

Sustainability Report 2021



We live sustainability

How this report works

Plastics are an indispensable part of our daily lives. Breathable films protect sensitive baby skin, agricultural films increase crop yields and plastic packaging protects food from damage or spoiling. In addition, comparatively little climate-damaging CO₂ is emitted during the production and further processing of films.

Strengthening the circular economy is therefore the most important lever for giving plastics a sustainable perspective: by using this valuable raw material as efficiently as possible and by consistently expanding plastics recycling.

We are committed to the UN sustainability goals

Our sustainability strategy is based on 17 fields of action defined by the United Nations, the Sustainable Development Goals (SDGs). In addition, we have set Strategic Sustainability Goals that make our commitment transparent and our contribution measurable.

In this sustainability report you will find information on

- RKW as a company,
- Products and application examples,
- Sustainability highlights 2021,
- and our Strategic Sustainability Goals until 2025.

You can learn more about what we have implemented in the overview of the 17 UN Sustainable Development Goals below. Our focus is on SDGs 9 (Industry, Innovation and Infrastructure) and 12 (Sustainable Consumption and Production). In total, our initiatives contribute to eleven Sustainable Development Goals.

A Sustainability Report is always a snapshot. Our commitment to ecological, economic and social responsibility goes far beyond this – every single day and in all areas of the company: We live sustainability!

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Our Company. Our Mission.

Company Profile



Our Mission

With sustainable film solutions, we enable our customers to improve the daily life of consumers all over the world.

The RKW Group is an independent private company based in Mannheim, Germany, and one of the world's foremost manufacturers of excellent film solutions for a range of industries and various fields of application, including in the agricultural industry, the hygiene sector, and the packaging industry.

Our expertise in the research, development, and production of polyolefin films has been continually consolidated and expanded over 60 years of experience, and we share this knowledge with our customers and business partners in the form of innovative and customized product solutions and services. With more than 3,000 employees across 19 locations in Germany, France, Belgium, Sweden, Finland, the USA, Egypt, Vietnam, and China, we operate all over the world.

What We Stand For

Respect and reliability are a key part of our company philosophy. To us, respect stands for mutual appreciation and openness – both internally and externally. We strive to earn the respect of our customers and stakeholders every single day. Respect is not just an important factor in achieving success; it also guides and governs us as a privately owned company. Reliability means that we keep our promises to our customers – they can count on the reliable delivery, quality, and functionality of our products and services.

And that is not all. The RKW company slogan "When excellence matters" emphasizes our aspiration to consistently provide our customers with excellent products and services and to set standards in terms of quality and service – with a clear focus on creating added value for our customers, business partners, and employees.

Where to find us – 19 sites worldwide



Our Sustainability Targets

- Increase the use of recycled, renewable, and biodegradable materials from 7.6 percent in 2017 to 15 percent by the end of 2025.
- Reduce Scope 1 and 2 greenhouse gas emissions in accordance with the Greenhouse Gas Protocol by 50 percent by 2025, based on 2017 levels.

Company Figures



> 3.000 employees worldwide



19 sites worldwide



65 years of experience



In private ownership

Management

Committed to Sustainability – the Executive Management Board



“Sustainability means reconciling economic success, environmental protection and social responsibility. As the RKW Group, we have always been committed to this principle – resource efficiency and environmental protection are deeply anchored in our strategy, corporate culture and daily actions. But we are not content to stop there: As a leading international manufacturer of innovative film solutions, we make our commitment to sustainability measurable and tangible. We learn every day, lead by example and thus contribute to a sustainable perspective for the entire industry.”

Peter Baumgartner, Chief Executive Officer



“Globalization, digitization, climate change – our society is currently undergoing a profound upheaval spanning many levels. Today, we are aware of the importance of environmental protection, the finite nature of natural resources and – more importantly – our responsibility for future generations. As the RKW Group, we have therefore committed ourselves to actively shaping the change towards a circular economy for plastics. This goes hand in hand with the transformation of our company into a leading global manufacturer of innovative film solutions.”

Marco Goetz, Chief Transformation Officer



“Our customers are at the centre of RKW’s commitment to sustainability. We support them in converting their product portfolio to sustainable solutions and thus achieving their own sustainability goals. This is the basis on which we align our corporate actions and thus strengthen our role as a strategic partner and global innovation leader for sustainable film solutions.”

Andreas Koppitz, Chief Commercial Officer

Management

Committed to Sustainability – the Executive Management Board



“Building a circular economy for the plastics industry begins on the shopfloor. By using raw materials in a resource-saving manner, by continuously pushing our recycling efforts and employing energy as efficiently as possible, we aim at making our production as sustainable as possible. All our activities, processes, operating resources, products and services are regularly checked for their environmental compatibility. By reducing unavoidable emissions and waste to a minimum, we actively contribute to a sustainable future for generations to come.”

Axel Löbel, Chief Operations Officer



“Sustainability is a key driver for the success of our business, for the evaluation of business opportunities, their monetization and implementation. Finance plays a crucial role in integrating sustainability aspects into our financial models and business cases – for example, in the areas of renewable energies, recycled raw materials and climate protection. In addition, many of our key stakeholders also pay attention to sustainability aspects when it comes to our long-term financing strategy. RKW is well prepared to meet these requirements through sustainability-related financing instruments.”

Knud Müller, Chief Financial Officer

Products for Your Applications

RKW produces films, nonwovens, and nets for various applications and sectors. They include hygiene and agricultural films, films for the beverage industry, and packaging for powdery goods, films and nonwovens for medical applications, the chemical and processing industry as well as for the construction sector. They can be used in all products for everyday life – from robust cement bags to super-thin diapers.

The high quality and reliability of RKW products are the result of decades of experience and technical expertise in blown-film extrusion. And our customers are even more important – knowing the challenges they face, understanding what they need to successfully create and sell their products, and incorporating the corresponding requirements into our products – this is all part of our daily business and our overriding principle.

Within the framework of the RKW sustainability targets, we are also committed to continually reducing the ecological footprint of our products and production processes – by downgauging, recycling, and reusing recycled materials, among other measures.

RKW is a market leader in Europe and a driver of innovation in backsheets and round bale nets.

Products for Your Applications



Hygiene products

- Standard, breathable and elastic films (printed and unprinted), laminates (films and nonwovens), elastic and non-elastic components for :
 - Baby care (diapers)
 - Feminine hygiene
 - Adult incontinence
- (Perforated) films and laminates for medical applications and wound care (e.g. plasters, bandages)



Products for packaging and industrial applications

- Industrial packaging: bags (FFS, ProVent®), shrink and stretch hoods
- Household: trash bags, carrier bags, household bags
- Multipacks: printed and unprinted multi shrink films/multipacks
- Consumer packaging: films for laminated reel products, FPO, liners, base foils, composites
- MDO-PE films: Films for laminated roll stock, FPO, liners, soil films, compounds
- Technical films and nonwovens: surface protection films, Aptra® films, label films nonwovens



Products for agriculture

- Silage films
- Silage bags and grain backs
- Round bale nets
- Round bale films
- Pallet nets
- Greenhouse films
- Early harvest films
- Mulch films
- Disinfection films
- Plant/crop coverings made from Crop cover

We all play a part

2021 Sustainability Highlights



100% Renewable Energy
in our western european factories

Since 2020, our German sites have been using only electricity from renewable sources. With the successive conversion of further European sites, we are continuing unwaveringly along this path toward greater sustainability: from 2021, the sites in France, Belgium and Sweden were added. In terms of the electricity consumption of the entire Group, this results in around 60 percent lower CO₂ emissions.



Environmental Initiatives
at all our sites

As part of the RKW Sustainability Campaign in the summer 2021, we reported extensively on our strategic direction, sustainable product solutions, specialist articles, and joint projects with diverse organizations related to the issue of sustainability. Many RKW sites all over the world accompanied the campaign with local environmental protection initiatives.



Investments
in innovative technologies

For years, RKW has regularly invested in efficient and Innovative Technologies in order to reduce energy and resource consumption at its production sites as well as to support the expansion of the circular economy for plastics. For example, the green light has been given for important investments in the double-digit millions for 2021 – for equipment to produce fully recyclable mono-PE packaging films.

We're looking forward

Sustainability Targets for 2025 and Beyond



More Recycling

Increase the use of recycled, renewable, and biodegradable materials from 7.6% in 2017 to 15% by the end of 2025.



Fewer greenhouse gas emissions

Reduce Scope 1 and 2 greenhouse gas emissions in accordance with the Greenhouse Gas Protocol by 50% by 2025, based on 2017 levels.



Continuously improvement

Continuously further develop our sustainability strategy for 2030 – and beyond.

SDG 2 – Zero Hunger



“Innovative film solutions increase productivity and quality in the agriculture and horticulture industries, from sowing through harvesting, storing, and consuming the crops, thus ensuring we make a valuable contribution to sustainability and to combating global hunger.”

Johannes Bode, Head of Marketing & Product Management Agriculture

The Challenge

Almost 800 million people worldwide still suffer from malnutrition or undernutrition. Protecting food from spoilage – during transport, for example – but also increasing agricultural productivity are important levers in the fight against hunger.

The goal of SDG 2 is to ensure that food is produced sustainably and distributed equitably – everywhere in the world.

Our Contribution

... Packaging Solutions

RKW Horizon® – fully recyclable film for flexible packaging

Comprehensive protection for food through flexible packaging means that the goods in transit are protected, but also that the nutritional values of the products during transport and the shelf life are preserved. RKW Horizon® not only provides all barrier properties required for food packaging, but thanks to its easily and fully recyclable monomaterial PE film, it also offers unique sustainability characteristics.

According to the United Nations, roughly one third of the food produced worldwide for human consumption – about 1.3 billion metric tons – is lost or wasted each year. In developing countries, 40 percent of losses occur at post-harvest and processing stages, while in industrialized countries, more than 40 percent of losses happen at retail and consumer stages. Flexible and sustainable food packaging can help to reduce this food waste.



As a result of our commitment and progressive environmental practices, RKW has achieved ISCC+ certification for its Petersaurach site. For example, we participate in the circular economy for plastics and use recycled content in our products. One such innovative product is RKW Horizon®, with which we offer food processors the opportunity to serve their customers with sustainable and reliable quality packaging – for example in various packaging forms for nuts, dried fruit, coffee, and much more.



Multipack Shrink Films

Plastics are not waste, but a valuable resource that we are committed to using sustainably. This is particularly true of multipack shrink films. We firmly believe that disposable films will remain viable in the future only if they are sustainable – that is, fully and easily recyclable whilst also being made from recycled plastics. Our multipack solutions therefore consist of up to 100 percent recycled material.

