

Sustainability — Report 2024

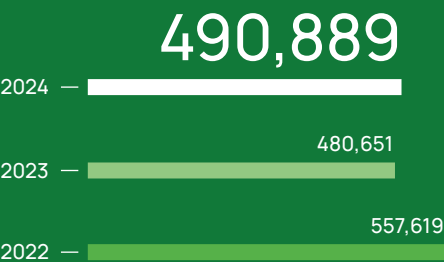
Koehler Holding SE & Co. KG



Koehler in Figures

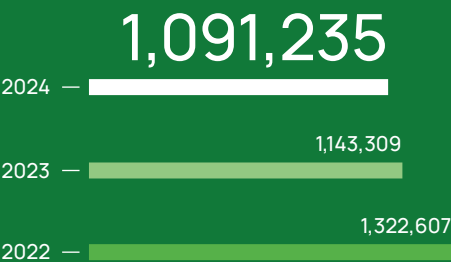
Sales

Paper sold (in metric tons)



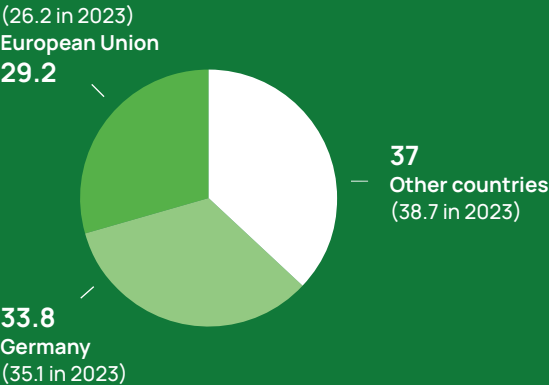
Revenue

Koehler Group revenue (in thousands of euros)



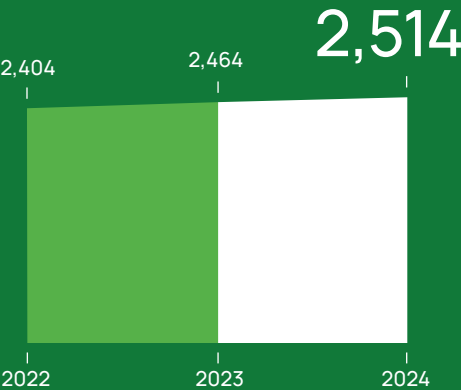
Revenue by geographic market

in %



Workforce

Koehler Group employees



Steam supplied

226,823 t
(220,043 metric tons in 2023)

of steam from renewable fuels were supplied to our customers in the close vicinity for use in their industrial processes in 2024.

Renewable power production

270,886 MWh
(220,064 MWh in 2023)

of renewable energy were fed into the public grid in 2024.

Our Sites and Facilities

1 USA

Johnson City (TN) (P)
Lawrenceville (GA) (P)
Stamford (CT) (P)

2 England

Snaith (P)

3 Scotland

Ballinluig (E)
Dundee (E)
Edintore (E)
Glasgow (E)
Invergarry (E)
Kinlochard (E)
Largs (E)
Loch Arkaig (E)
South Laggan (E)

4 Italy

Milan (P)

5 China

Shanghai (P)

6 France

Morville-lès-Vic (E)
Réding (E)
Strasbourg (E)

Legend

-  Oberkirch headquarters
-  Renewable energy site
-  Paper mill
-  Paper or board production site

120

countries around the world are part of our global sales network.

7 Germany

Oberkirch  (P) (E) 
Bad Wurzach-Seibranz (E)
Baruth (E)
Blasbach (E)
Brunsbüttel (E)
Eggolsheim (E)
Elsfleth (E)
Friesau (E)
Goch (E)
Greiz (P) (E) 
Hanover (E)
Isny (E)
Karlsruhe (E)
Kehl (P) (E) 
Kehl-Auenheim (E)
Leutkirch-Rimmeldingen (E)
Ochsenhausen (E)
Saalburg-Ebersdorf (E)
Uetze-Dollbergen (E)
Weisenbach (P) (E) 
Wiesmoor (E)
Willstätt (P)

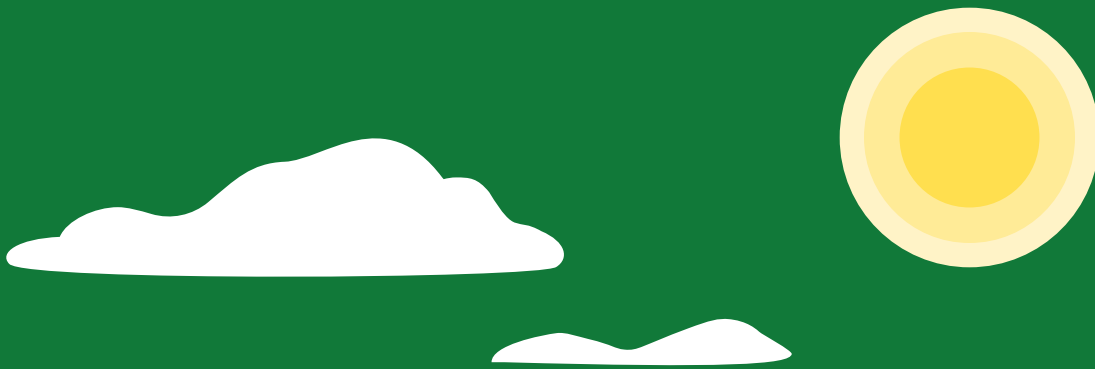
Specialty Paper for Customers Across the Globe

The Koehler Group is a family-run enterprise with a company history that spans more than 215 years. Its core business revolves around developing and producing premium specialty paper. This includes – among others – thermal paper, beverage coasters, fine paper, carbonless paper, recycled paper, decor paper, wood pulp board, heat sublimation paper, and flexible packaging paper.

The company has also built another important pillar in addition to its papermaking operations: Koehler Renewable Energy, which plans and operates renewable energy generation plants.

With revenue of around 1.1 billion euros, the Koehler Group is one of only few independent German family businesses in the paper industry.





“While it is true that my forefathers didn’t actually use the term sustainability, everything they did reflected the concept. That’s something that keeps inspiring us to this day.”

Kai Furler, CEO



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66 Pulp Ahoy!

Making shipping more environmentally friendly with a riverboat

We Are Closing the Loop – for the Circular Economy of Tomorrow

**Dear Readers,
dear Colleagues,**

2024 was an eventful year – one that truly showed just how far along we are on our journey toward sustainable development. As most of you know by now, sustainability is not just a buzzword for us – and certainly not a “necessary evil.” It is part of our DNA, and has been for generations: A look at our company’s history, which spans more than 215 years, is proof: While it is true that my forefathers didn’t actually use the term sustainability, everything they did reflected the concept.

Company founder Otto Koehler, for example, made use of hydropower from the millstream at our company headquarters in Oberkirch all the way back in 1807. Around a hundred years later, August Koehler Junior had the Lautenbach power plant built so that we would have decades of environmentally friendly power. Long-term decisions like these are something that keeps inspiring us and shaping our day-to-day actions to this day.

Paper, our core business besides renewable energy, is something we see as a circular loop. It should therefore come as no surprise that we took a closer look at this circularity last year and examined its possibilities by looking at the lifecycle of the packaging paper we provide to wafer manufacturer Loacker. The journey took us from Kehl, where we produce the flexible packaging paper, to Italy, where the paper is further processed, and on to Greiz, where we recycle the paper after it has been used. And we have an incredible video documenting the whole journey. You can learn more about this in the article starting on page 42. It also explains our conviction about one thing: Circular economy principles reflect a fundamental change in our world, and we are making sure that we help shape that change and, as a result, the future.

In related news, we have also made enormous progress in the area of climate action. 2024 saw us complete the conversion of our combined heat and power plant at our Oberkirch mill from coal to biomass, which will reduce direct CO₂ emissions from fossil fuels by an enormous 150,000 metric fossil tons per year. And 2025 will now come with another important project: our Langer Wald wind farm in the Waldeck district of North Hesse, which is expected to go online very soon. This takes us a huge step closer to the Koehler Promise: By 2030, we want to generate more energy from renewable sources with our own facilities than we need for our paper production operations.

As has been our longstanding tradition, we continue to assume our environmental and social responsibilities. Our training rate has stood at 4.8% since 2024, and that already exceeds our target for 2030. Moreover, we are building the Gretel-Furler daycare center, which is named after my grandmother and should make an important contribution to our employees' work-life balance and to the needs of our community. This sense of responsibility is also reflected in our business practices. We are using sustainable innovations and future-oriented investments to secure our competitive advantage while contributing to creating a more sustainable industry. Take the virgin fiber we use for our paper products, for example: All of it originates from sustainable forestry and controlled

sources. And our new Koehler NexPlus® Seal WVB flexible packaging paper with a vapor barrier shows that sustainable solutions do not require us to compromise on functionality.

Our company-wide efforts when it comes to sustainability are yielding fruit, as evidenced by the platinum medal we received from the internationally renowned assessment platform EcoVadis. Not only did we meet our target of achieving a score of 80 points by 2030 well ahead of schedule, we actually exceeded it, scoring 90 out of a possible 100 points. This places us among the top 1% of all rated companies in our industry across the globe. It is a vital milestone, and one that is due above all to the biggest success factor in the Koehler Group: our highly dedicated employees.

All this success needs constant work, and part of that work consists of us continuously improving our internal processes. As I write this, we have clear roadmaps, regular status checks, and a comprehensive overview of all our sustainability actions. This enables us to remain on course, render progress measurable, and make adjustments on time whenever necessary. That is why we are taking things one step farther than in previous years in this report: Not only are we disclosing our targets, we are also communicating our current progress and the challenges that we are encountering. To find out more about how far we have come with regard to our 2030 Sustainability Strategy, start reading on page 26.

Our successes over the past year are not just down to strategies on paper, but to people who show initiative, come up with and develop new ideas, and take on responsibilities day in, day out. It makes me tremendously proud to be on this journey together with everyone – with curiosity, courage, and the determination we need to shape our own future.



Kai Furler
Koehler Group CEO



Kai Furler
CEO

Dr. Stefan Karrer
COO

Frank Lendowski
CFO

Our Values. Our Culture.

————→ We are shaping the future of our company on the basis of our values and principles. In doing so, we are continuing a longstanding tradition of over 215 years in which we have remained a successful and well-established independent family business on the market. It should therefore come as no surprise that we are striving for continuous development that combines tried-and-true traditions with innovative ideas that will secure our business success in a sustainable manner. Against this backdrop, the Koehler Group considers it as a matter of course not only to comply with strict regulations, but also to act in line with the highest ethical standards and live our shared values.

We want to be an **attractive employer**. To achieve this, we are committed to providing our employees with valuable opportunities to advance and develop. Team spirit, responsibility, and a passion for the work we do are essential values for us, as well as the foundation of our success. The extensive experience and dedication of our employees speak volumes about our workforce. We support young people with our dual-study programs and assist them on their career paths throughout their working lives. That is why many of the people who work at Koehler remain part of our company until they retire.

We want to be a **good neighbor**. The Koehler Group has grown strong roots in the region for more than 215 years through its history and tradition. Being a good neighbor is an integral part of our corporate social responsibility, and we want to interact responsibly with all those whose lives are touched by our operations and everyone who lives in the vicinity of our sites. For us, being a good neighbor not only means taking responsibility for our sites, but also for our entire supply chain.

We want to be a **driver of innovation**. Tradition and innovation are what make sustainable development possible. It is the company's traditions that provide the foundation upon which innovations are built. Our product development

process is targeted at producing future-proof solutions both technically and ecologically as well as economically. We are continuously optimizing our internal processes in order to save on resources. This makes sustainability an integral part of our business strategy and success.

We want to be a **reliable business partner**. Our aim is to ensure that customers will enjoy purchasing from us because they know they can rely on us and the quality of our products and services. In order to meet these stringent quality standards, we use our resources responsibly. We carefully select our service providers, suppliers, and raw materials and have set out our expectations in this regard in our Supplier Code of Conduct.

The Koehler culture is based on our values. Among other important principles, our values incorporate the Ten Principles of the UN Global Compact, as well as the ETI Base Code. All our activities are aligned with the principle of sustainable development, as set out in the UN Declaration issued in Rio de Janeiro in 1992. This concept shapes our mission statement. We recognize that the creation of value, social justice, and the preservation of natural resources are equally important interests that are crucial to our survival. They complement each other and make each other possible in the long term.

Sustainability on the Road to Success



——→ Jens Kriete has been the Koehler Group's Sustainability Manager since 2020, which means he is in charge of driving the development and implementation of the company's sustainability strategy. In this interview, we had the chance to ask him about a number of prestigious awards and his highlights of 2024.

Mr. Kriete, the 4evergreen alliance honored you in 2024 for your extraordinary work in the area of public affairs. Congratulations!

Thank you! I am committed to our common cause, so having the organization honor my work with this award was a very happy occasion for me.

What does the award mean to you?

Well, it's a great incentive to continue pursuing the targets established by the 4evergreen alliance, of course. As you might know, the alliance is made up of over 100 companies that deal with fiber-based packaging – all the way from the manufacturers of base materials to processors to institutes and recycling companies. So what's our target? Simple: We want to make sure that 90% of this packaging is recycled by 2030, and that means everything from paper cups to shoeboxes. Now, obviously coordinating that many members is a challenge in and of itself, and to tell you the truth, it's a complex but exciting task.

EcoVadis has awarded the Koehler Group platinum status – that is also a remarkable distinction.

Definitely. Our score of 90 means that we're among the top 1% of all rated companies in our industry. And sure, getting there was tough and demanding, but also tremendously rewarding. EcoVadis assesses companies in four different areas: environment, labor and human rights, ethics, and sustainable procurement. Every year, the assessment criteria are adjusted, so a lot of precision is needed. We've overhauled our reporting and developed a detailed KPI matrix that matches the Koehler Group's structure. The special thing about this is that we didn't have to modify any fundamental processes; we just had to communicate things in a more concise and transparent way. This shows that we have already been on the right path for a long time. And in the end, this distinction corroborates our tireless commitment to sustainable development.

90%

of fiber-based packaging
needs to be recycled in order
to meet the 4evergreen
alliance's target for 2030.

Why is the Koehler Group interested in being certified by EcoVadis?

It's all about transparency and credibility. EcoVadis has become a standard in the industry. And for us, it's not just about documenting our achievements in the area of sustainability, but also about showing our customers and partners what we're doing and what we're capable of. After all, business relationships also depend on that kind of assessment, so we see it as an opportunity to bring our work to light. To put it simply, it's not really about having a certificate on the wall, but about continuously improving our sustainability strategy and communicating it in a transparent manner.

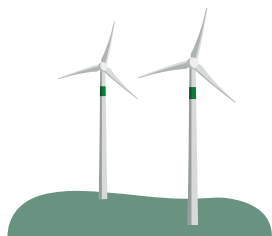
“The Koehler Group is among the top 1% of all companies in our industry that are rated by EcoVadis.”

Jens Kriete
Sustainability Manager at the Koehler Group

90

points out of 100 is
the score achieved by
the Koehler Group
in EcoVadis' rankings.

What kinds of things kept you busy in 2024?



Sustainable development is a long-term task. In fact, we are still working on many of the projects that we introduced in our last report. But we've also successfully completed a series of large investment projects: the conversion of our combined heat and power plant in Oberkirch, our Blasbach wind farm, our new technology building, and our new Koehler Group site in Willstätt. There was also a big technical project, which we cover in greater detail in this report: a shoe press that we installed on paper machine 4. You can read more about that on page 52. Then, in terms of management, merging the targets of our sustainability strategy with the planning process was a pretty big step. We prepared extensive internal documentation that groups together all the projects and actions that contribute to implementing the sustainability strategy, so that's an integral part of our plans now and can be measured with a separate KPI system.



What does sustainability mean to you on a personal level?

It's absolutely essential that we realize that we always need to look at environmental, business, and social aspects together. They're usually a balancing act. Communication plays a crucial role here, and art is one way of conveying the message of sustainability in a creative and inspiring manner. In fact, it's kind of a shame that culture and art are nowhere to be found in the UN's 17 goals, since artistic exchanges can accomplish a lot: Stefan Sczcesny, for example, is known for his neo-expressive paintings and depicted these sustainability goals on canvas. A limited edition run of art prints reproducing these works was made using Koehler premium recycled paper and was then packed in a premium print portfolio. We've taken the images and put them on permanent display at our Greiz mill, where the recycled paper products are made. Ultimately, we wanted to show that visual arts can create a bridge to our senses and enable the UN's 17 Sustainable Development Goals to take center stage. Not to mention, of course, that the use of our recycled paper products in this case allowed us to tap into a new market and show that our paper is a superlative choice for art prints.



About This Report

————→ We are delighted to present the Koehler Group's fourth sustainability report, which reflects the year 2024. In this report, we will not only be disclosing our sustainability strategy, but will also provide you with in-depth looks at many of our projects and actions, as well as at the specific progress we have made in that context.

The contents of this sustainability report are based on Global Reporting Initiative (GRI) standards, with the report itself applying selected standards, or parts thereof, as part of a GRI-referenced claim. The report will be printed in both German and English and will be available in digital form on the Koehler Group websites. The European Union's Corporate Sustainability Reporting Directive (CSRD) has already been transposed into national law in certain member states. However, this transposition is still pending in Germany. At the time of writing, the directive is undergoing a significant revision by the European Commission. Moreover, the deadline by which it must be implemented has been postponed. We are closely monitoring all relevant developments and proactively preparing for CSRD-compliant sustainability reporting.

Reporting Period and Scope

This sustainability report describes the sustainability-related activities of the Koehler Group in the 2024 fiscal year. The report's quantitative data is based on the period from January 1, 2024 to December 31, 2024.

The revenue and employee numbers in this report are for the entire Koehler Group; if applicable, in proportion to the corresponding capital participation percentage.

The production, occupational health and safety statistics, water consumption, energy consumption, waste, and emission numbers in this report are for Koehler Paper SE and Koehler Renewable Energy GmbH. Koehler Oberkirch GmbH, Koehler Kehl GmbH, Koehler Greiz GmbH & Co. KG, and Katz GmbH & Co. KG are some of the companies that are part of Koehler Paper SE.

BEB – Bio Energie Baden GmbH, GBE – Gocher Bioenergie GmbH, EBE – Elsfl ether Bioenergie GmbH, WBE – Wiesmoorer Bioenergie GmbH, and DBE – Dollbergen Bioenergie GmbH are some of the companies that are part of Koehler Renewable Energy GmbH.

Koehler Paper SE and Koehler Renewable Energy GmbH have a direct or indirect stake in a number of smaller companies with KPIs that, in certain cases, are not fully reproduced in this sustainability report. Woodhouse GmbH & Co. KG is part of the Koehler Group. Handling volumes, employee numbers, and revenue at Woodhouse GmbH & Co. KG and its subsidiaries were all taken into account, while other KPIs will be gradually recorded in future reports.

We have collected and processed the data used in this report with the utmost diligence. However, errors cannot be completely ruled out. The report was not reviewed by a third party.

Forward-Looking Statements

This sustainability report includes forward-looking statements. These statements are based on assumptions and expectations at the time of this report's publication. Actual results may deviate from the information in this report as a result of factors such as future market conditions, financial developments, the behavior of other market participants, and legal and political decisions. Accordingly, the forward-looking statements in this report must not be viewed as guarantees.

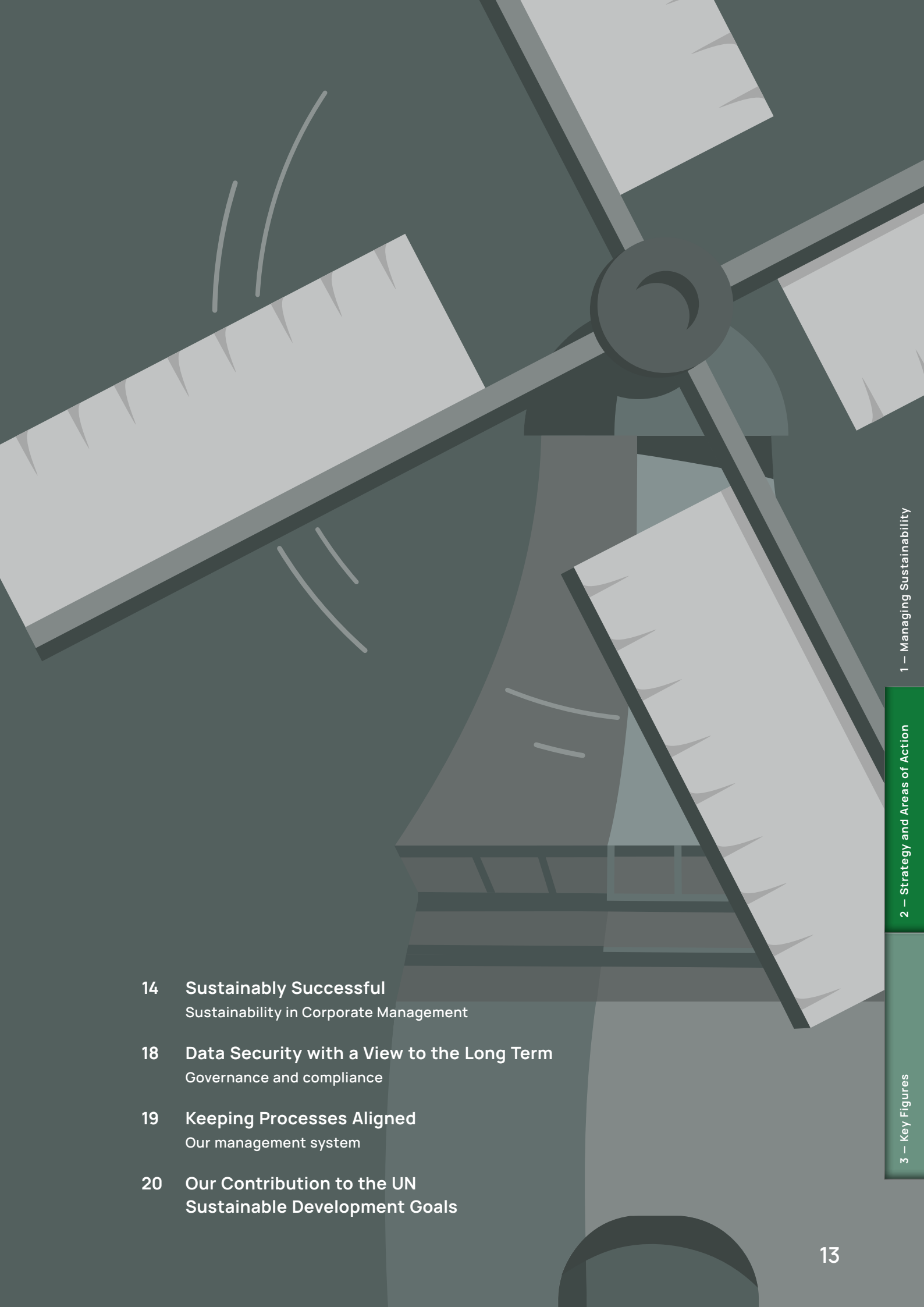
Editorial Note

In order to ensure that this report is easier to read, the legal form of companies is not usually mentioned.

In addition, metric units are used.

1 –

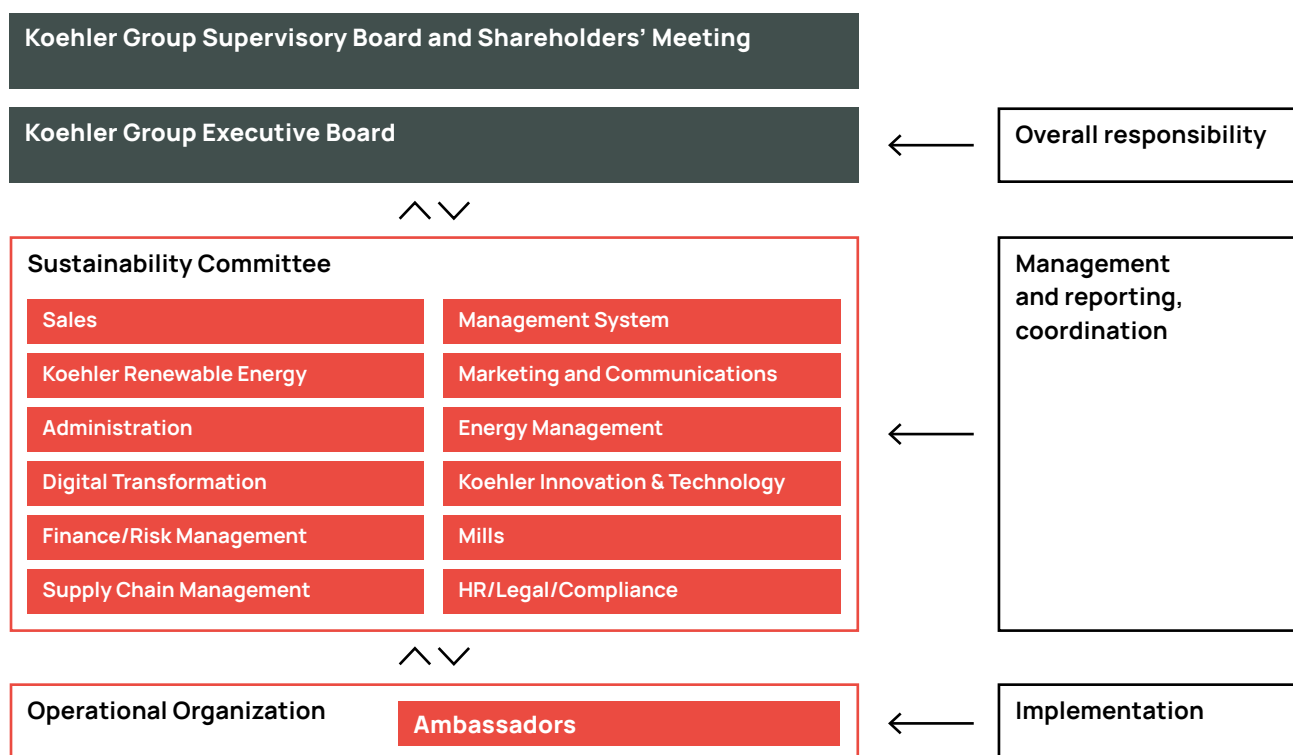
Managing Sustain- ability

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Sustainably Successful

————→ For more than two centuries, a holistic outlook has shaped our company strategy. We do not look at success as just a financial variable, but rather as a successful balance between our responsibilities to humanity, the environment, and our performance as a business.

