

# SPECIAL:

## Circular Economy

[VEHICLE ENGINEERING] [MEDICAL TECHNOLOGY] [PACKAGING] [ELECTRICAL&ELECTRONICS] [CONSTRUCTION] [CONSUMER GOODS] [LEISURE&SPORTS] [OPTIC]

## “Unfortunately, the Only Globally Accepted Ideology Is Money”

*Alfred Stern, CEO of Borealis, Talks about the Circular Economy*

Recycled plastics had a difficult time last year, with demand for them falling sharply. As a result, environmental associations and recycling companies are calling on politicians to take measures to promote the circular economy as a result. They are not alone – plastics producers such as Borealis have also joined in. In this interview with **Kunststoffe**, Alfred Stern, CEO of Borealis, explains why he considers fixed recycling quotas to be necessary and why voluntary commitments do not work.

**A**s a result of the coronavirus crisis and the low price of oil, demand for recycled plastics slumped in 2020. Recycling companies and associated trade associations therefore urgently called on politicians to enact legislative measures to stimulate and stabilize demand. Alfred Stern, CEO of Borealis, also sees these developments as a threat to the circular economy. **Kunststoffe** spoke with him about the regulations that are necessary and the problems that still exist in plastics recycling.

**Kunststoffe:** *Over the past year, there has been a substantial drop in demand for recycled materials. This is not only due to the coronavirus. Do you see this as a once-off phenomenon or more as a long-term trend?*

**Alfred Stern:** Owing to the coronavirus crisis, many fresh food counters, for example, have been, and still are, closed. Sausages and cheeses were and still are only available in packaged form. There is therefore a growing perception that plastic packaging is not just waste, but that it also has a function, namely to keep food fresh and to aid compliance with hygiene rules. For this reason, demand for plastics has developed very well at our company. For me, this is a sign that we have to take the circular economy much more seriously. The pandemic has shown that the functional role played by plastics is not one that can be easily replaced. Hence the considerable increase in pressure to implement the circular economy and recycle larger quantities of plastics.

**Kunststoffe:** *Nevertheless, demand for recycled materials has decreased.*

**Stern:** Borealis is one of the largest plastics recyclers in Europe.

We carry out recycling at three plants, the profitability of which has indeed suffered greatly over the past year. This is because raw material costs for virgin material fell sharply during the crisis. On one hand, virgin material became cheaper to procure but, on the other, the price of collecting, sorting and cleaning remained the same. That is why recycled materials have become less competitive.

**Kunststoffe:** *Do you expect this to continue over the long term?*

**Stern:** That risk certainly exists. It depends on how raw material prices develop. In order to shoulder the massive investments that are necessary to get the circular economy rolling, we need to put a supportive legal and fiscal framework in place whose task is to create conditions that make it attractive for companies to invest in this area.

**Kunststoffe:** *Which measures are necessary?*

**Stern:** Three very simple things come to mind. First, we should not be exporting our plastics waste – the raw materials for the circular economy – out of Europe. Shipping waste to Asia is not helpful. We must put a stop to that. Second, recycling quotas are needed. And third, EPR systems (extended producer responsibility – editor’s note) should be designed in an eco-modulated way, such that recycled products cost less than those made entirely from virgin material.

**Kunststoffe:** *Various models of fixed recycling quotas are in discussion. These could apply, say, to products or to companies. In the latter case, every manufacturer would be given a specific quota to fill. Which model makes more sense?* »

**Stern:** The key lies in generating demand for recycled plastics. This demand has to emanate from the market and not from the manufacturers. Consequently, quotas should apply to products. If demand rises and there is insufficient production capacity to cover it, prices will rise. And companies will then automatically invest in greater capacity. If, on the other hand, the producers have to meet quotas, there is a risk that they will offer more of the corresponding goods but will be unable to sell them because there is no demand. That scenario does not constitute good use of market forces.

**Kunststoffe:** *So the main problem in plastics recycling is not enough demand and thus insufficient profitability?*

**Stern:** At present, the prices of recycled materials are to a certain extent linked to the prices of virgin materials. If virgin materials become cheaper, the prices of recycled materials must also decrease so that they can be sold. That is why it is so important to generate demand for recycled material – it will enable this link to be broken. Of course a number of progressive companies are already forcing the issue independently and are willing to pay higher prices for such materials. Some companies, for instance, have set themselves targets to have a certain percentage of recycled materials in their products. But the massive changes needed to transform the industry cannot be achieved by just a few pioneers on their own; broad-based support is called for. We need massive investment. And that will only happen if profitability is assured.

**Kunststoffe:** *So voluntary commitments on their own are not enough?*

**Stern:** In my opinion, there is no evidence anywhere in the world to show that environmental compatibility is increased by voluntary commitments. Neither as regards CO<sub>2</sub> emissions nor other issues. The decisive criterion is profitability. Unfortunately, the only globally accepted ideology we have is money.