... in the Agricultural, Farming, and Horticulture Industries

Innovative Solutions for the Agricultural and Horticulture Industries Maximize Yields and Minimize Loss of Earnings

RKW's range of films for the agriculture and horticulture sectors is available throughout the world and designed to suit the requirements of different climates. They protect plants from severe weather conditions, such as snow, frost, wind, and rain, as well as fluctuating temperatures. They thereby increase crop yields and minimize loss of earnings.

The range, comprising soil disinfestation films, crop forcing films, early harvesting films, nonwovens and greenhouse films, is designed to give stable yields from planting to harvesting, providing high added value, consistent crop quality, and guaranteed incomes.

Greenhouse Films



Polydress® LP Keder

For optimum growth, vegetables and plants require intensive maintenance and a perfectly tailored environment. With its production technologies, such as e7 (7-layer films), RKW's greenhouse film division has developed solutions for the improved monitoring of resource consumption and optimally designed individual layers. The films guarantee a maximum crop yield throughout the entire year. Their characteristics include the highest possible tear and puncture resistance, long-lasting UV stabilization, and advances in light management, temperature control, anti-drip protection, and film thickness.



air-bubble greenhouse film

RKW's portfolio also includes bee-friendly films that enable in-greenhouse pollination. These properties are the main factors in guaranteed high-quality yields. Other significant benefits include heating and energy savings, targeted crop irrigation, and an associated reduction in evaporation. Our wide range of outstanding products includes Grafeo® and Polydress® LP-Keder/SolaWrap air bubble greenhouse films.

Early Harvest Films and Nonwovens



RKW HyJet® Nonwoven

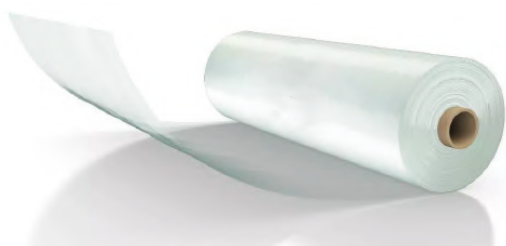
Early harvest films and nonwovens also provide maximum protection to planted crops and increase yields. Within our extensive range of products, RKW HyJet® crop cover deserves special mention. Its superb elongation and stretch properties make it easier to lay over the crops, which also saves time and labor. While conventional products have fixed thermal points that easily break with the slightest damage, the loop structure of RKW HyJet® prevents further ripping and keeps crops protected from wind and pest damage.



nonwoven crop covering

The effective distribution of water and high light and air permeability offer additional advantages: the crop cover has a positive impact on yields, remains in place even during strong winds, and minimizes wind damage and also potential heat accumulation. Field trials demonstrate that RKW HyJet® can be reused several times, thus reducing replacement and disposal costs as well as protecting the environment.

Soil Disinfestation Films



e7 Hytibarrier TIF

Biological soil disinfestation is an environmentally friendly method of removing soil-borne fungi or nematodes. e7 Hytibarrier TIF barrier film enables a significant reduction in contamination to barely detectable levels.



barrier films

It also reduces the number of *Pratylenchus penetrans* nematodes even at the end of the growing season, resulting in higher and better quality yields.

Agricultural Films and Bags



Polydress®Twista 2in1, Silofolie width integrated underlay film

To achieve excellent results in cattle and dairy farming, top-quality feed is essential – the better the silage, the better the livestock performance. With their unique barrier properties, RKW's agricultural films from its Performance+ category give farmers the edge in silage making, delivering long-lasting, high-quality silage that retains its nutritional value. Silage losses are minimized and storage periods can be extended. Other advantages include the lower material thickness and production using the latest process technologies. RKW develops its solutions based on the idea of helping to increase crop yields and conserve resources.



Hytibag® silage bags

Our silage bags also provide highly efficient possibilities for usage and storage and are suitable for standard grass and corn silage as well as for storing special crops, such as cereals and brewer's grain. They offer the same advantages as our agricultural films: maximum quality assurance for meat and dairy production, minimum storage loss, and the retention of high nutritional value.

Round Bale Nets and Films



Rondotex® Performance, round bale net

Recognizable by its distinctive red thread, Rondotex® can look back on over 35 years as one of the best-known brands for round bale nets and films worldwide. In the Performance and Performance+ categories, the product range includes nets with a high tearstrength.

Compared to other standard net wraps on the market, less net wrap is used per bale, thus cutting costs and reducing waste. The products also provide optimum edge coverage, uniform winding, UV stability, and excellent wide run characteristics.



Rondotex® silage bale net

These features minimize feed loss due to disintegration, ensure safe storage and transportation of bales, and facilitate easy processing and use of the stored material.

SDG 3 – Good Health and Well-Being



“Good health and well-being for everyone – not only an important goal of sustainable development, but also an integral part of our mission. Our products help to make life easier for consumers across the globe. Yet, our commitment is broader than this, as seen in our support for public bodies in the fight against the coronavirus pandemic and the wide range of health and fitness offerings we provide for our employees.”

Carsten Lucassen, Director Sustainability & Communications
RKW Group

The Challenge

Good health is essential for general well-being and combating poverty, and therefore plays a major role in our lives. Recent decades have seen a reduction in the global mortality rate and an increase in life expectancy. Vaccinations have played their part in improving global health. Despite this, every year more than 200 million people still contract malaria and 19 million children do not receive immunizations that would protect them against life-threatening infectious diseases.

However, diseases are not the only factor affecting the health of many people globally. Poor water, hygiene, and sanitation conditions also have a detrimental impact. Cooking fumes and emissions from exhaust fumes, industry, and waste incineration all contribute to air pollution and can cause diseases.

Our Contribution

RKW's innovative products for the hygiene sector and its ongoing improvements to raw materials processing make a valuable contribution to the well-being of people and the environment.

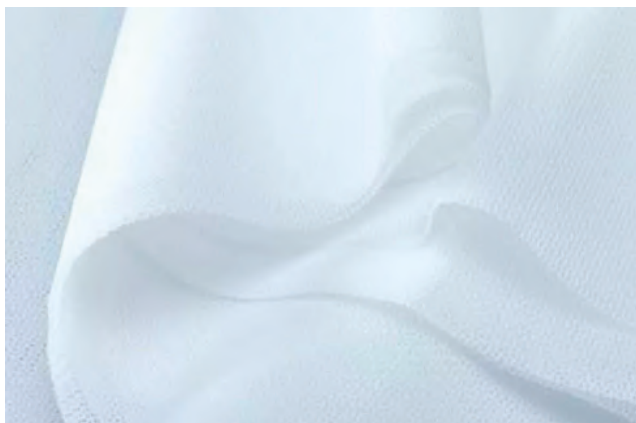
We have a wide range of sustainable products that have a positive direct or indirect impact on people's health and well-being.

Alongside diverse applications for the packaging industry and agricultural films, which protect crops and improve quality, RKW also develops innovative films, nonwovens, and laminates for hygiene products and medical applications.

Our nonwovens are used, among other things, for the manufacture of stoma bags and pressure dressings. In the medical sector, our film solutions are used in carrier films for adhesive plasters and tapes, and as special films for professional wound care and elastic bandages.

RKW's solutions can also be found in a wide range of everyday hygiene products used by consumers throughout the world, including ultra-thin, breathable films and textile laminates for baby care and feminine hygiene, as well as adult incontinence products. Successful downgauging (thickness reduction), which leads to material savings of up to 25 percent, also ensures greater sustainability in the areas mentioned.

RKW was instrumental in the commercial launch of smart diapers which use conductive ink technology to indicate when they need changing. This benefits consumers by enabling them to provide appropriate, timely care and ensuring a more efficient use of the absorbent products' maximum capacity. This saves time and money, promotes good health and hygiene, and increases quality of life.



Perforated films for feminine hygiene products



Nonwovens for hygiene products and medical applications



Textile backsheets for adult incontinence products



Films for baby diapers

Our Operations Continue

At RKW, safety and maintaining good health come first. This applies equally to our employees, customers, partners, and our local neighborhoods. Measures such as working from home, strict hygiene regulations, and a ban on business travel were therefore implemented across all RKW sites. These initiatives sometimes went beyond the restrictions imposed by local authorities. The highest standards of hygiene ensure that production can continue and customers are supplied as usual.

RKW deploys a wide range of preventative measures and health promotion campaigns to keep its employees fit and prevent absence – because our employees are the company's most important resource.



Specific initiatives include, among other things, voluntary flu vaccinations, a selection of healthy meal options in the canteens (fresh fruit, salads, free mineral water), participation in the annual company run, and relaxation areas with loungers and massage treatments.

SDG 5 – Gender Equality**The Challenge**

Gender equality counts among the fundamental prerequisites for sustainable development across the world. This means that women, men, and people with other gender identities should be able to participate in all social processes on equal terms. This naturally includes participation in economic life and in the workplace. Seen in this light, fighting for gender equality involves not only empowering all women and girls to lead self-determined lives, but also preventing gender-based discrimination at work.

We support these ambitious goals and strive for gender equality in all areas. Our endeavors in this field are embedded in RKW's strategy for reducing inequality. More detailed information can be found under: SDG 10 – Reduced Inequalities.

SDG 7 – Affordable and Clean Energy



“Sustainability and environmental protection are firmly anchored in the RKW strategy. The use of electricity from renewable energy sources is just the first step on our way to actively addressing the issue of decarbonization, taking responsibility, and making our contribution to climate protection.”

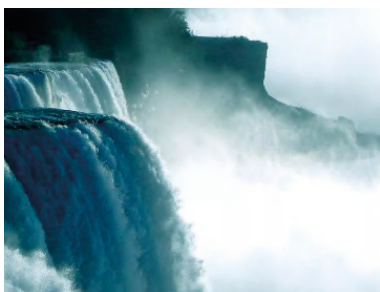
Jürgen Pastunink, Purchasing Manager RKW Nordhorn

The Challenge

A reliable supply of affordable energy cannot be taken for granted – even though we depend more than ever on electricity for our household appliances in our daily life, gasoline for the car, or process heat for industry. In addition to the challenge of an environmentally friendly, technology-open energy supply, the issue of supply security is also increasingly coming into focus. As a result, current geopolitical upheavals are having a galvanizing effect on the structural change that was already underway, moving us ever closer toward a sustainable energy supply.