Integration of the Sustainability Committee into the Organization



An Evolving Committee

The Koehler Group's Sustainability Committee has members from every area in the company and manages our strategy's implementation under the leadership of our Sustainability Manager. The committee reports directly to the Executive Board and checks, on a regular basis, whether the targets set have been met. In addition, it identifies opportunities and risks and makes necessary adjustments to ongoing actions.

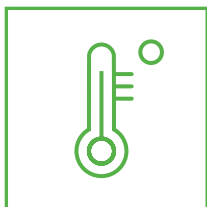
The committee's monthly meetings have evolved from update meetings to an action-oriented discussion format that follows a clear agenda with defined blocks. Members present the progress made in their respective areas, and the committee keeps binding minutes of all commitments so that they can be followed up in subsequent meetings. This structure not only generates dynamism, but also ensures that all stakeholders are personally responsible and actively involved.

In order to reinforce our sustainability message, we have sustainability ambassadors at the Koehler Group's production facilities. These ambassadors receive appropriate training and are responsible for raising awareness of relevant topics among their colleagues and acting as points of contact. At the same time, they are responsible for helping the committee elaborate KPIs and implement actions in a practical manner.

The meeting format's evolution from a tool for delivering information to an actual forum focused on action has enabled the committee to become a key driver of the integration of our sustainability strategy into all areas of the company. Within this context, having an interdisciplinary team with experts from a variety of fields provides a holistic perspective that can bring environmental, social, and financial aspects into balance.

What Is Actually Important?

To prepare for the reporting requirements in the European Union's Corporate Sustainability Reporting Directive (CSRD), we have conducted a double materiality assessment together with a consulting firm. On the one hand, this assessment evaluates the impact of the Koehler Group's business activities on society and the environment. Moreover, this "inside-out" analysis identifies the areas in which we bear responsibility as a company and can help bring about positive change. On the other hand, the assessment analyzes how external factors affect the Koehler Group's financial stability ("outside-in"). Both perspectives are linked in order to identify areas where environmental and social issues shape both the company's performance and social goals. As a result, the following areas were determined to be material:



Climate Change

Paper manufacturing requires large amounts of energy in the form of steam and electricity. At the Koehler Group, we started producing our own energy to cover that demand at an early stage, with a particular focus on renewable sources. In our climate strategy roadmap, we have defined our plans for completely replacing fossil fuels with renewable fuels.

→ See Area of Action 4, "A Visionary Approach to Climate

Action" ↗ [p. 60](#)

→ See GRI: 302, 305 ↗ [p. 84](#)



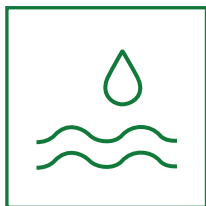
Pollution

Producing paper and board consumes a lot of energy, water, raw materials, and time. We diligently treat our wastewater and are careful with how we handle fresh water and chemicals. We reuse water wherever possible and are continuously optimizing our processes. We operate hydroelectric plants, have equipped weirs with fish ladders, and participate in adopt-a-creek programs.

→ See Area of Action 3, "Resource Efficiency" ↗ [p. 52](#)

→ See Area of Action 4, "A Visionary Approach to Climate Action" ↗ [p. 60](#)

→ See GRI: 303, 306 ↗ [pp. 84 – 85](#)



Water and Marine Resources

In terms of volume, water is the raw material we use most in the production of pulp and paper. Normally, the fresh water from our wells is first used for cooling purposes and then for pulping and as process water. The water is purified and reused until this is no longer economically viable.

- See Area of Action 3, "Resource Efficiency" [↗ p. 52](#)
- See GRI: 303 [↗ p. 84](#)



Circular Economy

The Koehler Group is shaping the circular economy with flexible packaging paper products made of renewable raw materials that can be recycled with high-quality results. With the Zollikofer Group, we are opening up access to various forms of biomass that can be used both as materials and for the production of energy, offering circular economy solutions as a result.

- See Area of Action 1 "Successful, Future-Proof Products and Services" [↗ p. 36](#)
- See Area of Action 3, "Resource Efficiency" [↗ p. 52](#)
- See GRI: 301 [↗ p. 84](#)



Biodiversity and Ecosystems

We use renewable raw materials both when producing paper and when generating renewable energy. With FSC® and PEFC certifications, we promote sustainable forestry and plantation management practices that also aim to protect biodiversity. At the local level, we participate in adopt-a-creek programs and cultivate meadow orchards. We procure fuelwood from our region.

- See Area of Action 2 "Renewable Raw Materials and Responsible Sources" [↗ p. 46](#)
- See Area of Action 3, "Resource Efficiency" [↗ p. 52](#)
- See GRI: 101, 304 [↗ p. 84](#)



Own Workforce

We offer an environment that is intrinsically motivating for staff and supports their further advancement. The focus is on health promotion, occupational health and safety, and individual career paths. We use agile HR development practices to empower and support all employees – from skilled workers to the management level. This enables us to encourage long-lasting loyalty from apprenticeship to retirement.

- See Area of Action 5, "People, the Key to Success" [↗ p. 70](#)
- See GRI: 401-409, 411 [↗ pp. 85 – 86](#)



Workers in the Value Chain

We expect all Koehler Group suppliers to adhere to our Code of Conduct. We expect compliance with all regulations, respect for the basic rights of employees and responsibility for their health and occupational safety, and environmental protection, and do not tolerate any form of corruption or bribery. When selecting suppliers, we base our decisions on criteria such as those drawn up by Transparency International, the UN Global Compact, and the Ethical Trade Initiative.

→ See Area of Action 5, "People, the Key to Success" ↗ [p. 70](#)

→ See GRI: 414 ↗ [p. 87](#)



Consumers and End Users

We are a reliable business partner. Compliance with legal and ethical standards forms the basis for the sustainability efforts at the Koehler Group. With our Compliance Committee, we have firmly established governance and compliance as key elements of our organization. Data protection and information security have been integrated into our management system.

→ See Area of Action 1 "Successful, Future-Proof Products and Services" ↗ [p. 36](#)

→ See GRI: 418 ↗ [p. 87](#)



Affected Communities

We interact responsibly with all those whose lives are touched by our operations and everyone who lives in the vicinity of our sites. For us, being a good neighbor also means taking responsibility for the environment and our society – at our sites and all along our supply chain.

→ See Area of Action 1 "Successful, Future-Proof Products and Services" ↗ [p. 36](#)

→ See GRI: 413 ↗ [p. 87](#)



Business Conduct

In order to further increase our company's value, we endeavor to make continuous improvements along the entire value chain. This includes constantly optimizing our products and processes.

→ See Area of Action 6, "Growing the Company's Value" ↗ [p. 76](#)

→ See GRI: 2, 203 ↗ [pp. 82 – 83](#)

Data Security with a View to the Long Term

————→ Governance, compliance, and IT security are all tightly linked: Governance defines general conditions and policies, compliance makes sure that they are followed, and IT security protects data and systems from threats. Together, they form the foundation for a secure corporate environment in which rules are followed.

We provide our employees with information security training on a continuous basis. In 2024, we conducted an extensive audit of our management system to prepare for the new ISO/IEC 27001:2022 standard. The corresponding recertification, which is scheduled for 2025, entailed revising specification documents and adjusting our risk management practices. These practices have always been an integral part of the standard, but the corresponding requirements are now even more stringent. We therefore subjected numerous processes and procedures to close scrutiny to analyze them in greater detail than ever before, with examples including the security of individual computers in our data center and the access control systems we use at our premises.

Raising Awareness

The topic of artificial intelligence is evolving at incredible speed. That is why we are currently making an exhaustive effort to identify the opportunities and risks arising from this development – both for Koehler as a corporate group and

for every single person who works for us. Among other things, it is crucial to make sure that all employees understand which AI-generated information is trustworthy and what risks are associated with its use. In order to raise greater awareness of cybersecurity practices, we have enhanced our training offerings accordingly, especially in regard to the topic of social engineering. It is important to understand that this includes criminals attempting to manipulate our employees in order to get access to sensitive company information. “Attackers are also using artificial intelligence to fine-tune their strategies, which is making it harder and harder to recognize cyberattacks,” warns Information Security Officer Uwe Kammerer. Examples closely related to day-to-day our activities, interactive training modules, and realistic scenarios are just some of the tools we use to prepare our employees to recognize threats early on and handle them with confidence.

The success of any information security strategy depends on the dedication of each individual, which is why established knowledge is the best protection against cyberattacks.

Keeping Processes Aligned

————> **More efficient processes, powerful leadership, and unrivaled quality standards:** The Koehler management system integrates tasks and standards so that they are perfectly aligned. And with custom-tailored solutions, the team optimizes processes throughout the company.

The Koehler management system builds bridges between the various areas of the Koehler Group to enable us to make better use of our expertise.

Corporate Director Benjamin Hahn explains his team's work: "We design and optimize company-wide processes and tools from a holistic perspective. Within this context, our focus is on identifying relationships, taking advantage of synergistic effects, and aligning processes. We not only conduct audits, but also provide advice internally and assist our colleagues with developing sustainable solutions."



Fit for Complex Cases

The effectiveness of a management system depends to a large extent on the expertise of the managers in charge of it. This is why we have a "Structured Problem-Solving" course in our basic training program for managers – one of many initiatives designed to help our employees with their continuous development. The course reinforces analytical skills and enables managers to successfully tackle complex problems.

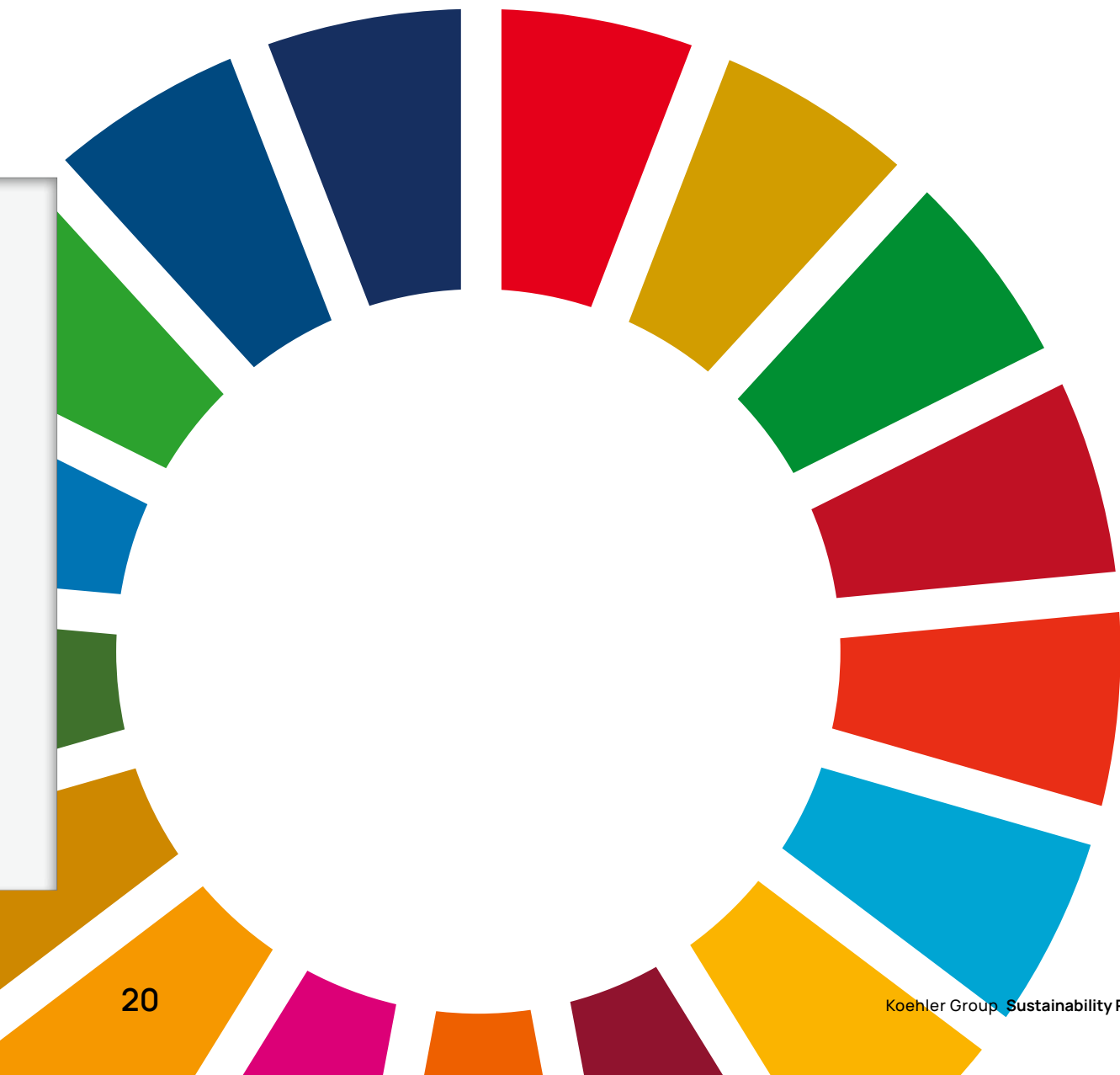


Neatly Put Together

With a far-reaching communication campaign at our production sites, we have succeeded in raising our employees' awareness of the topic of food safety. This is an important issue for us, since many of our flexible packaging paper products are used to wrap food such as chocolate, tea, and pasta. In other words, from the moment these products are made, special attention must be paid to hygiene and cleanliness, not only for the safety of consumers who eat these foods, but also because it is part of the promise we have made with regard to the products and processes within the Koehler Group.

Our Contribution to the UN Sustainable Development Goals

————> The UN Sustainable Development Goals (SDGs) are primarily aimed at nation states, but we at the Koehler Group are also working proactively to implement them. That is why we have selected ten of the 17 goals that we believe offer opportunities for us to contribute to sustainable development now and in the future.





SDG 3

Good Health and Well-Being

The well-being of our employees is extremely important to us, which is why safety is the number one priority in everything we do. Occupational health and safety, as well as preventive medical care, are absolutely indispensable for us. Moreover, we focus on developing and producing products with zero health concerns, and in this way actively contribute to preventive approaches to healthcare. Our manufacturing processes are low in emissions, and we are continuously working to further reduce our emissions wherever possible and practical.

→ See Area of Action 5, "People, the Key to Success"
[↗ p. 70](#)



SDG 4

Quality Education

As a "BEST PLACE TO LEARN®"-certified training provider, we consider it vital to empower our young talent. We attach great importance to first-rate training and have therefore inaugurated the Koehler Group Campus – our technical training center. In addition, we support the "Sustainable Science and Technology" study program at the Baden-Württemberg Cooperative State University and began working with the Dresden University of Technology this reporting year. Moreover, we offer all employees a wide variety of advanced training options designed for lifelong learning.

→ See Area of Action 5, "People, the Key to Success"
[↗ p. 70](#)



SDG 5

Gender Equality

Every single one of our employees has a right to equal treatment and respect regardless of their ethnicity, nationality, gender, religion, worldview, disabilities, age, sexual orientation, or gender identity. We do not tolerate individuals being disadvantaged, bullied, or marginalized. The German Equal Treatment Act ("Allgemeines Gleichbehandlungsgesetz") forms the basis of our insistence on and support for equal treatment. In addition, we became a signatory to the Charta der Vielfalt (Diversity Charter) this reporting year.

→ See Area of Action 5, "People, the Key to Success"
[↗ p. 70](#)



SDG 6

Clean Water and Sanitation

We take our responsibility for water use seriously: We use fresh water as sparingly as possible, our wastewater undergoes thorough treatment, and we use only as many chemicals as absolutely necessary. We optimize circularity in order to continuously improve our processes. In addition, we operate hydropower plants, have incorporated fish ladders into weirs, and participate in adopt-a-creek programs to protect natural bodies of water. The wastewater treatment plant at our Kehl mill has been extensively upgraded and expanded.

→ See Area of Action 3, "Resource Efficiency" [↗ p. 52](#)

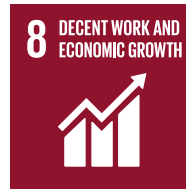


SDG 7

Affordable and Clean Energy

We are visionaries when it comes to climate action. The Koehler Renewable Energy business unit produces renewable energy for Koehler's own needs and for customers. In our climate strategy roadmap, we set out ambitious objectives that we are consistently pursuing. Our energy management practices optimize energy-intensive processes for maximum efficiency. As a member of Modellfabrik Papier, we work on solutions for climate-neutral paper production. In addition, we are developing new processes for recycling previously unused biomass and are continuing to invest in wind and solar facilities.

→ See Area of Action 4, "A Visionary Approach to Climate Action" [p. 60](#)



SDG 8

Decent Work and Economic Growth

Our supply chain also stimulates economic growth in rural areas. We focus on innovative, future-proof products with a better environmental footprint than our previous products and our competitors' products. This allows us to decouple growth and emissions in our own processes and in those of our customers. Compensation is based on pay scales, and we hire temporary workers as seldom as possible. When developing innovative products and processes, we follow circular economy principles so that we can maximize value with fewer primary resources.

→ See Area of Action 1 "Successful, Future-Proof Products and Services" [p. 36](#)

→ See Area of Action 2 "Renewable Raw Materials and Responsible Sources" [p. 46](#)



SDG 14

Life below Water

Our NexFlex® products can replace plastics in packaging. This is our way to help counter the global avalanche of plastic waste. We minimize our impact on local bodies of water through our effective wastewater treatment facilities.

→ See Area of Action 1 "Successful, Future-Proof Products and Services" [p. 36](#)



SDG 15

Life on Land

With fiber supply chains certified in accordance with FSC®¹ and PEFC² Chain of Custody, we support and fund sustainable forestry and plantation management in the regions from which our raw fiber materials originate. In addition, we take local measures to strive toward this goal, like planting orchard meadows and participating in adopt-a-creek programs. By using biomass as a material and for the production of thermal energy, we contribute to regional value creation.

→ See Area of Action 2 "Renewable Raw Materials and Responsible Sources" [p. 46](#)



SDG 9

Industry, Innovation, and Infrastructure

We continuously upgrade our production facilities and demonstrate our commitment by playing an active role in organizations that are dedicated to Germany's future as an industrial location. With our specialty paper products, labels, and packaging solutions, we are contributing to a functioning infrastructure. Innovation is essential for us, which is why we develop new products and processes ourselves and together with external partners and research institutes. We come up with multimodal logistics solutions to transport goods by road, rail, and water. In addition, our biomass trade and processing of waste wood make us part of the waste management and recycling industry.

→ See Area of Action 6, "Growing the Company's Value"
[↗ p. 76](#)



SDG 12

Responsible Consumption and Production

Our products are recyclable. With our NexFlex® products, we offer a material for effective and recyclable packaging solutions. Our Blue4est® thermal paper contributes to preventive consumer protection. At our Greiz mill, we exclusively use wastepaper as a raw material and convert it into high-quality recycled paper. At the Kehl mill, we make designer pigments out of waste gas components in our PCC³ system-pigments we then use as a raw material in our products. We only use leftover materials for energy generation if we cannot use them in any other way. We are developing bio-based solutions for our functional paper coatings.

→ See Area of Action 1 "Successful, Future-Proof Products and Services" [↗ p. 36](#)
 → See Area of Action 3, "Resource Efficiency" [↗ p. 52](#)
 → See Area of Action 4, "A Visionary Approach to Climate Action"

The areas that we have identified as material for the Koehler Group are reflected in the UN Sustainable Development Goals that we have identified as material to us. By integrating our sustainability targets, we are creating sustainable value – both for the stakeholders of today and for future generations. In this way, we are combining global objectives with entrepreneurial action.

¹ FSC® C016508

² PEFC /04-31-1206

³ Precipitated calcium carbonate

2 – Strategy and Areas of Action



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Sustainability Shapes Our Strategy

————→ At the Koehler Group, we have set ourselves a series of ambitious sustainability targets, and can already look back on some remarkable achievements in this regard. Some of the targets we had planned to meet by 2030 have already been accomplished – or even outdone! Needless to say, this positive development has strengthened our resolve to methodically continue the journey we are on.

We have identified six key Areas of Action for our sustainability strategy, which serve as the basis for our commitment. These clearly defined areas structure and focus our actions in order to anchor sustainability in all company processes in a targeted and effective manner. With this systematic approach, we manage specific actions and set priorities in order to combine ecological, social, and economic objectives in the long term.

Successful, Future-Proof Products and Services

Innovation is the key to successful products. We were active in 20 partnerships in 2024 with external organisation, such as universities and Start-ups, which underscores the importance of research and development for the Koehler Group. On top of that, we have already met our target of having 15% of our revenue come from product innovations.

One extraordinary example of our capacity for innovation is the development of flexible packaging paper with barrier properties that are optimized for tea packaging. In fact, it shows how we are creating forward-looking solutions in response to the growing demand for environmentally friendly packaging materials that maintain a high level of product quality while meeting strict environmental requirements.

Moreover, the quality of our products is reflected in the extremely low rate of complaints we receive, currently stands at less than 0.3% – a target we had originally set for 2030. This outstanding rate is proof of the precision and care we put into our manufacturing processes and underscores our quality promise to our customers.

———— Responsible procurement

86%

of the fibers we use are
FSC®- or PEFC-certified

We are saving around

150.000 tonnes

of direct fossil CO₂ emissions by
converting the combined heat and
power plant at the Oberkirch site.

Renewable Raw Materials and Responsible Sources

As a company that depends on raw materials, we attach enormous importance to making sure that these materials come from responsible suppliers. This commitment can be seen in concrete figures: 100% of the virgin fibers we use originate from sustainable forestry and controlled sources. The most important certification systems for sustainable forestry are the Forest Stewardship Council® (FSC®) and the Program for the Endorsement of Forest Certification (PEFC). Our planned target of having 80% of the fibers we use FSC®/PEFC-certified by 2024 has been clearly exceeded, as we have already achieved a figure of 86%.

These numbers illustrate our commitment to responsible raw material procurement practices. By using certified fibers, we are making an important contribution to protecting our forests and promoting sustainable forestry.

Resource Efficiency

When it comes to resource efficiency, we have made significant progress in the area of water use in particular. With four liters of wastewater per kilogram of paper, our Kehl mill is one of the most water-efficient paper production operations in all of Europe. In addition, we have expanded our wastewater treatment plant with state-of-the-art technologies, ensuring that all production water can be handled there. This not only lessens our impact on local bodies of water and the load on our municipal treatment plant, but also helps further reduce our production operations' environmental footprint. On top of this, we have added a shoe press to paper machine 4 at our Oberkirch mill. This unit presses up to 5% more water out of the paper web than the previous equipment we were using, which ends up saving around 15% steam in the downstream drying stage. This in turn speeds up the overall process while simultaneously making it more energy-efficient, since the combined heat and power plant does not need to produce as much steam.

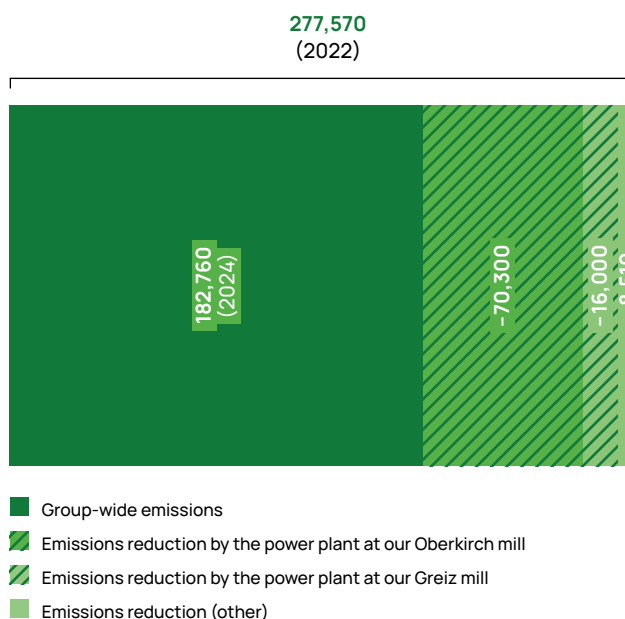
A Visionary Approach to Climate Action

In order to reduce our fossil greenhouse gas emissions, we are replacing fossil fuels with renewable raw materials in our combined heat and power plants. The power plant at our Greiz mill has been firing wood dust instead of lignite since the beginning of 2024, and the power plant at our Oberkirch mill has been firing biomass instead of black coal since the end of 2024. To this end, we have built three collection points for biomass at our Oberkirch mill and erected four silos in order to store that biomass. Additionally, the combustion chamber there has been converted to accommodate the new type of fuel. Meanwhile, with regard to delivery logistics for the aforementioned biomass, we have optimized the corresponding routes in such a way that trucks will only need to be on our plant premises briefly, minimizing the negative impact that they could have on the neighborhood. Finally, Zollikofer has acquired French wood trade company REKO Energie Bois in order to ensure a reliable supply of biomass for our combined heat and power plants in the long term.

These conversion measures will cut direct fossil carbon dioxide emissions by 24,000 metric tons a year at our Greiz mill and by around 150,000 metric tons a year at our Oberkirch mill. Put more succinctly, this is expected to reduce the Koehler Group's carbon dioxide emissions by more than half. This should come as no surprise, as the Koehler Promise made over ten years ago had already established energy from renewable sources as a central pillar of our climate protection strategy, and the corresponding commitment can be seen in the steady progress we are making in that area.

Group-wide reduction in emissions resulting from the decarbonization projects at our sites in Oberkirch and Greiz

in metric tons of CO₂e compared to 2022 as the baseline year



People, the Key to Success

With their work, our employees are the ones driving the Koehler Group's positive evolution forward. We want to provide them with an environment that empowers them to take advantage of development opportunities – all the way from apprenticeship to retirement. And with a training rate of 4.8%, we have already exceeded our goal of 4% for 2030. More specifically, we have more than 100 apprentices and dual-study program students across all training years at our Oberkirch, Kehl, Willstätt, Weisenbach, and Greiz locations.

