Political Briefing

September 2020

Future Plastics

Plastics are versatile and high-performing materials. We have also seen this in the Corona crisis: Whether as separation panels at supermarket checkouts, as protective goggles or in laptop computers for working at home – plastics are practically indispensable in our life. And plastics are driving climate protection forward. In vehicles, for example, they contribute to the mobility transition because of their low weight.

No more waste in the environment
Despite the many advantages of plastics, there is one thing we have to prevent no matter what: Plastics must not end up in the environment after use. This applies, of course, to all types of waste. Therefore, disposal systems should be expanded worldwide. Above all, we must aim to recycle as many end-of-life products as possible.

Towards a true circular economy
Circular economy is the best way to conserve finite natural resources and protect the climate. Many possibilities for innovation open up here: For example, in plastics production, alternative raw materials such as CO_2 are increasingly being used instead of fossil resources. In this way, the element carbon can be run in cycles in an environmentally sound manner. And there are also attractive new options for the utilisation of old plastics – for example, chemical recycling. In any case, technological innovations should be promoted, in order to achieve a truly resource-efficient circular economy.

The chemical and plastics manufacturing industry is on its way to a circular economy and is already giving impulses beyond its own sector. It is a long road that is best travelled together: Important fellow travellers are the overall economy with new concepts, consumers who need to rethink their habits, and politicians who set the framework for all our actions.

I am convinced that the circular economy is the key to a truly sustainable and climate-neutral future and will also boost Germany as a centre of innovation. Let us jointly make the circular economy a new and global guiding principle!

Dr. Markus Steilemann
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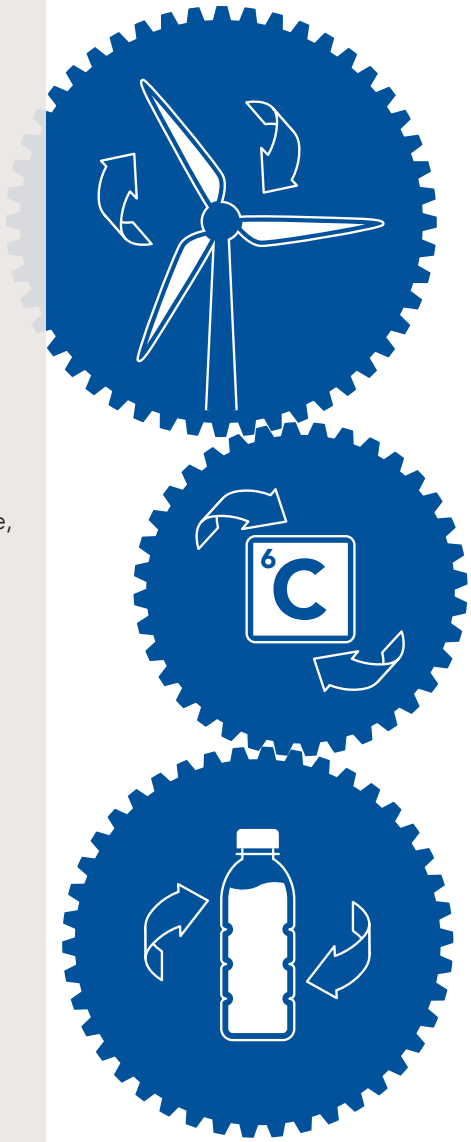

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Climate protection through circular economy

Always bear the whole picture in mind

When promoting the circular economy, this must not be limited to recycling at the end of product life. Instead, all contributions of a product to resource conservation and climate protection count. For this reason, the German chemical industry is committed to a circular management style on its path to greenhouse gas neutrality by 2050 which is of its own choosing. Throughout their entire life, also plastics make important contributions in many areas to achieving this goal.