Our Contribution

As an energy-intensive company, the RKW Group acknowledges its responsibility and consistently uses electricity from hydropower, wind energy, or biomass wherever this is economically and technically possible. After switching all our German sites to green electricity from renewable sources in 2020, our five plants in France, Belgium, and Sweden followed suit last year. All in all, this led to a reduction in CO₂ emissions of nearly 30,000 metric tons; together with the potential raised in Germany, the reduction corresponds to 100,000 metric tons. This amounts to a reduction of roughly 60 percent across the whole corporate group. Using renewable energy sources such as wind, solar, and hydroelectricity while simultaneously cutting the use of fossil fuels such as coal, oil, and natural gas constitutes a landmark decision by the company.



In addition to using green electricity, the RKW Group expanded its commitment to increasing energy efficiency in 2021. After all, energy that is not consumed does not have to be purchased. This helps to improve the environmental balance while also reducing costs.

In order to reduce the CO₂ emissions of our production processes, the RKW Group allocates an additional investment volume to special energy projects every year. In 2021, a total of around 650,000 euros was spent – among other things, on highly efficient compressors or drives and on optimizing the cooling and heating supply.



Alongside these efficiency measures, generating our own energy is also playing an increasing role. In order to determine the potential in this area – for example, for the use of photovoltaic systems or block-type thermal power systems – a pilot project was launched at the German sites Gronau and Echte in 2021. The aim is to develop a decarbonization strategy and define specific investment measures.

SDG 8 – Decent Work and Economic Growth



“No ifs, no buts – employee safety comes first at all RKW sites across the world. We conduct root cause analyses to identify potential sources of danger and raise awareness of them, conduct safety training, and focus on prevention instead of reaction, with a variety of safety systems. In order to train our managers and employees even better in implementing behavior-based changes, we will establish an RKW Safety Academy in 2022. This is intended to drive cultural change. After all, safety in the workplace is an indispensable basis for decent work and successful economic growth.”

Hans Rudelsberger, Head of QHSE RKW Group

The Challenge

Never before has so much been produced and consumed in the world as today, be it clothing, food, or technical devices. But economic growth alone does not automatically lead to more prosperity or decent work for all – 700 million people worldwide live in poverty even though they are working. When it comes to decent work with social minimum standards, appropriate wages, and a healthy working environment, we still face major challenges globally.

Our Contribution

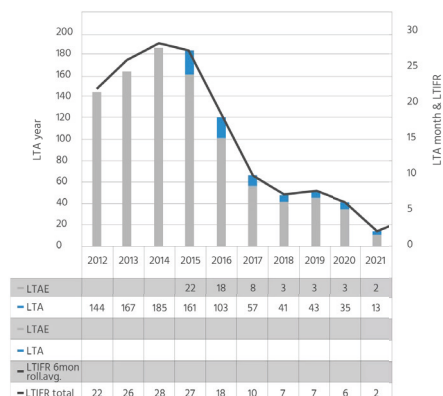
Working Principles at Our Production Sites

When it comes to safety at all our global production sites, RKW promotes the principles of prevention (“better safe than sorry”) and lack of compromise (“never compromise on safety”). Our focus is therefore on employee well-being in the workplace, and the overriding objective is zero accidents. This is regularly monitored on the basis of KPIs, namely LTAs (lost time accidents) and the LTIFR (lost time injury frequency rate). Significant improvements have been seen between 2012 and 2021.

When it comes to safety at all our global production sites, RKW promotes the principles of “Better safe than sorry” and “Never compromise on safety.” Our focus is therefore on employee well-being in the workplace, and the overriding objective is zero accidents.

This is closely monitored and tracked via safety metrics in two ways: through lagging KPIs which count accidents and leading KPIs which measure how well the implemented preventive measures are working.

Progress on our “Zero accidents” initiative is regularly monitored through the lagging KPIs LTAs (lost time accidents) and LTIFR (lost time injury frequency rate). Significant improvements have been seen over the years.

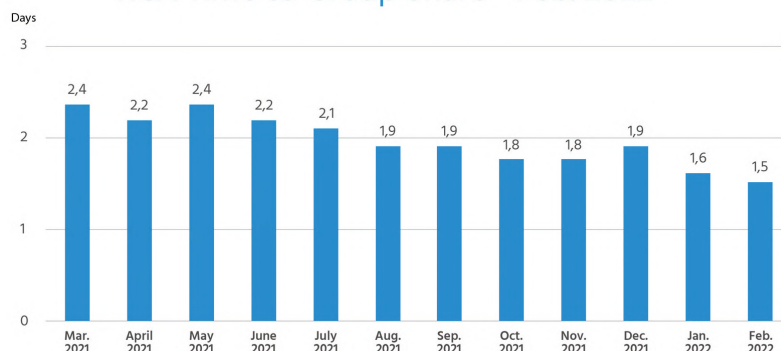


LAG KPIs – LostTimeAccident and LostTimeInjuryFrequencyRate

At RKW, safety and the scrutiny of the necessary associated measures and rules of conduct is a task for all Site Directors. As an indicator of managers' commitment to occupational safety, the time taken to carry out a root cause analysis following an accident at work is tracked.

This time should be kept as short as possible to ensure the quality of accident investigations to implement appropriate remedial actions promptly. This key figure is steadily decreasing, which is a mark of an increasing awareness of, and commitment to, occupational safety.

RCA Time to Group Share - Feb. 2022



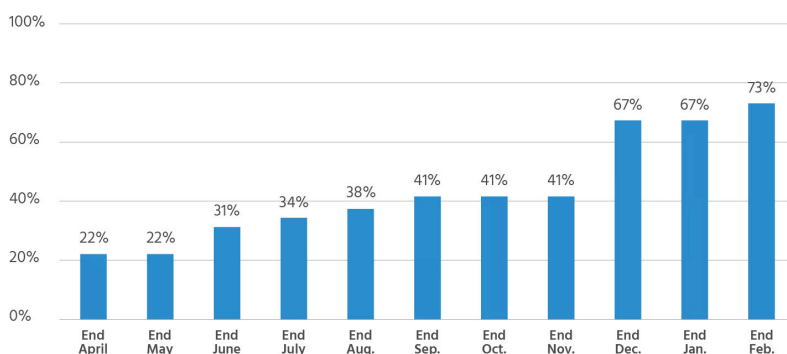
LEAD KPI – RootCauseAnalysis Time to Group Share

Our Group "Zero Cut" and "Zero Fire" initiatives are also leading to further improvements in working conditions. Although they may seem to be a lesser hazard compared to accidents caused by live equipment or road traffic, cutting tools do in fact cause many workplace injuries.

RKW launched its "Zero Cut" initiative in response to the high number of incidents involving sharp blades. The initiative aims to develop a range of safety recommendations and procedures and to raise awareness of the correct handling of blades.

As part of this initiative, handheld knives have been categorized and dangerous cutting tools have been replaced with special safety knives. Category 5 handheld knives are very dangerous, but were widely used at our plants. Eliminating these knives or replacing them with safety knives helps us reduce injuries from cuts. Progress on this issue is monitored with another leading KPI.

Manual Knives Cat. 5 Eliminated



LEAD KPI – RootCauseAnalysis Time to Group Share

In the medium term, efforts are being made to substitute all necessary cutting operations so that cutting is no longer necessary.

As part of the Group-wide "Zero Fire" initiative, a harmonized risk assessment for fire hazards was carried out at all sites. After consolidating the results from all sites, the Group allocated a budget of more than 2.7 million euros for preventive fire protection measures, such as automated CO₂ fire extinguishing systems.

Regular audits and assessments by external companies also help to continually monitor and improve the working environment and working conditions at RKW. To comply with legal regulations, an electronic schedule of legal provisions relating to occupational safety and health, the environment, and energy is being established at all sites, with our factories in Mannheim and Gronau being the first to participate.

RKW believes that safety must be firmly embedded in the hearts and minds of all employees at all its sites. An internal inter-site safety contest is held every year to capitalize on the effectiveness of competition in raising awareness: The Zero LTA Award is given to all sites that have not recorded a single LTA in a full year. The award is sponsored by RKW's Executive Management Board, which also acts as its patron, and presented by the Head of QHSE.

Safety Systems

A wide range of measures and tools ensure sustainable safety in the workplace. These include safety training, alarm systems, root cause analyses, and 5S work design. In production, optimized and new technologies support, among other things, the monitoring of temperature to prevent fires, the reduction of noise levels, the extraction of dust and solvents, and the improvement of lifting devices for heavy loads (e.g., 25-kilogram bags).

The working environment and working conditions are continuously monitored at RKW and are also improving thanks to the influence of regular audits and assessments by external service providers. In order to comply with legally prescribed obligations, an electronic schedule of legal provisions is being introduced at all sites for the areas of occupational safety, the environment, and energy. Mannheim and Gronau are the first sites to participate in this. The schedule will be implemented at further German sites in 2022.

Zero LTAs (lost time accidents)

RKW believes that safety must be ingrained in the hearts and minds of all employees at all sites. Because competition helps raise awareness, an inter-site safety competition is held every year: The Zero LTA Award is given to all sites that do not record a single LTA in an entire year.



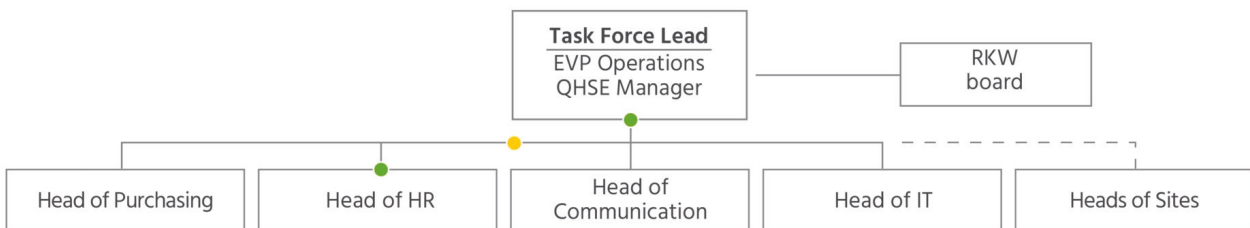
Zero LTA Award for 2 years without LTA 2021 to RKW Wasserburg.

Support During the Coronavirus Pandemic

During the coronavirus pandemic, RKW quickly introduced a series of highly effective mechanisms to minimize the risk of infection at all sites. Regular status updates from the sites, workplace concepts, stricter hygiene rules, short escalation paths, and a task force team helped us to navigate our way through the pandemic right from the start.

Among other things, all office work could be done from home, self-testing kits were distributed to the sites, and our German sites provided employees with a coronavirus test once a week in cooperation with local testing centers. In addition to internal measures, RKW is also supporting numerous social projects to combat the pandemic.

