

KELHEIM FIBRES – FOR A BIOBASED FUTURE

# Sustainability Report and Environmental Statement 2025

With Applied Data from 2024



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# 1

## Foreword



In October 2024, Kelheim Fibres GmbH was forced to file for insolvency – a painful but necessary step after several challenging years. The global pandemic, disrupted supply chains, the energy crisis, changing consumer behaviour, and the insolvency of our site partner Dolan in 2023 have all placed a heavy burden on our company.

This turning point marked a decisive moment in our more than 85-year company history. But instead of allowing the circumstances to paralyse us, we took determined action: we developed a new business model based on our proven core products in the fields of hygiene and speciality papers. Production volumes were adjusted from 80,000 to 35,000 tonnes per year, our facilities were optimised accordingly, and the organisational structure in production and administration was realigned. Our pricing strategy was also revised and adapted to market conditions.

Together with the works council, we implemented the necessary staff reductions as socially responsible as possible – including the establishment of a transfer company for affected employees. At the same time, we took the opportunity to introduce a new five-shift model that significantly improves the work-life balance of our shift employees and sustainably strengthens our attractiveness as an employer.

The positive developments in finance, production, and personnel over the past two quarters show that

Kelheim Fibres is once again on a stable footing. Our new concept is economically viable – and we are continuing it with confidence.

Our mission remains unchanged: we produce sustainable fibres in Europe and are a reliable employer in the region. Our focus continues to be on innovative and environmentally friendly solutions for our customers, on our role as a pioneer in sustainability – and on the long-term safeguarding of our site.

This report presents openly and transparently where we stand today – with all our progress, challenges, and the next steps ahead.

Thank you for your interest, and we hope you enjoy reading this report!



A handwritten signature in black ink that reads "Craig Barker".

*Craig Barker,*  
CEO Kelheim Fibres  
GmbH

# 2

## The Basis:

### *Materiality Analysis 2024*

The materiality analysis forms the basis of our sustainability reporting. We conducted it for the first time in 2021 and reviewed it again in 2024. The identified areas of focus continue to reflect the ecological, economic, and social priorities of Kelheim Fibres.

As is common practice in sustainability reporting, the materiality analysis remains valid over several years and is reviewed and updated at regular intervals or whenever significant changes occur.

This ensures that our reporting provides stability and comparability over time – while remaining flexible enough to respond to new conditions and developments.



## 2.1 Approach *to the Materiality Analysis*

To carry out a materiality analysis, a comprehensive catalogue of indicators is first established. This serves as the basis for a questionnaire that is sent to both internal and external stakeholders. These stakeholders then assess each topic in terms of its importance. All topics identified as material are treated with particular attention in the sustainability report.

This approach has the advantage of ensuring objectivity by including external perspectives. It also guarantees that no topics are overlooked which may be relevant to external interest groups.

## 2.2 Selection *of Indicators*

To create a solid and objective foundation for the materiality analysis, a variety of sources were consulted. This ensured that no important indicators were overlooked. First, the sustainability reports and corresponding materiality analyses of industry peers were examined. Another key reference was the Ten Principles of the United Nations Global Compact. In addition, customer requirements, legal obligations, certifications, and various supply chain assessments were taken into account and incorporated into the set of indicators.

This resulted in the following catalogue of indicators:

- Energy generation efficiency
- Energy recovery
- Energy sources
- Specific air emissions
- Air immissions / neighbourhood impacts
- Specific water consumption
- Water quality
- Raw material efficiency
- Wood sourcing
- Raw material recovery
- Pulp recycling / closed-loop processes
- Product innovation
- Alternative technologies
- Alternative raw materials
- New markets
- Chemicals used
- REACH compliance
- Alternatives to hazardous chemicals
- Waste
- Ecological / social engagement
- Circular economy / product end-of-life
- Employee health and safety
- Working conditions & social dialogue
- Career management & training
- Diversity
- Discrimination & harassment
- Corruption
- Anti-competitive practices
- Data protection and data security
- Transparency
- Environmental practices of suppliers
- Social practices of suppliers
- Human rights in the supply chain
- Certifications

## 2.3 Selection of *Respondents*

The selection of stakeholders involved can be divided into two groups: internal and external stakeholders. Both are equally important for the success of the analysis. Their perspectives are compared in the evaluation process, and together they equally determine the selection of the material indicators.

### 2.3.1 External *Stakeholders*

A total of 66 responses were recorded from external stakeholders. These were divided into six groups:

- **Customers/**  
downstream value chain
- **Retailers**
- **Suppliers/**  
upstream value chain
- **Associations**
- **Consultants**  
or similar business relationship
- **Others**  
(e.g. mechanical engineers, trade union representatives, ...)

