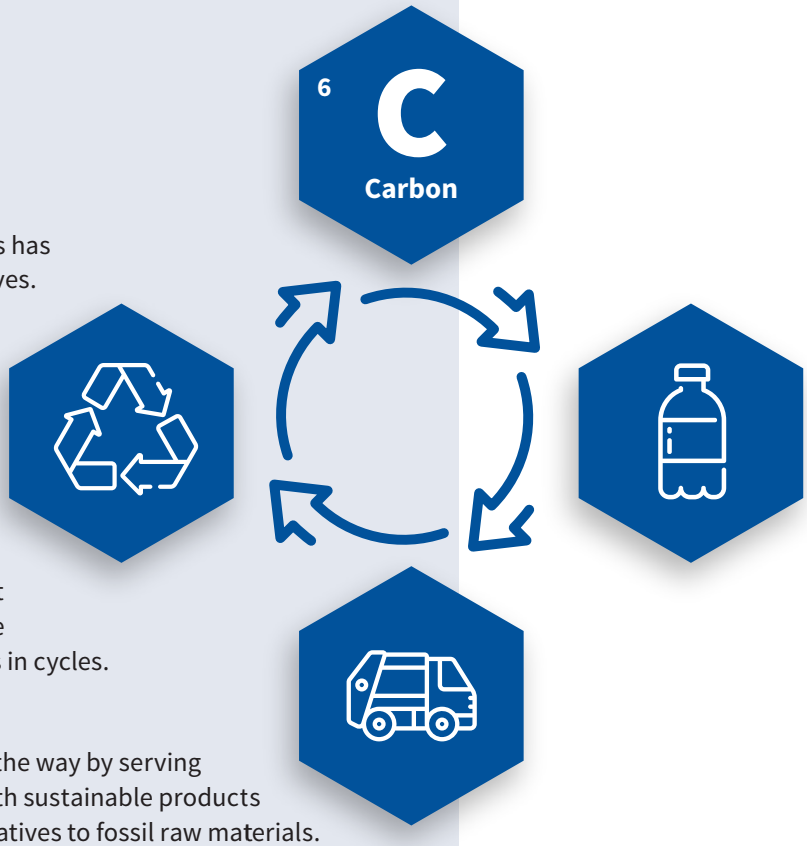
NOVEMBER 2021

Political briefing

Verband der Chemischen Industrie e.V.
Wir gestalten Zukunft.

Get the circular economy going



Our existing way of managing economic activities has made it possible for many people to live better lives. But growing prosperity comes at a price: Global resource consumption has more than tripled since 1970. High time to make a change.
An important part of the solution is to move towards a circular economy. This implies producing goods as resource-efficiently as possible, using products for a long time, repairing and reusing them. And when they become waste in the end, the raw materials must be recovered. This can be achieved through more recycling and other options for running materials in cycles.

We can and we want to bring about change
The chemical-pharmaceutical industry can lead the way by serving as a starting point for many other industries – with sustainable products and processes. It will be crucial to develop alternatives to fossil raw materials. Our vision: We want to run the basic ingredient “carbon” in a full cycle in different ways. As sources, we resort to plastic waste, renewable raw materials and even the greenhouse gas CO_2. Much is feasible for us already today while other possibilities remain to be developed. One thing is certain: We have many good ideas, and we want to put them into practice. And thus we also want to contribute to sustainable solutions for our customers.

Seizing a unique opportunity together
The transformation to a circular economy is a huge challenge. We will need to question behaviour patterns we have come to love and, for example, say goodbye to the throw-away mentality. Industry is being called upon to realign its business models and decouple production from fossil raw material use. That goes hand in hand with large investments. Policy-makers should develop framework conditions supporting the entire process – while keeping an eye on economic and competitive strength and the global framework. However, in all of this there is also a great opportunity for us: To achieve prosperity and well-being for as many people as possible within the planetary boundaries. And for our country to become a pioneer of the green technologies of the future.

Dr Markus Steilemann
Vice-President of the German Chemical Industry Association – VCI

Setting the right course for the economy of the future

The chemical-pharmaceutical industry is committed to the sustainable use of resources and wants to become greenhouse gas neutral. One key to this is the expansion of the circular economy, which is also part of the EU's Green Deal and the political agenda in Germany. Circular economy means more than simply running materials in cycles: All contributions to resource conservation count.

The chemical-pharmaceutical industry is working to change its production processes. The overriding goal is an efficient use of materials and energy.