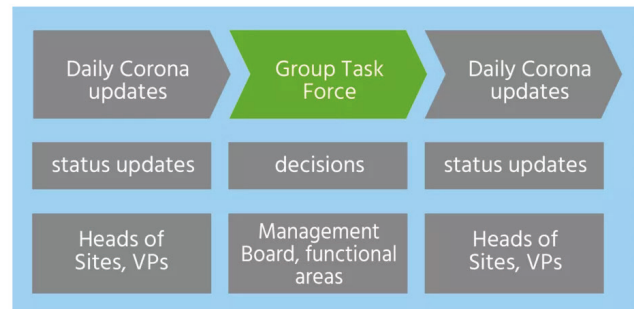
COVID-19 Task Force



Goals

- Secure financial stability for RKW
- Supervise health situation in the company
- Ensure a stable supply chain
- Guarantee suitable crisis management processes:
 - Quick and transparent decisions
 - Clear and safe communication
 - Effective allocation of resources

Candence



SDG 9 – Industry, Innovation, and Infrastructure



“The way in which we generally organize the economy has put us in a difficult position: the challenges are many and rapid action is advisable. As an international company, we want to show our commitment and do our part in building a sustainable industry. For us, this includes first and foremost the responsible use of resources, as demonstrated by our extensive recycling activities and the creation of closed loops. In this context, the infrastructure that has proven itself so far is facing tremendous changes. Major efforts in innovation and digitalization, as well as considerable investment in new technologies, are required to enable genuinely sustainable business. We at RKW are ready to face these challenges and aim to be innovation drivers for our industry. We are convinced that a passion for innovation and practiced sustainability form the basis for economic success today and in the future. That’s why we constantly question structures and processes in order to get a little bit better every day and ensure maximum sustainability in every respect.”

Heiner Kempe, Technology & Process Development Manager
RKW Group

The Challenge

Sustainable economic growth, environmentally responsible production, and a globally rising standard of living are not possible without investment in infrastructure. Aspects such as health, air pollution control, climate change and climate change adaptation, and the protection of natural resources must be taken into account at an early stage to ensure maximum sustainability. Technological progress, for example in the field of renewable energies, lays the foundations for achieving ambitious environmental goals. Here, it is particularly clear how technical innovations provide creative answers to the most pressing questions of our time.

The ongoing reorientation toward resource-efficient, low-emission and climate-friendly production is both a challenge and an opportunity for the industry because the efficient use of resources and the increased use of clean and environmentally responsible technologies and industrial processes create new economic opportunities that are to be harnessed.

Our Contribution

RKW’s corporate slogan “When excellence matters” emphasizes our aspiration to consistently offer our customers excellent products and services and to set new standards in terms of quality and performance. This is why RKW continually invests in research and development and in innovative technologies at its production sites around the world.

Sustainability Community

The RKW Sustainability Community is a cross-functional community that works on sustainability-related tasks in specialized working groups. An important point here is the community’s focus on recycling and closing the loop of virgin and recycled material. The team’s internationality is a major advantage here since it enables us to stay up-to-date with global developments and opportunities and to harness them.

Other important topics include switching to greenenergy at our production sites (see SDG 7), collecting and evaluating all sustainability-related data to monitor the impact of our production and products on the environment, and meeting and achieving our sustainability targets.

R&D and Application Engineering (AE)

The plastics industry is facing major challenges worldwide – and not only due to increasing environmental awareness among consumers and a changing regulatory environment. This makes it all the more important for RKW to actively address changes in relation to product requirements and to set the course for the industry's future development with innovative ideas.

Sustainability therefore plays a key role in the development of new products and processes. In addition to optimizing existing products, for example through downgauging, our R&D teams work closely with our customers on innovative projects.

The requirements for these solutions vary greatly depending on the regional markets as well as the product segments. Due to public interest, the focus in Europe is largely on products such as packaging films, and novel solutions are urgently required. To meet these requirements, all projects in the R&D pipeline in 2021 were categorized and evaluated based on various sustainability criteria. The target for the share of R&D and AE projects in the Packaging & Industrial segment with a focus on sustainability was 40 percent in 2021. This was significantly exceeded at 63 percent. The goal is to permanently align more than 60 percent of R&D activities with sustainability criteria in the coming years.



Product development in the area of blown film extrusion

As part of our innovative, sustainable product design process, we either optimize certain aspects such as resource consumption, reduce a product's negative environmental impacts throughout its life cycle, or alternatively, we make it easier to recycle and to use recyclates.

In a constructive exchange with raw material producers and machine manufacturers, as well as through our committed participation in industry associations, our R&D teams are continuously developing and evaluating new or improved materials.

As a result of this work, our multipack product line now includes products consisting of up to 100 percent recycled materials, depending on the type of product. Other projects are focused on bio-based raw materials, which reduce product-related CO₂ emissions, as well as on biodegradable film solutions, such as those for compostable trash bags or wood-filled compounds (a mixture of plastic pellets and additives that give the film certain properties).

One of the most important goals is full recyclability, especially for food packaging. Whereas multimaterial solutions which cannot be recycled are still currently used for many products, monomaterial, PE-based packaging meets the needs of the circular economy and therefore contributes to reaching the UN Sustainability Goals.

One good example of this type of product is the mono-PE pouch developed by RKW. Not only does it stand out due to its excellent processability and high temperature resistance, it has also been certified for the LDPE recycling stream by the cyclos-HTP Institute. Thanks to our collaboration with SAES Coated Films, the pouch can also be equipped with an additional oxygen and steam barrier as required in the market for certain products. In line with the most important international recycling guidelines, the barrier material represents less than 1-2 percent of the weight of the packaging.



The innovative film developed by RKW and SAES Coated Films meets the current legislative requirements and clearly demonstrates that the plastics industry favors sustainable solutions and actively contributes to building a circular economy. Just as important, however, is that the film offers customers a future-proof, recyclable and reliable packaging solution. By designing for recycling and utilizing suitable recycling processes, RKW is making its material and product cycles increasingly efficient across all segments.

Recyclable MDO PE pouch with a barrier coating developed by SAES Coated Films

Investments in Technology & Infrastructure

For years now, RkW has been continually investing in efficient and innovative technologies with the aim of reducing our energy and resource consumption at our production sites and supporting the creation of a circular economy for plastics. We have a clear focus: recycling capacities and reducing production waste.

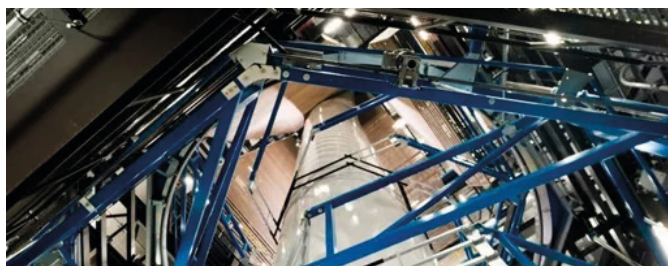
Each RkW site has its own recycling facilities where internal production waste such as edge trims can be turned back into high-quality plastic pellets.

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Recycling at our site Hyplast (Belgium)

In 2021, investments were made in modern recycling equipment at various sites. In addition to the acquisition of a new recycling line at the Hyplast site (Belgium) to increase capacity, existing facilities were also expanded. Among other things, the returning of edge trims to the production process was optimized at our sites Castelletta (France) and Wasserburg (Germany).



e7 technology: multilayer extrusion technology at our site Hyplast (Belgium)

Investments in modern blown-film extrusion lines and quality monitoring systems also play a crucial role in enabling increased use of regranulates and innovative raw materials. Not only that, they also allow us to produce film solutions that are as thin as possible while remaining highly efficient. The use of multilayer extruders means that recycled material can also increasingly be used in films with high quality requirements.

At our sites Castelletta and SFE in France, and Echte in Germany, RkW has commissioned state-of-the-art equipment so that we can produce films with a higher proportion of recycled content efficiently. In Petersaurach, Germany, we have given the go-ahead for investments in the double-digit millions in two production lines that will produce highly flexible and fully recyclable mono-PE packaging films. They are aimed specifically at the food and cosmetics industries and meet all requirements in terms of product protection and design. As an ISCC+-certified site, Petersaurach is also able to participate in the closed loop of the circular economy for chemically recycled or bio-based raw materials.

This technology enables innovative combinations of newly developed raw materials and formulations, which leads to benefits such as further thickness reductions or improved recyclability. With the aid of automatic line controls and online quality monitoring, such as profile thickness controls or 100 percent pressure monitoring, machine operators can react to process and quality deviations in the shortest possible time, avoid production waste, and thus save valuable raw materials.



Modern LED lighting at the Echte site (Germany)

The investment volume for energy efficiency projects in 2021 was increased from 400,000 euros to 650,000 euros in response to the large number of concepts submitted in 2020 and the enormous energy-saving potential. This took the successful series of energy efficiency projects to a new level: in 2021, 25 projects in the areas of lighting systems and plant or process optimization were selected. By implementing all the selected ideas, CO₂ emissions were reduced by around 1,500 metric tons.

Given the global challenges posed by climate change and the resulting demand for greater energy efficiency and sustainability, Research & Development and investment in environmentally friendly technologies are more important than ever before. Introducing clean technologies and product lines with environmentally friendly products causes fewer emissions, saves resources, creates jobs, protects the environment, and can also be a new source of revenue for the company.

SDG 10 – Reduced Inequalities

“As a manufacturing company, we traditionally have a lower proportion of women, which is why we pay particular attention to promoting diverse teams. We believe that Equality, Diversity, and Inclusion (ED&I) not only creates a better world, but also brings economic benefits: diverse teams, core competencies, and leadership qualities lead to greater innovation and improve financial performance. That’s why attracting, supporting, and developing talent with diverse skills across the entire company is both a human and a business priority. By signing the Diversity Charter and launching a global ED&I policy, we are underlining our commitment to this issue.”

Samira Montag, HR Business Partner Commercial Group

The Challenge

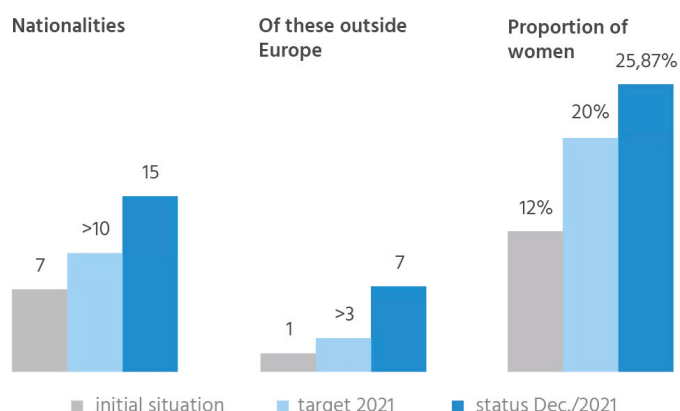
Gender equality is a fundamental right and enshrined in law in many countries – but the reality is quite different. Women are still discriminated against all over the world, for example in access to education, in health care or in the workplace. In fact, reducing inequalities, gender equality and taking a gender perspective into account is a particularly important lever for strengthening social cohesion. Equality supports the willingness to perform, promotes the ability to innovate and contributes to sustainable economic growth – in short, it makes our society fit for the future.

