

## **Closing plastic cycles intelligently**

### **Joint mission statement for a circular economy with plastics from BDE<sup>1</sup>, PlasticsEurope Deutschland e.V. and VCI<sup>2</sup>**

**January 16, 2024<sup>3</sup>**

Plastics are more necessary today than ever. Energy and mobility transition, healthcare, and packaging practice – there is no doubt that the demand for plastics will significantly increase worldwide. Therefore, waste prevention as well as the collection, sorting and recycling of plastics must be quantitatively and qualitatively improved at a global scale, making a noticeable contribution to climate protection. With its world-leading chemical, plastics and recycling industry, Germany is particularly predestined to develop and implement comprehensive solution models being part of this contribution. The aim of the German national circular economy strategy must be to avoid waste and to use non-fossil raw materials, including recycled raw materials, as a carbon source and to keep them in a qualitatively high and long-lasting cycle. This includes ambitious proposals for a holistic recycling.

Suitable European and national framework conditions are required for a successful national circular economy. To this end, the German Government should take the recommendations for action and expertise of the German chemical, plastics, and recycling industries into account for the upcoming political decisions at European and national levels.

BDE, Plastics Europe Deutschland and VCI want to advance the circular economy in partnership and are jointly proposing the following points:

#### **1. Product design for a circular economy**

Plastics must be kept in the cycle as efficiently, economically feasible, and sustainably as possible, with high quality standards. In the sense of a circular product design (design for circularity), products must meet several requirements: circularity and mechanical recyclability (design for recycling), as well as the reduction of material use (waste prevention) and material complexity. At the same time, product performance (for example to meet product safety requirements) must be maintained.

This should be accompanied by education and awareness-raising among consumers for compliance with usage, as well as discarding instructions. Products

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<sup>1</sup> BDE Federation of the German Waste, Water and Circular Economy Management Industry

<sup>2</sup> German Chemical Industry Association

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should be made usable and durable for as long as possible through durable design, reparability and reuse. When a plastic product reaches the end of its useful life, it must be recycled in the most ecologically efficient way possible. Overall, the aim is to keep the ecological footprint of product use as low as possible.

## **2. Further development of circular economy**

To further develop circular economy, it is urgently necessary to advance Germany's industrial recycling sector and that of the EU in a way that is open to technological innovation. In concrete terms, this means that mechanical, solvent-based recycling and chemical recycling must complement each other in such a way that Germany and the EU have both quantitatively and qualitatively processed recycling raw materials available and environmental impact is reduced. All plastic waste that can be mechanically recycled in a technically, ecologically, and economically sensible manner should be recycled accordingly. Plastic waste that cannot be recycled this way should be kept in the cycle using solvent-based and chemical recycling processes, regardless of technology. This reduces both the amount of recyclable plastic waste, which is still thermally treated, and greenhouse gas emissions. Cross-technology investments in recycling are important drivers of efficient recycling. This requires appropriate regulatory framework conditions that promote innovation.

In the area of packaging, the existing recycling quota for plastic packaging should be further developed in accordance with Article 16, paragraph 2 of the German Packaging Act (Verpackungsgesetz). This means that the existing quota for mechanical recycling should be increased and accompanied by an additional quota for chemical recycling. Both quotas should be set in a way that enables further ambitious development and the expansion of both mechanical and solvent-based recycling on the one hand, and of chemical recycling on the other. This would also ensure the inclusion of chemical recycling in the German Packaging Act (Verpackungsgesetz) as part of the coalition agreement. A potential increase in quotas should be evaluated five years after entry into force. In this context, minimum recycled content targets, such as those prepared in the Proposal for an EU Packaging and Packaging Waste Regulation, are necessary for the further development of circular economy. In addition to the packaging sector, incentives should also be created for the further development of the markets for recyclates regarding commercial waste streams.