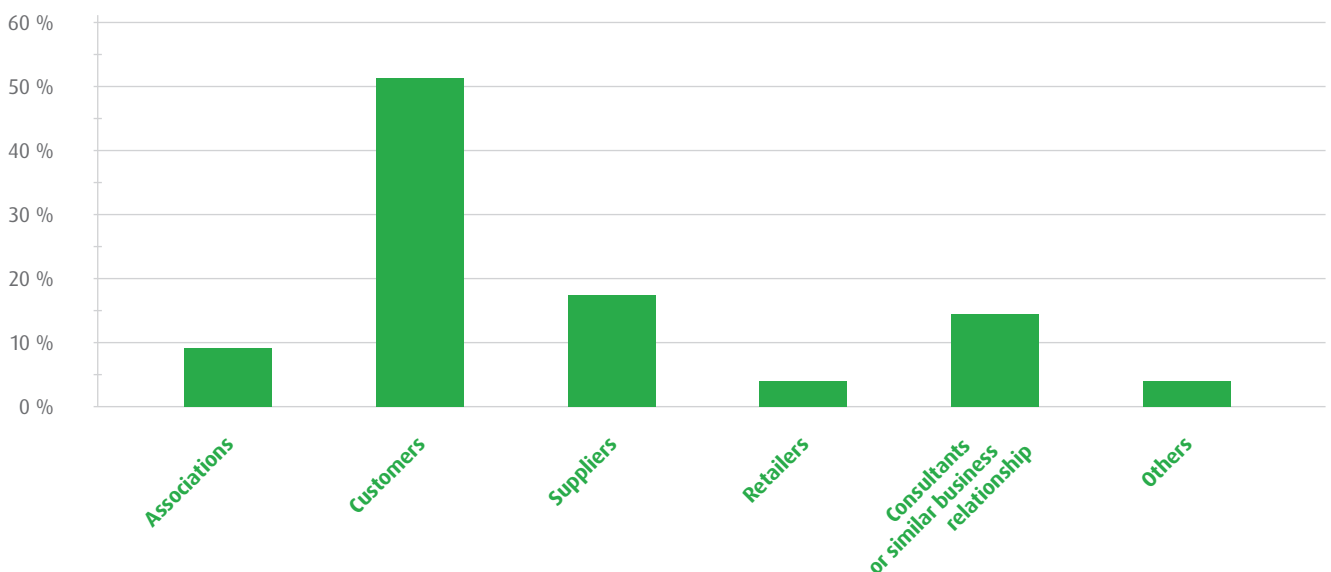


Figure 1: Breakdown of external responses by stakeholder group



## 2.3.2 Internal *Stakeholders*

The internal survey concluded with 34 responses. A distinction was made here with regard to the affiliation to the different departments. This resulted in a total of 10 groups:

- **CSR**
- **Management**
- **Marketing, Sales**
- **New Business Development**
- **Human Resources**
- **Product Development**
- **Production**
- **Accounting**
- **Recovery operations**
- **Technology, Workshop, Laboratories, Warehouse**

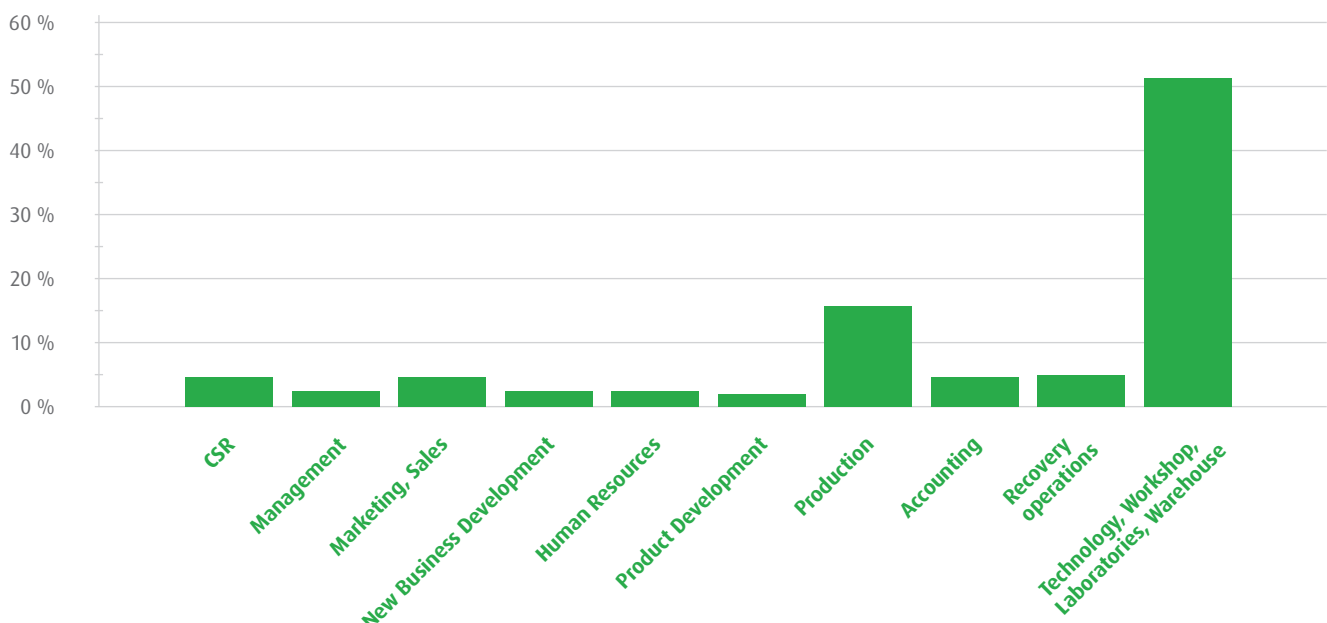


Figure 2: Breakdown of internal responses by department

## 2.4 Results

Since all topics were given average ratings of more than 2.5, the evaluation overview is limited to the quadrants between 2.5 and 5. The core task of a materiality analysis is to identify key topics that are of interest to both parties.

We have set a threshold value of 4 for both perspectives. All topics with average ratings greater than 4 have been given the highest importance by the majority of respondents