We are also making good progress in professional development: Our employees invested an average of 24.5 hours into training in 2024, which was significantly more than the 20 hours we had expected for the year. This is due in part to a broad range of offerings that include e-learning modules and in-person training courses covering all aspects of professional and personal development. Moreover, we have a program for getting started in leadership roles for employees who want to take on managerial responsibilities.

We are especially proud of our new technical training center at the Koehler Group Campus in Willstätt. With an area of over 3,000 square meters, this center offers five times as much space as our previous training workshop and is equipped with state-of-the-art equipment. We invested around 1.5 million euros in building the new center, where 42 young individuals will be acquiring the basic skills required for careers in electronics, industrial mechanics, and mechatronics.

As is well known, skilled workers with training in paper industry trades are becoming increasingly difficult to find. That is why we have created a career change program. This program gives people with experience in other professional fields the opportunity to train for a job in our paper production operations. In cooperation with the training center for paper trades in Gernsbach, we have come up with a module-based approach that combines basic theory with plenty of hands-on learning. This compact advanced training offering is designed to enable participants to acquire the most important skills required in order to work safely and productively on paper machines.

Sustainability Manager Jens Kriete (left) and COO Dr. Stefan Karrer (right) proudly displaying the company's EcoVadis Platinum Award.

Growing the Company's Value

We started preparing for the mandatory sustainability reporting requirements of the European Union's Corporate Sustainability Reporting Directive (CSRD) as early as 2023. The EU Taxonomy Regulation supplements the CSRD and defines the business activities that are considered to be environmentally sustainable by the EU institutions.

The EcoVadis rating demonstrates that our consistent commitment to sustainability also pays off economically. The international rating agency comprehensively evaluates companies in the environment, social, ethical, and supply chain categories. The Koehler Group goes through this comprehensive analysis every year, as it helps us make our sustainability performance transparent and improve on it continuously. EcoVadis's assessment serves as an important external benchmark that enables us to measure our progress in regard to our sustainability strategy and methodically identify areas where there is potential for optimization. With 90 out of 100 possible points, we have been awarded platinum status and have accordingly far outdone our original target of having a score of 80 by 2030. This is significant, as this platinum status is the highest distinction that can be awarded in the EcoVadis assessment system. "This puts us among the top 1% of companies with the best score across the world in terms of sustainability and responsible business practices," says Sustainability Manager Jens Kriete with pride. This outstanding score corroborates our pioneering role in the area of sustainability and is a strong signal for our customers, partners, and investments.



Not an Extra Job, but THE Job

Even with all these success stories, there are still challenges ahead when it comes to implementing our sustainability targets: Sustainability is more than just a strategy – it is dependent on the belief and dedication of every single person who works in our company, whether that be at one of our paper machines or in top management. We are endeavoring to make our entire workforce an integral part of this process and want to motivate every single one of our more than 2,500 employees to see sustainability not as an additional task, but rather as an integral part of their day-to-day work.

In order for us to be able to tackle the topic of sustainability in a holistic manner, all areas of the company need to work together more closely than ever before. The challenge in this regard sometimes lies in things that look deceptively trivial: While some of our departments calculate KPIs based on metric tons of paper, others use square meters as their unit. These different approaches are simply the result of heterogeneous data collection practices within the Koehler Group. Needless to say, these and many other processes need to be standardized and optimized through digitalization.

In addition, we are constantly faced with the tension between ecological investments and economic feasibility, for example, when purchasing pulp. It is, of course, important for us to use top-grade fibers from certified forestry and controlled sources – exclusively. But at the same time, costs need to remain reasonable. And the only way for us to be able to properly weigh these essential conflicts of interest, solve them in a constructive manner, and continue to firmly establish sustainability as a core philosophy throughout the entire Koehler Group is to have all our company divisions work closely together.

Planning Today for the Things That Will Matter Tomorrow

We have taken a series of measures in order to tackle these challenges. For starters, sustainability is now an integral part of our internal communications. And to complement that, we impart our Koehler values, which have naturally always included sustainability principles, the moment we onboard new employees. In addition, our Purchasing team receives sustainable supply chain management training, while our Marketing and Communications department is reinforced by an additional employee whose main task revolves around communicating sustainability-related topics within the company and to the public.

We have upgraded our Sustainability Committee's monthly meetings from update meetings to an action-oriented discussion format in which all members actively participate and present the progress made in their projects and areas of responsibility. The result is significantly more vibrant and effective teamwork.

Koehler Promise

“Koehler is committed to generating more energy from renewable sources by 2030 than is required for its paper production operations.”

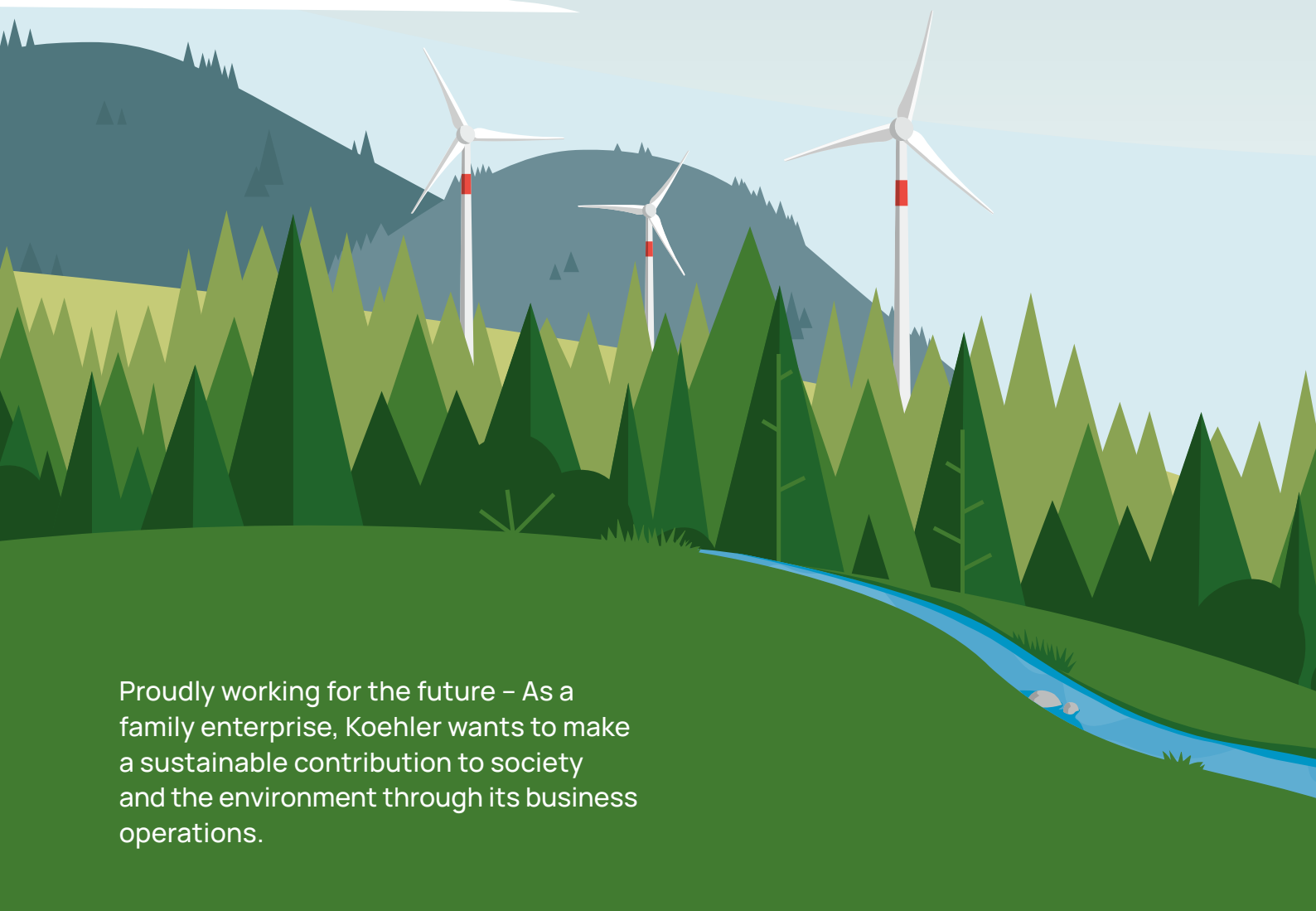
Status as of 2024



In addition to this, we proactively integrate sustainability into our medium-term planning: More specifically, we review planned actions to see which sustainability targets they support and manage budgets in such a way that they will contribute to environmental, social, and business stability in the long term. Moreover, we are gradually refining these processes in order to seamlessly integrate sustainability into everything we do, and check, on a regular basis, whether our targets are still up-to-date or need to be adjusted. With a rolling four-year window, we are already setting the course that will enable us to shape a sustainable future.

By integrating sustainability into all our business processes, we are creating the basis for the future-proof evolution of the Koehler Group in harmony with profit expectations and the needs of our environment and society. We are convinced that financial success and environmental responsibility are not irreconcilable opposites, but rather two sides of the same coin. To put it another way, the only way to be successful in the long term is to manage things in a sustainable manner – for the benefit of the company, our employees, and society at large.

The Important Areas Where We Are Taking Action



Proudly working for the future – As a family enterprise, Koehler wants to make a sustainable contribution to society and the environment through its business operations.

Area of Action 1

Successful, Future-Proof Products and Services

One of the most important development goals for us revolves around recyclable and/or biodegradable paper from renewable raw materials. This will not only help us achieve our own performance and environmental footprint targets, but will also provide our customers with a powerful tool that they can leverage to reach their own sustainability objectives. We make this possible through partnerships with select companies and external organizations.

Area of Action 2

Renewable Raw Materials and Responsible Sources

As a company with a global reach, we can promote sustainable development along our entire value chain together with all stakeholders. Our suppliers share our high standards in relation to environmental, social, and ethical principles. Moreover, we are continuously improving the transparency of our supply chain.

Area of Action 3

Resource Efficiency

Material, energy, and resource efficiency are subject to continual improvement. Production waste is always a potential source of secondary raw materials, and we are already using it for this purpose or are developing methods to do so. Our packaging paper is recyclable, providing it with much greater material efficiency than plastic. In this way, we enable linear value creation to be replaced by circular value creation.



Area of Action 4

A Visionary Approach to Climate Action

Back in 2014, we set an ambitious goal to produce more renewable energy than we need for paper production by 2030. We are pushing the expansion of renewable energy production forward and further reducing our greenhouse gas emissions through energy efficiency. In this way, we are making a positive long-term contribution to climate action and energy security.

Area of Action 5

People, the Key to Success

The key to our success is the people who work at our company. This is why our employees' health and safety take topmost priority. We also invest in training and development programs and actively promote diversity. We aim to employ talented individuals who are driven and highly capable.

Area of Action 6

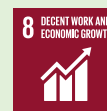
Growing the Company's Value

We want to achieve sustainable growth for our company through our sustainability targets and the actions derived from them. Success and profit make it possible for us to make the investments we need for sustainable development. In addition, we arrange independent audits of our sustainability approach, as well as our actions and their results.

The 2030 Targets for the Areas of Action

Area of Action 1

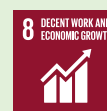
Successful, Future-Proof Products and Services



Target for 2030	Goal	Status update	Progress
100%	All innovations meet the relevant circularity criteria in technical and/or biological terms.	The required procedure for evaluating the biodegradability and recyclability of raw materials and products has been drawn up and fine-tuned.	●
>90%	Our raw materials are of renewable or mineral origin.	We have carried out relevant groundwork in order to be able to categorize the raw materials we use as "renewable" or "mineral."	●
80%	Our customers manage to reduce their CO ₂ e ¹ -emissions thanks to our products.	Approaches for methodically measuring this goal have been evaluated.	●
100%	Our newly developed products are subject to an environmental performance evaluation and perform better than comparable products on the market.	The degree to which environmental product footprints are assessed has been expanded within the Koehler Group.	●
<0.3%	Complaint rate	The target for 2030 was already exceeded in 2024 with a rate of 0.25%.	✓
	Selected partnerships with companies and external organizations support development.	A variety of projects and feasibility studies have been carried out with external partners, e.g., for bio-based coatings or alternative additives and pulp.	●

Area of Action 2

Renewable Raw Materials and Responsible Sources



Target for 2030	Goal	Status update	Progress
100%	Our virgin fibers originate from sustainable forestry and controlled sources.	The target for 2030 was already met in 2024.	✓
≥90%	Our virgin fibers are FSC®- or PEFC-certified.	The annual target of ≥ 80% for 2024 was met with 86%.	●
100%	The biomass we use either as a material or for generating energy comes from responsible sources.	The target for 2030 was already met in 2024.	✓
80%	Retail sales should take place at least on the basis of the EcoVadis standard (rating >60%) or an equivalent Supplier Code of Conduct.	The annual target of ≥ 40% for 2024 was met with 71%. The goal refers to the purchasing volume for all raw materials for paper/board production.	●
3	New biomass materials are identified and tested every year.	The target for 2030 was already met in 2024.	✓

¹ CO₂ equivalents (CO₂e) are a unit of measurement used to standardize the climate impact of various greenhouse gases.

Area of Action 3

Resource Efficiency²



Target for 2030	Goal	Status update	Progress
5%	We are reducing the use of raw and auxiliary materials per square meter of paper.	We have carried out relevant groundwork in order to report this KPI for periods of less than a year.	●
5%	We are reducing the use of fuel per kilowatt-hour of energy generated.	The annual target of 0.7% for 2024 was met with 0.7%. This target refers to the utilization degree of whole mills.	●
5%	We are improving our environmental performance indicator.	The annual environmental performance indicator improvement target of 0.7% for 2024 was not met. The environmental performance indicator instead deteriorated by 1.4%.	●

Area of Action 4

A Visionary Approach to Climate Action²



Target for 2030	Goal	Status update	Progress
80%	We are reducing our direct emissions from the use of fuels (Scope 1).	The annual fossil emission reduction (Scope 1) target of $\geq 30\%$ for 2024 was met with 34%.	●
100%	We are reducing our indirect emissions from the purchase of energy (Scope 2)	The annual emission reduction (Scope 2) target of $\geq 60\%$ for 2024 was met with 90%.	●
20%	We are reducing indirect emissions along the upstream and downstream supply chain (Scope 3).	We have implemented relevant actions in order to increase the proportion of raw data together with our suppliers.	●
100%	We produce more energy from sustainable sources than is required for our paper production (2030 Koehler Promise).	The annual target for 2024 was met with 77%.	●

² The target value for 2030 and the annual target for 2024 are both relative to 2022 as the baseline year.

Progress: 2030 target met 2024 annual target met Not on target

The 2030 Objectives for the Areas of Action

Area of Action 5

People, the Key to Success



Target for 2030	Goal	Status update	Progress
≥4%	Training rate	The target for 2030 was already exceeded in 2024 with a rate of 4.8%.	✓
Ø25 ^h	Advanced training (per employee, per year)	The intermediate target of Ø 20 h for 2024 was met with Ø 24.5 h.	●
0	LTIFR (number of accidents per 200,000 hours worked)	The annual target of ≤ 1.8 accidents per 200,000 hours worked for 2024 was not met, as the rate was 2.1 instead.	●
0	LTISR (average duration of absence after an accident in days)	The annual target of ≤ 45 days absent due to an accident per 200,000 hours worked for 2024 was met with around 39 days.	●
≥95%	Health rate (inverted representation of sickness rate)	The annual target of ≥ 93% for 2024 was met with a rate of 94%.	●
	Good neighbor	A variety of activities were carried out, including the "Gesundheits-tag der Betriebsnachbarschaft in Oberkirch" health day event. In addition, Koehler Paper in Kehl was recognized as an employer that significantly supports civil defense volunteer efforts.	●
100%	We uphold the values and culture of the Koehler Group.	Initial preparations have been made to implement this goal in a methodically measurable way.	●
≤1.5%	Fluctuation (employee-determined departures as a percentage of the average workforce)	The annual target of ≤ 2.5% for 2024 was not met, as the rate was 2.7% instead.	●
≥90%	Retention rate (employee retention over a three-year period)	The annual target of ≥ 82% for 2024 was not met, as the rate was 80% instead.	●
75%	Leadership fill rate (proportion of vacant leadership positions filled by internal applicants)	The annual target of ≥ 60% for 2024 was met with a rate of 73%.	●

Area of Action 6

Growing the Company's Value



Target for 2030	Goal	Status update	Progress
>1.75	Revenue in billions of euros	The annual target of > 1.2 billion euros for 2024 was not met, as revenue was 1.1 billion euros instead.	
>15%	Revenue share for product innovations and services	The target for 2030 was already exceeded in 2024 with a proportion of 19.6%.	
>650,000	Paper and board sales volume in metric tons (per year)	The annual target of > 550,000 metric tons for 2024 was not met, as the sales volume was 490,889 metric tons instead.	
>650	Electricity generation in gigawatt-hours (per year)	The annual target of > 300 GWh for 2024 was met with 384 GWh.	
>920	Heat generation in gigawatt-hours (per year)	The annual target of > 600 GWh for 2024 was met with 779 GWh.	
>50%	Equity ratio	The annual target of > 50% for 2024 was not met, as the ratio was around 48.9% instead.	
>80%	EcoVadis platinum rating (or EcoVadis rating > 80%)	The target for 2030 was already exceeded in 2024 with a rating of 90%.	
>85%	Expenditure on maintenance and modernization measures in millions of euros (per year)	The annual target of > 85 million euros for 2024 was met with 144 million euros.	
>1.3%	Research quota (R&D spending as a percentage of revenue)	The annual target of > 1.15% for 2024 was not met, as the rate was 0.96% instead.	
>18%	Patent usage rate (proportion of patents that are registered by us and are actively used)	The target for 2030 was already exceeded in 2024 with a rate of 24%.	

Progress: 2030 target met 2024 annual target met Not on target

Paper for Tea and Technology



—→ The moment we started making Koehler NexFlex® paper products in 2019 was the moment we started establishing our position as a leading innovator in the field. With our flexible packaging paper offerings, we help customers drive their own sustainable development efforts – both in the food and non-food sectors.

Tangy hints of citrus in Earl Grey tea, the refreshing sensation of peppermint, or the intense aroma of berries in fruit tea – anyone who drinks tea knows that one of its main draws is the dizzying array of flavors available. So much so, in fact, that German consumers drank almost 69 liters of tea per capita in 2023, as reported by the German Tea Association. Herb and fruit infusions in particular are a case in which tea connoisseurs would rather put a tea bag in their cup than have to mess around with loose leaves. And when we talk about premium tea bags, they come individually wrapped – often in plastic sachets, but increasingly in Koehler NexFlex® paper sachets.

— Innovation in figures

350

tea bags per minute are put in paper envelopes by a packaging machine.

7

barrier properties can be combined as necessary.

Barrier Properties as Building Blocks for Aroma

All NexFlex® paper offerings are made from 100% virgin fiber pulp from certified and controlled sources, which makes them suitable for direct contact with food. By coating the base paper with water-soluble polymers, barrier properties are created, and these barrier properties can then be combined as necessary for the application at hand: In the case of individual envelopes for tea bags, for instance, the likely goal is to provide protection against mineral oil, oxygen, oil, and grease while locking in the tea's aroma. "A mineral oil barrier is the standard when it comes to storing paper-packed food in master cartons made of recycling material," explains Christoph Wachter, Director of Flexible Packaging Paper at Koehler Paper. Without this barrier, mineral oil components could migrate from the cardboard and enter the food. In our specific scenario, keeping oxygen from the surrounding air away from the actual tea is also crucial, since the characteristic aroma of black tea, for instance, is made up of more than 600 individual substances. Using an oxygen barrier protects the aroma-active compounds in tea from oxidation, extending its

shelf life as a result. In addition, essential oils are often used to add to the aroma of tea. One extremely common example is bergamot essential oil, which elevates black tea into Earl Grey. In this case, oil and grease barriers prevent the natural oils in tea or added aroma-active compounds from leaving unappealing stains on the paper envelope. Additional aroma barriers prevent sensitive flavor compounds from volatilizing, ensuring that they remain in their packaging until the corresponding consumer gets to enjoy their tea. Koehler NexPlus® Tea Aroma features a medium-strength aroma barrier, while Koehler NexPlus® Tea Flavor has a particularly strong one. It is ideal for premium products with particularly intense aromas or herbal teas with sensitive active ingredients.

Enjoying Tea without a Guilty Conscience

Consumers reaching for a tea bag packed in paper can do so without having to worry about sustainability. The sachet is highly recyclable, becoming a secondary raw material after being put into the recycling bin, while the tea bag itself can be composted.

Modular Barriers

A maximum of seven properties can be combined in Koehler NexPlus®. The five shown in green are particularly relevant to tea.



Koehler NexPlus® product benefits

Recyclable: Recyclable as wastepaper	Suitable for food: 100% virgin fiber	Compatible: Can easily be used in packaging machines	Functional: Modular barrier system
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“We offer a wide variety of options, which ensures that every customer can find the right solution for their product.”

Christoph Wachter
Director of Flexible Packaging Paper
at Koehler Paper



When it comes to screws, it is absolutely indispensable for them not to poke through the packaging.

“When developing Koehler NexPlus® Seal Pure, we attached special importance to tear resistance.”

Christoph Wachter

Director of Flexible Packaging Paper at Koehler Paper

Packaging Machine? No Problem!

The compatibility of NexFlex® paper products with packaging machines is another crucial key to their success, and it is an area in which Christoph Wachter can confidently provide assurance. When new customers ask questions, all he needs to do is take a look in his database to find out which paper product is compatible with which throughput on machines made by well-known manufacturers. Usually all it takes is a few small adjustments when a manufacturer wants to switch from plastic film to flexible packaging paper. But the machine speed remains the same – definitely a vital thing to take into account if 350 tea bags need to be bagged every minute! In addition, NexFlex® paper offerings are also extremely versatile when it comes to sealing. They are crease-resistant, tear-resistant, and suitable for embossing and for heat sealing. “We offer a wide variety of options in terms of barrier properties and sealing techniques, which ensures that every customer can find the right solution for their product.”

Sturdy Paper for Screws

What do tea and screws have in common? OK, not that much, but there is one commonality: Flexible packaging paper is the perfect choice for packing them. Our particular case involves Schneider Electric, a leader in the areas of electrification, automation, and digitalization for the industrial sector chosen by Time magazine and Statista as the most sustainable company of 2024 worldwide. The company wanted an alternative to plastic for packing screws, and Koehler NexPlus® Seal Pure

was the perfect solution. While packing screws does not require any barrier properties, the paper used does need to be exceptionally sturdy in order to handle sharp tips. “When developing Koehler NexPlus® Seal Pure, we attached special importance to tear resistance,” explains Christoph Wachter. Moreover, it is regularly tested at Koehler Group laboratories with a special bursting strength test.

Making products look sharp

Koehler NexPlus® Seal Pure paper products are heat-sealable and available weights ranging from 36 to 80 grams per square meter. It is also worth pointing out that paper being opaque and preventing the contents from being seen is no longer considered a disadvantage. “Instead, the extraordinary print quality of flexible packaging paper means that people think of the realistic depictions of the product on the packaging as equivalent to the alternative on supermarket shelves,” Christoph Wachter mentions – but not before showing off his own collection, which includes disposable razors and toothbrushes, as well as many other products from manufacturers that he has assisted with their market launches.

Tea producer Leros
uses Koehler paper for
its rosehip tea.



88%

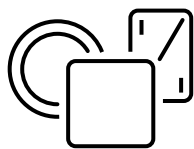
of all retail herbal and fruit
teas are sold in bags.



Flexible packaging paper
protects the aroma of tea
until the consumer gets
to enjoy it.

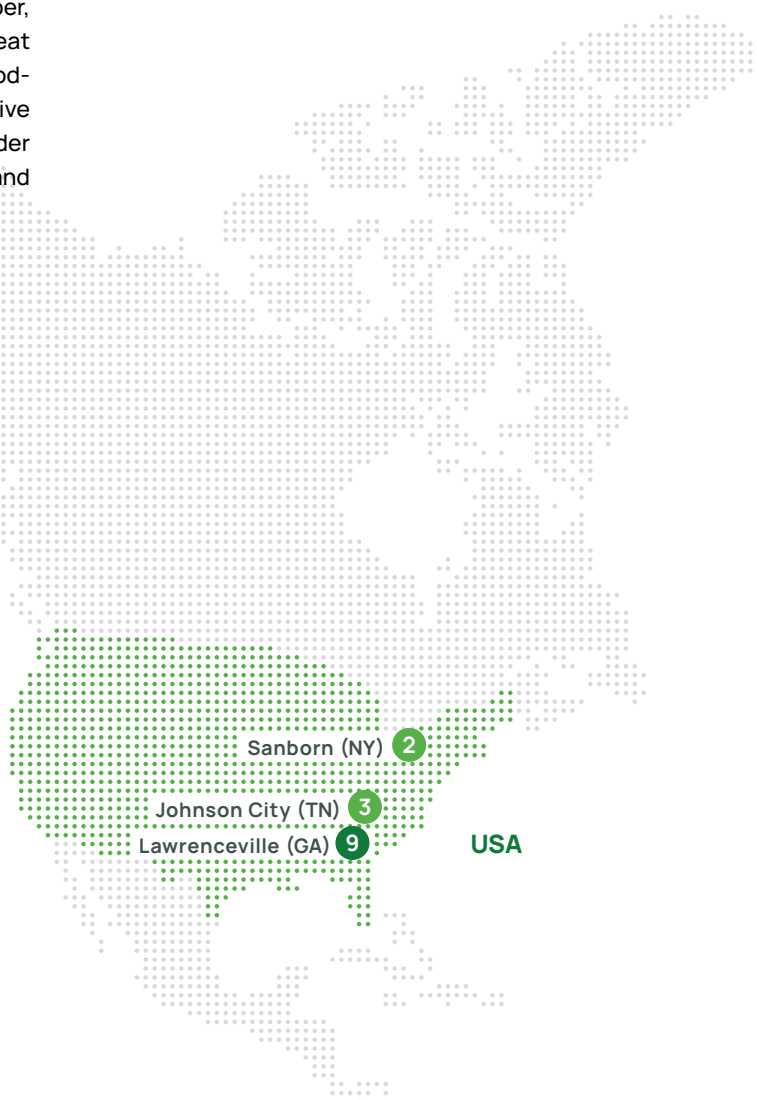
Specialty Paper and Board for Customers Across the Globe

The Koehler Group's core business activity lies in the development and production of high-quality specialty paper. This includes – among other things – thermal paper, fine paper, carbonless paper, recycled paper, decor paper, and heat sublimation paper. Wood pulp board is another key product. Since 2019, we have also been producing innovative flexible packaging paper. We are the global market leader in the production of thermal paper, beverage coasters, and playing card board.