Our Contribution

RKW is a company that is majority-owned by women, who hold 55.6 percent of the company’s shares. This is a clear statement in our ownership structure, and it is continued in our goals: to expand the proportion of women at RKW and to take the issue of diversity into account. The target for 2021 of 20 percent women in the RKW Group as a whole was exceeded by far by the year’s end with more than 25 percent. We are also building on cultural diversity and continuous growth in this area: people of 44 different nationalities, both within and outside Europe, are now part of our team.

Proportion of women and nationalities in the RKW Group (Management Level 1-3)

Diversity is important to us right from the candidate selection stage. By following a multistage selection process with structured interviews and a variety of interviewers, we take care to promote impartiality and to assess candidates objectively. We also take part in various careers fairs at schools, colleges, universities, and business schools (held online during the Covid-19 pandemic) in order to inspire new and diverse talent to pursue a career at RKW. We actively aim to make contact with high school and college students from an extremely diverse range of backgrounds, nationalities, and genders – because we understand, appreciate, and encourage the strengths and opportunities that diversity provides, both for us personally and for the success of the company.



March 8, 2021 marked the 110th anniversary of the first International Women's Day. RKW marked this important date with an online panel discussion attended by over 200 employees from across Europe. The panel participants – consisting of members of the Executive Management Board, the HR and Sales departments, and a diversity & inclusion consultant – discussed issues such as how we practice and experience diversity and equal opportunities today, the expectations of our customers, whether a culture shift is required, what are the drivers for diversity, and how we can achieve our targets. They also answered critical questions from the participants. These will serve to generate further fields of action to work on and monitor.

SDG 12 – Responsible Consumption and Production

“Mankind is still overexploiting nature. To maintain our Western standard of living, we already need the resources of three Earths. A prerequisite for sustainable development is therefore to restore the balance of ecosystems. To do this, we need to fundamentally change the way our society produces and consumes goods. As the RKW Group, we are aware of this special responsibility and are actively contributing to the further expansion of the circular economy.”

Lea Voß, Sustainability Manager RKW Group

The Challenge

Plastics are an indispensable part of our lives. Without it, hygienic food packaging would be just as inconceivable as safe and reliable hygiene products or agricultural films to protect crops. Without plastic, we would emit significantly more harmful greenhouse gases – because alternative packaging options are less environmentally friendly or because they allow considerably more food to perish and therefore require more to be produced and transported.

The RKW Group is committed to its responsibility to give plastic products a sustainable perspective. We are working to further expand the circular economy for this indispensable raw material. To this end, we are guided by the principle “Reduce, Reuse, Recycle.”

Our Contribution**Reduce**

Sustainability means consuming only as much as can be grown or regenerated in the same period of time. Resources that are not consumed do not have to be recovered or saved. This principle applies as much to energy and water consumption as it does to our handling of fossil resources, production waste, consumables, and packaging materials.

The RKW Group has been implementing a large number of resource conservation measures in these areas for many years. Each of these is subject to a continuous improvement process and is regularly put to the test as part of internal audits.



Energy Consumption

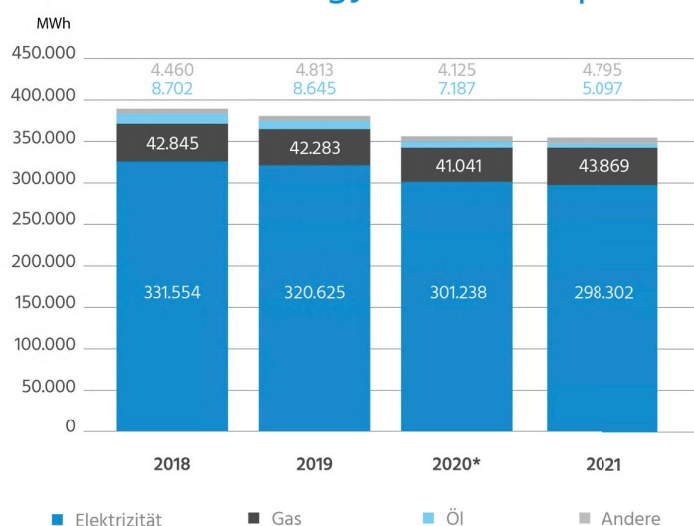
The manufacture of plastic products is an energy-intensive process. It is therefore extremely important to constantly monitor and analyze the consumption of electricity, natural gas, and other energy sources in order to identify potential savings. With the aid of a Group-wide energy management system, we are able to leverage these and at the same time establish best practices. The RKW Group meets the most rigorous standards in this field – for example, all our German sites are certified to ISO 50001. Comparable standards are also in place across the majority of our European production sites (EN 16247), and additional data analysis systems for monitoring consumption are also in use at the Group's non-European sites.

In 2021, the RKW Group's total energy consumption was approximately 300,000 GWh – of which 85 percent was accounted for by electricity, twelve percent by gas, and three percent by other energy sources. Thanks to systematic energy-saving measures and investment in highly efficient machinery and lighting systems, the total consumption and thus also the average energy consumption per kilogram of goods was reduced compared to 2020.

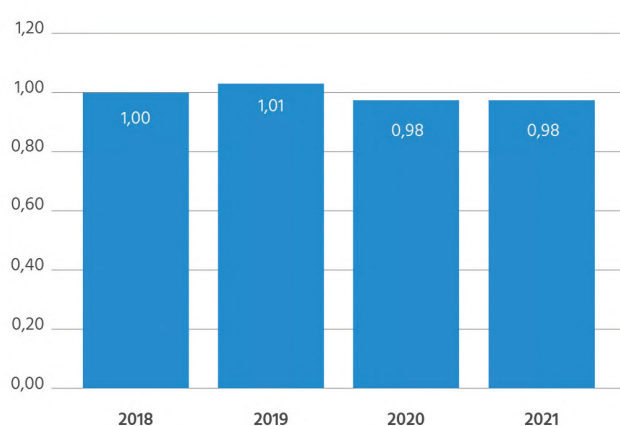
In addition to continuing to switch to modern LED lighting systems at all sites and even to solar lamps in outdoor areas (site Guangzhou site, China), investments in more efficient compressors (sites Hyplast, Belgium and Vietnam) or drive motors (sites Michelstadt, Germany and Castelletta, France), optimizing the cooling and heating supply (German sites Wasserburg, Petersaurach and Nordhorn; sites SFE, France and Vietnam), avoiding leaks of compressed air (sites Castelletta and Michelstadt) and using solar energy for water heating (site Vietnam) have also contributed to our success. In addition, the electricity network at our Wasserburg site is relieved by a sophisticated peak load management system.

By training employees who are relevant to energy consumption as energy leaders, organizational measures are being taken at locations such as our Castelletta site to ensure that further measures to increase energy efficiency can be found and applied in the future. The waste gas purification systems at the Echte, Petersaurach, and Castelletta sites have been optimized, resulting in a significant reduction in gas consumption.

Use of Energy RKW-Group



Use of Energy per kg (kWh/kg)



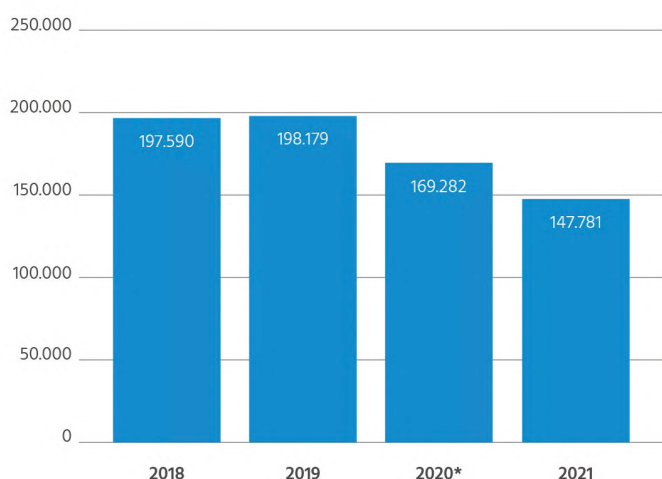
*Sale of the RKW ACE site (Belgium)

Water Consumption

Water means life. Responsible, economical use of this valuable resource is a top priority at all company sites. Most of the annual demand is used as cooling water for the extrusion lines, as process aids for aggregates, and as sanitary water. The resulting wastewater is not contaminated by additives or chemicals, and can be discharged into the sewer system without further treatment or purification.

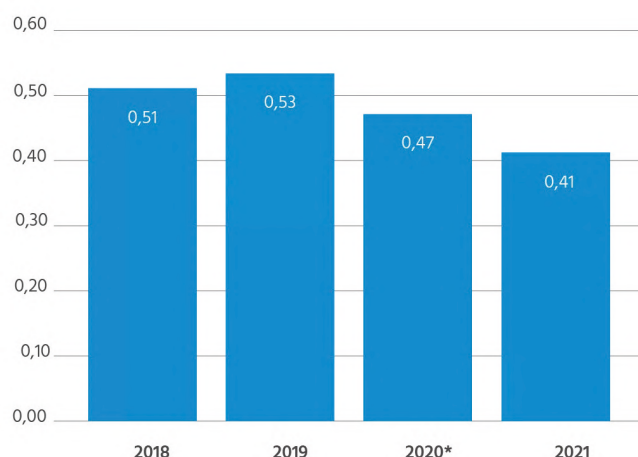
Measures to reduce water consumption help to keep this quantity as small as possible. The RKW Group's water consumption in 2021 amounted to around 150,000 cubic meters. Among other things, dismantling a cooling tower at our Wasserburg site made a significant contribution to reducing average water consumption per kilogram of goods by around 20 percent to 0.41 liters.

Use of Water (m³) RKW-Group



*Sale of the RKW ACE site (Belgium)

Use of Water per kg (l/kg)



*Sale of the RKW ACE site (Belgium)

Raw Materials

Plastics are usually obtained from petroleum derivatives and are therefore dependent on a finite fossil resource. The RKW Group is committed to using this resource as sparingly as possible at all its sites and across its entire product range. The most important lever here is downgauging – producing ever-thinner films that are as high-performant as thicker films.