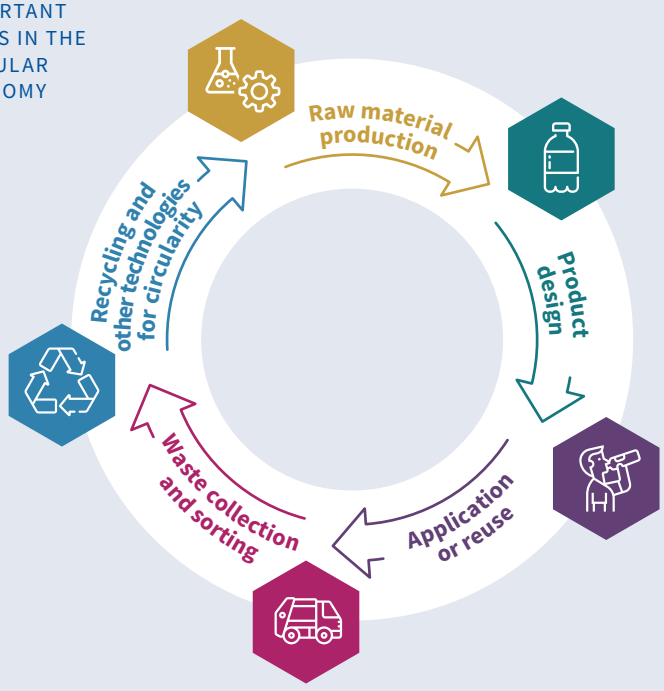
Products from the chemical industry also make contributions to the circular economy along the entire value chain: Their use enables lighter and more durable products, thereby preserving resources. After their use, many products can be returned to the beginning of the chemical value chain thanks to modern recycling processes.

Overall, a comprehensive circular economy is still at an early stage. For example, the current share of all resources run in cycles in total consumption is only around 12 percent on average in the EU. In Germany, this figure is only slightly higher.

Enormous potential

The future potential of the circular economy is beyond question, as it could help cut millions of tonnes of CO_2 per year. For the EU, a study by the European Commission assumes an increase in GDP of 0.5 percent by 2030 and 700,000 new jobs through the transformation of the economy. Furthermore, an acatech study shows that in Germany alone the amount of primary raw materials used could decrease by 68 percent by 2050, as compared to 2018.

IMPORTANT STEPS IN THE CIRCULAR ECONOMY



What can policymakers do?

The chemical-pharmaceutical industry needs good framework conditions to make its contribution to the circular economy.

- **Expand the raw materials base**
  All raw materials should be made usable and available. This includes secondary raw materials obtained from new recycling processes. To strengthen their use, all secondary raw materials should be recognised for compliance with the statutory recycling quotas.

- **Promote sustainable products**
  Requirements for the design of new products should be defined in such a way that both their benefits in use and their recyclability are considered.

- **Strengthen take-back systems**
  The industry has successfully established functioning take-back systems in agriculture and in the construction industry. These should be supported and must not be impaired by additional bureaucratic requirements.

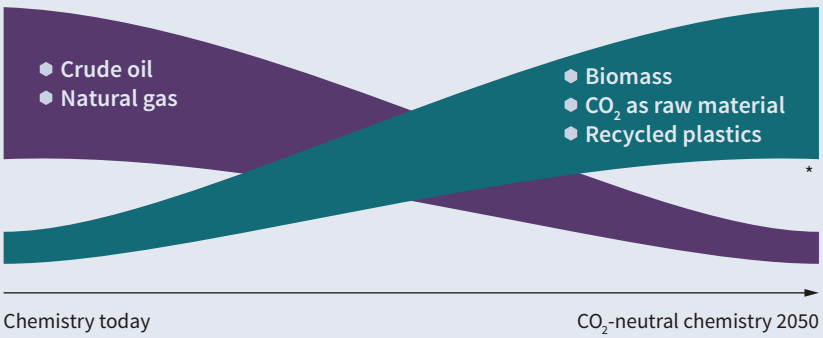
- **Modernise the waste infrastructure**
  Modern technology for waste collection and sorting is a basic prerequisite for circularity. Therefore, the waste infrastructure should be expanded and further developed throughout Europe.

- **Drive forward recycling**
  It takes innovations to push forward circularity. New technologies that supplement conventional, mechanical recycling should be promoted and supported in a technology-neutral manner.

More recycling and closing the loop

Waste prevention and product reuse are top priorities in the circular economy. But even a durable product that has been used several times eventually becomes waste. The task then is to recover raw materials from which new things can be created. Here, recycling and a circular approach are decisive.

THE RAW MATERIALS OF TOMORROW



* Prerequisites: Plastic waste and biomass are available in sufficient quantities. This also applies to the hydrogen required for CO_2 utilisation which, furthermore, must be produced with the help of renewable energy and be affordable.

The chemical industry holds a key to this: To succeed in moving away from new fossil raw materials, the industry is working to make the basic element "carbon" more and more circular, for example in plastics. These are mainly made of crude oil and are an important carbon source.