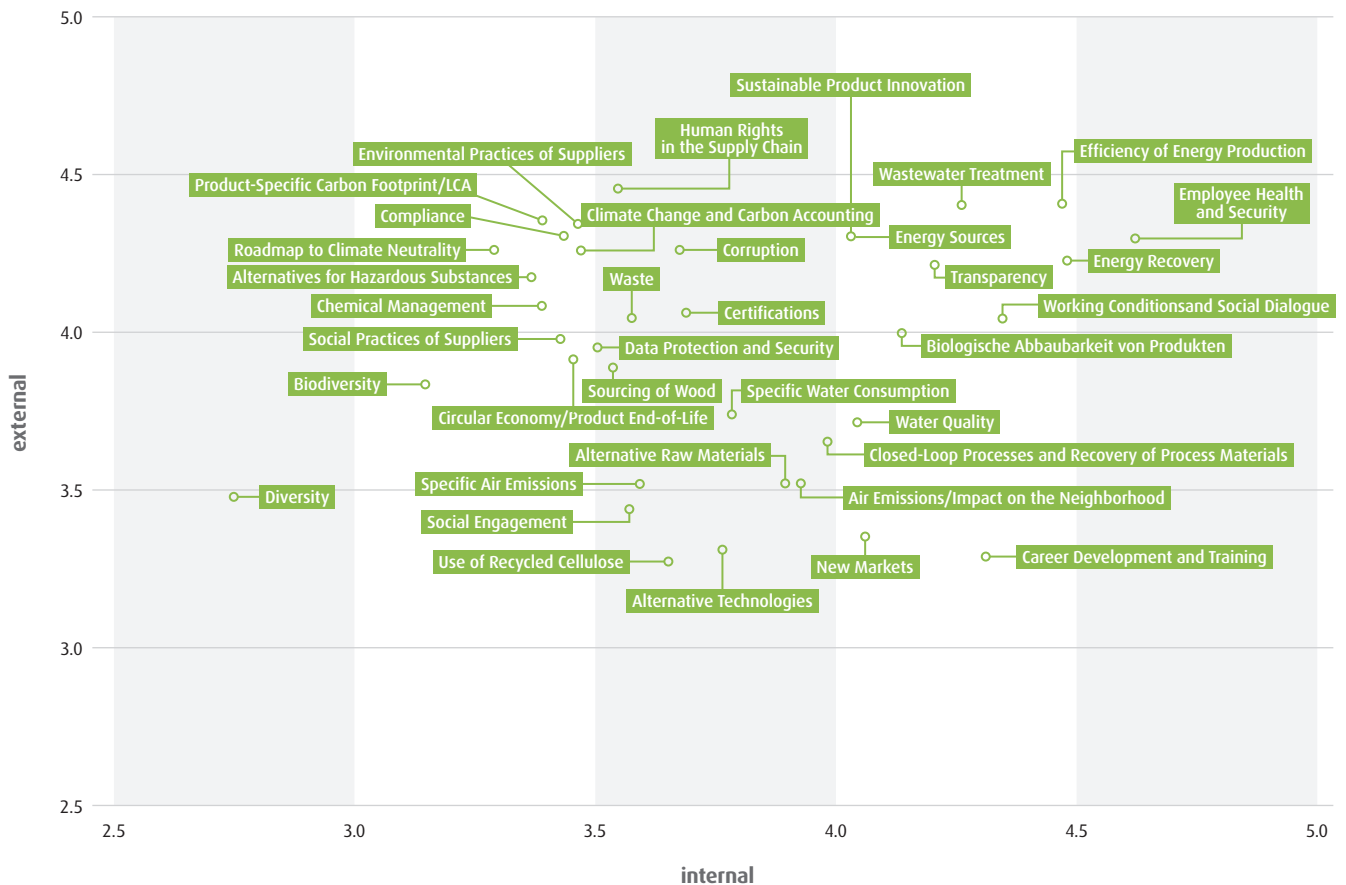


Figure 3: Results of the materiality analysis, adjusted scale

## TOPICS OF HIGH IMPORTANCE

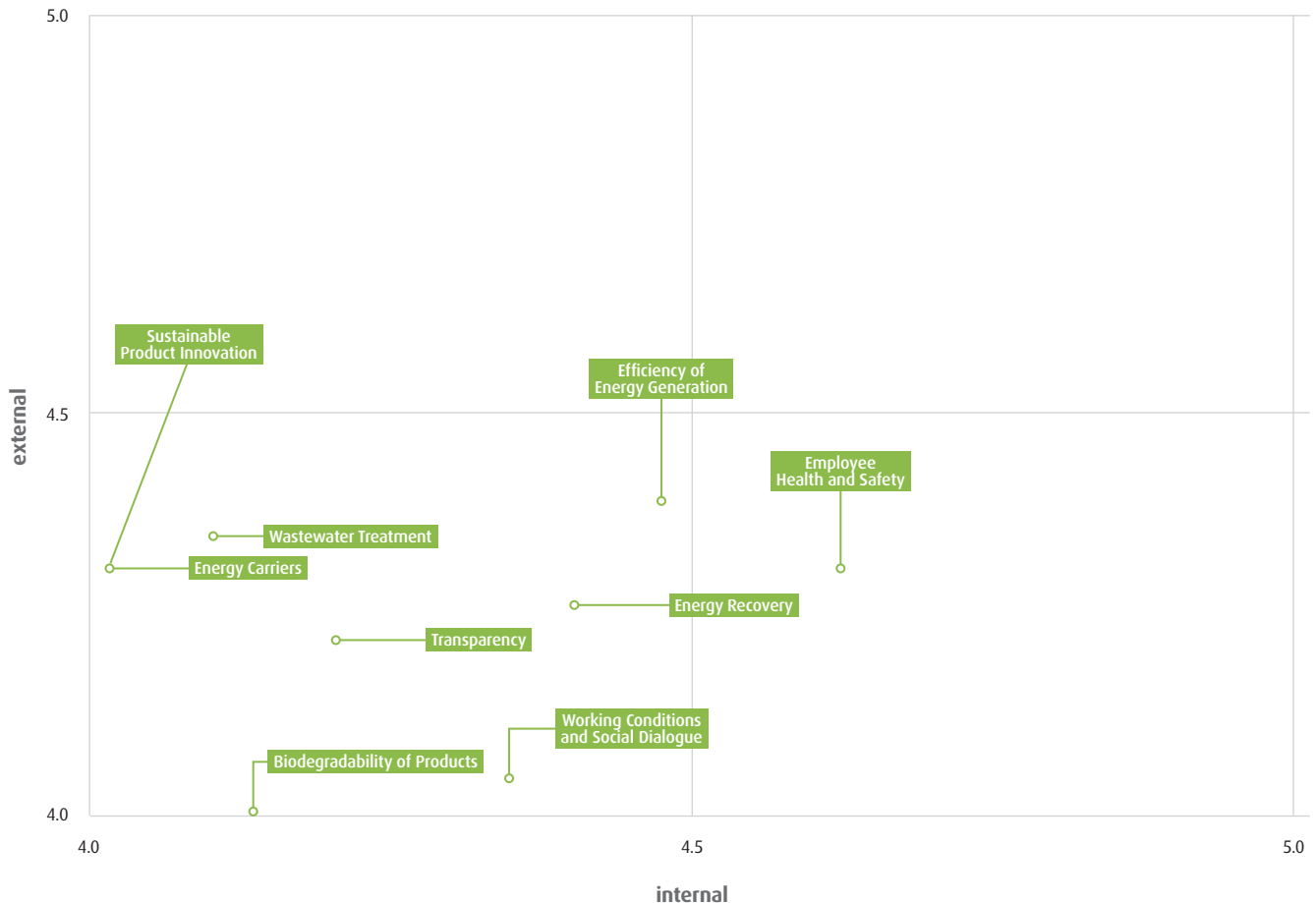


Figure 4: Topics of high importance

Topics of high importance (rated over 4 by both internal and external stakeholders and thus given the highest importance by the majority of participants) are the future focus of the sustainability strategy.

Goals and KPIs should be defined for these topics (if not already done). They should also be reported on in the sustainability report. These are:

- Employee health and safety (8.93)
- Efficiency of energy generation (8.87)
