

WHITEPAPER

SCHÜTZ GREEN LAYER

Guideline for an eco-friendly packaging cycle



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SCHÜTZ
PACKAGING SYSTEMS

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Editorial

A society committed to climate-friendly products from carbon-neutral production: the European Union has reinforced this goal with the Second Action Plan for the Circular Economy. Packaging made of plastic is enormously important, as it is often lighter and the production process requires less energy than other materials. Overall though, it is crucial that manufacturers, customers and consumers further reduce their consumption of primary raw materials. In the packaging sector, embracing the guiding principle of the circular economy can help the industry to achieve this aim.

In this White Paper, we provide an overview of what a closed packaging cycle could look like, and we explain why a comprehensive approach helps to sustainably reduce the carbon footprint.

If you have any further questions that are not addressed in this paper, please do not hesitate to get in touch: we look forward to hearing from you. We hope you enjoy reading this paper and find it informative.

The changing face of packaging

In order to achieve resource-efficient economic growth, it has become increasingly important that packaging is made with recycled plastic. The future conditions for this have been clearly defined by the European Union in the Second Action Plan for the Circular Economy.

Now more than ever, packaging manufacturers must reduce the greenhouse gas footprint of their products and step up their recycling efforts. The European Union, for example, proposed forward-looking targets and requirements for reuse and recycling in its draft EU Packaging Regulation in November 2022. In addition, 10 million tons of recycled plastics are to be used in new products on the EU market in 2025. This corresponds to around 20% of the total amount processed in 2017.

Using recycled plastic is a key means of achieving these targets. Already, there is a marked rise in demand for packaging with a high content of recycled materials. However, in order to ensure the broadest and most cost-efficient supply of eco-friendly packaging, it is crucial that all parties involved in the cycle collaborate. Only if emptied packaging is returned to the cycle by the user will there be sufficient recyclable quantities available to produce new recycled packaging. On the following pages we describe the features and benefits of a closed packaging cycle.

Best practice: A sustainable packaging cycle

Now, more than ever, it is important that we use the world's finite resources more responsibly. It is essential for all members of the supply chain to keep the carbon footprint of industrial packaging as small as possible. A sustainable packaging cycle should be built on four basic pillars:

1.	Efficient use of resources
2.	Easy and fast collection
3.	Reconditioning & reuse
4.	Material recycling & use of recycle