Many ways lead to the goal

More and more chemical companies are cooperating in mechanical recycling with partners in the value chain. For example, plastic waste is already being processed into raw materials for new products, such as beverage bottles.

Furthermore, the chemical industry is working on the further development of chemical recycling methods. The industry is pursuing various research projects in this field which are also funded by German federal ministries.

Chemical processes break down plastic waste into its basic components. This makes them suitable for running complex material compositions in cycles, for example in insulating materials in the construction industry.

Focus on resources

The primary goal of the circular economy is to run raw materials in cycles in the best possible way. However, mechanical recycling is limited when it comes to mixed and soiled plastic waste. So far, this waste has been used for energy generation. Especially for this waste, chemical recycling offers great potential and is, therefore, an important supplement to mechanical recycling. The combination of these methods ensures a high quality of the recyclates, which is indispensable for the widest possible further use. This is the only way to meet the high recycling targets of the EU. Moreover, chemical processes can be put into practice to recycle plastics that are not suitable for mechanical methods, such as flexible foams in mattresses.

Alongside recycling, the chemical industry is working on other technologies to run carbon in cycles. For example, renewable and alternative sources such as CO_2 are being developed as carbon resources.

What can policymakers do?

To drive forward the circular economy, the chemical-pharmaceutical industry needs political backing:

- **Strengthen new technologies**
  To expand the circular economy, innovative methods such as chemical recycling must be supported and promoted.
- **Enable investment**
  For reliable planning, chemical recycling must be recognized as a process which contributes to fulfilling all relevant statutory recycling targets.
- **Improve the waste infrastructure**
  Collection and sorting systems should be expanded and optimised throughout the EU to make waste more accessible for recycling and circularity.
- **Make an end of landfilling**
  For the circular economy, an EU-wide and uniform landfill ban for plastic waste must be enforced so that plastic waste can be used as a resource.

Chemistry4Climate
The circular economy contributes to climate protection and is thus a topic of the joint climate protection initiative Chemistry4Climate by VCI and the Association of German Engineers (VDI). Together with many other partners, they are elaborating recommendations for the path to climate neutrality by 2023 – supported by the Federal Environment Ministry.

Keeping a holistic perspective on products

With its Circular Economy Action Plan, the EU Commission is planning an initiative to strengthen the sustainability of products. The chemical-pharmaceutical industry takes actively part in the shaping of this initiative and points out some aspects that are not yet sufficiently considered.

Preserve product benefits

Recycling starts with the design of products by developing them in a way that they can be run well in cycles after use. Also, it is important to consider the contribution to sustainability that products make during their lifespan. This can be a contribution to climate protection, for example when plastic fibre-reinforced wind turbines generate renewable electricity. Equally important is the protective effect, for instance of the packaging of perishable food. This must not be forgotten in the upcoming revision of the EU Packaging Directive: In addition to the requirements for the performance of products, their recyclability should be considered too.

Recognise differences in ecodesign

The initiative for a sustainable product policy of the EU plans to extend the Ecodesign Directive to further products. However, its criteria cannot simply be transferred to other product groups. The Ecodesign Directive should only be adapted considering product-specific requirements and in cooperation with stakeholders from industry.

Protect confidential business information

Part of the EU's sustainable product policy is a proposal for a digital product passport. This should provide information on the sustainable handling of a product, for example on its reparability. However, it is essential to protect know-how such as the formulation from which a product is composed.

Regulate product safety through REACH

The EU's plans for sustainable products also focus on chemicals safety. This is already comprehensively governed at European level under the chemical's regulation REACH. Product safety should continue to be ensured through REACH, irrespective of whether products are made from new or recycled materials and how recyclates are produced.

Let quality decide

The use of recycled materials has an increasingly important role in the design of products. A basic rule applies: The quality of the recyclates must be right. In special cases, there are already quotas for the use of recycled materials, for example for PET beverage bottles within the framework of the new EU directive on single-use plastics which has just been implemented in German waste legislation. As a matter of principle, these targets should be harmonised as far as possible throughout Europe.

The quality and availability of recycled materials are crucial for their use. To ensure that both are right, the greatest possible support is needed: through voluntary agreements, cooperation in value chains, and projects as they already exist in packaging, agriculture and construction. Moreover, the chemical industry supports research and development, guidelines and standards as well as quality and testing rules for recycled materials and recycling processes.

The role of the incoming federal government

Whether the circular economy in Germany really makes progress will also be decided by the new coalition agreement. The topic has not yet been explicitly addressed in the exploratory paper of the potential "traffic light coalition" (SPD = red, FDP = yellow, Greens = green). This must be changed in the coalition negotiations, and the importance of promoting innovations – as an active stance and with an open mind to different technologies – for the circular economy should be highlighted. Words must be followed by action in the new legislative period.

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