- Energy recovery (8.66)
- Waste water treatment (8.45)
- Transparency (8.42)
- Working conditions and social dialogue (8.39)
- Sustainable product innovation (8.32)
- Energy sources (8.32)
- Biodegradability of products (8.14)

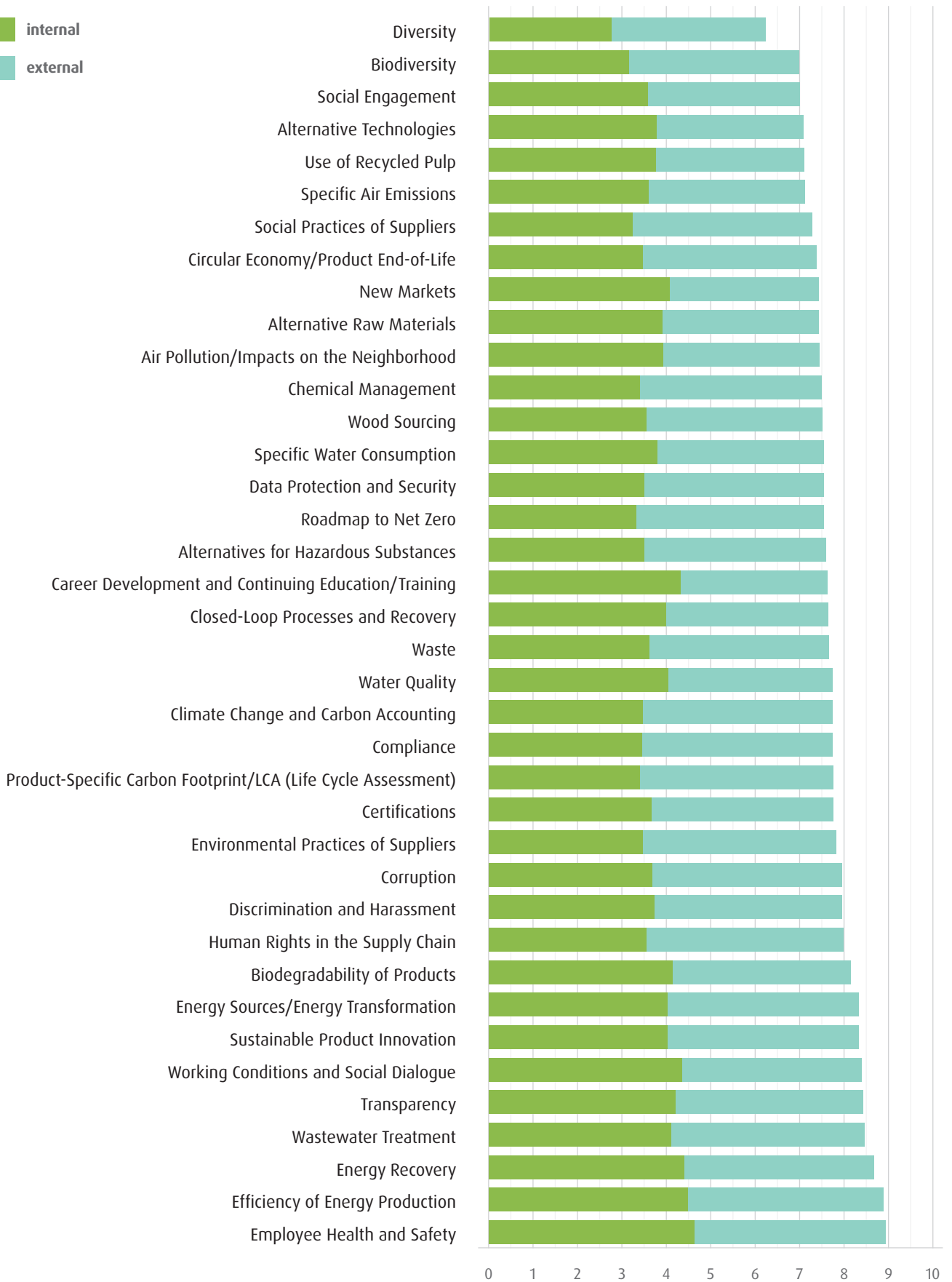


Figure 5: Evaluation totals of the indicators



# 3

## The Company *Kelheim Fibres*



## 3.1 Who We *Are*

Kelheim Fibres is a leading manufacturer of viscose specialty fibres. Since 1936, we have been firmly rooted in Kelheim. Here, we develop and produce custom fibres for a wide range of applications and customers around the world.