Board Made from Wood Pulp

- 1 KATZ, Weisenbach (GER)**
Wood pulp board production ▶ 1716
⚙️ Board machine
for wood pulp board ▶ 1960
- 2 KATZ, Sanborn, NY (USA)**
Printing ▶ 1979
(closing in 2025)
- 3 KATZ, Johnson City, TN (USA)**
Printing ▶ 1991
- 4 KATZ, Willstätt (GER)**
Printing ▶ 2024

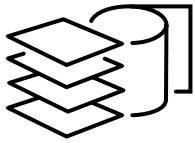


20,925^t
of wood pulp board were produced in 2024.



2,769 million

beverage coasters were made using this board, among other products.



High-Quality Specialty Paper

5 Koehler Paper, Oberkirch (DE)

Paper production ▶ 1807

✦ Paper machine 3

Paper with decorative edging,
fine paper ▶ 1924

✦ Paper machine 4

Fine and specialty paper ▶ 1961

✦ Paper machine 5

Fine and specialty paper ▶ 1980

6 Koehler Paper, Kehl (DE)

Paper production ▶ 1988

✦ Paper machine 1

Thermal and specialty paper ▶ 1988

✦ Paper machine 2

Thermal paper ▶ 2001/2002

✦ Paper machine 6

Decor paper ▶ 2000

✦ Paper machine 8

Flexible packaging paper ▶ 2019

7 Koehler Paper, Greiz (DE)

Paper production ▶ 1591

✦ Paper machine 1

Recycled paper ▶ 1971

8 Beaver Paper, Willstätt (DE)

Paper conversion ▶ 2018

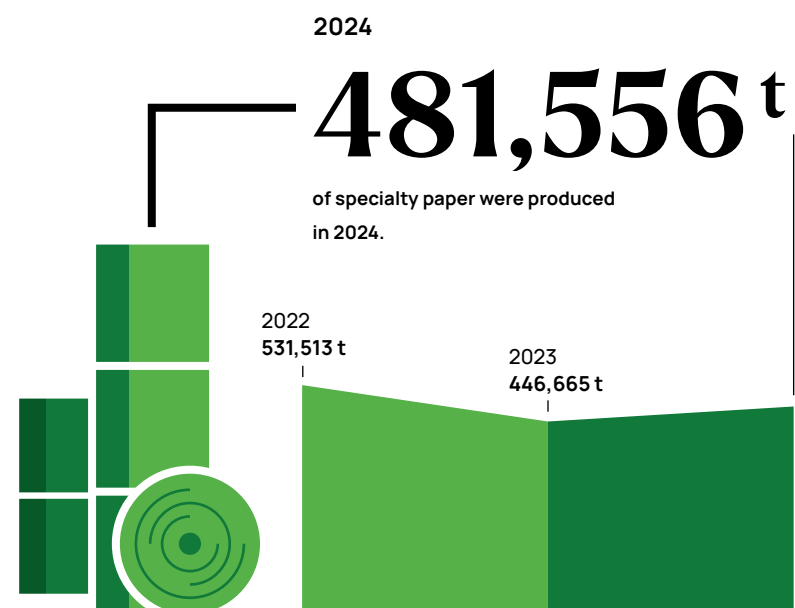
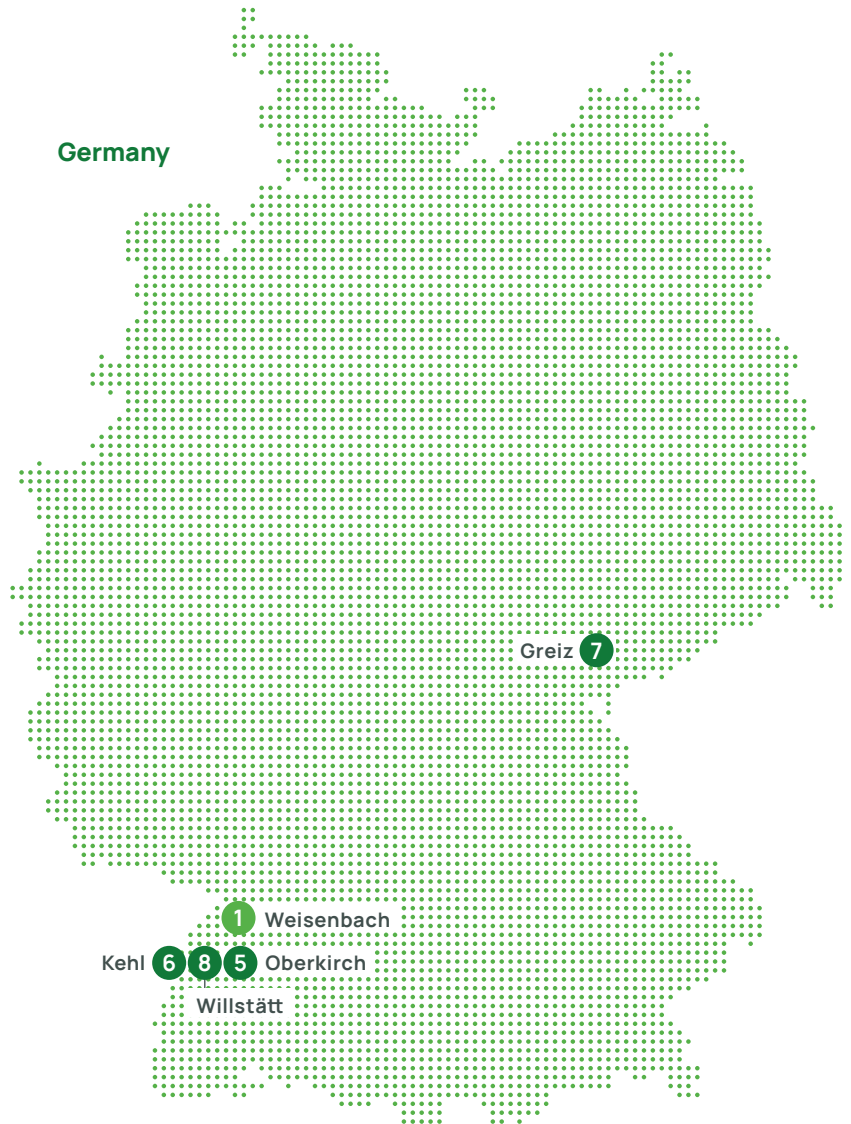
9 Beaver Paper, Lawrenceville, GA (USA)

Paper conversion ▶ 1979

Legend

▶ Founded/
commissioned in

✦ Machines/mills



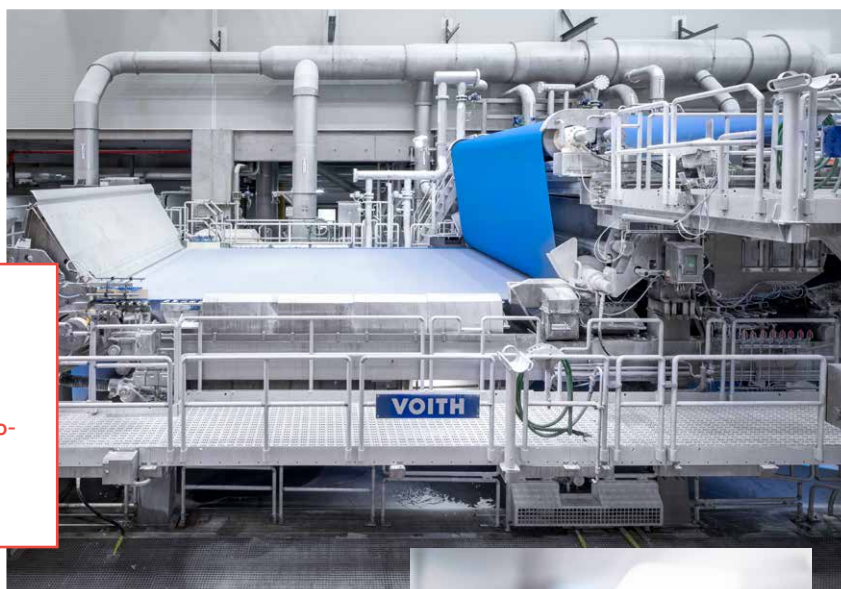
Loacker packaging waste-
paper bales ready for the
innovative recycling process.

Living Many Lives



—→ From flexible packaging paper to elegant watch packaging: Loacker packaging goes through a long journey that is far from done when the last wafer is gone. Keep reading to learn more about how the packaging paper used by the confectionery company Loacker from South Tyrol is made in Kehl – and how it is given a new lease of life in the Thuringian town of Greiz.

Paper machine 8 at Koehler Paper's Kehl mill produces up to 1,400 meters of packaging paper per minute.



FlexTech

→ Flexible packaging paper is suitable for packaging chocolate, tea bags, pet food, etc.

If the wastepaper bale that is currently moving along the conveyor belt at Koehler Paper's Greiz mill could talk, it would have quite a bit to say. For starters, stories from old gossip magazines that were disposed of in the same wastepaper bin and were then pressed into a bale together with old love letters, shopping lists, math tests, and so on and so forth. But there is one tale that the wastepaper bale will always be able to tell: that of Loacker and its world-famous hazelnut wafers from Bolzano. With a recipe that was invented all the way back in 1925, they continue to delight the senses today – not just due to their flavor, but also due to the bright red packaging paper that is recycled here at the Greiz mill.



Loacker "Best of Moments," packed in flexible packaging paper

Loacker Wafers in Paper

But let us rewind. After all, the journey taken by this wafer packaging started at a wholly different Koehler mill: Kehl. That is where the Koehler Group's most cutting-edge paper machine was put into operation in 2019 for a new production line developed specifically for the production of flexible packaging paper – just like the one used by Loacker for its wafers. It starts with virgin fiber pulp that comes from certified sustainable forestry and controlled sources. The machine takes this pulp and turns it into up to 1,400 meters of packaging paper per minute that then gets processed further. And the energy required for this? Nearly all from renewable sources.

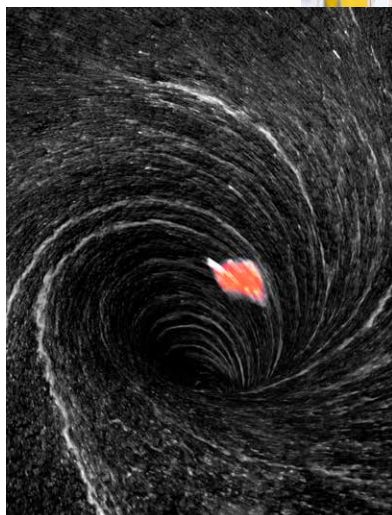
The advantage of using packaging paper? Easy: In comparison to plastic, it has a significantly better carbon footprint, since it can be recycled more frequently than pretty much any material out there. In fact, the quality of the recycled raw material is maintained even after several passes through the cycle. This is why Koehler made sure to develop flexible packaging paper with barrier properties that would be recyclable in standard wastepaper production processes and that would be able to replace plastic film in countless applications.

Up to

25

recycling cycles are possible before paper needs to be disposed of.

Right inside the vortex: Loacker packaging in swirling pulp



Black recycled paper during reeling



Scan to watch the video!

Discover the full journey made by Loacker packaging on our YouTube channel.

Form Kehl to San Marino

Loacker has not quite replaced all of its plastic packaging yet, but it is already using packaging made of Koehler NexPlus® Seal Pure MOB for some of its wafer varieties. However, before this paper can be turned into stand-up pouches for Napolitaner and other types of wafers, it must first travel from Kehl, through Italy, and to the SIT Group in San Marino. “Together with SIT, we were the first to offer a sustainable packaging paper option with excellent sealability and mineral oil barrier properties,” says Koehler Paper Italia Sales Manager Mauro Moretti.

And the impressive results were not lost on longtime SIT customer Loacker: “It really is a paper product with extraordinary properties. In fact, not only is it FSC®-certified, but also highly recyclable, as verified with the CEPI test method. Our experiences with it are proof: Koehler Paper provides truly premium products and has its finger on the pulse of the market, which has gotten an incredible response from our customers,” says Loacker Product Manager Gaia Ferrandi. And speaking of customers, they are the ones who get to see Loacker products packed in paper – at duty-free shops especially – before the packaging becomes wastepaper and is used as a secondary raw material.



“A variety of Loacker products have been packed in our paper for two years already.”

Mauro Moretti
Sales Manager at Koehler Paper Italia

Back to the Loop

The Loacker journey then makes a brief stop at a wastepaper sorting facility before moving on to a local recycled paper plant. In our particular story, that plant is Koehler Paper's site in the Thuringian town of Greiz. And it is a site steeped in history, with paper production having begun here as early as 1591. Today, Greiz exclusively produces paper from secondary fiber raw materials. In other words: New paper is made from old notes, newspapers, wall calendars, posters, and, increasingly, flexible packaging paper. So it is, in a manner of speaking, the perfect place for Loacker packaging to be given a second chance at life.

During wastepaper processing, the Loacker packaging is processed into pulp together with other wastepaper. The highly developed dyeing technology used in Greiz makes it possible to produce recycled paper with a variety of colors that only few manufacturers can match. And the result can also be considered from a sustainability perspective: 80–90% of all the products made in Greiz bear the Blue Angel and EU ecolabels.

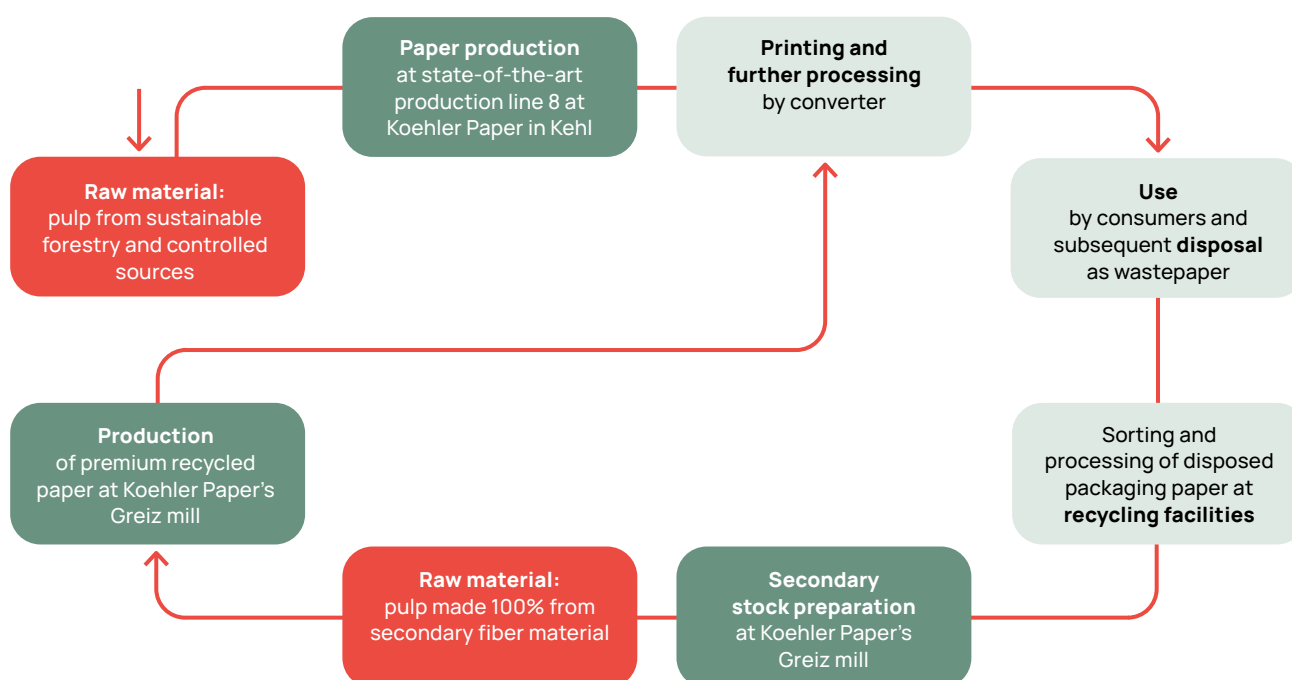
So what happens to the red wafer bag? It is turned into jet-black recycled paper in Greiz. This paper then makes a stop at a converter before continuing on its trip to luxury watch manufacturer Mühle-Glashütte in Saxony, where it is used as elegant packaging for watches. Recycling and exclusivity? They go hand in hand as far as Koehler is concerned. Welcome back to life, Loacker wafer packaging!

Premium Mühle-Glashütte watch packaging made from Koehler recycled paper



Naturally Circular

This is the loop that Loacker packaging follows in our story



Wood: The True All-Rounder



—→ As far as the Koehler Group is concerned, sustainability and profitability belong together. Wood, as a renewable raw material, plays an important role in this context. With strategic partnerships and cutting-edge technology, we use this material as responsibly as possible, all while boosting regional value creation.

— From the region –
for the region

47%

of the Ortenaukreis district is
forest area.

170,000^t

of biomass are needed annu-
ally by the Koehler Paper
Oberkirch power plant as fuel.

Since 2021, Zollikofer, a Koehler Group company, has been supplying our combined heat and power plants with fuel from renewable sources. The company's core competencies revolve around sawmill byproducts and reclaimed timber, forest wood, and fuelwood. In order to be able to cover the growing demand for fuel in the long term, French company REKO Energie Bois is now helping out with wood trade and logistics activities. The company's 18 employees process 140,000 metric tons of wood products every year at three sites.

With REKO, the Koehler Group has extended its area of operations to include France. Managing Director Frank Andlauer explains another benefit: "REKO brings additional expertise when it comes to buying standing timber in the Koehler Group. This will enable the Koehler Group to join the value creation sequence at an earlier point while also securing strategic advantages."

From Tree to Material

During thinning work, foresters mark trees that need to be removed. REKO buys this timber "while standing" and takes care of harvesting it. These are actually management practices that are regularly required in forests in order to provide stronger and healthier trees with more light and room to grow. Harvested timber is sorted by grade, and the whole tree is used: Logs that have grown straight are sawn into boards, beams, and planks and processed into durable products such as lumber or furniture. Then, since the log diameter starts getting smaller the closer it gets to the treetop, the corresponding sections can be used as pulpwood for making wood pulp board at the KATZ Weisenbach mill. (KATZ has been part of the Koehler Group since 2009 and specializes in wood pulp board

“REKO brings additional expertise when it comes to buying standing timber in the Koehler Group.”

Frank Andlauer
REKO Energie Bois Managing Director

products). Shavings and offcuts from the sawmill are used by the wood industry, which turns them into chipboard. Twisted logs, slash, branches, and rootwads that can no longer be used as materials are used as fuel for biomass combined heat and power plants.

Creating Value from Leftovers

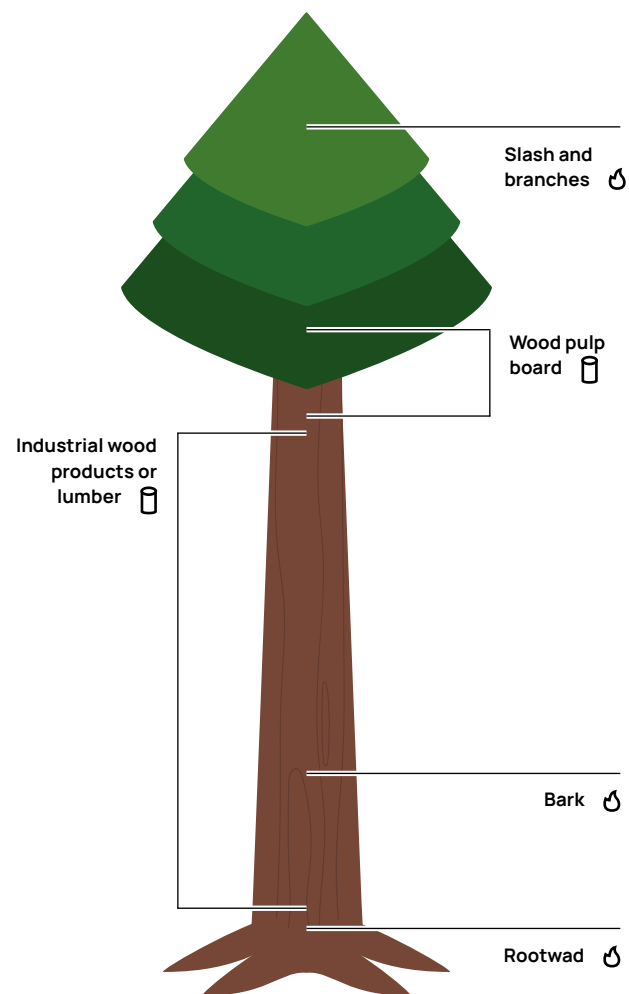
As long as it remains in use, wood actively contributes to climate change mitigation by acting as a carbon sink. And construction timber too goes through multiple stages of use. The experts at Zollikofer's and REKO's wood yards carefully sort recycled wood and, whenever possible, feed it back into the recycling stream. Natural wood is chipped and pressed into chipboard or fiberboard that is in turn used for interior finishing and by the furniture industry. It is against this backdrop that, as part of a pilot project, Zollikofer and a leading manufacturer of engineered wood materials have successfully implemented a viable material recycling stream for the Motel One hotel chain: Together, they took 120 metric tons of material from discarded interior furniture from hotel rooms and recycled them so that the resulting recycled raw material could be used to make new furniture and fixtures for a Motel One hotel in Munich.

Another example showing how we make use of existing wood as a material to deliver premium results can be found at Weisenbach-based KATZ. In this case, the Koehler Group recycles logs that are simply too thin for furniture and construction timber. This “pulpwood” is shredded and processed into wood pulp board, which is then used to make a variety of products. These include the beverage coasters that have made KATZ a global industry leader, and which protect counters and tables across the entire globe, but also display boards, food cartons, and many other applications. Moreover, offcuts from production are reused right away, while used board can be disposed of as wastepaper. In other words, wood fibers go through multiple use cycles before becoming too short for further processing. And at that point, when recycling them for use as a material is no longer possible, wood and fibers can often be used as a source of energy instead.

Trees as Material

Legend

-  Used as fuel
-  Used as material



“Recycling wood always takes precedence over using it as fuel.”

Frank Andlauer
REKO Energie Bois Managing Director

Multiple Benefits

This cascading comes with clear advantages: Fully recycling wood multiple times, including offcuts and recycled material, significantly increases economic efficiency and maximizes the value of this particular raw material. Active forestry increases carbon sequestration, since the improved growth rate of timber is accompanied by carbon dioxide being sequestered in wood products. The longer this carbon remains stored in wood and does not escape into the atmosphere, the more this sequestration effect helps the fight against climate change. Moreover, recycling existing raw material means that value can continue to be created in new product loops. “Recycling wood always takes precedence over using it as fuel,” Andlauer summarizes. Finally, when wood is burned at the end of the cascade, it only releases the amount of carbon dioxide that the tree itself sequestered from the atmosphere while growing. This means that the process is climate-neutral, not to mention that it reduces the use of raw materials derived from fossil sources.

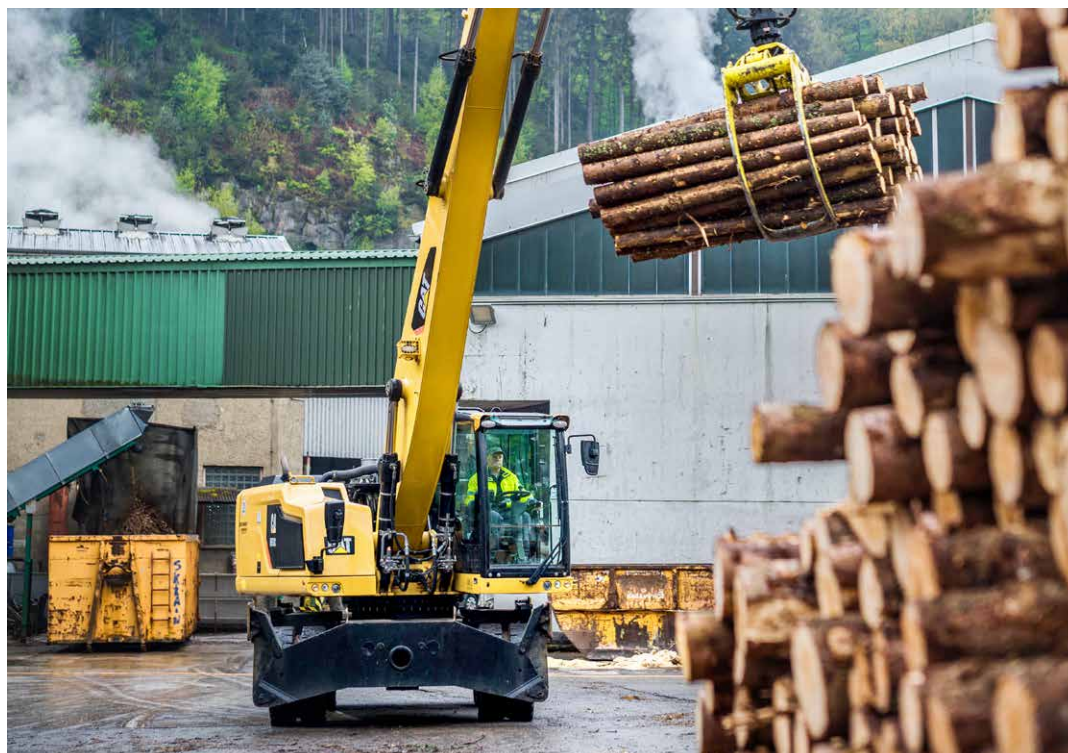
Regional Is Where Things Are At

Making sure that the wood we use is from sources in our region is a central pillar of the Koehler Group’s sustainability strategy. Dr. Tilmann Rilling heads the Material Flow Management department at Koehler Renewable Energy and is a Managing Director at Zollikofer. He reports that there have been enormous changes in the timber industry in the past few decades – large sawmills that get their logs from huge areas dominate the market, but “we often have steep and winding roads in the Black Forest, which is why we still have a lot of medium-sized companies here,” he explains. Within Baden-Württemberg, the Ortenaukreis district has the largest absolute forest area, and this creates the perfect conditions for sustainable wood use, since short distances minimize emissions, strengthen local forestry operations, and ensure job security in the region. Meanwhile, the Koehler Group’s need for biomass keeps growing, which is why Zollikofer is using REKO Energie Bois to expand its area of operations to include neighboring France so as to secure a reliable supply of biofuel.