To calculate the recycled content in products, the controlled blending method is traditionally used with respect to mechanical recycling. In order to effectively allocate the proportion of recyclate from chemical recycling, the applicability of suitable mass balance approaches is required in order to incentivize investment in the development of the circular economy on the one hand and, on the other hand, to create a level playing field for recyclates and minimum recycled content targets referring to mechanical and chemical recycling.

### **3. Declaration of and consumer communication on recycled content of materials stemming from chemical recycling**

For the time being, chemical recycling is driven by economic conditions (energy prices, investment costs, priority of mechanical recycling), which result in a low use of plastic waste. In addition, recycled raw materials obtained through chemical recycling are processed in large-scale industrial chemical plants. These structural differences to mechanical recycling suggest the different demonstration of ecological advantages of both recycling processes to customers and consumers. Thus, consumers communication of a product-related recycled content from chemical recycling to consumers could be dispensed within a transitional period of 8 to 10 years following by evaluation. Instead, within this transition period, information should be provided on the substitution of the use of fossil resources. Where there is no risk of consumer deception in plastic recycling (e.g., in the B2B area and with regulated recycled content targets), within this transition period, mass balance with credit method and fuel use exempt attribution rules can be used. Hereby, a third-party certificate preventing double counting and, thus, the risk of consumer deception, and creating a level playing field for all recycling technologies, must be provided. The clear emphasis on the general priority of mechanical recycling excludes a right of first access for chemical recycling facilities for corresponding waste streams.

### **4. Promote alternatives to fossil raw materials**

The currently largely fossil-based production of plastics must be decoupled from fossil resources as part of industrial transformation. Even the further development of plastic recycling can only partially cover the need for non-fossil raw materials. Therefore, efforts on the use of CO<sub>2</sub> as a source of raw materials via Carbon Capture and Utilization (CCU) and the use of certified sustainable biomass must be increased. To do this, we need economic and regulatory incentives as well as a suitable legal framework as fast as possible. Defossilization is crucial for meeting climate protection goals and reducing dependence on fossil raw materials – not only in Germany, but worldwide.

### **5. Europe-wide ban on landfilling of plastic waste**

The landfilling of plastic waste should be banned in the EU as soon as possible. The small quantities for which there is no energetic or material solution are to be excluded. The energy recovery of plastic waste that cannot be recycled should be integrated into the circular economy of the chemical industry through the capture and use of the resulting CO<sub>2</sub> (CCU, Carbon Capture and Utilization).

## 6. Consistent collection and sorting

Much has been achieved in the collection and sorting of plastic waste from private households, industry and commerce. However, further efforts still need to be made at this point. Even if the separate collection of plastic packaging waste is already regulated by law, enforcement must be consistently implemented and systematic separate collection expanded. Digitalization should facilitate transparency and traceability of waste streams. Campaigns to inform consumers about the separation of plastic waste in households and businesses are a key need. Suitable deposit systems should be further developed.

## 7. Supportive regulatory framework

Waste shipments within the EU, but also from and to countries with a demonstrably functioning waste and circular economy as well as an adequate legal framework, are indispensable in order to improve recycling in terms of quantity and quality. Plastic waste in particular should be treated where the best recycling can be achieved and not necessarily where it occurs. All previous proposals for reforming waste shipments go in the wrong direction with regard to plastic waste. What is required is improved quality assurance and transparency regarding subsequent recovery, but not a reduction in shipments. Facilitating and accelerating shipments leads to an economy of scale and more recycling. In order to transform the German economy and industry and ensure the necessary supply of raw materials, there must be no stricter requirements for recycled raw materials than for the handling of primary materials, which is why the EU chemicals strategy should support the circular economy and not hinder recycling options. In general, the following must apply: To promote a circular economy, the transition of plastic from the product phase to the waste phase and back to the product phase must be as problem-free as possible. Legal regulations should support this in an appropriate manner and not hinder it. Further measures are indispensable for the circular economy and the success of the transformation: This includes the rapid expansion of renewable energy sources and their long-term availability at a globally competitive price as well as the acceleration and standardization of approval procedures.