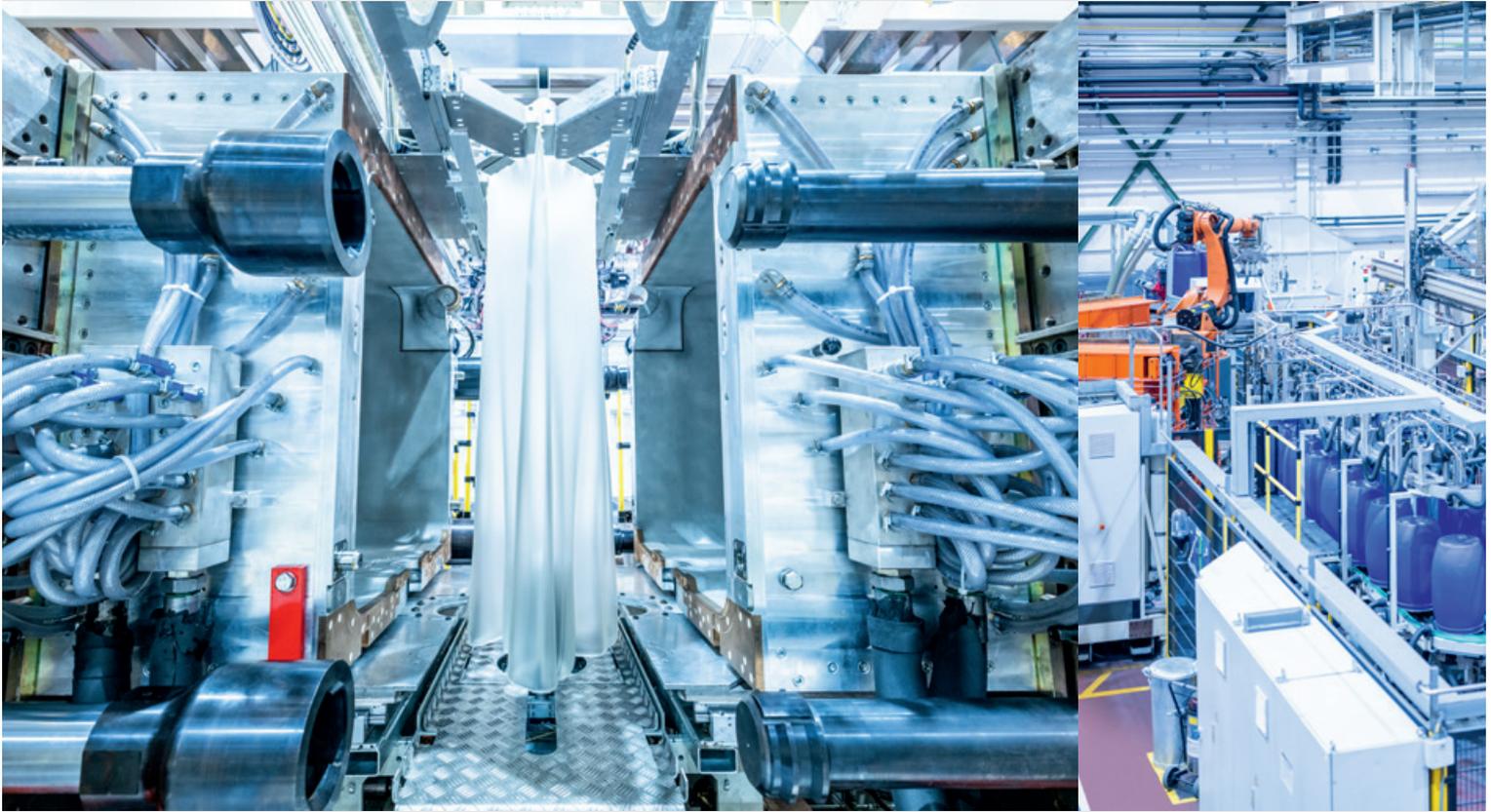
SCHÜTZ pursues a comprehensive concept for Green Lifecycle Management based on these fundamental pillars. The aim is to protect the environment and natural resources while at the same time offering packaging users maximum safety and economic efficiency. This includes intelligent product design, advanced production processes, durable product quality and closed material cycles.

THE PILLARS OF A CLOSED PACKAGING CYCLE AT A GLANCE:

Efficient use of resources:

Every gram less packaging weight reduces emissions and conserves natural resources. Packaging users not only save material, but also benefit indirectly by savings in handling and transport along the supply chain. It follows that in terms of the ecological footprint, it is worth continuously striving to minimise the weight of industrial packaging.

EXAMPLE



At its worldwide locations, SCHÜTZ invests in state-of-the-art equipment that is developed, designed and manufactured in-house. The comprehensive technological know-how enables the company to continuously improve the efficiency of its resource use. To achieve this, the company uses advanced equipment, uniform quality and standardised products worldwide. One example is the ECOBULK programme. Further developments of the steel grid and inner bottle have allowed SCHÜTZ to lower the weight of the IBC in only a few years and at the same time improve the performance of the container. By significantly reducing raw materials, SCHÜTZ protects the environment through a direct CO₂ saving of 120,000 tons per year. The company has also been able to significantly reduce the weight of plastic drums while also noticeably improving their performance.

Global collection

When establishing a closed packaging cycle, it is important to think beyond one's own factory gates and consider the entire life cycle of the packaging. Among other things, this includes raw material procurement, production, logistics and transport, as well as handling and disposal at the sites of the customer and the company returning the empty container. For an eco-friendly packaging cycle in the industry to function effectively, it is crucial that the IBCs and drums are returned to the cycle after use. Returning emptied packaging is a cornerstone of the closed packaging cycle. To keep the CO₂ emissions generated during transport as low as possible, the best practice is to combine the delivery of new packaging with the collection of used packaging and so avoid empty trips. Eco-friendly reconditioning requires a broad network of service locations.

EXAMPLE



SCHÜTZ currently operates 59 production and reconditioning sites, meaning that the company is always close to the locations where its IBCs and drums are used around the world. CO₂ emissions are minimised thanks to short distances and software-supported route optimisation during transport. The SCHÜTZ TICKET SERVICE is available for users wishing to return empty containers, and even very small quantities or IBCs made by compatible third-party brands can be collected.