Trucks deliver biomass at Koehler Paper’s Oberkirch mill.



Logs with a small diameter are used as raw material for making wood pulp board.



Energy Transition in Oberkirch

It is almost an understatement to say that the combined heat and power plant at the Koehler Paper Oberkirch mill requires a lot of biomass. Nearly 170,000 metric tons of it will be needed a year to replace the black coal used as fuel previously – a change that will reduce direct CO₂ emissions from fossil fuels by 150,000 metric tons. Given this volume, it is even more important to keep distances as short as possible, including at the mill premises. This is why state-of-the-art logistics are being used in order to make the delivery of biomass as unnoticeable as possible for the site's neighbors: Truck drivers scan their cargo with a digital bar-code system and then unload it by themselves within a defined timeframe. Pictures of the load for quality assurance purposes, combined with real-time scale data, ensure that we know the exact amount and condition of material being delivered. And despite all these measures, the entire unloading process takes only 30 minutes.

If the power plant generates more power than is needed for our paper production operations, it is fed into the grid. Within this context, it is worth mentioning that only untreated material from the end of the wood cascade goes into the incinerator: bark and mill residue from sawmills, chips from untreated offcuts, shredded slash and rootwads from the forest, and the type of landscaping material that is produced during roadside mowing.

By giving topmost priority to recycling wood as a material, making sure it comes from regional sources, and pursuing digitalization measures, the Koehler Group is taking wood as a raw material and turning it into the foundation of an environmentally friendly future.



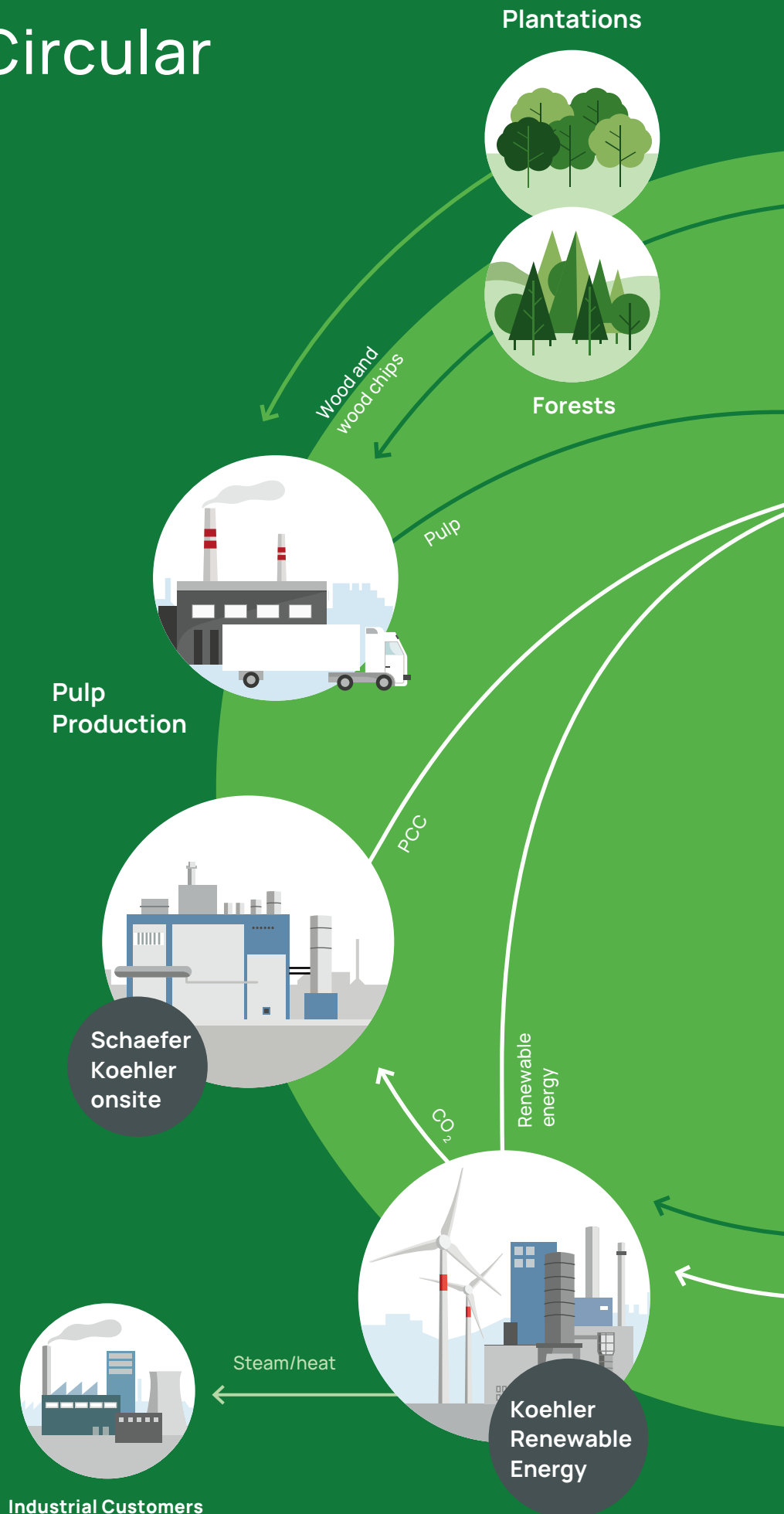
Wood yards are used to hold materials from various origins.

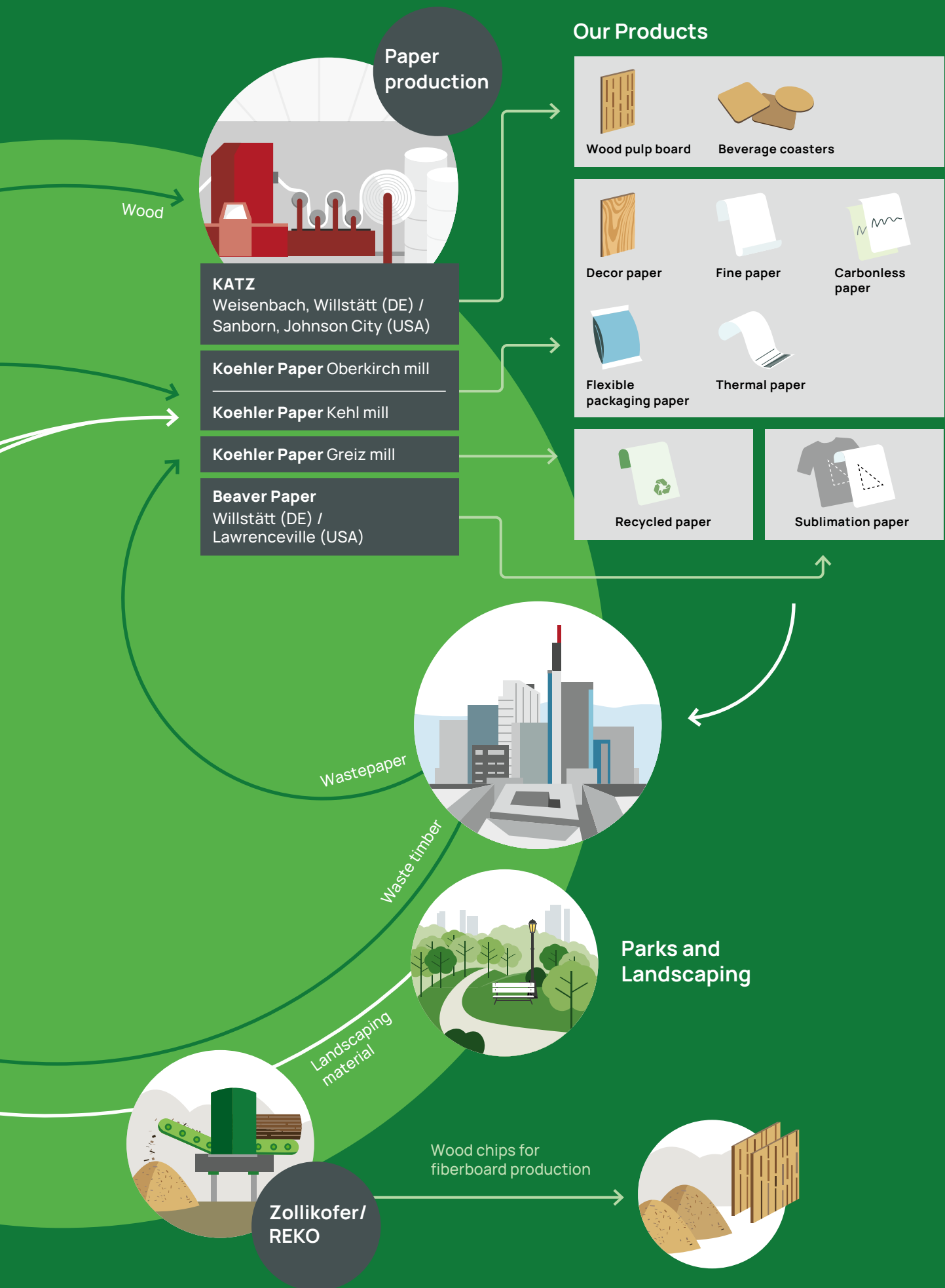
Living the Circular Economy

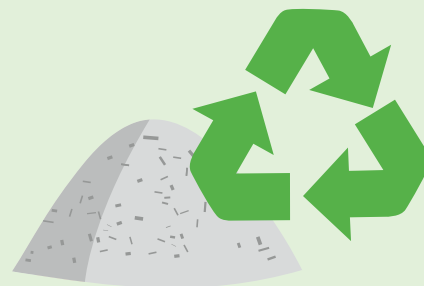
“Circular value creation” is a hot topic in this day and age. This process represents an alternative to linear value creation and “chug and chuck” models that rely on essentially infinite stocks of raw materials. Both Germany and Europe as a whole are dependent on imports of raw materials, so it is in their interest to implement the circular economy concept. Paper is a good example of a successful circular economy; wastepaper can be turned into new paper again and again.

The Koehler Group is part of this circular value chain. We offer future-proof products in the form of flexible packaging paper made using renewable raw materials. Unlike other packaging materials, they can easily be recycled after use.

In the circular economy model, mechanical recycling, i.e., the reuse of the material as-is, sits right at the top of the hierarchy. However, if the costs outweigh the benefits and mechanical recycling is not feasible, as is the case with waste wood, then the waste products may be used to produce energy instead.







Neatly Pressed

————> The shoe press at paper machine 4 is more than just a technical upgrade – it is a perfect example of how we are transforming our production efforts into more energy-efficient and environmentally friendly operations that take into account the needs of our employees. Clever planning, extensive teamwork, and the courage to put current practices under scrutiny are all fundamental elements of how the Koehler Group continues to raise the bar in the paper industry.

Now that it has been converted, the amount of carbon dioxide emitted by the combined heat and power plant at the Oberkirch mill is limited to the amount that was previously sequestered from the atmosphere by the corresponding biofuel as a result of photosynthesis while growing. In comparison to black coal, this means 150,000 fewer metric tons of fossil carbon dioxide emissions per year. However, this positive effect for our climate means we get less power, since biomass has a lower calorific value than black coal. Because of this, as we made plans for the power plant, we also began thinking about how to make it possible for paper machine 4 to continue producing specialty paper with the same or a higher level of quality while using 15% less steam and energy.

———— Wisely invested

15 million

euros went into the paper machine retrofit.

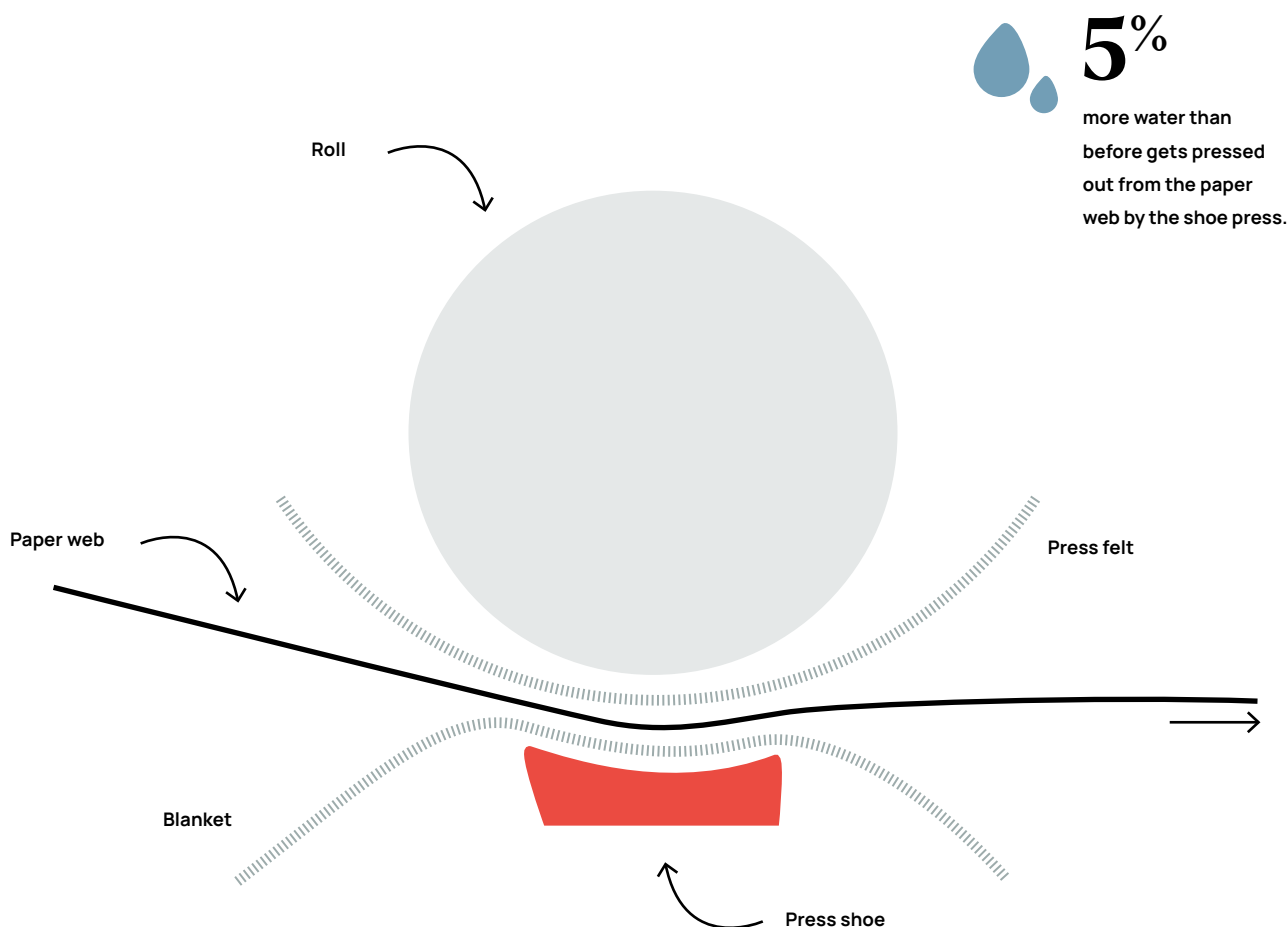
Less Water, Less Steam

Koehler Paper uses pulp from certified sustainable forestry and plantation management sources exclusively. When it comes to papermaking, this pulp needs to be turned into a slurry with a lot of water, after which it is pumped onto a screen. Press rolls remove water from this slurry, forming a thin web that is then dried and smoothened with hot steam. Depending on the intended use, paper coatings are then applied before the paper is reeled or cut into the desired shape.

The water pressed out from the paper web by the press rolls is absorbed by press felts. This reduces the web's water content by about 20% – and that was where we found we could increase our production operations' energy efficiency. Head of Production Andreas Welle at our Oberkirch mill explains: “Just 1% less water in the paper web means 3–4% less steam during drying.” This rule of thumb had already proven true when optimizing paper machine 5 two years before, which is why Mill Manager Hartmut Felsch and the teams involved decided to once again use a shoe press. Koehler Paper invested 15 million euros in the corresponding retrofit, which has resulted in the combined heat and power plant and the corresponding paper production operations being perfectly matched.

How the Shoe Pinches

Shoe presses owe their name to an oblong, curved pressure element – the “shoe” – that presses against a flexible blanket. The special shape of these elements results in an elongated press gap in which the wet paper web is subjected to pressure for a longer time than with conventional roll presses. This leads to improved dewatering, which in turn means that less steam is required for subsequent drying. In addition, this has a positive effect on paper quality.



Improvements brought about by the new shoe press

Much less steam needed	Greater output when making playing card board	Felts can be replaced more quickly	Higher paper quality
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Turbo Teamwork

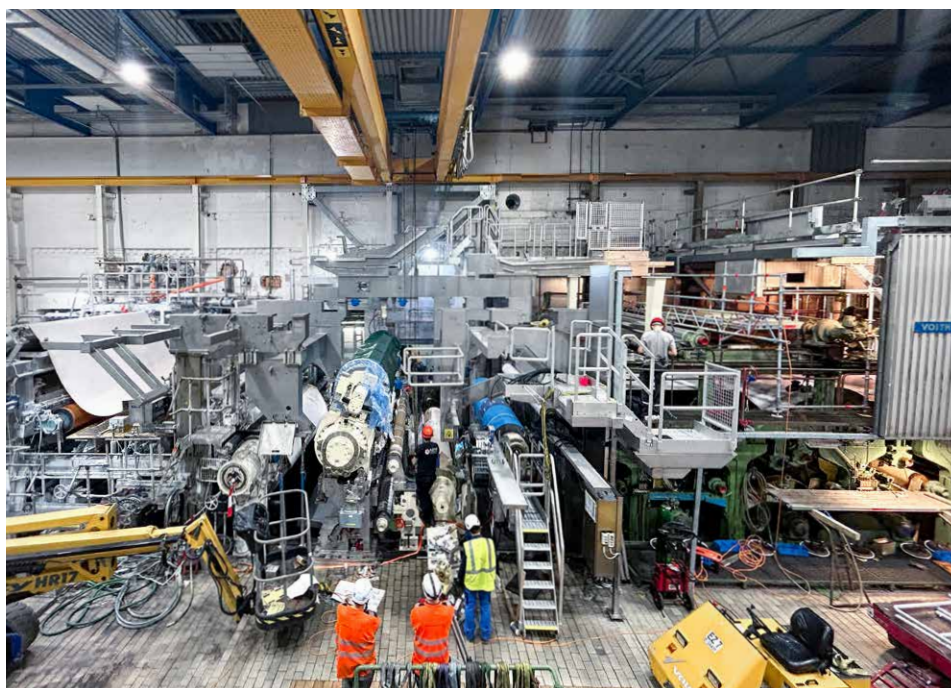
“Three weeks and very little space to work in,” Felsch says when describing the challenges involved in the retrofit. And all that taking into account the fact that there were three previous years of planning in which our workforce was extensively involved. More specifically, we put up boards right next to the machine so that everyone who worked on it could write down any observations or requests they had during their day-to-day work. Our shift managers then collected these suggestions and brought them to the various planning meetings together with their own experiences. This would prove to be invaluable, both Welle and Felsch agree, as our employees were the people best equipped to figure out, for instance, the way that catwalks needed to be designed and the areas where they needed to be able to look inside the running machine. And everyone was there during assembly as well, as “you really get a different feel for the machine when you know how the parts all work together and where all the lines and cables go,” Welle says.

Koehler Paper already had good experiences from previous projects with machine manufacturer Voith, which delivered and installed the shoe press. Felsch has nothing but praise for “the enthusiastic mood and the constructive teamwork at the work site,” even despite the restricted space and tight schedule. Close teamwork between all teams was absolutely crucial to the project’s success. And thanks to exacting preparation and experienced assembly personnel, salable paper was already coming out of the machine just a few hours after startup.

“Everyone involved in the project was tremendously motivated and dedicated to helping out.”

Andreas Welle

Head of Production at Koehler Paper's Oberkirch mill



The dedicated teamwork of everyone involved ensured the project's success.

The project

- 3 years of planning
- 24 days for the retrofit
- 15 million euros invested



The new shoe press was integrated into the existing paper machine.

Improved Safety, Better Paper

The new shoe press comes with numerous improvements, starting with improved personnel safety. Before the retrofit, the wet paper web had to be partially transferred from one section of the machine to the next by hand. Now, compressed air systems and automated conveyors guide the web through the paper machine, minimizing the risk to employees. Then comes the fact that the new press squeezes up to 5% more water out of the paper web than the previous system.

15%

less steam is now required when drying the paper web.

8%

faster when producing playing card board now.

Producing a metric ton of paper, which for instance is then processed into playing cards for casinos, now takes almost 15% less steam than before, since the paper web goes into the drying section with a lower water content. Moreover, many of the production steps are now faster, which has increased the machine's throughput by nearly 10%. Welle explains that this increase in efficiency is due to a number of factors, including shorter setup times: "We change the worn press felts roughly every six weeks, and that is much safer and takes a lot less time now." At the same time, there has been an improvement in product quality, as the shoe press compresses the web more while also being gentler, resulting in improvements in several parameters: Paper comes out denser and stronger than before, and both sides are now similarly smooth, whereas one used to be a bit rougher.

This project shows how innovation and targeted investments can make environmental and business goals compatible. And the result is forward-looking paper production that goes easy on the environment while delivering premium products.

Blue4est® Makes Waves

————→ This blue innovation has revolutionized the thermal paper market, but you can still hear people saying different things about whether it can be recycled. So to clear up any confusion, we conducted a large-scale real-life test together with SCHOELLERSHAMMER GmbH in order to confirm the product's recyclability.

More than

16 million t

of waste paper were used in
Germany in 2024.

It had to be lightfast, free of chemical developers, and recyclable as wastepaper – with those requirements, 2010 saw us start a journey that would result in us inventing a new thermal paper product. Blue4est® finally hit the market in 2018: We applied a black layer on base paper made from certified pulp and then added an opaque functional layer on top. When a thermal printer uses this paper at a cash

The German Environment Agency specifies that white thermal paper needs to be disposed of as residual waste, since it contains chemical developers that can disrupt the recycling process. Unfortunately, isolated media reports wrongly understood this to also apply to Blue4est® receipts, which naturally resulted in uncertainty among consumers. That is why we decided to test the thermal paper's recyclability once again in order to clear things up.

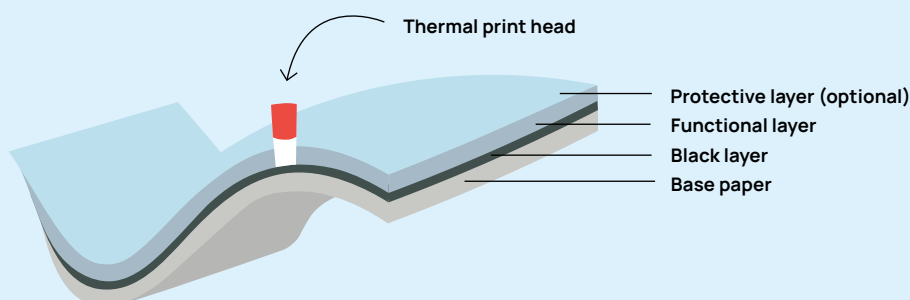
A Sturdy Structure

Paper is a material that is known for being highly recyclable. And this potential is being used: The recycling rate in Europe is around 79% – and even higher in Germany alone. Nearly 13 million metric tons of wastepaper were collected in the country in 2023, including daily newspapers, magazines, books, and cardboard boxes. More than half a million metric tons of those landed at SCHOELLERSHAMMER GmbH's mill in Düren, Germany. For over 240 years, the company has been making paper, and for ten years now it has specialized in paper products that are processed into corrugated cardboard: Two layers of testliner, used as an inner and outer layer, enclose a fluted sheet of paper. The arches resulting from this fluting are similar to those found in bridges and cathedrals in that they are able to support large loads. At the same time, the lightweight paper structure means that there is a lot of hollow space, which acts much like a dunnage bag. Corrugated cardboard cushions impacts and falls during storage and shipping, ensuring that not only shoes and sweaters make it to their destination in one piece, but also sensitive goods such as wine bottles and computers. On top of this, many companies use their shipping boxes as ad space, which is why testliners with a smooth surface that allows for vibrant printed colors are a strong plus. This, of course, is different for the middle layer that gives this type of cardboard its name: "First and foremost, corrugated paper needs to be sturdy," says SCHOELLERSHAMMER GmbH Head of Production Christoph Nahrath. He selects the types of wastepaper for the corrugating media accordingly, as the company only processes recycled materials.