This is achieved by using innovative materials or improved raw materials and/or by optimizing formulations and production facilities. Also important in this context is the in-house development of components and control systems as well as the regular, intensive training of operating personnel.

RKW develops innovative, new processes in all product groups together with its suppliers and customers, and continually tests new or modified film types.

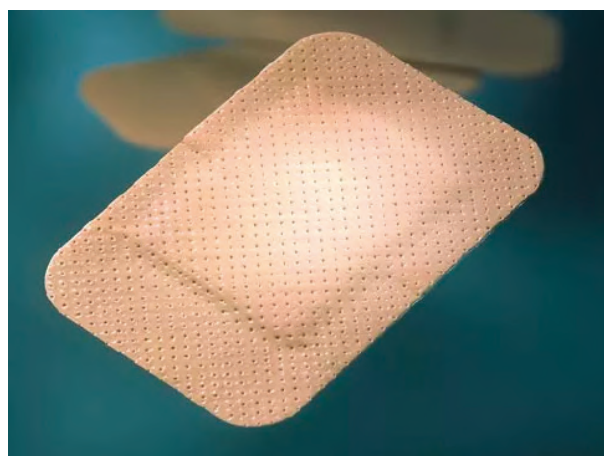
One example of downgauging is the 16 and 15 g/m² RKW HyCare™ and Aptra® films, which RKW has been supplying to its customers in the hygiene segment for years. Based on a continuous improvement process, the qualification of the breathable 14 g/m² RKW-HyCare™ film has now been completed. This is associated with raw material savings of up to 12.5 percent as well as other important benefits, such as greater efficiency on the processing line and a significant reduction in transport emissions. For other products in the feminine hygiene sector, downgauging has enabled raw material savings as high as 25 percent. The bottom line is that we have halved the average surface density of our backsheet films over the last 20 years – and this trend is set to continue.



Baby diaper



Breathable backsheet films



Plaster film made from bio-based plastic

In addition to fossil raw materials, alternative raw materials are now increasingly being used in plastics production. They are largely obtained from renewable sources such as sugar cane or cornstarch and have a comparatively low carbon footprint compared to fossil-based plastics, as the plants absorb CO₂ from the atmosphere as they grow. However, increasing focus is being placed on raw materials that are generated as waste or side streams in other industries, such as forestry or agriculture, and thus do not compete with food production.

Here too, RKW has developed sustainable products in cooperation with customers and raw material suppliers, for example a plaster film that offers the same high quality as a standard film but with lower CO₂ – emissions and therefore protects the environment, as well as a compound that is enriched with wood fibers.

Our Petersaurach site is certified in line with ISCC+. Thanks to this certification, completely new sources of sustainable raw materials are available, and at the same time, new marketing opportunities open up for solutions made in Petersaurach. ISCC stands for International Sustainability and Carbon Certification and is therefore an important link in the further expansion of the circular economy, including for plastics. As part of this, our Petersaurach site has developed film types that use up to 100 percent non-fossil-based raw materials.

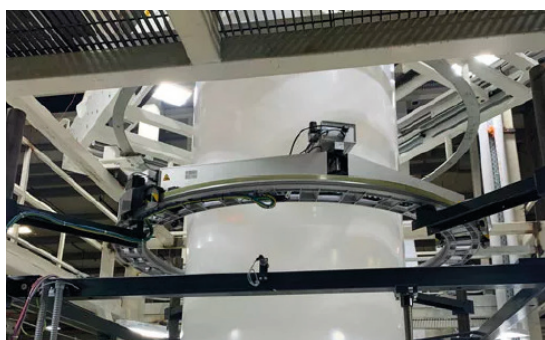
Production waste

Avoiding production waste is one of the most important measures for increasing the RKW Group's sustainability. In this way, we not only protect the environment and natural resources, but also contribute to sustainable growth and thus to safeguarding the future. The most important levers for reducing waste generated in the production process are optimized quality monitoring, employee training, and minimizing downtimes.

Measures in this area include commissioning a digital printing system at our Petersaurach site; in the future, this will enable even small orders to be produced with very low levels of waste. In addition, edge trims for printed films have been minimized to avoid scrap, which is difficult to recycle. Our Castelletta site also reports a significant improvement in scrap rates for printed films.



Digital printing system at the Petersaurach site (Germany)



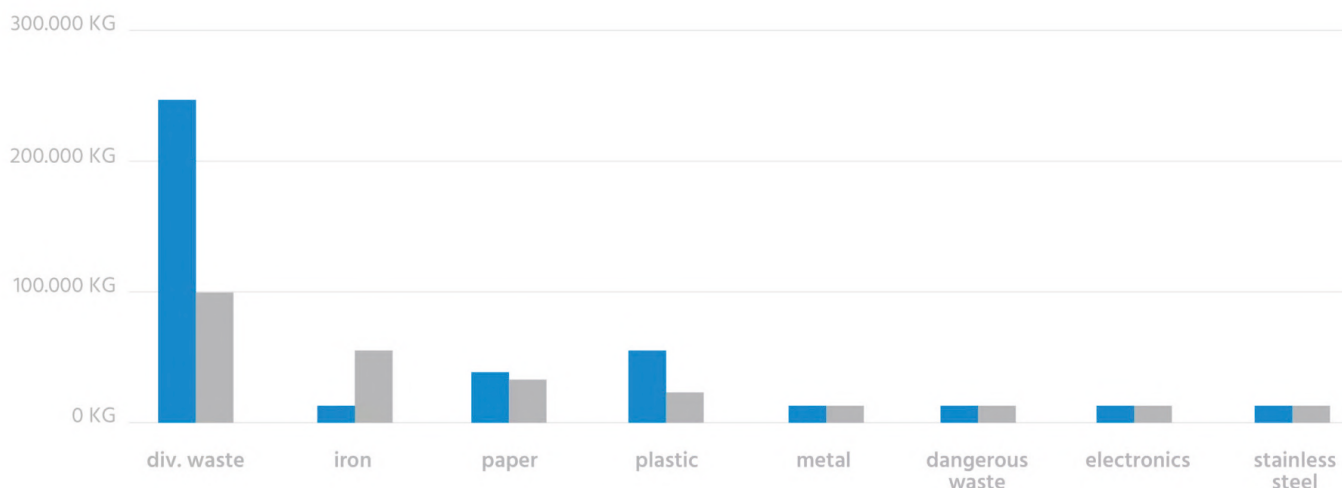
Film profile control unit at the RKW North America site (USA)

At almost all production sites, the film webs produced are also monitored inline for possible small-scale defects that could result in large-scale defects or a deterioration in print quality in subsequent stages of the production process. These quality control systems and the various optimization measures made it possible to reduce the average production waste rate by more than 10 percent between 2017 and 2021.

The fact that large investments are not necessarily required to reduce production scrap is demonstrated by the Vietnam and Wasserburg sites: in Vietnam, 40 ideas were collected for reducing production scrap, among other things, by implementing a Quick & Easy Kaizen Ideas Program, and systematic root cause analyses were carried out. As a result, the site achieved a significant 19 percent reduction in the scrap rate. In Wasserburg, the scrap rate was dramatically reduced through many small individual measures by applying the PDCA approach, while in Nordhorn the scrap rate was reduced via temperature and cut optimization.

In addition, RKW SFE, France at the Ville-le-Marcelet site has optimized waste separation for greater sustainability and better recyclability. RKW Wasserburg, Germany is directing its attention to avoiding waste, again with the aid of the PDCA approach, and rigorously preventing environmental contamination caused by film residues or pellets. At our site in China, awareness of waste sorting was raised with the aid of games.

Disposed of production waste



Consumables, packaging materials and transport



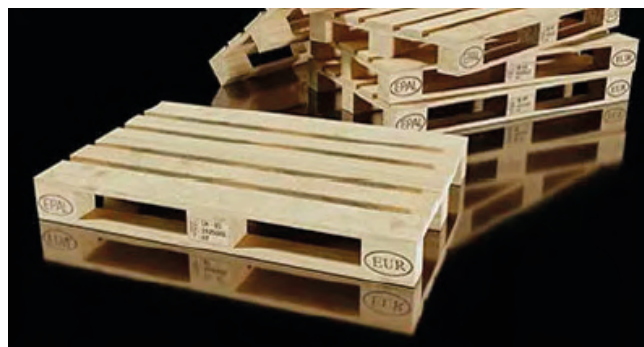
Additional efficiencies can be leveraged by using consumables and packaging materials as efficiently as possible. For example, optimizing production processes means fewer filters and sieves are needed, while the intelligent use of packaging machines reduces our own consumption of stretch film. Another lever is the optimization of pallet sizes, which saves valuable wood and loading space on trucks.

For example, our Castelletta site (France) now purchases larger batches of printing ink in IBC containers, resulting in fewer barrels of ink as waste. At our Wasserburg site, plastic waste is now pressed – this saves 13,000 kilometers of truck journeys annually. Optimization and expansion of internal storage areas at our sites Wasserburg, Germany as well as SFE and Castelletta, France has led to a massive reduction in emissions from truck trips to external warehouses (approx. 300,000 kilograms of CO₂ per year in Wasserburg alone – not counting particulate matter and other forms of environmental pollution). In Vietnam, electric forklifts have been in use since last year, cutting CO₂ emissions by approximately 43,000 kilograms.

Reuse

New is not automatically better – and certainly not more sustainable. Wherever possible, we use production materials and auxiliary materials several times. This applies to packaging materials such as octabins just as much as it does to cardboard cores, which can be used again and again for film rolls of comparable dimensions.

The Remy (France) site has switched some of the cardboard cores it previously used to reusable PVC cores, saving 5 kilometers of cardboard cores. Moreover, it has also begun to repair plastic pallets instead of simply buying new ones. This has saved 200 pallets to date. Our site in China now uses plastic pallets instead of wood for deliveries.



In another example, the cardboard cores on which nonwovens are transported from our Gronau site to the nearby Nordhorn site for lamination are returned to Gronau for further use as part of regular transportation. Return systems for pallets have also been set up at most of our German sites.

The reuse principle applies not only to the sites of the RKW Group but also in particular to our products. One example of this is the RKW HyJet® Crop Cover agricultural film. It consists of a spunbond nonwoven whose loop structure is made up of continuous filaments. Compared to conventional nonwovens, the film offers excellent tear and puncture resistance and higher elasticity. As a result, the RKW HyJet® Crop Cover can be used over several crop seasons.