Reconditioning & Reuse

The reconditioning of emptied packaging is a cornerstone of the closed material cycle. To enable the packaging to be reused safely, it is important that the reconditioning process complies with the highest environmental and safety standards.

EXAMPLE



SCHÜTZ ECOBULK

100
kilograms
CO₂ saved
per cycle



SCHÜTZ RECOBULK

In a complex reconditioning process, SCHÜTZ cleans and repairs the steel grid and pallet of the IBC for reuse. By reusing these components alone, users save approximately 100 kg of CO₂ per cycle compared to a new IBC. All container components that have come into contact with the filling contents are completely replaced during reconditioning by SCHÜTZ and its RECOBULK partners.

Material Recycling & Recyclate Use

Not only steel grids and pallets can be reused, but also the material of the plastic packaging processed during reconditioning. Recycling closes the material cycle: the recyclate obtained in this process can be used again for plastic packaging components and other products.

EXAMPLE

SCHÜTZ recycles the plastic packaging in a complex process. After shredding and cleaning in various mechanical pre-stages, the HDPE is reprocessed and regranulated in the company's own recycling centres. The packaging specialist uses the resulting recyclate to manufacture, among other things, corner guards and pallet components for IBCs.



Case study: Taking resource saving a step further

In order to increase the proportion of recyclate in packaging, SCHÜTZ has refined the material recycling processes to a degree that even heavily contaminated material can be reprocessed with the aid of special degassing extruders. SCHÜTZ is able to recover HDPE in different grades, with low odour and a uniform colour, depending on the future application. The recyclate is reused to produce our plastic packaging. The result of this development are the IBCs, plastic drums and jerrycans in our new GREEN LAYER IBC product line.

Using recyclate to make new plastic packaging

SCHÜTZ is the only manufacturer in Europe to use a modern 3-layer extrusion blow moulding process at all sites. This means that 30% high-quality, natural-coloured recycled material can be used to produce IBC inner bottles, drums and jerrycans. What makes this process special is that the environment and the filling product still only come into direct contact with virgin material. The recyclate is used exclusively to make the middle layer of the three-layer plastic packaging. SCHÜTZ uses virgin HDPE to manufacture the inner and outer layers. Users benefit not only by saving on new plastic, but can also reduce their CO₂ footprint.



About SCHÜTZ GREEN LAYER



The GREEN LAYER series is the latest development stage in the SCHÜTZ Green Lifecycle Management. For the first time, SCHÜTZ is using high-quality recycled material to make the inner bottles and drum bodies. This increases the recycled content of the plastic up to 68%, enabling CO₂ savings of a further 6.8 kg for IBCs with full plastic pallets. Similarly, CO₂ emissions from SCHÜTZ plastic drums can be reduced by up to 3.8 kg, depending on the drum size. Thanks to their optional UN approval, the new GREEN LAYER products are ideally suited as eco-friendly packaging for numerous applications, including the transport and storage of goods. Customers benefit from the product line's high content of recyclate, low operating weight and maximum safety.

Application examples

With an ecological packaging cycle, businesses can save large amounts of CO₂. In the following calculation example, we show you how far you can reduce emissions just by using one of our ECOBULK MX GREEN LAYER with a full plastic pallet:

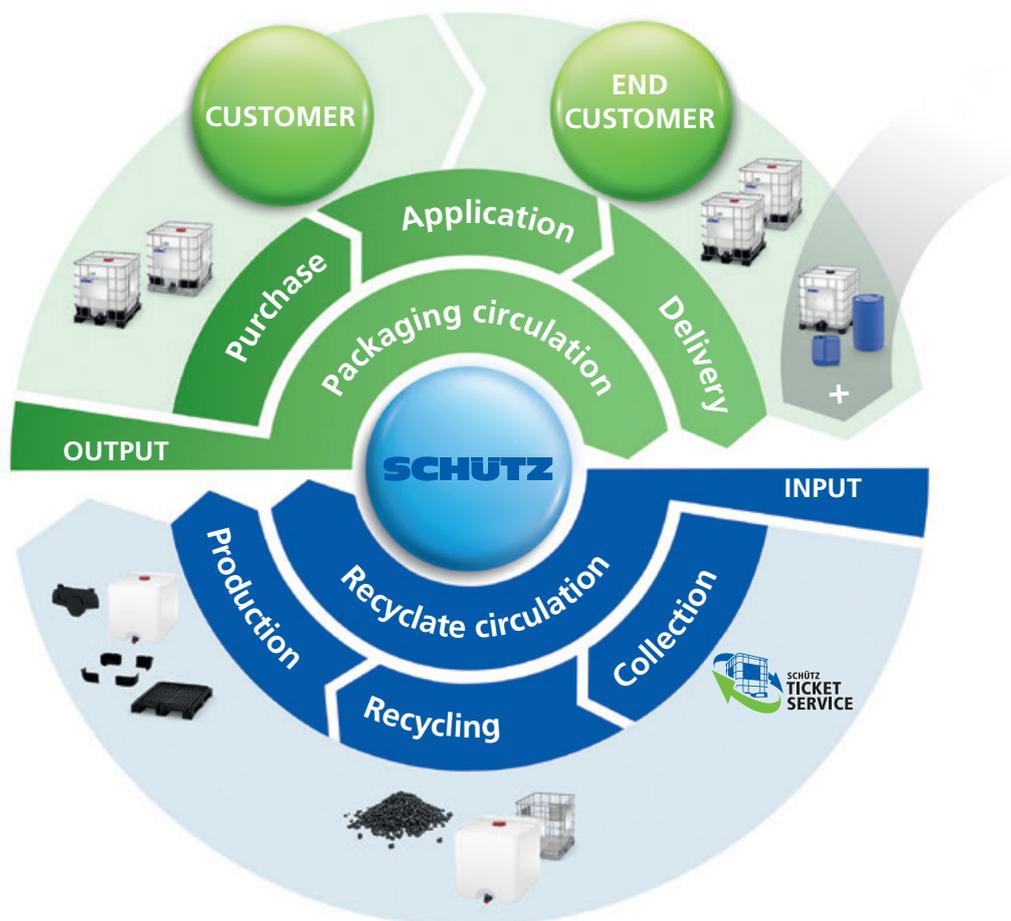
	84.7 kg CO ₂ by reusing the steel grid/pallet
+	29.1 kg CO ₂ by using corner guards and full plastic skid pallet made of recyclate
+	6.8 kg CO ₂ through GREEN LAYER
=	120.6 kg CO₂ total saving



The overall potential becomes clear if you multiply this saving by the amount of all packaging used. Exploiting this potential is a joint task for all members of the supply chain. It is crucial that as much packaging as possible is returned to the packaging cycle after it has been emptied, as this is necessary to obtain sufficient quantities of recyclate to meet the rising demand for sustainable, economical plastic packaging.

Responsibility along the entire supply chain

All over the world, an increasing number of companies are switching to recycled materials in their packaging. At the same time, recycle is a scarce and precious resource. It is the joint responsibility of all parties involved along the chain to help maintain a secure supply. The active involvement of customers and those returning empty containers is crucial to ensuring that the supply of ecological packaging on the market is broad, consistent and cost-effective. Sufficient quantities of recycle only become available if packaging is returned to the recycling system after emptying. To ensure the optimum availability of eco-friendly packaging for customers, it is crucial to maximise the number of empty containers returned.



About SCHÜTZ

Schütz GmbH & Co. KGaA is one of the leading manufacturers of high quality transport packaging (intermediate bulk containers, plastic and steel drums, and jerrycans), headquartered in Selters, Germany. Established in 1958, SCHÜTZ today has over 58 production and service locations worldwide with currently more than 7,000 employees. With its four business areas ENERGY SYSTEMS, PACKAGING SYSTEMS, INDUSTRIAL SERVICES and COMPOSITES, SCHÜTZ holds various top positions in the respective markets. The total turnover in 2022 was more than 3 billion euros. The company offers its customers complete system solutions – individually tailored to the relevant supply chain. As part of a closed loop system, the SCHÜTZ TICKET SERVICE takes over the quick collection and reconditioning of empty IBCs in all important industrial nations of the world, in line with the sustainability philosophy of the group of companies.

Contact



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**Our competent team is available to answer
all your questions. We will be happy to help you.
Simply get in touch!**