**Kunststoffe:** *With its New Green Deal, the EU Commission has formulated measures and goals for a more sustain-*

*able economic policy in Europe. Are these measures and goals conducive to strengthening the circular economy?*

**Stern:** The Green Deal contains the right visions. It represents an opportunity not just for Europe, but for the whole world. But the specific steps taken next will be crucial. A good example is the planned plastic tax. It is important that consumers, industry and politics work together to apply it in such a way that it genuinely has a steering effect. It could have a strong impact, for example, if implemented via an eco-modulated EPR system. If this is done sensibly, the entire industry will jump on board to optimize the cost structure. However, it needs to be implemented carefully and must take all the consequences into account. We need to avoid creating a "tropical island" within global competition only to find that we are no longer competitive.

**Kunststoffe:** *Plastics converters also frequently criticize the quality of the recycled materials. Is that not a major problem, aside from profitability?*

**Stern:** It's true that there is huge variation in the quality of recycled materials on offer. However, it is already possible at the present moment to provide guarantees of quality. Standards of quality can be raised through innovations and technologies. But we mustn't lose sight of the bigger picture. At Borealis we are concerned with "designing for circularity", which starts off with "designing for reuse", i.e. applications that are used several times before being disposed of. In addition, the products must be designed for easy recycling. Mono-material solutions can be processed very easily, e.g. by mechanical recycling. This means that it is possible to achieve high quality with low energy consumption. Where waste cannot be recycled mechanically, the next step is to send it to chemical recycling. In this connection, we are collaborating, for example, with our principal owner, OMV. Chemical recycling yields synthetic oil which can be processed in full into new goods of the same quality. In addition, plastics from renewable raw materials such as food waste are also being used. We are already operating all these technologies commercially, albeit only in small quantities.

## Service

### Digital Version

➤ A PDF file of the article can be found at [www.kunststoffe-international.com/archive](http://www.kunststoffe-international.com/archive)

### German Version

➤ Read the German version of the article in our magazine *Kunststoffe* or at [www.kunststoffe.de](http://www.kunststoffe.de)



# Don't Miss Anything!

[www.kunststoffe-international.com/newsletter](http://www.kunststoffe-international.com/newsletter)

HANSER

**Kunststoffe**  
international

**Kunststoffe:** So the desired standard of quality of recycled materials could be achieved if all processes were fully utilized?

**Stern:** Yes. However, the problem at present lies in obtaining sufficiently large quantities in consistent quality. So, I am appealing once again for framework conditions to be created that offer incentives for investment. This is the only way to achieve the necessary quantities.

**Kunststoffe:** You have just opened a new recycling plant in Lahnstein, Germany. What is that about?

**Stern:** We believe the demonstration plant there to be the last word in mechanical recycling plants. We want to use it to show what can be achieved when modern technology and machinery are deployed in a state-of-the-art mechanical recycling plant. This is a joint collaboration between us and the companies Tomra and Zimmermann Recycling, with each partner

“  
Nowhere in the world is environmental compatibility increased through voluntary commitments.”

Alfred Stern

contributing its know-how. We at Borealis are looking after the commercial side, we know the customers and are familiar with product development and applications. Tomra is known for its collection and sorting technologies, Zimmermann has many years of experience in waste management, including the sorting and recycling of plastics. The plant produces high and low density polyethylene and polypropylene. The materials produced differ from recycled materials currently available on the market in terms of their purity, low odor, high product quality and bright colors. We hope this approach will open up other markets and applications, e.g. in the automotive sector or in caps & closures.

**Kunststoffe:** What type of waste are you processing there?

**Stern:** Both rigid and flexible post-consumer. I don't mean sorted and pre-sorted waste, but rather classic post-consumer household waste.

**Kunststoffe:** What quantities are being processed?

**Stern:** It is a demonstration plant. The quantities are large enough for us to conduct qualification tests with customers to show which applications the technology lends itself to.

**Kunststoffe:** Are you planning to expand the site into a commercial plant with your partners at a future date?

**Stern:** We did not build the plant without having a vision for the future. But first we are looking at how well it performs and gaug-



## About the Interviewee

**Alfred Stern** has been CEO of Borealis since July 2018 and a board member at the plastics producer since 2012. Prior to his appointment as CEO, he was responsible for the Polyolefins and Innovation & Technology divisions. Stern has been working for Borealis since 2008. Before that, he held various management positions at DuPont, including Research and Development, Sales and Marketing, and Quality and Business Management. He studied Polymer Engineering and Science at the University of Leoben, Austria, and holds a PhD in Material Science.

ing the extent of interest. The point of the demonstration plant is to improve the technology and to gain experience for future large-scale operation. ■

*The interview was conducted by Florian Streifinger and Susanne Schröder, Editors.*