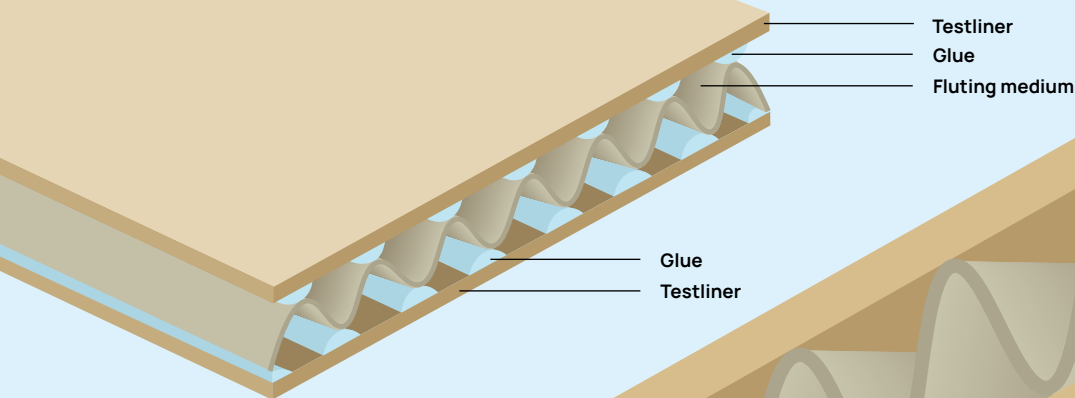
register, the functional layer turns transparent in specific areas, so that the underlying black layer becomes visible and the corresponding text is "printed." Among other things, this means that, in contrast to conventional thermal paper, Blue4est® does not need any chemical color developers. As a result, it can be disposed of as wastepaper after being used, so that it can then be used as a valuable secondary raw material and the corresponding pulp fibers do not need to go to waste. It should come as no surprise then that retailers are thrilled about this sustainable alternative and that blue receipts keep replacing the old white ones at more and more supermarkets and drugstores.

How it works

Blue4est® thermal paper



How corrugated cardboard is made



“Thermal paper makes up a maximum of 0.7% of the wastepaper in Germany.”

Christian Huber

Head of Technical Customer Service for
New Developments at Koehler Paper

Testing, Studying, Recycling

The Head of Technical Customer Service for New Developments at Koehler Paper, Christian Huber, explains: “If we were to assume that all the thermal paper in German wastepaper is Blue4est®, that would make up a maximum of 0.7% of the total wastepaper volume.” Together with Christoph Nahrath, he planned a test in which the environmentally friendly thermal paper would be used in SCHOELLERSHAMMER GmbH’s fluting medium production operations. The experts agreed to add 2% Blue4est® to the wastepaper mix – that is, nearly three times as much as would be theoretically possible – in order to make the results speak for themselves.

The process is identical to the one used to make other paper: Water is used to turn the fibers into a slurry that is then dewatered on a screen, pressed, dried, and processed into rolls. For two entire days, the experts had 40 metric tons of fluting medium with added Blue4est® come out of the paper machine every hour in Düren. Subsequent laboratory tests then confirmed what was already visible to the naked eye: The paper that was produced had zero anomalies, and all parameters – including coloration – fell within their normal variation range. Huber was not surprised: “The black dye goes where the water goes.” And that applies to all processes, including de-inking.



SCHOELLERSHAMMER
GmbH production
operations use cutting-
edge technology.



SCHOELLERSHAMMER

- Founded in 1784 in Düren
- 280 employees
- Products: Hammerliner, Hammerflute, Twinhammer, testliners, and corrugating medium
- Two paper machines that produce 1,500 kilometers of paper a day each
- Annual production >500,000 metric tons of corrugated cardboard paper

Wash Cycle for Waste Paper

De-inking, as the name implies, means removing printing ink from paper. To do this, companies in Europe normally start by dissolving the paper in water and stirring it vigorously while using added chemicals to release the color particles from the fibers. After this, air is blown in so that the color particles form a thick froth on the surface that can be skimmed. The fibers obtained this way are used as a raw material to make recycled paper. Testing found that, during de-inking, the pigment from Blue4est® paper does not get removed into the aforementioned froth, but instead, and as expected, goes where the water goes. Accordingly, companies that produce white recycled paper are advised to select waste-paper grades that are unlikely to contain any Blue4est®.

Blue4est® - Perfect for Fluting

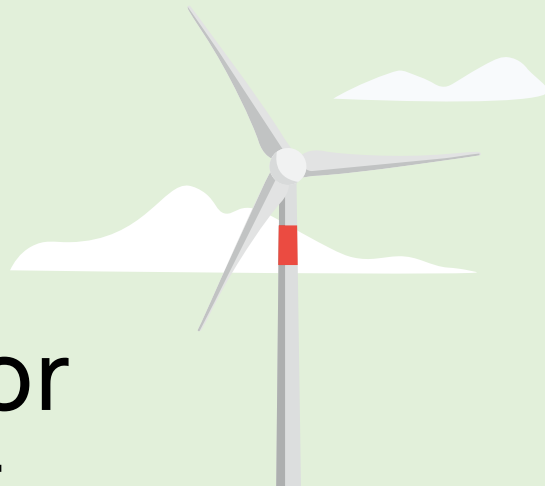
Corrugated cardboard paper is predominantly gray or brown. This means that the production process used by SCHOELLERSHAMMER GmbH does not need de-inking, and that pigments in wastepaper are simply processed together with everything else. In addition, and interestingly enough, the Blue4est® added to the recycled paper caused the water in the paper machine loop to become darker at first, but quickly returned to its original color after the test, as Nahrath describes: "The pigment didn't affect anything in our wastewater treatment plant and ultimately ended up in the sewage sludge flocs." He goes on to summarize the results: "There was simply no difference whatsoever in comparison to the product we normally make. In other words, Blue4est® paper can be recycled into fluting medium with zero issues." This is great news for consumers, who can confidently dispose of Blue4est® as wastepaper knowing that it can be seamlessly incorporated into the recycling stream used to make corrugated cardboard paper, for example.

**"Blue4est® paper
can be recycled
into fluting medium
with zero issues."**

Christoph Nahrath

Head of Production at SCHOELLERSHAMMER GmbH





A Fiery Passion for Our Environment

————→ Paper and energy from renewable sources are the Koehler Group's core competencies. Accordingly, we are running combined heat and power plants that use biomass as fuel at several sites. In 2024, we converted the coal-fired power plant at our Oberkirch mill to biomass.

Two and a half months after the last piece of black coal burned up inside the boiler at the Oberkirch power plant, the fire burned bright once again – but with biomass as fuel instead. This was preceded by a feasibility study, three years of extensive planning, and all kinds of preparations. And, of course, all of this while the power plant was still online to keep our paper production operations running.

Good Neighbors

Needless to say, a project of this size needs to consider not only technical aspects, but many others as well. "We at the Koehler Group want to be good neighbors. That's why we went to talk to the government and residents of Oberkirch very early on and got them involved from the get-go," says Hartmut Felsch, who heads the Koehler Paper Oberkirch mill. People in the area understood that the company was investing in sustainability with the conversion and that this investment would also boost job security, so they were predominantly on board with the project.

Working together with the town's authorities also played a crucial role. Just getting the permit for the plant in accordance with Germany's Federal Immission Control Act took eleven months. A good number of expert reports were required, and an application for approval in accordance with the German Renewable Energy Act (EEG) had to be submitted.

———— Efficient savings

~150,000

fewer metric tons of carbon dioxide per year thanks to the power plant's conversion from coal to biomass

Full Steam Ahead into the Grid

Combined heat and power, which is the way that the power plant works, was not affected by the conversion: The combustion process generates heat that is in turn used to evaporate water, and the resulting steam drives a turbine that is connected to a generator. The process steam from the turbine is used to dry the paper webs in our production facilities. Before this conversion, the power plant was run in island mode, so that it would only deliver electricity to Koehler's own electrical systems, meaning that it was subject to large load fluctuations. For Power Plant Manager Theo Maier, priorities changed with the conversion: "Today, we are permanently connected to the grid, so that has put us in a position where it is much easier to compensate for load fluctuations from our production operations. This has allowed us to optimize the power plant in such a way that we can cover the entire mill's heating needs while feeding the maximum amount of electric power possible into the public grid," he explains. In order for this to be possible in compliance with the German Renewable Energy Sources Act, the fuel used at the power plant must be untreated and of biological origin. Slash wood chips, bark, and mill residue can be used, as can the kind of landscaping material that is produced during maintenance work on roadside woody plants. This, of course, requires securing a steady and reliable supply of fuel for the company's numerous combined heat and power plants, which is why, in 2021, the Koehler Group formed a joint venture with Zollikofer GmbH, which specializes in wood trade for wood as a raw material and for burning.

Four Silos for Biomass

When used as natural fuel, wood has a lower calorific value than black coal, meaning that an adequate supply of it needs more storage space. More specifically, Maier expects for this

supply to amount to 170,000 metric tons a year. To accommodate this, it took the company only a few months to erect the buildings that have made the project visible from a long distance: three collection points where trucks unload the material and four large silos where the material waits to be fired. Project Manager Josef Hofer, from the Central Plant Engineering department at Koehler Innovation & Technology, explains: "We all know that the smell of fresh wood is generally pleasant, but we ultimately wanted to prevent environmental odors and dust emissions and keep our workforce and everyone in the neighborhood safe and comfortable, so we decided on enclosed silos." Complex conveyor systems connect the collection points and storage units together, and also convey fuel to the boiler.

Conversion Instead of New Construction

The Koehler Paper power plant at our Oberkirch mill is from 1986, and the boiler and its auxiliary components and heat exchangers have been maintained and upgraded in the past few decades. The fact that these units were in excellent condition played an important role in the decision to convert the existing power plant rather than build a new one. Nozzles are used to blow jets of air into the combustion chamber from below and fluidize the biomass with sand that supports the fluidized bed by transferring heat. In this fluidized bed, the various types of wood burn exceptionally evenly. A downstream cyclone separator removes sand and ash components from the flue gas and feeds them back into the fire. Finally, in order to accommodate the new fuel, the combustion chamber's masonry was renovated on more than 100 square meters, and the subsequent curing required extra caution to make sure no cracks occurred.



Four silos were built in order to store biomass.

Full Power, Less CO₂

Given that biomass has a lower calorific value, the power plant's output is around 15% lower than before. It produces around 80 metric tons of steam per hour and 16 megawatts of electric power. Maier explains: "We incorporated shoe presses into two of the three paper machines so that they would need less steam to dry the paper webs."

Project Manager Hofer considers the whole thing to have been tremendously successful. Everyone involved in the project worked closely together to ensure that the power plant would go online again as scheduled, and it has been in a test run since October 2024. It is now releasing 150,000 fewer metric tons of direct fossil carbon dioxide a year than before. This brings the Koehler Group much closer to its target of generating more energy from renewable sources than is required for its paper production operations by 2030.

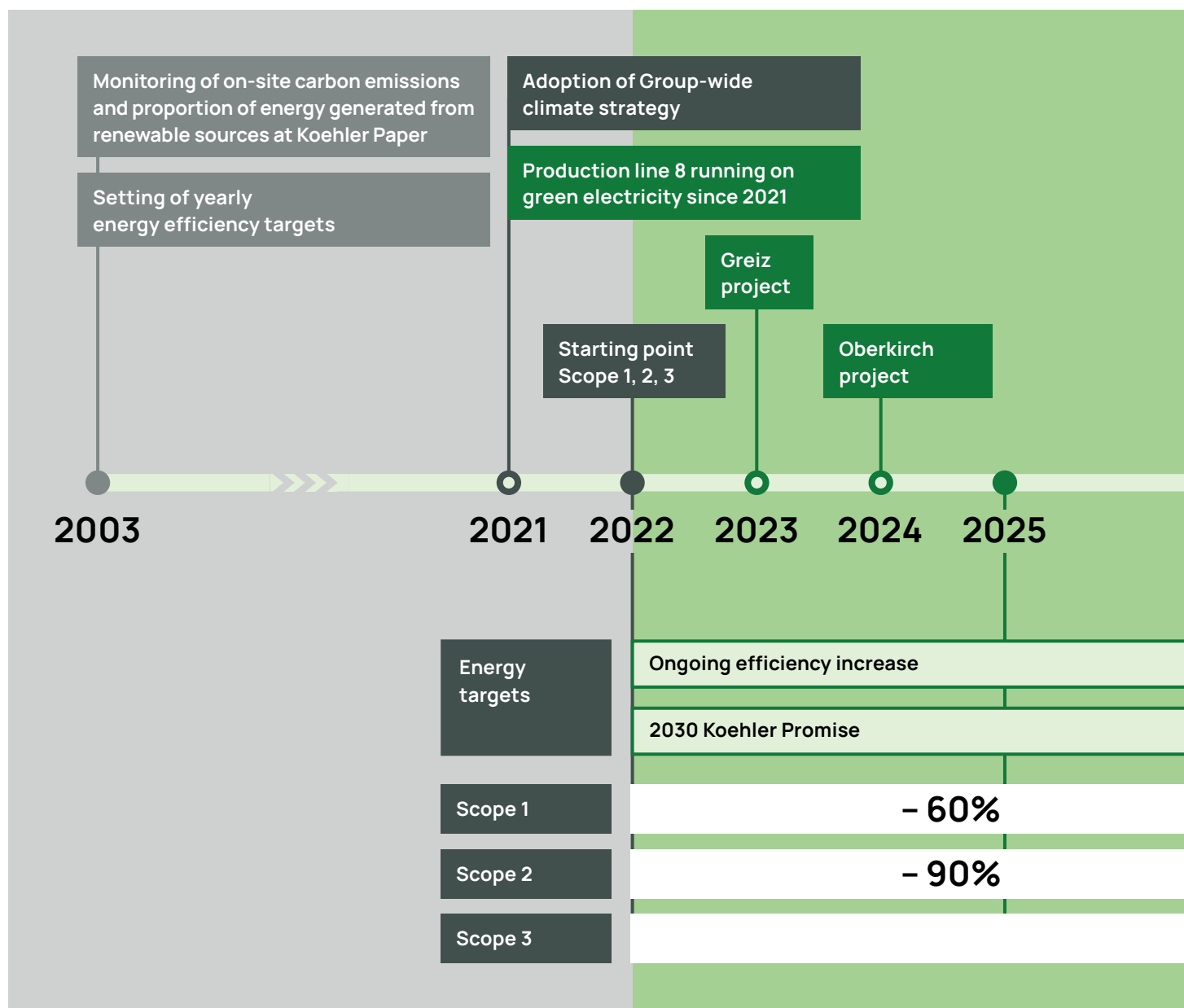
~80^t

of steam are delivered by the power plant per hour.

~70 million

euros were invested by Koehler Paper in the conversion.

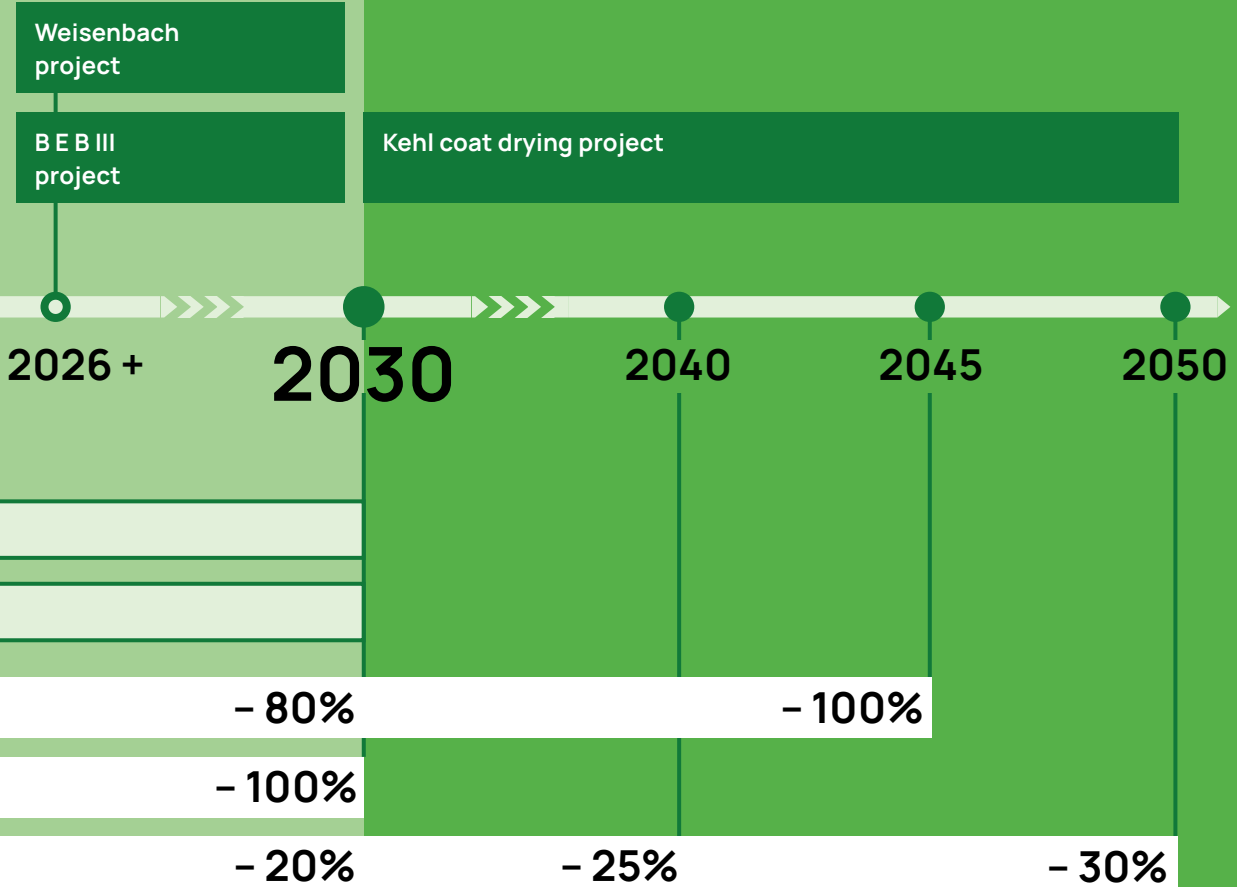
In May 2025, the globally recognized Science Based Targets initiative (SBTi) validated the Koehler Group's near-term targets up to 2030. As part of this process, the existing targets had to be adapted to the structural requirements of the SBTi. The climate strategy roadmap shown relates to the 2024 reporting year and therefore does not yet include the adjusted targets. For the 2025 reporting year, the structure and individual target values of this roadmap will be adjusted in line with the SBTi.



Hartmut Felsch, Josef Hofer, and Theo Maier (from left to right) during a work site discussion.



Climate Strategy Roadmap 2024



Renewable Energy – Helping to Shape the Future

Papermaking, the Koehler Group's core business, requires the use of a lot of energy. In order to be able to cover these needs in a sustainable manner, we have methodically expanded our activities with Koehler Renewable Energy. By investing in hydroelectric and biomass power plants, wind farms, and solar farms¹, we are proactively contributing to the world's energy transition.

The Power of Water

- 1 Greenfield Burn, Invergarry (GB)**
Hydroelectric power plant ▶ 2021
- 2 Allt Garaidh Ghulaich, Invergarry (GB)**
Hydroelectric power plant ▶ 2021
- 3 Allt Muhic, Loch Arkaig (GB)**
Hydroelectric power plant ▶ 2021
- 4 Allt An-t Sidhein, South Laggan (GB)**
Hydroelectric power plant ▶ 2020
- 5 Ledard, Kinlochard (GB)**
Hydroelectric power plant ▶ 2017
- 6 Kelburn, Largs (GB)**
Hydroelectric power plant ▶ 2017
- 7 Pitnacree, Ballinluig (GB)**
Hydroelectric power plant ▶ 2015
-  **Koehler Paper, Oberkirch (GER)**
Hydroelectric power plant ▶ 1803
-  **Schlüsselbrücke, Oberkirch (GER)**
Hydroelectric power plant ▶ 1803
- 8 KATZ, Weisenbach (GER)**
Hydroelectric power plant ▶ 1906

¹ The Koehler Group's solar farms were not included in the calculation. In the 2024 reporting year, they generated 490 MWh of power.



Driving Wind

- 1 Edintore Windfarm, Keith (GB)**
Wind farm with six
Enercon E 92 wind turbines ▶ 2017
- 2 Blasbach, Hesse (GER)**
Wind farm with two
Vestas V150 wind turbines ▶ 2024

10,450^{MWh}

of renewable energy were generated by the hydroelectric power plants in Scotland and Germany in 2024.

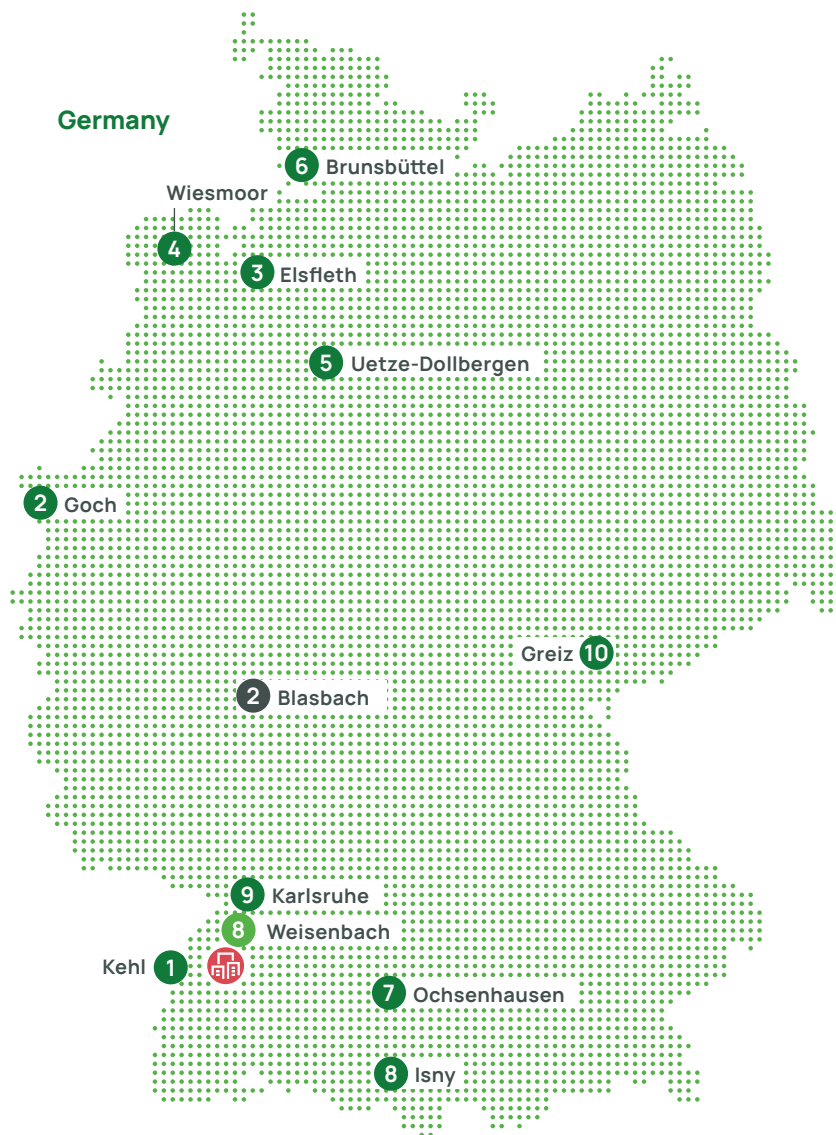
53,720^{MWh}

of renewable energy were generated by the wind farms in Scotland and Germany in 2024.

Energy from Biomass



- 1 B E B Bio Energie Baden, Kehl (GER)**
Biomass combined heat and power plant/
Electricity and process steam
P Block I: 2002/Block II: 2011
 - 2 GBE – Gocher Bioenergie, Goch (GER)**
Biomass combined heat and power plant/
Electricity and process steam P 2012
 - 3 EBE – Elsfl ether Bioenergie, Els fleth (DE)**
Biomass combined heat and power plant/
Electricity and process steam P 2014
 - 4 WBE – Wiesmoorer Bioenergie, Wiesmoor (DE)**
Biomass combined heat and power plant/
Electricity and heat P 2014
 - 5 DBE – Dollbergen Bioenergie, Uetze-Dollbergen (DE)**
Biomass combined heat and power plant/
Electricity and process steam P 2020
 - 6 Bioenergie Brunsbüttel, Brunsbüttel (DE)**
Biomass combined heat and power plant/
Electricity and process steam P 2008
 - 7 Zollikofer, Ochsenhausen (DE)**
Biomass combined heat and power plant/
Heat P 2011
 - 8 Zollikofer, Isny (DE)**
Biomass combined heat and power plant/
Heat P 2013
 - 9 Zollikofer, Karlsruhe (DE)**
Biomass heating/Heat
(internal use)
 - 10 Koehler Paper, Greiz (GER)**
Biomass combined heat and power plant/
Electricity and process steam P 2023
-  **Koehler Paper, Oberkirch (GER)**
Biomass combined heat and power plant/
Electricity and process steam P 2024



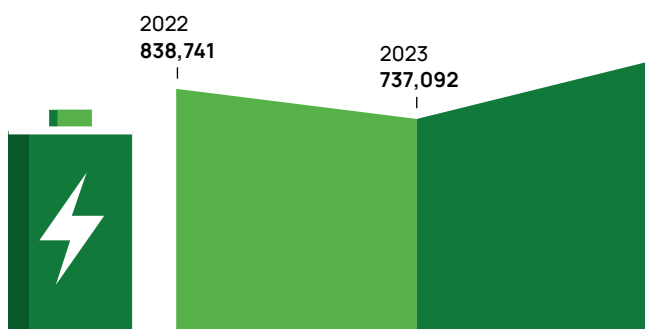
Legend

-  Oberkirch headquarters
-  Founded/commissioned in

2024

938,000 MWh

of renewable energy (steam and electricity) was generated in total by the power plants.



873,830 MWh

of renewable energy (steam and electricity) were generated by the biomass combined heat and power plants in Germany in 2024.

— Pulp



Inland waterway transport is the most sustainable means of transporting pulp from the Netherlands to the Black Forest.

Ahoy!

—→ The main things we need to make our paper products are pulp fibers and water. And while we have the latter in abundance right at our front door, pulp is usually a bit farther away. That means it needs to travel to us, and it also means it is our responsibility to make that trip as sustainable as possible. A travelogue.

“We transport 150,000 metric tons of pulp a year to Kehl.”