Change has always been part of our history: whether technological leaps, market changes, or societal challenges – we have continually reinvented ourselves without losing our roots.

The reporting year marks another major turning point and new beginning in this tradition. After the profound changes, we have consistently focused our business model to secure long-term stability:

- **From approx. 500 to 400 employees,**
- **From up to 80,000 to approx. 35,000 tonnes of annual capacity – with a streamlined product portfolio and more efficient organisation,**
- **Unchanged: our own research & development (since 1936), our claim to innovation, and our commitment to CSR.**

Our claim today: We combine ecological responsibility with economic solidity – now with leaner structures, but undiminished expertise. Our focus is on sustainable solutions that benefit our customers worldwide – and at the same time make the Kelheim site future-proof.



## 3.2 What We *Do*

Building on our already initiated activities to improve the sustainability balance along the entire value chain, our developments focus on several central areas:

Substitution of synthetic materials in single-use products

Development of reusable products as an alternative to single-use products

Increasing the proportion of alternative/recycled raw materials

### EXAMPLE OF A HIGH-PERFORMANCE ABSORBENT HYGIENE PRODUCT - BIO-BASED LAYER BY LAYER

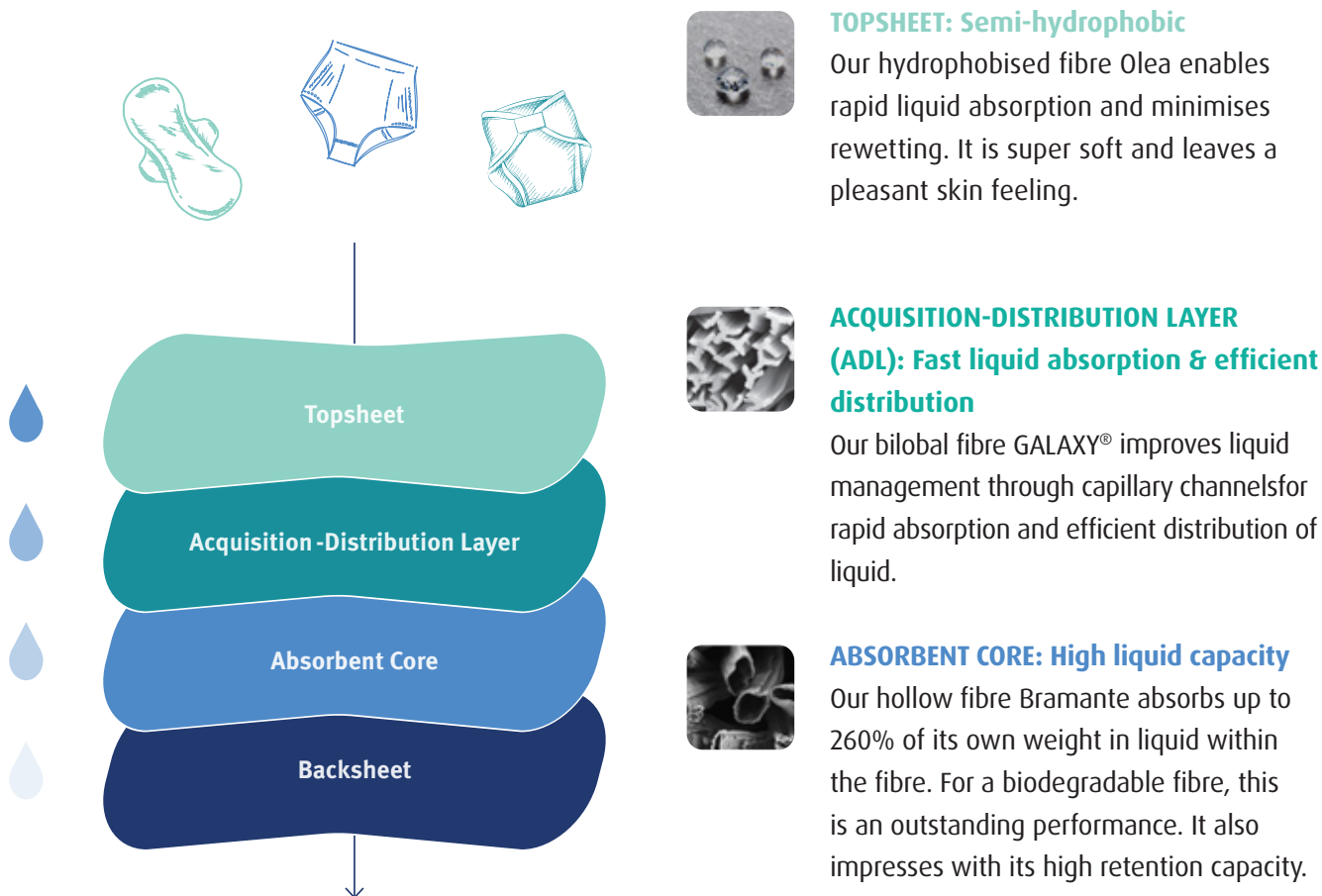


Figure 6

## Future-Oriented *Solutions*

- **Market leadership in tampon fibres:** Our GALAXY® fibres are the leading solution in the global tampon industry. They offer high absorbency and consistent performance and meet the highest standards for purity and product safety.
- **Biodegradable AHP (absorbent hygiene products):** Our Femtec fibres are the perfect basis for absorbent hygiene products such as sanitary napkins. They enable the production of skin-friendly and fully biodegradable products that are comparable in performance to synthetic alternatives.
- **Flushable wet wipes:** Our short-cut products enable the production of soft and highly absorbent wet wipes. These can be easily disposed of via the toilet without clogging the sewage system and do not burden the environment with (micro)plastics.
- **Short-cut:** Our short-cut products give specialty papers the required strength for packaging applications, especially for sensitive goods. These fibres are free of synthetic materials, fully biodegradable, and approved according to CFR 21 of the FDA for food contact and by ISEGA for hot filtration.