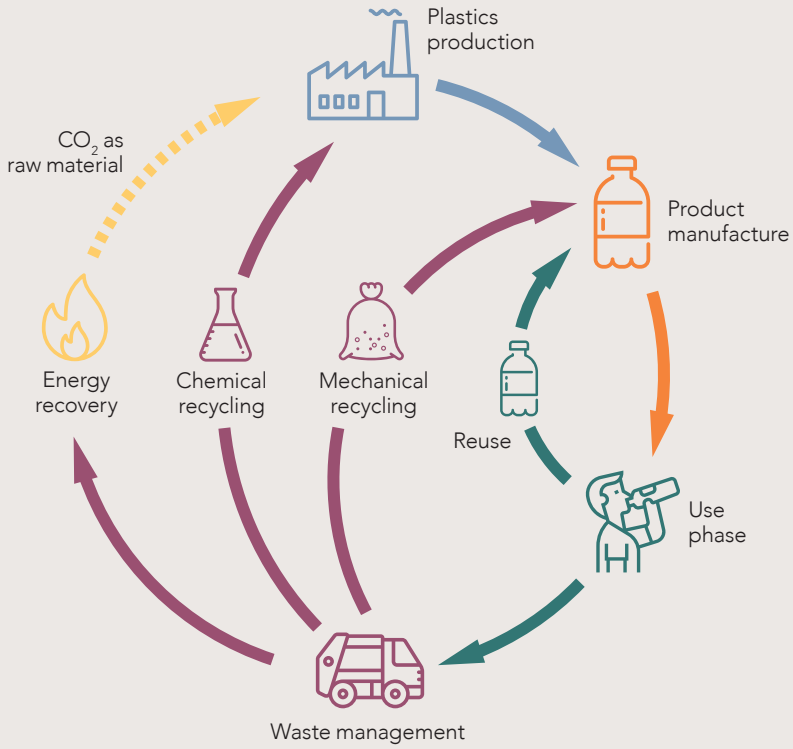
Driving forward climate protection

- Plastics have enormous potential for climate protection in their use in many different fields. In buildings, for example, they reduce heating energy when used as insulating materials, and in wind turbines they are part of the energy transition as lightweight and high-performance materials.

Close cycles

- After their use, plastic products can conserve resources and protect the climate by increasingly being "run in cycles". Alongside reuse, the most common way to do this is recycling: classic mechanical recycling and, complementing this, chemical recycling, which can still be further developed and expanded at the present stage. While in the former, plastic waste is processed mechanically-physically into granules (also: recyclates) for new products, the latter can break down plastics into their chemical components to also manufacture new products from them. Chemical processes are still in their infancy as regards their large-scale use, however, they have the potential to complement mechanical recycling where it reaches its limits.

ONE SOLUTION TO MANY PROBLEMS: RUNNING PLASTICS IN CYCLES



Expand the raw material base

- So far, plastics are obtained mainly from fossil raw materials. Not only the use of recycled materials contributes to the conservation of resources and climate protection, the production from renewable and alternative resources does so, too. As an alternative, the industry is currently testing the greenhouse gas CO_2. First tests for applications in mattresses and sneakers are promising. No matter which raw materials are used: All potential negative effects on the environment must always be taken into account.

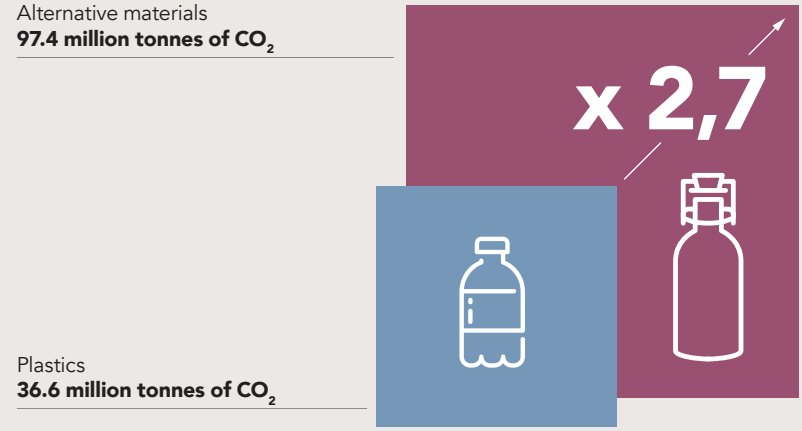
All this shows that merely examining the pure recyclability of plastic products is not enough to weigh up their great potential for protecting resources and the climate. The decisive factor is the contribution they make throughout all phases of their life cycle. At the same time, the recyclability of poorly recyclable plastic waste must be improved. The industry is working on this.

Recovery of plastic waste

More recycling, less incineration

In Germany, slightly more than half of all plastic waste goes into energy recovery. The industry is working on using the resulting CO_2 as a raw material for production. However, since the processes are still at the beginning of their development, plastics manufacturers are cooperating with further sectors to expand recycling also in other ways.

PLASTIC PACKAGING PROTECTS THE CLIMATE
CO_2 emissions per year over the entire life cycle



Source: Denkstatt study mandated by PlasticsEurope, 2011

If plastic packaging such as foils or yoghurt cups were substituted by alternatives such as glass or metal, CO_2 emissions in Europe would increase by a factor of 2.7.

Design of recyclable products

- Anyone who wants to further optimise classic mechanical recycling relies on improved product design and modern sorting technology. The main challenge is to make products both functional and sustainable. In addition to recyclability, this also includes the lowest possible input of materials while providing full functionality – after all, saving materials from the onset reduces waste at a later stage. Finally, the cooperation of all actors in the value chain is crucial. Therefore, plastics manufacturers are participating in the "Eco Design Round Table" for plastic packaging. In 2019, comprehensive guidance was published in order to achieve as much protection as possible with as little packaging as feasible – while taking recyclability into account.