Recycle

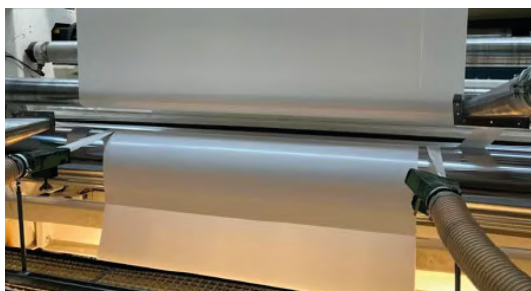
As a leading manufacturer of excellent film solutions, we are committed to driving the further expansion of a circular economy for plastics. In concrete terms, this means that we increasingly use recycled materials, our R&D activities focus on developing easily recyclable products, and – even more importantly – we see conserving natural resources as an integral part of our corporate policy. Because recycling and a circular economy for plastic products have many benefits. They reduce the carbon footprint of raw materials and the environmental impact of plastic waste, increase supply efficiency, and lower material costs.

Internal Recycling of Production Waste

Within the RKW Group, we view production scrap as a valuable resource that can be used to manufacture new products. We use scrap either directly within the production process, between different processes, or even across sites. Each RKW site has its own recycling facilities in which scrap is processed into high-grade regranulate. This involves both offline and inline processes.

Offline recycling means that the scrap is sorted and labeled during production, then collected and finally recycled. Inline recycling, on the other hand, uses special low-throughput extruders that are attached directly to the production machines. They take up edge trims that are not needed, regenerate them into pellets and feed them directly back into the production process.

Accompanying optimization measures are being implemented at all sites to ensure a higher reuse rate. All plants are reporting a new highest rate use of regranulates for 2021 and hence a reduced use of virgin raw material. Our French site SFE in Ville le Marcelet was even awarded the MORE label in 2021 – the first European label to assess the impact of plastics on the circular economy and the integration of recycled plastics in production. The label recognizes progress in promoting products that contain increasing amounts of recycled plastic.



Further synergy effects are leveraged through cross-site cooperation: if the scrap generated on site cannot be used in production for technical or regulatory reasons, the regranulate is made available to other production sites within the RKW Group as a valuable raw material. One example of this is the site in Echte: the scrap generated in Petersaurach during the production of high-quality hygiene films is used in Echte, for example, in the production of waste bags.

Use of Recycled Materials and Design for Recycling



Mono PE Pouch

Recycling as many plastic products as possible is not the only prerequisite for a seamless circular economy – ensuring that product properties enable or facilitate the recycling process is at least as important. Design for recycling describes our development teams' ongoing work on new or improved formulations that enable easy sorting and recycling right from the start. Multilayer films containing incompatible and inseparable materials are avoided wherever possible.

The RKW Group shares its expertise in the field of recyclates and recycling with its customers. Together, we develop ways to increase the proportion of recycled raw materials. The expected optical and technical properties of the product are matched with the customer's requirements. The end result is a solution that reconciles the highest possible proportion of recycled material with the best possible film quality.



Multipack

One example of the use of recyclates is the multipack film solutions developed together with the KHS Group, a leading manufacturer of filling and packaging systems for the beverage and liquid food industries. They are made from up to 100 percent recycled materials but can be easily processed and printed on.

Even more important in this context is the contribution that innovative film solutions make to the protection and longer shelf life of food. In agriculture, films are also used to protect the harvest and increase yields.

An additional sustainability aspect is the fact that agricultural films are particularly well suited to the use of recyclates. This creates a material cycle that not only reduces waste, but also conserves resources, and ultimately reduces additional CO₂ emissions. With this goal in mind, RKW has been involved for years in the ERDE initiative to collect and recycle used agricultural films. In 2021 alone, ERDE members recycled around 32,700 metric tons of agricultural film, which corresponds to cutting 35,600 metric tons of CO₂ emissions.

In addition, large quantities of post-industrial and post-consumer waste from other production companies and commercial enterprises are used at our production sites Michelstadt, Germany and Hyplast, Belgium production sites and processed into high-quality agricultural films. Membership in the ERDE initiative is just one of many examples of the RKW Group's involvement in trade and industry associations.

SDG 13 – Climate Action



“Without climate action there is no sustainability. A stable climate is essential if our grandchildren and great-grandchildren are to inherit a world in which they can thrive and successfully engage in economic activity. I am certain that the rise in the global temperature can be successfully mitigated with ingenuity and drive if we all pull together. The RKW Group is committed to playing our part and will do everything in our power to protect the climate.”

Juan Pablo Quiroz, Head of Marketing & Product Management Packaging & Industrial

The Challenge

Since the start of the Industrial Revolution, the mean global temperature has risen by one degree Celsius, while the concentration of CO₂ in the earth's atmosphere has also increased rapidly. If we do not limit greenhouse gas emissions, the average temperature could rise by more than three degrees by 2100, leading to severe global climate change that will cause immense damage. Man-made climate change is already triggering extreme weather events, such as torrential rain and storm surges, droughts and heat waves, landslides and flooding.

Sea levels are rising, crops are withering, and whole swathes of land are becoming uninhabitable. Each year, climate change not only drives more than 20 million people to flee their homes, it also forces plants and animals from their habitats and threatens them with extinction. Between 1998 and 2017, climate change caused damage totaling 2.3 billion dollars and claimed 1.2 million human lives. We must take action to halt this alarming development.

Our Contribution

Reducing CO₂ Emissions

Reducing CO₂ emissions is one of the most important steps we can take to decrease global warming. RKW is therefore throwing its weight behind reducing the CO₂ emissions generated by its production processes as well as the overall carbon footprint of its products. A robust inventory and measurement system in line with the Greenhouse Gas Protocol forms the basis for our countermeasures, which include the development of more sustainable products with a lower environmental impact.

To further reduce greenhouse gas emissions, RKW switched its German sites to green renewable sources in 2020. Since June 2021, energy from renewable sources such as wind, solar, and hydro-power has also been used in France and Belgium, and the conversion of the other European sites is being implemented gradually. In terms of the electricity consumption of our 18 global production sites, this has resulted in a reduction in CO₂ emissions of over 60 percent.



Cycle to Work

By switching to renewable energy sources, RKW prevented around 100,000 metric tons of CO₂ emissions in Germany in 2021. The German RKW employees who cycle to and from work rather than commuting by car boosted these savings by at least another 7.5 metric tons of CO₂. Between July and September 2020, the Cycle to Work campaign inspired 68 colleagues from our plants in Gronau, Echte, Nordhorn, Michelstadt, Petersaurach, and Wasserburg to cycle more than 29,000 kilometers.

The occupational health management team's initiative has benefits for people and the environment alike: it is fun, improves health, reduces noise and traffic, and protects the environment.

RKW's Sustainability Campaign

Sharing knowledge, being transparent and actively doing something – for a safe and sustainable future, for the benefit of people and the environment. This is what drove us to launch the RKW Summer Campaign 2021. From July to September, we reported extensively on our strategic direction, sustainable product solutions, technical articles, and joint projects with various organizations and associations on the issue of sustainability.

You can find out more at <https://rkw-group.com/sustainability/campaign-2021/>. Among other things, the campaign was accompanied by the following initiatives and environmental protection measures at RKW sites worldwide:

RKW Gronau – Annual Cleanup Campaign Successfully Completed

Sustainability and environmentally friendly actions are an integral part of all RKW sites – including Gronau. This includes recycling production scrap, strict waste separation, following the corporate Zero Pellet Loss principle, and the site-specific environmental declaration. These principles are underpinned by the annual clean-up campaign around the plant site.

The cleanup event took place in Gronau already for the fifth time. In 2021, 35 employees cleared the site of all kinds of waste: cardboard, plastics, wood, film and nonwoven scraps, and much more were collected, filling numerous trash bags, which were then disposed of properly.

RKW Wasserburg – Wasserburg Cleans Up

More than 70 years ago, Thomas Wimmer, then mayor of Munich, shouted "Rama dama – we're cleaning up!" He was followed by more than 7,500 volunteers, who cleared their city of war debris. That was the origin and is generally regarded in Bavaria as a call to action to do something meaningful together that takes effort and may involve getting your hands dirty. Following this motto, RKW employees in Wasserburg also took part in an extensive cleanup campaign and collected large amounts of garbage around their site premises.

RKW Nordhorn – Taking Part in World Cleanup Day

As part of World Cleanup Day, employees from Nordhorn, together with other companies and private individuals from Grafschaft Bentheim and Twente (The Netherlands), “swept in front of their own front door” and removed the garbage from around the company premises.

RKW Group – Green Fingers in All Areas

While another waste collection campaign took place in Petersaurach on the site premises and its surrounding area, employees in Echte, Michelstadt, and Remy (France) built insect hotels, created flower meadows, and planted fruit trees.

RKW Headquarters – Taking Part in RhineCleanUp 2021 with a Fundraiser

The RKW Sustainability Campaign concluded with the company’s participation at the international RhineCleanUp. Out of old ties to the former headquarters located in Frankenthal, a team from RKW joined other citizens in clearing 500 kilograms of trash from a section of the Rhine bank in Frankenthal.

Acting sustainably – for the environment, but also for the community. This was the goal of the sustainability campaign and the Global Team Run also served this purpose. Following the motto “Stronger together,” 140 participants ran, biked, walked, or skated more than 34,000 kilometers for a good cause from July 1 to September 11, earning 30 eurocents per kilometer.

The total was raised to 17,000 euros by RKW and donated to the Care-for-Rare Foundation, which is committed to researching and developing suitable therapies for children with rare diseases.



SDG 14 – Life Below Water



“Water is an indispensable resource and the basis for all life on Earth. But water is also a fascinating, largely unexplored habitat. I am proud that we at RKW have taken up the challenge of protecting marine life. Systematically eliminating plastic waste and committing to recycling are key elements of our strategy to protect rivers, lakes, and oceans, enabling us to make a valuable contribution to preserving a clean, pristine underwater environment. Our past successes spur us on to do even better in the future.”

Roland Albrecht, Director Site Petersaurach

The Challenge

Earth's oceans cover more than 70 percent of our planet and are crucial to the world's ecosystem. When the system is disrupted, the impact on life on land is also catastrophic. The oceans provide us with food and are the world's primary source of oxygen and its largest reservoir of the climate-killing gas CO₂ – which is now found in elevated concentrations due to rising CO₂ emissions for which humans are responsible. In recent decades, the steady increase in CO₂ emissions has destabilized the marine ecosystem. The repercussions – climate change and ocean acidification – jeopardize marine life. The 10 million metric tons of plastic that pollute the oceans each year also pose a major challenge.