## Our *Services*

- **Laboratory services:** Our modern laboratories not only provide internal quality assurance but also services for external customers. These include chemical analyses (e.g., for purity, composition, and stability of substances), environmental and water analytics (including tests according to legal requirements and analyses of different matrices), as well as customer-specific method development and validation. Thanks to a broad technical infrastructure and many years of expertise, we reliably support our partners with questions about product quality, sustainability, and regulatory requirements – from standard analyses to customised solutions.
- **Innovative customer solutions:** Our focus is on precisely understanding the needs of our customers. Based on this, we develop innovative and customised fibre solutions that are perfectly tailored to their requirements. Through close cooperation and targeted partnerships, we are more than just a supplier – we are a reliable partner.
- **Wetlaid pilot plant:** In our in-house pilot plant, customers can take the first steps in developing innovative papers and develop their new products in close cooperation with our fibre technology experts.



## 3.3 Our *Products*

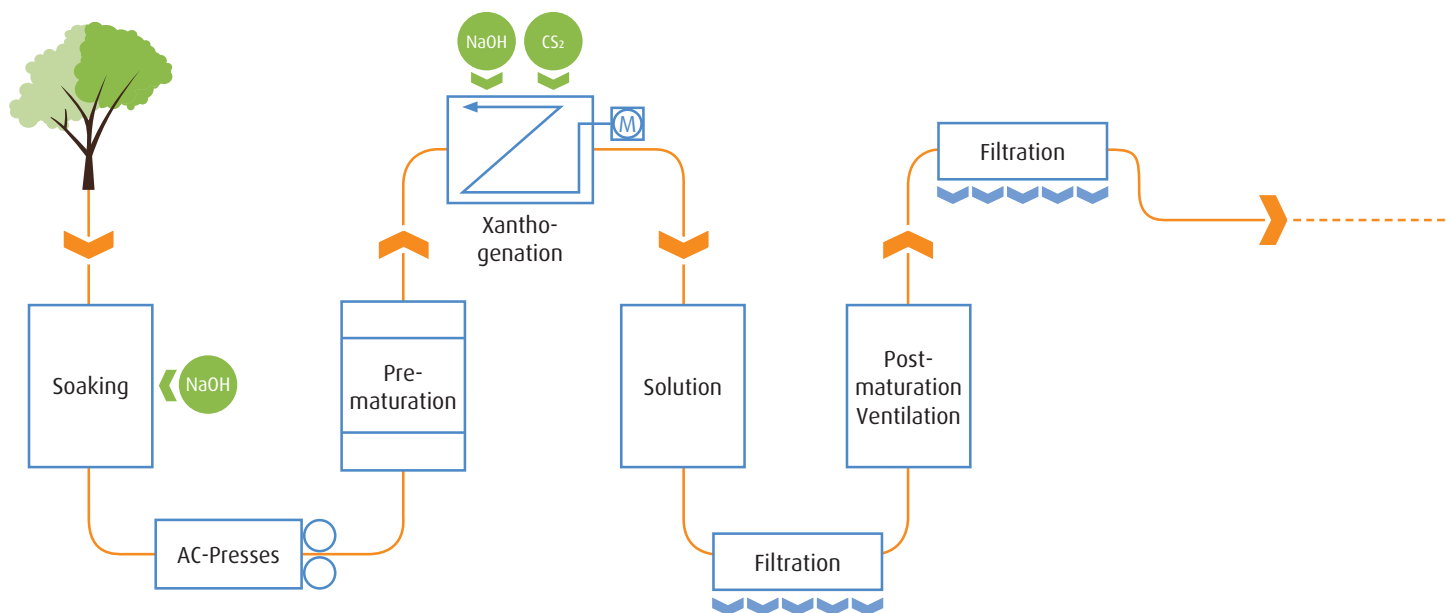
- **Innovative viscose fibres** through flexible technology
- **Customization of fibre solutions** to meet specific requirements
- **Incorporation of functional additives** into the fibre matrix
- **Modification of fibre cross-sections**
- **Adjustment of fibre dimensions**
- **Customer-oriented and customer-specific innovation**
- **Specialty fibres: approx. 80%**



## Our *Manufacturing Process*

To manufacture our viscose fibres, the cellulose, utilized in the form of pulp, undergoes dissolution to create a honey-like, highly viscous liquid which gives the viscose process its name. This liquid is brought into a spin bath through a nozzle, facilitating the regeneration of dissolved cellulose into a fibre.

Throughout this intricate procedure, the fibre's characteristics, including shape, thickness, and length, can be tailored, and additives such as colour pigments can also be incorporated. Our fibres are offered in cut form (staple fibre) or as a continuous filament (uncut).



