Zentrale Stelle Verpackungsregister: FAQ 4.16.2. URL: https://www.verpackungsregister.org/en/information-orientation/instructions-further-information/faq [last accessed: 13.09.2021]

Annexes

Annex 1: Further Considerations on Regulatory Acts Supplementing the Directive

- An authorisation in the Packaging Directive for the adoption of supplementary legal acts should be envisaged. These should allow for binding requirements to be developed for certain packaging that go beyond the Directive (similar to the framework in the Ecodesign Directive).
- Conditions for the adoption of implementing regulations are to be laid down in the Packaging Directive. Conceivable aspects are, for example:
  - No sufficient minimisation of consumption for certain packaging types or product groups within one year after the entry into force of the amended Packaging Directive;
  - significant environmental impact of the packaging, especially with a view to the quantity placed on the market (e.g. shipping packaging; goods with a high trade volume), a particularly high use of material, energy and other resources in relation to the contents (e.g. cosmetics packaging) or in view of special materials and substances contained (e.g. packaging with critical raw materials[39] such as magnets made of neodymium-iron-boron[40]);
  - significant potential for improvement with regard to the environmental impact of the packaging or
  - considerable potential for a particularly cost-effective reduction of environmental impacts.

We recommend that specifications be anchored in the Packaging Directive as a matter of priority. If this does not appear to be possible, packaging or packaging groups should first be regulated with implementing regulations at a later date on this basis, where large environmental impacts can be achieved with relatively little effort ("low-hanging fruits", e.g. due to good data and established best practice examples).

- In order to clearly define the scope of the mandate, the Packaging Directive could specify which criteria and requirements for packaging can be addressed in implementing regulations. Aspects that are particularly relevant from an environmental point of view would be in particular:
  - Upper limits for the empty volume of packaging;

[39] See list of critical raw materials 2020, in: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability (COM(2020) 474 final).
[40] On the emergence of neodymium-iron-boron magnets see Schüler, Aufkommen und Verwertung von Verpackungsabfällen in Deutschland im Jahr 2016, UBA-Texte 58/2018, p. 54.

- Upper limits for the weight of packaging in relation to the weight or volume of the goods contained;
- Legitimacy of multiple packaging (e.g. no cardboard box around toothpaste tube);
- Requirements for the minimum recyclability of packaging to be achieved.

► If, in individual cases, implementing regulations appear to be expedient, the procedure for their adoption could be standardised in the Packaging Directive:

- Adoption of implementing regulations analogous to the implementing regulations under the Ecodesign Directive;
- Scientific studies by external experts as a basis for the draft regulations;
- sufficient opportunity for participation and consideration of the concerns of the Member States, and
- Implementation of consultation procedures for the participation of affected stakeholders.

Annex 2: Further Considerations on the Use of Modern Management Tools for the Ecological Optimisation of Packaging

In parallel to binding standards for packaging design, a European packaging management system anchored in the Packaging Directive could be introduced. The environmental management system EMAS could serve as a model. This could oblige companies to continuously optimise their packaging environmentally and to regularly prepare and publish rigorous and independently verified reports on their packaging consumption, its development and evaluation as well as achieved improvements and targets for the coming reporting period. The reports could be written independently or as part of other sustainability reporting. The objectives are to create a single, credible system and to avoid the introduction of different national systems which cannot be sufficiently achieved by the Member States and can therefore, by reason of their scale and effects, be better achieved at EU level.[41]

The use of environmental management systems, including EMAS under the EMAS Regulation,[42] has proven to be an effective tool to promote improvements in the environmental performance of organisations. However, the number of organisations participating in EMAS needs to be increased in order to achieve a better overall impact in terms of environmental improvements.[43] Therefore, for packaging, rather than a voluntary instrument, we propose an obligation of certain large producers:

- Introduction of an obligation for larger producers. Smaller producers can voluntarily implement packaging management. The obligation should be made dependent on the quantity of packaging placed on the market. Threshold values could, for example, be designed according to the German threshold values for the submission of the declaration of completeness.[44] For Germany, this would ensure that packaging management is not prescribed for an incalculable number of companies, but only for around 5,000, which together, however, bring more than 90 percent of the packaging into circulation that typically accumulates as waste at private end consumers.
- All of the producer's packaging should be included, i.e. sales packaging and secondary packaging as well as transport packaging. Packaging that accrues as waste with private end consumers should be included in the same way as packaging that typically accrues in large-

[41] See recital 29 of Regulation (EG) Nr. 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC.
[42] Regulation (EG) Nr. 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).
[43] Recital 7 of Regulation (EG) Nr. 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), repealing Regulation (EC) No 761/2001 and Commission Decisions 2001/681/EC and 2006/193/EC.
[44] A declaration of completeness does not have to be submitted according to the quantities placed on the market annually per type of material: Glass of less than 80 000 kilograms, paper, card and cardboard of less than 50 000 kilogram and the other types of material listed in section 16 paragraph 2 of the Packaging Act of less than 30 000 kilograms.

scale trade and industry. We do not consider exemptions for certain packaging contents to be expedient.

- We recommend that the Packaging and Packaging Waste Directive should contain criteria to be considered by companies as a minimum in packaging management. These should be, in particular:
  - The producer checks the possible avoidance of as well as material savings for the respective packaging; the aim is to find the necessary minimum for the protection of the contained goods;
  - The producer shall consider the possibility of using reusable packaging for the product in question instead of disposable packaging;
  - The producer shall optimise the recyclability of the packaging as far as possible; the recyclability shall be determined on the basis of a predefined standard for the determination of the recyclability;
  - The producer increases the use of recycled material as far as possible;
  - The producer avoids critical raw materials as far as possible[45], e.g. magnets from Neodymium-iron-boron[46].
- A mandatory requirement shall be introduced to set internal company targets within the framework of packaging management and to monitor their achievement.
- The Packaging Directive should introduce a reporting obligation for producers according to certain criteria in order to ensure the relevance and comparability of information:
  - Minimum report content, performance indicators, reference values and scales get specified;
  - Reports would have to be checked for compliance with legal requirements by reviewers, auditors, experts;
  - Requirements for assessors, auditors, experts would have to be established in the Packaging Directive;
  - Member States should be required to provide for appropriate sanctions if a report is not submitted on time.

[45] See list of critical raw materials 2020, in: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability (COM(2020) 474 final).
[46] On the emergence of neodymium-iron-boron magnets see Schüler, Generation and recycling of packaging waste in Germany in the year 2016, UBA-Texte 58/2018, p. 54. [Available in German].

- An obligation to deposit the report in the national register of producers and to publish it there should be provided for; if no national register exists, Member States may provide for publication in a place which has a comparable publicity effect.