Promote chemical recycling

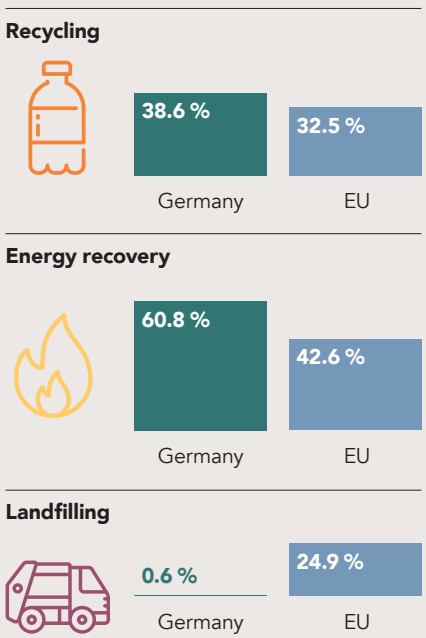
- Despite all its possibilities for optimisation, mechanical recycling has its limits. For example, plastic waste cannot be mechanically recycled infinitely often. Also, more heavily soiled or mixed plastic waste is a challenge for the process. Therefore, incineration for energy recovery is indispensable, at least as a temporary solution. For the future, there is great potential in the chemical recycling of poorly recyclable plastic waste which is broken down into its basic components. These are then available for the manufacture of products in virgin material quality. Therefore, plastics manufacturers and the chemical industry are working to further develop chemical recycling, with a view to making it suitable for large-scale application and technologically and ecologically marketable.

To promote the circular management of plastics, the chemical industry and plastics manufacturers recommend the following:

- **Strengthen innovation**
  On their way to a circular economy, companies depend on scope for own initiative and encouragement of investment.

- **Open mind for new technologies**
  Chemical recycling, as a complementary option to mechanical processes, should be recognised by law as recycling and thus as a contribution to meeting all relevant recycling targets.

WHAT HAPPENS WITH OUR PLASTIC WASTE?



Source: Conversio, data for Germany 2019, data for EU 2018; percentages refer to disposal routes for end consumer waste

Plastics in focus

Against plastics in the environment

The fight against plastic waste in the environment and the pursuit of a circular economy are on the political agenda. The advantages of plastics for the conservation of resources and the climate should always be taken into account.

To ensure that plastics no longer end up in the environment, the disposal of waste must be optimised through more and better collection and recovery systems – and this has to be done worldwide. Particularly from regions with a need to catch up in waste disposal, littered waste still reaches the oceans all too often.

Global commitment
The chemical and plastics industries support projects to build a basic infrastructure, inter alia, within the global "Alliance to End Plastic Waste". Consumers have a decisive role in disposal, too. For this reason, the industry does information work on the correct disposal of waste.

Politicians are also working on international solutions. Plastics manufacturers support the German government in forums such as G7 and G20. One success is the Basel convention on the control of waste exports signed by 187 countries. The convention calls for a global market for plastic waste recovery only among countries with corresponding capacities. It is also crucial to control exports more effectively in the future.

EU circular economy policy
With the "Green Deal", the European Union has presented a new action plan for the circular economy. In its implementation, the entire product life cycle should always be taken into account for a circular management style. Therefore, functioning markets for ecologically sound products are needed.

The chemical industry and plastics manufacturers recommend the following:

- **Strengthen the EU market for recyclates**
  The cooperation between market players in the "Circular Plastics Alliance" to expand the use of recycled materials in new products should continue. However, national targets are not a suitable measure.
- **Immediately end the landfilling of plastic waste throughout Europe**
  As in Germany, this would drive forward the recovery of all plastic waste.
- **Do not discriminate against plastics**
  Plastics are frequently the more sustainable alternative.
- **Use the "plastic levy" for the circular economy**
  When shaping the new EU own-resource, which provides for payments by Member States for non-recycled plastic packaging waste, an earmarked use for the circular economy should be ensured.

Regulate microplastics under REACH

The European Commission is planning a restriction of intentionally added microplastics. The European Chemicals Agency ECHA has submitted a proposal to this effect.

The chemical industry recommends adhering to the central requirements of the existing chemicals regulation REACH, for example, when identifying a substance to be restricted.

Europe-wide initiative

The "Circular Plastics Alliance" was launched by the European Commission. The aim is to use at least 10 million tonnes of recycled plastic in new products every year from 2025 (= +150 % compared to 2017). Over 175 European companies, associations and organisations are working on it.

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