*Production of viscose (spinning mass) from cellulose*



Dimension  
Functionalization



Cross-Sections  
Functionalization



Intrinsic  
Functionalization

## Applications

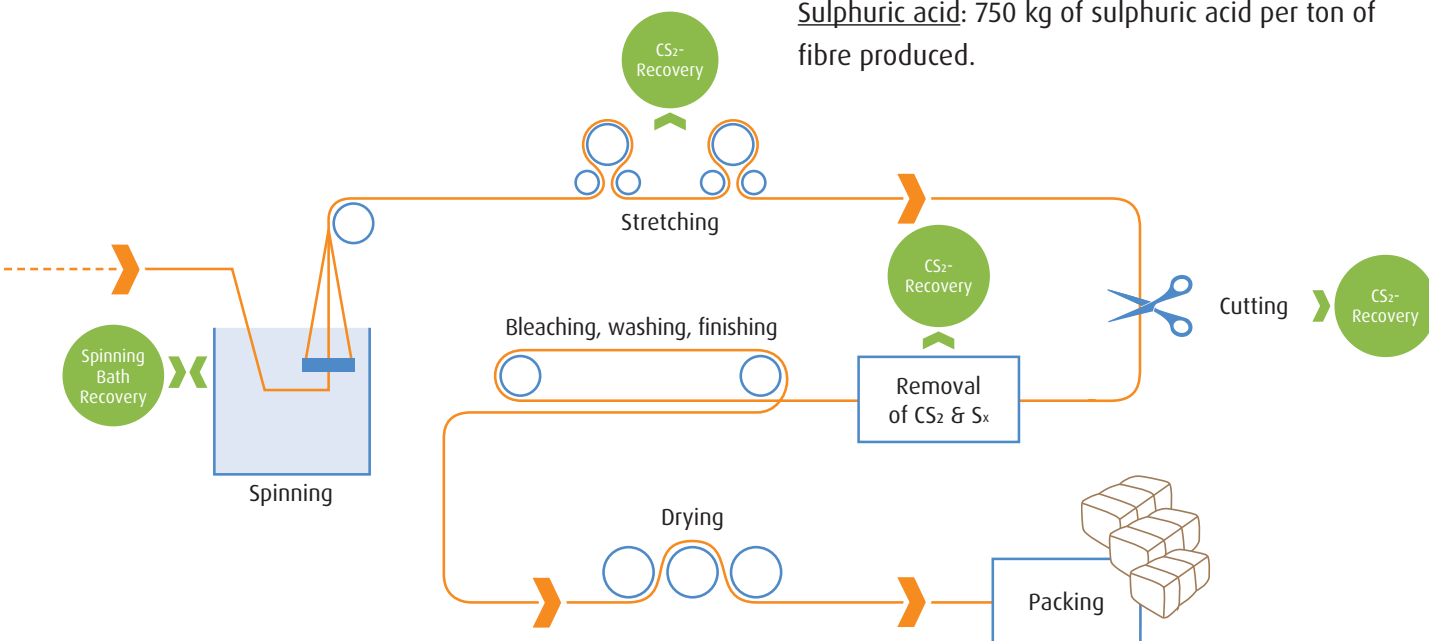
**Feminine hygiene** (e.g., tampons or sanitary pads), **textiles & nonwovens** (e.g., wipes, reusable hygiene products, feel-good textiles), **specialty papers & wipes** (e.g., beverage filtration, functional packaging, wet wipes), **technical products & special applications** (e.g., vacuum insulation panels)

## By-Products

During the production of our viscose fibres, we also extract **sodium sulphate**. We produce **sulphuric acid** from our sulphur-containing emissions, supplemented by the purchase of liquid sulphur.

Sodium sulphate: 520 kg of sodium sulphate per ton of fibre produced.

Sulphuric acid: 750 kg of sulphuric acid per ton of fibre produced.

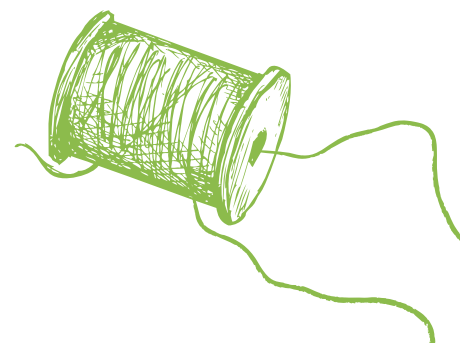
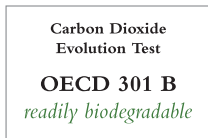


Production of viscose fibres from the spinning mass

Figure 7



# 3.4 Certificates



## 3.5 Other Facilities *at the Site*

Our production facilities are undoubtedly the heart of our company and form the basis for the production of our high-quality viscose fibres. But the success of our company depends on the interaction of all departments. These departments are:

**Production (186 employees):** This area forms the core of Kelheim Fibres GmbH. It includes the viscose department, the spinning room, fibre packaging, and recovery operations.

**Technology, Site, Infrastructure (121 employees):** This department includes engineering (planning and maintenance), workshops, the rail connection, warehouses, the in-house design office with construction and infrastructure department, as well as the energy (power plant) and environmental systems (biology and residue incineration).

**Laboratories and fibre Development (25 employees):** Our laboratories with six different working groups and the fibre and application development department, including pilot plants, play a significant role in quality assurance and the further development of our products.

**CSR (Corporate Social Responsibility) (9 employees):** This department includes the factory fire brigade, the safety department, the occupational health department, as well as our environmental department and our sustainability manager.

**Sales, Quality Assurance, Marketing (7 employees):** This team works on sales, marketing, quality assurance, and the development of new business areas.

**Personnel and Social Services (19 employees):** This area includes our human resources department, plant security, and the canteen, which not only provides for physical well-being but also serves as a place for personal encounters.

**Administration (33 employees):** Administration includes plant management, finance, information and communication technology (ICT), as well as purchasing and distribution.

**Training (51 trainees):** In addition, we are proud that with 51 trainees and one full-time trainer, we have a very high training quota. This enables many young people to have a successful start to their professional lives.

Our diverse facilities at the site are of decisive importance for the success of our company. We are continuously committed to optimising our processes and maximising our contribution to sustainability.