Matthijs Mannak
Interriijn Director

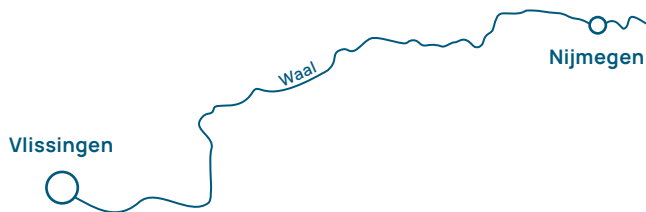


The bright red “Speranza” plows silently through the dull, grayish-green waters of the Rhine. It has been traveling “uphill” for six days now, as Rhine riverboat skippers like to call the trip upstream. The ship just passed the Gamsheim lock, where two passengers climbed aboard with the intention of going all the way to the last stop, Kehl. Their names are Marc Lienhard and Matthijs Mannak, and while they often have conversations on the phone, talking in person is what they clearly like best – and today they are doing that on water. Lienhard is the Corporate Director of Logistics and Process Management of the Koehler Group in Oberkirch, while Mannak is the Director of logistics service provider Interriijn in Zwijndrecht, in the Netherlands. Another hour and a half to go before the boat gets to Kehl.

On Course for Kehl

From the bow, they take a good look at the 110-meter-long Speranza. Their eyes stop at the long roof, which keeps the cargo space dry. In it are 8,000 pulp bales that already have a long journey behind them. Eight weeks ago, a cargo ship in South America took these bales on board and brought them across the Atlantic. In the Dutch harbour of Vlissingen, the valuable raw material was transshipped from the large ocean freighter to Interriijn’s riverboat. The port at the mouth of the Scheldt into the North Sea is an important handling transshipment center for pulp shipments from all over the world. While the boat glides toward Kehl, Mannak takes a look at the bow wave and remarks: “We ship pretty much everything except liquids. Bulk cargo such as corn, coal, and cement, but also things like steel and tractors – and, of course, pulp. Almost every week, one or two of our ships are underway for Koehler. We transport a total of roughly 150,000 metric tons of pulp to Kehl every year.” When asked how long Koehler and Interriijn have been working together, the two laugh heartily, think for a second, and then give it their best guess: “Since forever?” Mannak stops to really think about it and then gives a more concrete number – around 40 years, or at least that is what his most senior employees say.

Matthijs Mannak
and Marc Lienhard



Interrijn and Koehler have been working together for decades – Matthijs Mannak and Marc Lienhard not quite that long.



Pulp from All over the World

The papermaking company does not settle for less when it comes to the material it uses. The pulp has to come from certified sustainable forestry and plantation management sources and meet a good number of additional criteria: “We produce specialty paper, which means we need special raw materials. There is great quality stuff in South America, but we also get pulp from Scandinavia, Spain, and Portugal,” Lienhard explains. The cargo the Speranza is carrying will end up being used, among other things, to make thermal paper that will later be cut into cash register rolls, for example. The paper needs to be especially smooth in order for the thermosensitive layer to adhere well. In addition, it needs to be strong and be able to easily and quickly move through receipt printers. The pulp on the boat should be enough for more than 750,000 kilometers of cash register rolls, which would be enough to go around the Earth almost 19 times.

Traveling on a Ship Sure Beats Traveling on a Truck

The Speranza's 1,700 hp engine roars for a good 80 hours on the trip from Vlissingen to Kehl. During the voyage, it uses up 12,000 liters of sulfur-free diesel fuel similar to that used in cars. Two turbochargers make the engine more efficient, and its exhaust gas is purified in several stages. A selective catalytic reduction system injects AdBlue(TM) urea solution into the exhaust gas path, converting nitrogen oxides into water and nitrogen, both of which are harmless to the environment. After that, a filter separates the remaining particulate matter from the exhaust gas.

INTERRIJN
Since 1971

792 kilometers is the distance between Vlissingen and Kehl

82 hours is the time that the Speranza needs to cover it

5 locks get passed on the way

2,000 metric tons of pulp are what the ship transports

Rhine

Mainz

Mannheim

Gambsheim
km 309

Kehl

297
Rhein river kilometer

“This riverboat generates only a third of the carbon dioxide that using trucks would.”

Marc Lienhard
Corporate Director of Logistics and Process Management at Koehler

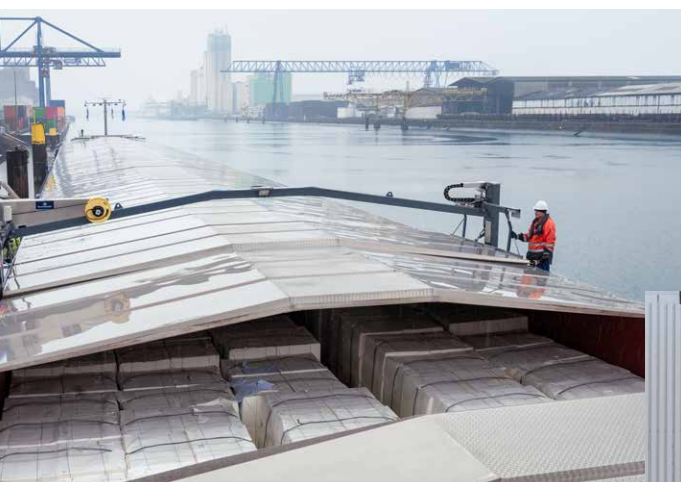
Nevertheless, the Speranza still releases some carbon dioxide. Lienhard casts a glance at the Rheinaue wetlands and points out that environmental aspects play an important role in his work. He has chosen a water route because it is the most sustainable option for transporting pulp: “This riverboat generates only a third of the carbon dioxide that using trucks would,” he calculates.

New Alternatives in the Near Future?

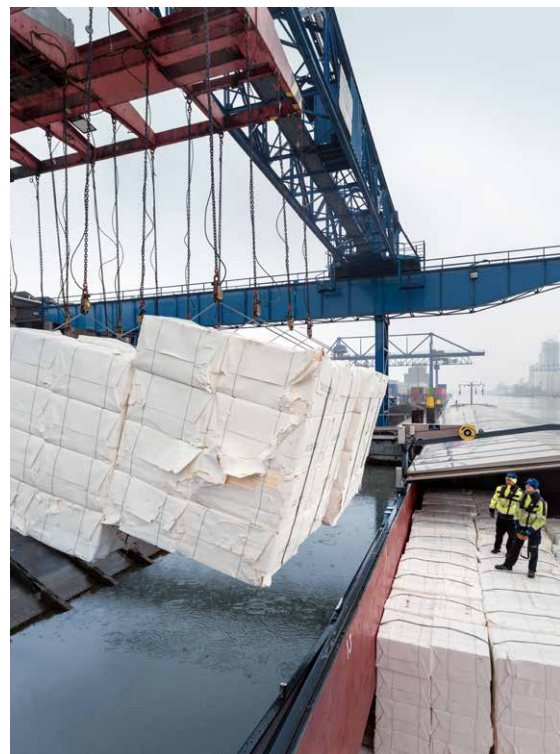
Mannak says he has been spending a lot of time exploring more environmentally friendly propulsion systems for his fleet, and lists some of the alternatives: Hydrogen takes a lot of energy to make, and the necessary fueling infrastructure is still missing. There are electric motors for small ships, but they are only good for short hauls. He is familiar with them from the canals of Amsterdam, the Dutchman says. “To complete a trip through the Rhine, we’d need so many batteries that there wouldn’t be any space left for cargo,” he explains while the Speranza fights against the current. The alternative where Mannak sees the greatest opportunities is drop-in fuels, which would be able to replace the diesel fuel used by the boat without any major conversions to the engine and consist of biodiesel, bioethanol, and HVO. For instance, “hydrotreated vegetable oil” production takes used grease from commercial kitchens or animal fat and converts it using hydrogen. And while burning biofuels still releases carbon dioxide, it only releases the same amount that was previously sequestered from the atmosphere by plants via photosynthesis.

From Ship to Site

Once the riverboard arrives in Kehl, it docks next to a massive gantry crane from which thick chains dangle. The roof opens up and the ship’s cargo is revealed: 1,000 pulp units, with each one consisting of eight bales that are a bit larger than a moving box, and each of which weighs around 250 kilograms.



The cargo space is covered during the trip, ensuring that the pulp remains dry.



A crane lifts the heavy cargo out of the ship and onto land.

Four workers climb into the cargo space and attach carabiners to the wires used to hold the bales together. The chains tighten up and the crane then lifts eight units simultaneously and swings them from ship to dock. Several forklifts hone in on the units and move the pulp to a warehouse. The trip continues from there to Koehler Paper’s Kehl mill right around the corner, where the pulp will be processed into thermal paper, decor paper, or flexible packaging paper. Or to Oberkirch 23 kilometers away, where the paper machine will be outputting playing card board and other products. Marc Lienhard and Matthijs Mannak say goodbye to each other genially and shake hands. They plan to soon travel together downstream to the Netherlands on an Interrijn ship, except just for fun and for longer than just one hour and a half.



Forklifts take the pulp bales to the warehouse as quickly as possible.

Success is a Team Effort



—————> To achieve sustainable growth, everyone must do their part, which is why we make sure to create a work environment in which every single employee can feel appreciated and supported. Our team's diversity is our strength, as well as a source of new perspectives.

————— Investing
in the future

1.5 million

euros went into building and setting up the Koehler Group Campus.

5

times as much space as before can be found in the new training center.

More Space for Learning

As the 2024 training year kicked off, we inaugurated our Koehler Group Campus in Willstätt. There, 42 young people spend two and a half years acquiring the basic skills for a career in electronics, industrial mechanics, and mechatronics. In addition, they gain hands-on experience for one year working alongside our service technicians and maintenance staff at our Oberkirch and Kehl mills.

Apprentices in professions that require close proximity to production and quality control continue their training at our Oberkirch and Kehl mills. This applies to paper technologists and machine and system operators specializing in paper processing, as well as commercial apprentices and dual-study students in four majors.

With an area of over 3,000 square meters, the new center offers five times as much space as our previous training workshop. In addition, it features state-of-the-art equipment, including 3D printers, lathes and milling machines, switchgear enclosures, and welding booths. At training stations and rows of workbenches, three full-time instructors explain to apprentices what the corresponding steps are, and all this is complemented by spacious meeting rooms and break rooms. Around 1.5 million euros went into building and setting up the training center.

The new training center is equipped with cutting-edge equipment.



Training and Continuing Education

We have more than 100 apprentices and dual-study program students across all training years at our Oberkirch, Kehl, Willstätt, Weisenbach, and Greiz locations, corresponding to a training rate of 4.8%. This means that the target of more than 4% originally set for 2030 has already been met.

Attracting Apprentices through Their Parents

Corporate Director of HR & Legal Elke Renz lists the ways in which the Koehler Group attracts young individuals for apprenticeships and, ideally, retains them: “In addition to traditional events and methods such as career fairs and brochures, we use digital channels,” she explains. For instance, the online platform Azubiyo provides career descriptions and focuses on offering apprenticeship spots and dual-study programs. A matching algorithm compares the profiles of applicants with the requirements for positions. Renz confirms that using the platform, combined with extensive apprenticeship marketing measures, has improved the quality of applications. Moreover, the Koehler Group is active on both Instagram and Facebook. The latter might not be the channel of choice for the TikTok generation, as the HR Director explains, but their parents are also a target audience to consider. After all, families exert considerable influence when it comes to young people choosing their future career. Not to mention, of course, that the public usually knows little about what careers in the paper industry look like. Most of the time, young people learn about them if they have relatives who work at Koehler and talk about their day-to-day experiences. It should come as no surprise then that the referral bonus program for employees who successfully recommend apprentices has proved to be a success.

New Knowledge, New Opportunities

“Knowledge without experience is just theory. To truly master the future, you need to learn and experience things your whole life,” Renz remarks before underscoring the importance of advanced training at the Koehler Group. The target is to have every employee take at least 25 hours of advanced training by 2030, and to achieve this, the company provides a wide variety of offerings: e-learning courses can be incorporated into a typical workday, since they do not need to be taken at a specific time or a specific place, while custom-tailored in-house training offerings are designed specifically for the company’s needs. Social skills training courses are available to hone interpersonal skills, while courses on methodological skills can help optimize work processes and make them more efficient. Professional skills training courses are available for advanced training in employees’ professions, and we support aspiring managers individually or with offerings such as our basic management program. All this has been well received by our employees – so much so, in fact, that they spent more than 24 hours on average expanding their skills in 2024.

“Many young women find professions related to the paper industry to be very appealing. So it’s only natural for us to encourage and nurture this interest as much as we can.”

Elke Renz
Corporate Director HR & Legal

“Knowledge without experience remains just theory.”

Elke Renz
Corporate Director HR & Legal

4.8%

is the Koehler Group's training rate.

More than

24

hours is the average amount of advanced training that employees underwent in 2024.

From Talent to Management

Our basic management program is intended for people who have never held a management position at the Koehler Group or have only done so for a short period of time. It combines a number of elements that typically contribute to good management, including self-reflection, skill in applying methods, and the development of behaviors conducive to good management practices – all while keeping Koehler's values in focus, of course. In fact, individuals in the program participate in in-depth workshops where they get to reflect on their personal understanding of what management entails and draw a line between that and the company's values. Out of all the management job openings we have listed, we have filled 73% internally, with the original target being 60% by 2030. This not only sends a clear message to our employees that we really do mean it when we say we value performance and loyalty, but is also an optimal way to reinforce our company's culture and ensure that projects can continue seamlessly.

Our talent development program is meant to identify individuals with special potential, and is aimed at high-performance employees at all levels who show great promise. These employees are nurtured in a targeted manner in the program, and that includes working on strategic projects for the company, with examples including redefining shift work for the future. Participants get 360-degree feedback, enabling them to further develop their skills, expertise, and understanding of themselves. Ultimately, Koehler hopes to build up future experts and managers from this talent pool.

Paper Machine Crash Courses

Well-trained skilled workers are extremely important when it comes to papermaking, but they are becoming increasingly difficult to find in our region. This is why the Koehler Group has created a career change program. This program provides people with experience in a trade or other professional fields the option of training for a job in paper production. In cooperation with the prestigious training center for paper trades in Gernsbach, we have come up with a module-based concept that combines basic theory with plenty of hands-on learning. This “light training” imparts essential skills required in order to work safely and productively on paper machines.



Occupational Health and Safety

Paper machines feature many moving parts. This means the risk of injury is accordingly high, with the most vulnerable body parts being a person's hands and arms. The lion's share of accidents occur due to failure to observe safety guidelines, explains Lucas Riegger, who works as a lead safety engineer at the Sustainability and Management System department at our Kehl mill. His department's tasks also extend to the topics of fire safety, food safety, and environmental protection. And to help our personnel organize their work in such a way that safety is maximized, he and his team offer a number of training courses and take care of the groundwork required in order to keep everyone informed.

Risk Cannot Simply Slip through Our Fingers

A three-month campaign with intentionally shocking posters was used to raise awareness among production staff so as to help prevent accidents to the greatest extent possible. The visual theme was a hand missing its little finger, and while some employees found it a bit too graphic as per Riegger's recollections, the extensive discussions that followed raised the salience of the topic and made everyone pay attention, making the campaign a success.

Safety through Training

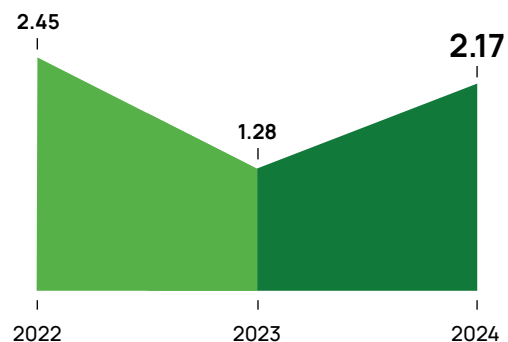
A special two-day campaign provided our personnel with the opportunity to learn more about issues such as waste separation, fire safety, and sustainability. In addition, the German Social Accident Insurance Institution for the raw materials and chemicals industry provided a trip hazard obstacle course. More specifically, this course simulates a number of situations that can result in trip, slip, and fall accidents in day-to-day work. Staircase steps with different heights, defective handrails, objects not removed from the floor, and unsuitable flooring all helped employees learn what they really need to look for while working in order to prevent hazards while following safe practices.

Praise Instead of Criticism

Of course, the challenge posed by occupational health and safety measures is how to check that they are effective. To take care of this, Riegger made sure to train more than 70 managers at the Koehler Paper Kehl mill on how to monitor the effectiveness of occupational health and safety measures. Insights and findings from behavioral sciences are applied within this context, and managers learn how to methodically observe work processes, e.g., when paper webs happen to tear. After this, they provide employees with constructive feedback on what they are doing as quickly as possible. Instead of focusing on mistakes, this feedback revolves

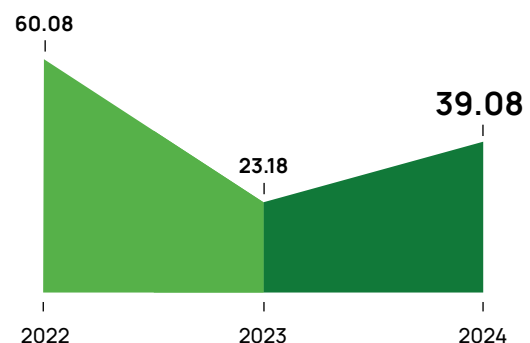
around positive reinforcement for things that employees are doing safely. "When your boss praises the things you are doing right to keep safe, it sticks with you," Riegger says. In addition, workers are encouraged to remind each other of safe practices and reinforce them. This not only reduces the number of accidents, but also improves our organizational culture and boosts beneficial and positive teamwork. In fact, operational practices in many industrial sectors show that an occupational health and safety approach that focuses on behaviors results in employees doing things in a safer way. However, Riegger makes sure to point out that this is a long-term process, and that results will take some time to become clear. In 2024, the injury frequency rate (LTIFR) was 2.17%, while the severity rate (LTISR) was 39.08%. The Koehler Group's target is to reduce the number of work accidents to zero by 2030. Our health quota of 94% is also trending toward our 95% target for 2030.

Number of accidents resulting in absences (LTIFR¹)



¹ Lost time injury frequency rate: number of accidents resulting in time away from work (>24 hours) x 200,000 / number of hours worked

Occupational accident severity rate for direct employees (LTISR²)



² Lost time injury severity rate: days absent due to an accident x 200,000 / number of hours worked

“When your boss praises the things you are doing right to keep safe, it sticks with you.”

Lucas Riegger

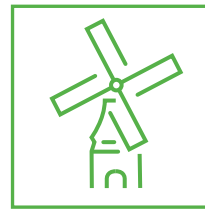
Occupational health and safety officer at the Koehler Paper mill at Kehl

Ready for Emergencies

Over 40 voluntary safety and environmental officers regularly inspect our Kehl mill, looking for hazards that could jeopardize the safety and health of their colleagues. And in the unlikely case that an accident still happens, we have our emergency response team ready to respond. Moreover, an additional five people have completed the three-week training offered by the German Red Cross, which means that there are now a total of 14 people who can provide aid that extends far beyond the skills of first aiders. And in case of fire, the company volunteer fire brigade and its 60 members can come to the rescue. Finally, to make this proposition even more attractive, members get additional hazard pay for each deployment.

Healthy Bodies, Healthy Minds

Health is an integral part of our company culture and management philosophy. We believe that the mental well-being of everyone who works at our company is just as important as their physical health. It is against this backdrop that we tasked service provider Favox GmbH with running a survey asking all employees to identify potential issues causing mental stress. Of those surveyed, 62% answered anonymously and gave the Koehler Group a pretty good grade: On a scale of 1 (very poor) to 10 (excellent), the risk score for mental stress came in at 7. Using the feedback from the survey, its owners and their teams participated in workshops where they fleshed out custom-tailored approaches intended to improve the situation at their sites. In addition, they identified company-wide issues, prioritized them, and came up with suggested general solutions. This in turn gave rise to four projects focusing on the topics of leadership, meeting and e-mail culture, project management, and culture and values. These projects are being used to systematically tackle all identified weak points so as to sustainably improve our workforce's satisfaction and reduce the risk of mental stress accordingly. “We always want to be there for our employees, even in stressful situations that are not part of their job,” Elke Renz explains. To achieve this, the Koehler Group is working together with an external service provider that can provide confidential counseling to employees for issues such as relationship problems, financial concerns, and crises. In addition, employees can also get support if they need help caring for children or other relatives or want to submit an application for services to the government.



**Good
Neighbor**

At the Koehler Group, we attach enormous importance to ensuring that we treat everyone who lives close to our premises with respect. We make sure to listen and have open and honest discussions with all stakeholders. When converting our combined heat and power plant at our Oberkirch mill, we made sure to get residents involved from the beginning of the planning phase and discuss their concerns and suggestions. It definitely helped that the project was intended to contribute to the fight against climate change by heavily reducing carbon dioxide emissions, which the public found to be a strong positive factor. Moreover, we made sure to pay attention to details in order to minimize the impact of the power plant's operation on its surroundings: We store the biomass that is replacing black coal as fuel in enclosed silos so as not to release objectionable odors into our neighborhood. Another consideration was the increased truck traffic resulting from our need for more material deliveries given that biomass has a lower calorific value than black coal. To address that problem, we are using cutting-edge logistics and optimized traffic management to ensure that these trucks will be at our premises as little as possible. Finally, we have erected a noise barrier to reduce noise emissions and keep the neighboring area pleasant.

Green and Healthy

For many years now, we have “adopted” the Weidenbach and Stangenbach creeks in Oberkirch. As locals know already, our apprentices are always extensively involved in cleaning and planting activities in this context. What they might not know is that this is a great way for our apprentices to become familiar with important aspects of our company culture and to experience what it means to act with sustainability in mind.

Together with other companies, we have formed a company association in Oberkirch whose members cooperate in the area of occupational health management systems. This ensures that smaller companies without the necessary capacity for their own standalone program can also benefit from measures that promote health. At the health day event organized by this association, anyone interested can learn more about nutrition and keeping active, get their hearing and vision tested, and receive advice on supplementary insurance.

Honoring Volunteer Work

Some of the members of the Kehl volunteer fire brigade work at the Koehler Paper mill and have nominated the company for the “Ehrenamtsfreundlicher Arbeitgeber im Bevölkerungsschutz” award, which honors employers that significantly support civil defense volunteer efforts. Deputy Minister President and State Minister of the Interior of



The Gretel-Furler daycare center will offer daycare spots for 100 children.

Baden-Württemberg Thomas Strobl presented Mill Director Joachim Uhl with a certificate documenting this honor at a ceremony.



Attractive Employer

In addition to her position as the Corporate Director of the Koehler Group HR & Legal department, Elke Renz is also the Koehler Group's diversity and inclusion officer. One of the projects that is most close to her heart is making the paper industry more appealing to women. "Our Girls' Day event, which is part of an extremely valuable initiative that has proven quite successful across all of Germany, shows that a lot of young women find professions related to the paper industry to be very appealing. So it's only natural for us to encourage and nurture this interest as much as we can," she points out. This event takes place every year throughout the entire country and aims to encourage young women who are interested in professions in which they have been underrepresented to date. Renz clarifies that you can find women in apprenticeships having to do with industrial applications, but that the percentage is very small. On another inclusion-related note, work on paper machines can be physically demanding, partially because it involves working shifts, so we consider it our responsibility to create working conditions that enable older skilled workers to continue their work for the long haul while remaining healthy. The Koehler Group already offers a discrimination-free workplace for everyone regardless of age, ethnicity, nationality, gender and gender identity, physical and mental disabilities, religion, worldview, sexual orientation, and social background. And to put our money where

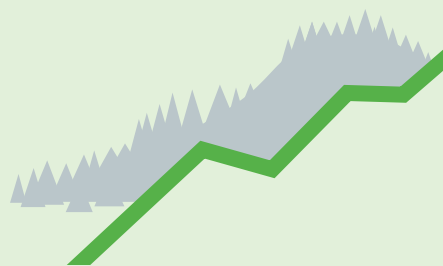
our mouth is, we have become a signatory to the Charta der Vielfalt (Diversity Charter). The corresponding association represents the biggest employer initiative for the promotion of diversity in companies and institutions in Germany. With over 6,000 organizations having signed the Diversity Charter, the association represents a good 15 million employees.

Properly Cared For

To enable parents to balance work and family life even better than before and to ensure that young families receive the childcare services they need, we have started building our Gretel-Furler daycare center right next to the company's headquarters in Oberkirch. Together with the town of Oberkirch and with Stuttgart-based company Konzept-e, we are creating 95 childcare places for children from six months of age until they start school, complete with extended opening hours and all-day childcare options. Of these, 60% will be available to Koehler Group employees, while the others will be used as public places. Starting in September 2025, and until the new facilities are completed, there will be an interim solution in the form of a daycare center in Nußbach. The new building is expected to be ready for use for six groups in the first half of 2026. The center will have employee-friendly opening hours from 7 a.m. to 5 p.m., and since it will not be closed more than 12 days per year, should enable parents to achieve a good work-life balance.

Konzept-e has plenty of experience with these projects. In fact, the company has helped us organize a summer vacation workshop since 2023, allowing the children of Koehler Group employees to participate in a wide range of activities under the guidance of qualified educators. Moreover, the Koehler Kehl mill has participated in the joint vacation program run by a group of local businesses for two years now. One of the highlights in both programs is kids getting to make their own paper together with Koehler apprentices.

Ready for EU Reporting



————→ **Sustainable business practices create value – that has always been one of the basic principles underlying our company philosophy. In other words, the guideposts for mandatory reporting were already there for the Koehler Group.**

The European Union's requirements for sustainability reporting are going through a dynamic development process that will require adjustments from all stakeholders. "The Corporate Sustainability Reporting Directive, or CSRD for short, requires a whole lot of data to be collected in great detail so that it can be reported in a transparent manner. Needless to say, that comes with some pretty big challenges," says Koehler Group Finance and Controlling Corporate Director Ilona Gutmann. In order to prepare for these changes, the family company started collecting and analyzing a large amount of relevant numbers and information as far back as 2023. This means that, regardless of any future decisions, it is already well-prepared and positioned for any regulatory developments.

Taxonomy – What Is Actually Green?

The CSRD defines which companies need to report on specific sustainability impacts. Meanwhile, the EU taxonomy is a classification system that has been established by the European Union and is intended to go hand in hand with the CSRD. This taxonomy defines the business activities that are considered to be environmentally sustainable from the EU's point of view based on their contributions to climate change mitigation, resource efficiency, and other environmental objectives. It is intended to serve as a guideline for investors and companies that will make it possible for them to establish transparency. In addition, it is intended to prevent greenwashing by clearly defining what "green" investments are. Both sets of rules deal with similar environmental issues, but the EU taxonomy defines specific criteria for sustainable activities. Together, they form a comprehensive framework for sustainability reporting and assessments for companies in the EU. "We assume that in the future, banks will prefer companies that score well in the taxonomy when issuing loans and drafting their terms and conditions," Ilona Gutmann confidently says.