## 8. Driving innovations

Germany's chemical, plastics and recycling industries play a key role as innovation drivers in the transformation towards a circular economy, as they enable the recycling of plastics and other materials. Circular business models require investment-friendly framework conditions, scalable lighthouse projects and

improved policy coordination in the areas of environmental protection, business, industry and research with the aim of becoming a competitive, climate-neutral business location. Regulatory sandboxes are central innovation policy instruments for testing new technologies on an industrial scale in a protected frame for generating new markets by leveraging transformation potential through legal flexibility and regulatory learning. Therefore, the planned German law on a framework for regulatory sandboxes should be pushed forward. Furthermore, regulatory sandboxes and model regions for innovative recycling and circular economy should be made enabled and supported.

## **9. Uniform standards and quality requirements**

To ensure the understanding and benefits of recycling within value creation cycles, the most important parameters of plastic recycling must be standardized in a practical manner. Uniform terminology, interfaces and quality parameters must be developed jointly by manufacturers, sorters, and recyclers. This is a prerequisite for an efficient market-based combination of supply and demand for secondary raw materials.

## **10. More research for future-oriented products**

Composite materials represent a major challenge for high-quality recycling for many products. But in some applications, they will remain indispensable for the time being. At the same time, the development of new high-performance and recyclable materials for plastics is already available at a high-level effectiveness. Private and public research and development efforts combined with product designers must form a focus of work in the coming years. Otherwise, important material flows will remain excluded from eco-efficient waste management.

## **11. Support for the global agreement against plastic waste in the environment**

Global plastic pollution, especially of water bodies, represents a serious problem that requires immediate measures, e.g., preventing pellet losses during production, processing and logistics. The introduction of separate collection systems at central locations also helps to prevent input into the environment and to enable the recycling and circuitry of (packaging) waste. Initiatives such as Operation Clean Sweep® are already underway to prevent pellet losses. Biodegradable and compostable plastics can make further contributions in certain applications in economies with poorly developed waste collection structures. However, the

ecological footprint must show advantages toward non-biodegradable plastics. Recycling processes must not be compromised. What is crucial are binding specifications and goals tailored to the respective countries, which must be accompanied by development aid and investments. Technologies developed in Germany and the EU for a circular economy with plastics can contribute to this. Instead of limiting absolute plastic production, recycling specifications and minimum recycled content targets, which automatically lead to a reduction in fossil raw materials, are more effective and contribute significantly to a transformation of the raw material base of the chemical industry. Waste avoidance, reuse, maximizing recycling and circular product design can help prevent the release of plastics into the environment worldwide.

## **12. Raw material partnerships for the development of a circular economy**

The Federal Republic of Germany has so far established raw material partnerships exclusively for the purchase of raw materials from primary sources. This restriction should be lifted soon because the desired transformation to a circular economy should take place worldwide and Germany's recycling know-how can help many countries to tap the raw material potential from waste and solve environmental problems. Industrial emerging countries in Asia and Africa in particular can be suitable partners for raw materials cooperation that promotes the development of recycling structures and improved raw material extraction.

## Contact persons

BDE Federation of the German Waste, Water and Circular Economy Management Industry

Dr. Andreas Bruckschen, Managing Director

Von-der-Heydt-Str. 2

10785 Berlin

email: [bruckschen@bde.de](mailto:bruckschen@bde.de)

PlasticsEurope Deutschland e.V.

Ingemar Bühler, Executive Director

Mainzer Landstrasse 55

60329 Frankfurt am Main

email: [Ingemar.Buehler@Plasticseurope.de](mailto:Ingemar.Buehler@Plasticseurope.de)

German Chemical Industry Association (VCI)

Dr. Wolfgang Große Entrup, General Manager

Mainzer Landstr. 55

60329 Frankfurt am Main

email: [w.grosse.entrup@vci.de](mailto:w.grosse.entrup@vci.de)