Fossil plastic is not biodegradable and breaks down into smaller and smaller particles that find their way into the water cycle and are eventually ingested by marine life and enter the human food chain as microplastics. It is important to remember that fish provide more than 20 percent of the animal protein needs of 3.2 billion people around the world. This makes protecting the oceans and their biodiversity of critical importance, both for marine life and for those of us on land. There is some good news, however: scientific findings show that water quality can be improved.

Our Contribution

The Zero Pellet Loss campaign is a joint initiative with the industry associations Plastics Europe and the VCI and is part of the global Operation Clean Sweep® project. While plastic pellets make up only a tiny fraction of the plastic waste in the ocean, the RKW Group is working hard to raise awareness of the issue, both at its own production sites and among its suppliers and logistics partners within the industry.

We are also committed to ensuring that our own plastic pellets, powders, and flakes do not end up in the trash or wastewater. As a leading manufacturer of film solutions, we believe we have a responsibility to support a sustainable future. It is crucial that we actively seek ways to reduce the escape of plastic pellets into the environment during production, storage, transportation, and processing.

RKW has therefore joined the ranks of the many companies implementing the Zero Pellet Loss initiative at its plants. This was done in cooperation with the two industry associations, with special support from the Industrievereinigung Kunststoffverpackungen e. V. (IK).

The first step in participating in the Zero Pellet Loss initiative was to carry out internal audits at all our production sites. This involved identifying entry points such as the filling of silos, the transportation of raw materials, and at the raw material lines. We then initiated the necessary measures to eliminate these leakages and successfully obtain certification from the IK, the industry association for plastic packaging. All RKW sites are Zero Pellet Loss-certified. The measures will be continually monitored and optimized.



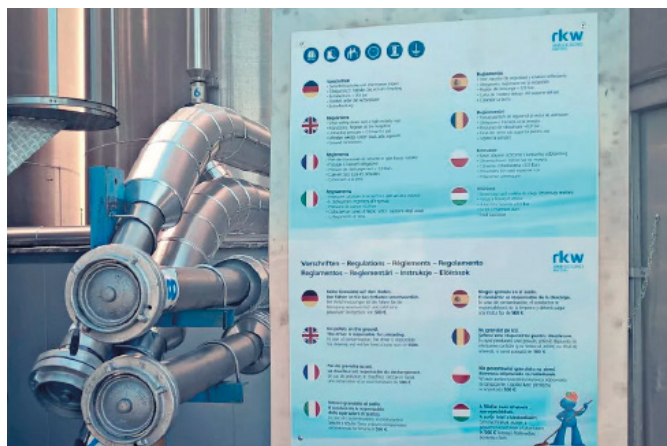
Measures to prevent pellet losses include regular audits, root cause searches for leaks, clearly legible signage around production and storage sites, disposal points for cleaning up pellet residues, easily accessible cleaning tools, and measuring pellet losses. We also ensure that our own pellets, powders, and flakes do not end up in the trash or wastewater.

The contaminated pellets are not disposed of in the normal garbage, but are collected separately for recycling and thus return to the plastic cycle. By installing screens on rainwater drains, RKW prevents pellets from entering the environment.

Evaluation following internal audits of the individual sites with regard to their ZPL activities (>72 Outstanding, >64 Good, >56 Fair)

Involving our employees is critical, which means that training and communication at the plants are key to successfully preventing pellets from entering the ecosystem.

In addition, we carry out cleanup activities at our plants on an ongoing basis.



Information board in the RKW plant in Wasserburg – Driver regulations in eight languages to prevent pellet loss when unloading trucks



Plastic pellets pollute the oceans and beaches

Campaigns – Waste Collection and Sustainability Campaigns

To safeguard the earth's natural resources for future generations, we must protect ocean ecosystems and prevent pollution. RKW embraces this responsibility and participated in several environmental initiatives as part of its 2021 summer sustainability campaign.

For example, an RKW delegation joined other citizens to clear around 500 kilograms of trash from a section of the Rhine riverbank in Frankenthal, while various sites gave their immediate neighborhoods a thorough cleanup. At other sites, insect hotels were set up or trees were planted to halt species extinction.

SDG 17 – Partnerships for the Goals



“The ongoing expansion of the circular economy is one of the biggest challenges facing our industry. Plastics provide quality of life and safety, but must not become a burden for future generations. This will require everyone to play their part: plastics manufacturers and processors, their customers, and, last but not least, consumers. The RKW Group is committed to working collaboratively across the entire value chain. This is how we will make plastics sustainable in the long term.”

Judith Hutschreuther, Sustainability Manager RKW Group

The Challenge

Plastics do not deserve their poor reputation. They provide quality of life, safety, and climate protection. The CO₂ emitted during their production is far lower than in the production of paper, for instance. But plastics will be sustainable only if we close the gaps in the circular economy. This entails environmentally friendly manufacturing, economical consumption, collection and recirculation systems, and maximum recyclability – a huge challenge that can be tackled only by working together in partnership.

The RKW Group is committed to this task and to increasing the sustainability of the entire value chain. To achieve this goal, we not only work closely with our suppliers and customers but are also active members of more than a dozen associations and interest groups in the plastics sector. In addition to sharing lessons learned and representing common interests, practical projects are the main focus here.

We know that sustainability does not come about through meetings and presentations. Instead, it happens on the ground in production and processing. Every time we reduce virgin material use, increase recyclate use, and produce new recyclable films, we move one step closer to our goal of closing the loop in the circular economy for plastic products.

Examples of this commitment are many and various, and include the ERDE agricultural plastics recycling initiative (Initiative Erntekunststoffe Recycling Deutschland). What started as an idea in 2014 is now a flagship project, not only for reusing agricultural films, but also for reducing CO₂ and increasing environmental protection.

Our Contribution

Reducing CO₂ by Recycling

As a founding member of ERDE, our Michelstadt site is committed to the efficient recycling of used agricultural films and bale nets. While silo films, round bale nets, and other crop plastics often ended up being burned on farmland or sent to landfill, the ERDE initiative, established in 2014, enables farmers to collect and recycle films and nets that have come to the end of their usage lifeusage. Recyclates can be used very effectively in the production of new agricultural film products. This creates a cycle of reusable materials, not only reducing waste but also protecting resources and lowering CO₂ emissions.

Collections are organized at over 500 collection points and almost 1,900 mobile collections across Germany. Over the course of the past year, the companies involved in the ERDE initiative have prevented the emission of 35,600 metric tons of CO₂ by feeding a good 32,700 metric tons of agricultural film back into the material cycle through the scheme. This is roughly the amount of CO₂ absorbed annually by approximately 2.56 million trees.

Similar collection and recycling systems are being developed across Europe. These include APE in France, the UK, and Spain, as well as the IFFPG recycling scheme in Ireland, which RKW is involved in.



Plans are already afoot for APE Benelux and Poland, and ERDE Austria and Switzerland. As a plastic film manufacturer, RKW takes sustainability seriously and recognizes its responsibility with regard to climate and environmental protection. The outstanding results of our joint initiatives demonstrate that commitment and partnerships pay off.

More information about ERDE (text in German only):
www.erde-recycling.de

What Others Say

Collaborative partnerships mean identifying common goals and then working together to achieve them, thereby creating an industry-wide network or community. At the RKW Group, we understand this not only in terms of our collaboration with our customers and suppliers, but also with associations and interest groups. Their feedback helps us to regularly evaluate and continually improve our own commitment. The following four statements are typical of the kind of dialogue we strive to achieve with all of our partners:



“Members of the IK, the industry association for plastic packaging, launched the ERDE take-back scheme in 2013 to reuse used agricultural films. RKW is one of the founding members of this unique initiative to collect and recycle agricultural plastics. The company’s commitment makes an important contribution to the sustainable, resource-efficient use of plastics within the agricultural sector.

RKW and the other ERDE partners have set themselves ambitious goals: by 2022, the scheme aims to collect and recycle 65 percent of all the silo and stretch film used in Germany, creating a closed-loop material cycle for agricultural plastics and preventing them from entering the soil and the environment.”

Dr. Jürgen Bruder, Managing Director, Erntekunststoffe Recycling Deutschland (ERDE)



"The IK sees itself not only as the voice of the plastic packaging industry but also as a powerful network. Our association's work is fueled by our members' lively exchange of views and information. They are the cornerstone of a successful interest group and are at the very heart of the industry's current transformation into a stronger circular economy. As a member of the IK, RKW has actively shaped the association's work for many decades. RKW's CEO has served as the association president, and the company is also involved in setting the association's strategic direction through its seat on the board. Equally valuable to us is the ongoing, personal involvement of RKW's experts in the main circular economy committee, in the working group on bioplastics, and in the industry's first energy efficiency network."

Mara Hancker, Communications Director, IK Industrievereinigung Kunststoffverpackungen e.V.



"EDANA is the leading global association and voice of the nonwoven sector and related industries. In this role, it represents the entire absorbent hygiene products value chain, including diapers and incontinence and feminine hygiene products, and all other nonwoven products. Since 1971, the association has been providing its more than 260 members with an extensive range of services, including the information and data required to improve the industry's goals and performance. The association has a global reach, focusing on Europe, the Middle East, and Africa. RKW has played an active role in driving the transformation to a more sustainable value chain. We look forward to continuing our collaboration toward our common goal."

Gil Stevens, External Relations & Sustainability Director, EDANA



"The CEFLEX consortium represents the entire value chain for flexible packaging. Its goal is to address the significant challenges posed by the circular economy. When it comes to tackling the technical challenges encountered in increasing and improving the recycling of this type of plastic packaging, the active involvement of companies such as the RKW Group in technical projects is what makes our unique and effective formula different. They not only bring experience, but also take a visionary approach to the use of these new recycled polymers for a range of suitable packaging applications. Their can-do mindset is inspirational and a catalyst for change."

Dana Mosora, Senior Consultant, CEFLEX

Memberships in organizations and associations

- Afera – The European Adhesive Tape Association
- Agriculture Plastic & Environment (APE Europe)
- BKV – Kunststoff, Konzepte, Verwertung
- CEFLEX Consortium
- Circular Plastics Alliance
- Elipso
- EDANA
- ERDE Recycling
- European Plastics Converters
- Gesellschaft für Kunststoffe im Landbau
- Flexible Packaging Association Europe
- Flexible Packaging Association North America
- IK Industrievereinigung Kunststoffverpackungen e.V.
- INDA – Association of the Nonwoven Fabrics Industry
- Irish Farm Film Producers Group (IFFPG)
- Polyolifin Circular Economy Platform
- Plastics Recyclers Europe
- Sustainable Packaging Coalition