The EU Gets in the Way of Paper

To date, the EU has not classified revenue derived from paper production as taxonomy-eligible, which the Koehler Group of course finds extremely regrettable. “We’ve invested quite a lot of money in the past few years in order to make our production processes more environmentally friendly,” Ilona Gutmann explains. She then proceeds to list some of these investments: The combined heat and power plants at the Koehler Paper sites in Oberkirch and Greiz now use biomass instead of coal, paper machine 4 is more energy-efficient as a result of its new shoe press, and water consumption has been lowered further. Accordingly, papermaker advocacy groups are currently in discussions with the EU. Regardless of whether we are taxonomy-eligible, however, we will continue to work on continuously improving our production processes in order to be able to offer paper products with an increasingly smaller environmental impact.

Clean Energy

In addition to paper, the Koehler Group also produces energy from wind power, hydropower, and biomass, which is generally taxonomy-eligible. As of the time of writing, we are checking whether all of our plants are taxonomy-aligned, that is, whether they actually meet all the strict criteria of environmental sustainability.

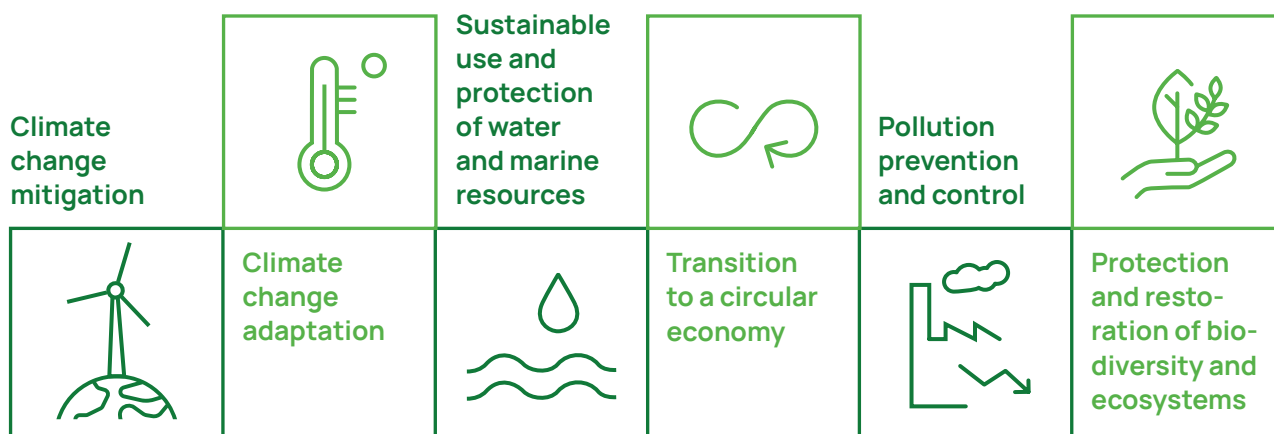
Regardless, we believe that all the measures that we have already implemented in order to consume less energy and produce that energy from renewable sources puts us on the right path. The coming years will be crucial when it comes to complying with these new regulatory requirements and further developing our sustainability strategy.



“We assume that in the future, banks will prefer companies that score well in the EU taxonomy.”

Ilona Gutmann
Corporate Director of Finance and Controlling
at the Koehler Group

The EU taxonomy measures all business activities based on six environmental objectives:



3 – Key Figures



Sustainability in Figures

Input 2024

Raw materials



Pulp used

in metric tons
(air-dry weight)

366,735

(2023: 340,529)
(2022: 402,325)

Roundwood used

in metric tons
(oven-dry weight)

25,891

(2023: 25,079)
(2022: 29,453)

Wastepaper used

in metric tons

32,660

(2023: 29,977)
(2022: 37,450)

Other input materials

in metric tons
(as purchased)

310,161

(2023: 284,141)
(2022: 334,961)

Energy



Purchased electricity

in MWh

339,010

(2023: 277,047)
(2022: 380,265)

Fuels

in MWh

2,181,320

(2023: 2,155,638)
(2022: 2,352,824)

Water



Well water

in m³

4,546,165

(2023: 4,602,100)
(2022: 5,085,182)

Surface water

in m³

558,297

(2023: 589,064)
(2022: 652,219)

Biomass



Biomass for processing

in metric tons
(air-dry weight)

960,356

(2023: 922,214)
(2022: 982,872)

Output 2024

Production



Paper and board
produced in metric tons

502,480
(2023: 468,751)
(2022: 556,771)

**Biomass traded/
processed for
mechanical recycling¹**
in metric tons

700,847
(2023: 719,206)
(2022: 786,447)

**Biomass traded/
processed for the
production of energy¹**
in metric tons

268,019
(2023: 203,687)
(2022: 193,394)

Renewable energy generation



Electricity
in MWh

270,886
(2023: 267,750)
(2022: 298,338)

Process steam²
in MWh

572,280
(2023: 431,201)
(2022: 509,602)

Hot water
in MWh

24,795
(2023: 26,113)
(2022: 24,497)

Greenhouse gas emissions



Scope 1 CO₂
in metric tons

182,760
(2023: 249,610)
(2022: 277,570)

Scope 2 CO₂
in metric tons

16,260
(2023: 15,550)
(2022: 166,627)

Wastewater



Wastewater
in m³

3,110,850
(2023: 2,881,614)
(2022: 3,116,866)

Waste



Waste
in metric tons, gross

158,167
(2023: 135,731)
(2022: 150,813)

The figures shown are for the whole Koehler Group. Smaller companies in which the Group holds a stake may be denoted as such or not fully included in all figures.

¹ Primary or secondary biomass (air-dry weight in metric tons, i.e., including moisture)

² Some of the process steam generated is used internally.

GRI Index

—→ Our aim with this report is to provide as broad and complete a package of information as possible about our sustainability positioning and strategy, our business approaches, and our sustainability performance. This index is intended to show evidence that we provide almost every disclosure specified by this option.

Statement of Use The Koehler Group has disclosed the information in this GRI Index for the period January 1, 2024 to December 31, 2024 in line with the GRI Standard.

GRI 1 used GRI 1: Foundation 2021

GRI Standards and Disclosures	Key Points/Reference	Page Reference
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General Disclosures

GRI 2: General Disclosures 2021

2-1	Organizational details	About This Report	11
2-2	Entities included in the organization's sustainability reporting	About This Report	11
2-3	Reporting period, frequency, and contact point	About This Report	11
2-4	Restatements of information	No restatements of information were made in the reporting period.	
2-5	External assurance	Our approach was assessed by EcoVadis. In our last evaluation in January 2024, we were awarded 90 out of 100 points.	9, 28
2-6	Activities, value chain, and other business relationships	Producing Paper and Generating Renewable Energy; We Think in Terms of Cycles	50 – 51
2-7	Employees	People, the Key to Success; number of employees: 2024 – 2,514, 2023 – 2,464, 2022 – 2,404	70 – 75
2-9	Governance structure and composition	Sustainability in Corporate Management	14 – 17
2-10	Nomination and selection of the highest governance body	Sustainability in Corporate Management	14 – 17
2-11	Chair of the highest governance body	Foreword from Our CEO	4 – 5
2-12	Role of the highest governance body in overseeing the management of impacts	Foreword from Our CEO; Sustainability Committee	4 – 5; 14 – 15
2-13	Delegation of responsibility for managing impacts	Foreword from Our CEO	4 – 5
2-14	Role of the highest governance body in sustainability reporting	Sustainability Committee	14 – 15
2-15	Conflicts of interest	No incidents notified during the reporting period	

GRI Standards and Disclosures		Key Points/Reference	Page Reference
2-16	Communication of critical concerns	Whistleblowing system; number of concerns reported via the whistleblowing mechanism: 2024 – 3, 2023 – 1, 2022 – 0	
2-17	Collective knowledge of the highest governance body	Foreword from Our CEO	4 – 5
2-18	Evaluation of the performance of the highest governance body	Foreword from Our CEO	4 – 5
2-19	Remuneration policies	Decent Work and Economic Growth. 100% of employees received more than the minimum wage between 2022 and 2024.	22
2-20	Process to determine remuneration	People, the Key to Success. The average unadjusted gender pay gap stood at zero in the period 2022 – 2024.	70 – 75
2-21	Annual total compensation ratio	Decent Work and Economic Growth. 100% of employees had access to a company pension scheme in the period 2022 – 2024.	22
2-22	Statement on sustainable development strategy	Our Sustainability Strategy	26 – 29
2-23	Policy commitments	Areas of Action and Goal-Setting/2030	20 – 35
2-24	Embedding policy commitments	Our Sustainability Strategy; The Important Areas Where We Are Taking Action	26 – 35
2-25	Processes to remediate negative impacts	Sustainability in Corporate Management/An Evolving Committee	14 – 15
2-26	Mechanisms for seeking advice and raising concerns	Sustainability in Corporate Management/Our Energy Working Groups, CIP	14 – 15
2-27	Compliance with laws and regulations	Governance and Compliance	18
2-28	Membership associations	Interview with the Sustainability Manager, percentage of company facilities certified in conformity with ISO 14001: For 2022 to 2024 – 100% of paper and board mills.	8 – 9
2-29	Approach to stakeholder engagement	The reference to "Our Stakeholders" can be found in the 2023 Sustainability Report on pages 16 to 17. Percentage of all employees (at all sites) who have completed a satisfaction survey: 2023 – 62.8%.	
2-30	Collective bargaining agreements	Percentage of all employees remunerated in accordance with a collective bargaining agreement: 2024 – 88.4%, 2023 – 88.4%, 2022 – 88%	
GRI 3: Material Topics 2021			
3-1	Process to determine material topics	Sustainability in Corporate Management	15 – 17
3-2	List of material topics	The Important Areas Where We Are Taking Action	30 – 31
3-3	Management of material topics	The Important Areas Where We Are Taking Action	30 – 77

Business affairs

GRI 201: Economic Performance 2016

201-1	Direct economic value generated and distributed	Annual Report	
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GRI 203: Indirect Economic Impacts 2016

203-1	Infrastructure investments and services supported	Sustainability on the Road to Success; Resource Efficiency; A Visionary Approach to Climate Action	9; 52 – 55; 60 – 63
203-2	Significant indirect economic impacts	Renewable Raw Materials and Responsible Sources (Regional Is Where Things Are At); A Visionary Approach to Climate Action; People, the Key to Success; Growing the Company's Value	48 – 49; 60 – 63; 70 – 75; 76 – 77

GRI 204: Procurement Practices 2016

204-1	Proportion of spending on local suppliers	Renewable Raw Materials and Responsible Sources (Regional Is Where Things Are At)	48 – 49
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GRI Standards and Disclosures		Key Points/Reference	Page Reference
GRI 205: Anti-corruption 2016			
205-1	Operations assessed for risks related to corruption	Governance and Compliance. Our main sites are subject to a compliance risk assessment.	18
205-2	Communication and training about anti-corruption policies and procedures	Governance and Compliance. More than 90% of employees received training on business ethics. 2023 – 90%; 2024 – 90%.	18
205-3	Confirmed incidents of corruption and actions taken	Governance and Compliance. There were 0 confirmed incidents of corruption in the period 2022 – 2024.	18
GRI 206: Anti-competitive Behavior 2016			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Governance and Compliance	18

Environment

GRI 301: Materials 2016			
301-1	Materials used by weight or volume	Koehler in Figures; Sustainability in Figures	Cover: 80 – 81
301-2	Recycled input materials used	Story – Blue4est® Makes Waves; Sustainability in Figures Wastepaper Percentage of recycled wood products/wood-based products: 2024 – 5%, 2023 – 5%, 2022 – 7%	56 – 59; 80 – 81
301-3	Reclaimed products and their packaging materials	Story – Living Many Lives; Living the Circular Economy; Story – Blue4est® Makes Waves; Sustainability in Figures: Wastepaper	44 – 45; 50 – 51; 56 – 59; 80 – 81
GRI 302: Energy 2016			
302-1	Energy consumption within the organization	Sustainability in Figures	80 – 81
302-2	Energy consumption outside the organization	Koehler in Figures	Cover
302-4	Reduction of energy consumption	The 2030 Objectives for the Areas of Action; A Visionary Approach to Climate Action	33; 60 – 65
302-5	Reductions in energy requirements of products and services	A Visionary Approach to Climate Action. 88% of the entire workforce at all locations in 2024 received training or education on environmental topics. In 2022 – 2023, the figure was 99%.	27; 60 – 65
GRI 303: Water and Effluents 2018			
303-1	Interactions with water as a shared resource	Water and marine resources; Resource Efficiency; The power of water	16; 52 – 55; 64
303-2	Management of water-discharge-related impacts	Resource Efficiency	52 – 55
303-3	Water withdrawal	Sustainability in Figures	80 – 81
303-4	Water discharge	Sustainability in Figures	80 – 81
303-5	Water consumption	Sustainability in Figures; Quantity of water reused: In paper manufacturing, the water that is extracted and treated is reused multiple times; no exact measurement is taken.	80 – 81
GRI 304: Biodiversity 2016			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Renewable Raw Materials and Responsible Sources; Living the Circular Economy; Resource Efficiency	48 – 55
304-2	Significant impacts of activities, products, and services on biodiversity	Resource Efficiency; Blue4est® Makes Waves; A Visionary Approach to Climate Action	52 – 65
304-3	Habitats protected or restored	Biodiversity and Ecosystems; sustainability strategy	16; 26 – 27
GRI 305: Emissions 2016			
305-1	Direct (Scope 1) GHG emissions	The 2030 Objectives for the Areas of Action (Area of Action 4); A Visionary Approach to Climate Action; Sustainability in Figures	33; 60 – 65; 80 – 81

GRI Standards and Disclosures		Key Points/Reference	Page Reference
305-2	Energy indirect (Scope 2) GHG emissions	The 2030 Objectives for the Areas of Action (Area of Action 4); A Visionary Approach to Climate Action; Sustainability in Figures	33; 60 – 65; 80 – 81
305-3	Other indirect (Scope 3) GHG emissions	The 2030 Objectives for the Areas of Action (Area of Action 4)	33
305-5	Reduction of GHG emissions	The 2030 Objectives for the Areas of Action (Area of Action 4); A Visionary Approach to Climate Action	33; 60 – 65
305-6	Emissions of ozone-depleting substances (ODS)	We continuously monitor our facilities and measure the relevant parameters to ensure we comply with the legal limits. In the event of deviations, we inform the supervisory authorities.	
GRI 306: Waste 2020			
306-1	Waste generation and significant waste-related impacts	Sustainability in Figures	80 – 81
306-2	Management of significant waste-related impacts	Living Many Lives (Back to the Loop); Sustainability in Figures	45; 80 – 81
306-3	Waste generated	Sustainability in Figures	80 – 81
GRI 308: Supplier Environmental Assessment 2016			
308-1	New suppliers that were screened using environmental criteria	Renewable Raw Materials and Responsible Sources; 100% of the relevant suppliers had contracts containing clauses on environmental, as well as labor and human rights, requirements in 2024.	27
308-2	Negative environmental impacts in the supply chain and actions taken	No incidents notified during the reporting period	

Social affairs

GRI 401: Employment 2016

401-1	New employee hires and employee turnover	People, the Key to Success; In the period 2022 – 2024, 100% of all applicants across all sites had access to a copy of the transparent recruitment procedure relating to them.	70 – 75
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Benefits are mostly governed by collective bargaining agreements and internal company agreements.	
401-3	Parental leave	Statutory childcare funding is also a possibility.	75

GRI 402: Labor/Management Relations 2016

402-1	Minimum notice periods regarding operational changes	Co-determined under the works constitution and company agreements	
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GRI 403: Occupational Health and Safety 2018

403-1	Occupational health and safety management system	Own Workforce; SDG 3 Good Health and Well-being; Resource Efficiency (Improved Safety, Better Paper); Occupational Health and Safety	16; 21; 55; 73 – 74
403-2	Hazard identification, risk assessment, and incident investigation	Occupational Health and Safety; In the period 2022 – 2024, a detailed health and safety risk assessment was performed for 100% of our sites.	73 – 74
403-3	Occupational health services	Occupational Health and Safety; Strategic Management of Health-Related Issues	73 – 74
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Health and Safety; Strategic Management of Health-Related Issues. In the period 2022 – 2024, 100% of the entire workforce across all sites was represented by an officially elected occupational safety committee.	73 – 74
403-5	Worker training on occupational health and safety	Occupational Health and Safety. In the period 2022 – 2024, procedural instructions were drawn up for 100% of processes involving chemicals or hazardous substances.	73

GRI Standards and Disclosures		Key Points/Reference	Page Reference
403-6	Promotion of worker health	Occupational Health and Safety. 100% of all employees underwent a mandatory health check in the period 2022 – 2024. Percentage of all employees who took advantage of flexitime: 2024 – 39.9%, 2023 – 37.6%, 2022 – 36.9%	73 – 74
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	Occupational Health and Safety	73 – 74
403-8	Workers covered by an occupational health and safety management system	Occupational Health and Safety. 100% of all employees had access to a company healthcare scheme in the period 2022 – 2024.	73 – 74
403-9	Work-related injuries	Occupational Health and Safety	73
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee	2024 – 24.49 hours, 2023 – 24.41 hours, 2022 – 20.23 hours. People, the Key to Success (More Space for Learning; Advanced Training)	70 – 73
404-2	Programs for upgrading employee skills and transition assistance programs	People, the Key to Success; High-Quality Education; Areas of Action and Goal-Setting/2030 (People, the Key to Success); Percentage of the total workforce across all sites that received career or qualification-related training: 2024 – 62.9%, 2023 – 64.2%, 2022 – 50.1%	21; 28; 34; 70 – 73
404-3	Percentage of employees receiving regular performance and career development reviews	People, the Key to Success	70 – 75
GRI 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees	Our Contribution to the UN Sustainable Development Goals (Gender Equality); Attractive Employer. Percentage of employees in the entire organization who come from minority groups and/or vulnerable groups: 2024 – 4.75%, 2023 – 4.62%, 2022 – 4.75%. Percentage of employees in leadership positions who come from minority groups and/or vulnerable groups (members of steering committee and executive board only): 2024 – 3.7%, 2023 – 3.8%, 2022 – 3.6%. Percentage of female employees across the entire company: 2024 – 16.2%, 2023 – 15.6%, 2022 – 15.2%. Percentage of women in leadership positions (members of steering committee and executive board only): 2024 – 12.2%, 2023 – 12.2%, 2022 – 14.5%. 0% women on the company's Board of Directors in the period 2022 – 2024	21; 75
405-2	Ratio of basic salary and remuneration of women to men	Co-determined under the works constitution and company agreements	
GRI 406: Non-discrimination 2016			
406-1	Incidents of discrimination and corrective actions taken	No incidents reported in the period 2022 – 2024; Supply chain: Supplier Code of Conduct. Workers in the value chain	7; 17
GRI 407: Freedom of Association and Collective Bargaining 2016			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	No risk for own operations; supply chain: Supplier Code of Conduct; Percentage of all staff across all sites who are represented by officially elected employee representatives: 2024 – 97.3%, 2023 – 97.3%, 2022 – 96.6%	7
GRI 408: Child Labor 2016			
408-1	Operations and suppliers at significant risk for incidents of child labor	No risk for own operations; supply chain: Supplier Code of Conduct. Workers in the Value Chain	7; 17
GRI 409: Forced or Compulsory Labor 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	No risk for own operations; supply chain: Supplier Code of Conduct. Workers in the value chain	7; 17

GRI Standards and Disclosures		Key Points/Reference	Page Reference
GRI 411: Rights of Indigenous Peoples 2016			
411-1	Incidents of violations involving rights of indigenous peoples	No incidents notified during the reporting period	
GRI 413: Local Communities 2016			
413-1	Operations with local community engagement, impact assessments, and development programs	Affected Communities; Good Neighbors; Healthy Bodies, Healthy Minds; Good Neighbor. Percentage of all operational sites for which an environmental impact assessment was carried out: For 2022 to 2024 – 100% of paper and board mills	17; 60 – 61; 74
413-2	Operations with significant actual and potential negative impacts on local communities	Our Values. Our Culture; Affected Communities; Good Neighbor	17; 74
GRI 414: Supplier Social Assessment 2016			
414-1	New suppliers that were screened using social criteria	Supplier Code of Conduct; Workers in the Value Chain. 100% of the relevant suppliers signed the Sustainable Procurement Charter/the Supplier Code of Conduct in 2024. 100% of the relevant suppliers underwent a CSR assessment in 2024 (e.g., survey). 100% of the relevant suppliers underwent an on-site CSR assessment in 2024.	7; 17
414-2	Negative social impacts in the supply chain and actions taken	No incidents notified during the reporting period; Supplier Code of Conduct; risk assessment under FSC® and PEFC chain-of-custody certification; 100% of suppliers audited/inspected in 2024 carried out the required corrective measures or capacity build-up. Percentage of buyers at all sites who have been trained in sustainable procurement: 2024 – 100%, 2023 – 88.2%, 2022 – 52.2%	26 – 27
GRI 416: Customer Health and Safety 2016			
416-1	Assessment of the health and safety impacts of product and service categories	Our Contribution to the SDGs; Successful, Future-Proof Products and Services	20 – 23; 36 – 39
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No incidents notified during the reporting period	
GRI 417: Marketing and Labeling 2016			
417-1	Requirements for product and service information and labeling	Our Management System	19
417-2	Incidents of non-compliance concerning product and service information and labeling	No incidents notified during the reporting period	
417-3	Incidents of non-compliance concerning marketing communications	No incidents notified during the reporting period	
GRI 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	No incidents notified during the reporting period	

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Milestones

2025 Sustainability Targets



Shaping the future

Our flexible packaging paper is being used for finished products for the first time ever. This shows that product protection and resource efficiency go hand in hand.

Buying sustainably

We procure our renewable raw materials from responsible sources: At least 70% of the purchases flowing into the company have an EcoVadis silver status or conform to a similar criterion from an equivalent code of conduct.



Saving energy

Paper machine 1 in Kehl is being retrofitted with a shoe press in order to increase resource efficiency.

Helping in the fight against climate change

The Langer Wald wind farm in Waldeck is going online and will solidify the Koehler Group's reputation as a visionary when it comes to climate action.



Nurturing young talent

People are our most important key to success, and that includes the little tykes. We are building the Gretel-Furler daycare center in Oberkirch, and it is slated to take in its first group of kids in 2025/26.

Creating value

We continue to prepare for mandatory reporting in compliance with the CSRD, contributing to the company's growth as a result.



Our Company.

Our Milestones.

1807

Otto Koehler purchases the “Papiermühle im Loh” paper mill in Oberkirch and founds today’s company.

1865

First paper machine

The transition from manual paper-making to industrial production is the first step into the modern era of papermaking. The first machines have a working width of 135 centimeters.

1879

Water turbines

The waterwheels are replaced with water turbines and a steam engine is added to the paper machine.

1898 ^①

Workforce grows from 8 to 100

From the time when machine production began in 1865, the workforce grew from eight to more than 100. Within that same period, production grew from around 60 metric tons to just under 800 metric tons per year.

1922

Joint stock company Papierfabrik August Koehler AG is founded

The company is converted into a joint stock company. August Koehler, his two sisters, the Brüggemann brothers, and Willie Euler of Bensheim hold shares in its capital.

1934

First coating machine

A vital investment is made when the first coating machine is built in 1934. This is the first step toward a finishing process that will play a pivotal role in the company’s success in the decades to come.

1980

Paper machine 5 commissioned

The biggest investment in the company’s history to date is made public in October 1978: Paper machine 5, which is assembled in a newly erected building in 1980.

1988

Kehl plant built

Between 1986 and 1988, a new plant is built in Kehl. At the heart of this plant is paper machine 1, with a production capacity of around 120,000 metric tons a year. Coating machine 1 is added in 1996 and paves the way for a full carbonless paper portfolio and thermal paper production in Kehl. Today, there are four paper and three offline coating machines on a lot with an area of more than 200,000 m².



2001

Koehler Holding GmbH & Co. KG is founded

Koehler Holding GmbH & Co. KG is founded, with the owning families investing almost 95% of their shares.

2002

Biomass combined heat and power plant commissioned in Kehl

The biomass combined heat and power plant in Kehl that is fired with wastewood simultaneously generates electricity and process steam with cogeneration technology. A second plant is added in 2012.

2012

Koehler Renewable Energy founded

The subsidiary of Koehler Holding GmbH & Co. KG actively contributes to the success of Germany's energy transition since 2012.

2019

Production line 8 is commissioned

Paper line 8, which was set up in 2019 in Kehl with a record investment of 300 million euros, makes it possible to produce the flexible packaging paper in our NexFlex® line, which offers a paper-based alternative to flexible plastic packaging.



②

2021

Joint venture with Zollikofer

In May 2021, we acquire a majority stake in the Zollikofer Group as part of a joint venture. This enables us to integrate our biomass procurement operations and reinforce our portfolio by engaging in the trade of biogenic raw materials for recycling and waste-to-energy purposes.

2022

Koehler Innovative Solutions founded

Koehler Innovative Solutions fosters innovative start-ups and their creative ideas. Its core business areas are paper and renewable energy.

2023

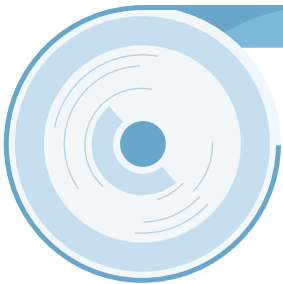
Extension of the wastewater treatment plant in Kehl

The construction of two new tanks and five sand filter systems increases plant efficiency and improves the treatment process, even at full capacity.

2024^②

Biomass combined heat and power plant commissioned in Oberkirch

By converting the combined heat and power plant in Oberkirch from black coal to biomass, we are reducing our annual CO₂ emissions by 150,000 metric tons. Both electric power and process steam are generated.





Koehler Holding SE & Co. KG Sustainability Report 2024