*\* Figures as of September 2025*



# 4

## Environment

**Principle 07:** Businesses should support a precautionary approach to environmental challenges.

**Principle 08:** Undertake initiatives to promote greater environmental responsibility.

**Principle 09:** Encourage the development and diffusion of environmentally friendly technologies.

*In our sustainability reporting, we adhere to the ten principles of the **UN Global Compact** and align with the 17 Sustainable Development Goals (SDGs) set forth by the United Nations. Through a comprehensive materiality analysis, we have identified three principles and nine SDGs that hold significance across our environmental value chain.*



Ensure availability and sustainable management of water and sanitation for all.



Ensure access to affordable, reliable, sustainable and modern energy for all.



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



Ensure sustainable consumption and production patterns.



Take urgent action to combat climate change and its impacts.



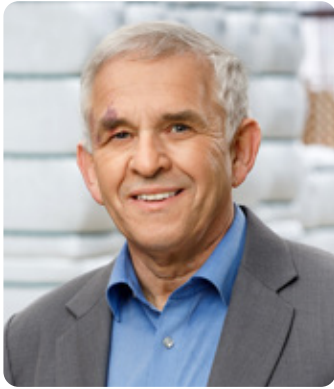
Conserve and sustainably use the oceans, seas and marine resources for sustainable development.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably managed forests, combat desertification, and halt and reverse land degradation and biodiversity loss.



Strengthen means of implementation and revitalize the global partnership for sustainable development.



*Despite the increasingly difficult economic climate, we remain firmly committed to continuously improving our environmental performance. Kelheim Fibres has committed itself to the goal of sustainable development with its corporate policy.*

*Wolfgang Ott,  
Director of Corporate Responsibility (CSR)*



We look back on more than 85 years of corporate history. Although our product range has undergone considerable changes over time, our unique selling points have always been our environmentally friendly, sustainable solutions and high-quality products. As the focus on environmental protection has increased significantly over the years, it is very important for us to always be one step ahead and do our best to constantly reduce our impact on our surroundings.

This concerns not only emissions but also our contribution to climate change, our impact on our immediate neighbourhood, the use of resources, and our contribution to the circular economy.

In 2020, we became the first viscose fibre producer in the world to receive EMAS validation. This marked a significant milestone for our environmental management system.

The establishment of our CSR department in 2022 marked the next step on our sustainability journey. Despite the necessary realignment of our company during the reporting period, our sustainability goals remain unchanged.



The restructuring has made us leaner and more focused – with adjusted budgets, timelines, and resources, but with undiminished determination to further improve our environmental standards.



## 4.1 Viscose fibres from Kelheim – *An Advantage for the Environment*

We face a variety of certifications, labels, and questionnaires on the global viscose fibre market. Since these are mostly based on KPIs, they naturally represent evaluations based on quantitative statements. However, environmental issues must also be considered qualitatively to take into account

individual challenges and characteristics at the site. For this reason, we are working on a Kelheim label that provides all interested parties with quick and easy access to our environmental performance and puts it into context.

| Topic Area                        | Statement   | Savings  |
|-----------------------------------|---|--|
| Energy Generation/CO <sub>2</sub> | Through our highly efficient power plant with combined heat and power, we achieve fuel utilisation rates of up to 91%. This allows us to drastically reduce the use of primary energy sources compared to non-coupled power plants. | Approximately 75,000 t CO <sub>2</sub> e/year                                      |
| Water                             | Our site is currently and will continue to be free from water stress. By reusing water multiple times, we save water and protect our groundwater resources.   | 35% of groundwater is saved. An additional 30% is to follow in the next two years. |
| Recovery Plants                   | By generating energy in our sulphuric acid plant, we save the primary energy source natural gas and thus emit less climate-damaging CO <sub>2</sub> .   | Approximately 12,000 t CO <sub>2</sub> e/year                                      |
| Recovery Plants                   | By using sulphuric acid in closed loops, we reduce both raw material usage and CO <sub>2</sub> emissions.   | Approximately 1,000 t CO <sub>2</sub> e/year                                       |
| Recovery Plants                   | Through efficient CO <sub>2</sub> recovery, we save primary raw materials and avoid hazardous material transport.   | Approximately 22,000 t CO <sub>2</sub> e/year                                      |
| Waste                             | With our in-house residue incineration plant, we avoid unnecessary transport of waste and can ensure processing to the highest safety standards.  |  |
| Wastewater                        | With our own biological wastewater treatment, we can relieve the municipal wastewater infrastructure and optimally treat the wastewater generated.  |  |
| End-of-Life                       | Through the certified biodegradability of our fibres, sustainable solutions can be created, and additional environmental burdens can be avoided. A prerequisite for this is appropriate further processing by our customers.        |  |
| Procurement                       | We source our raw materials from Europe. This avoids long transport routes.   |  |

Table 1

## 4.2 EMAS



The EU Eco-Management and Audit Scheme (EMAS) is an environmental management system developed by the European Commission that provides companies and organisations with a framework to evaluate, report, and improve their environmental performance. The basic requirements of EMAS are comparable to ISO 14001, but it sets more ambitious goals. EMAS requires a public environmental statement with all verified data. With EMAS validation, we intend to confirm and further improve our strong environmental performance. EMAS is designed to provide transparency to our shareholders, customers, employees, and the region in which we operate at several levels. We believe that sustainability and ecological measures should be in line with economic perspectives, and this goal guides our efforts. EMAS is part of our integrated management system, which covers the areas of quality (ISO 9001), energy (ISO 50001), hygiene (company standard), and compliance (on a holistic and cross-departmental basis). The individual management system officers and legally required officers (such as the person responsible for water protection) report directly to the company management. In contrast to the traditional top-down approach, where employees are often not involved, we have anchored environmental awareness in our company by delegating responsibilities to management.

All employees have received special training regarding EMAS. Defined processes regulate the interfaces between the individual departments. Specific details are governed by the respective internal departmental work instructions. The regulations apply to both normal

operations and emergency situations. We regularly set goals to improve our respective environmental performance, which we pursue and review as part of our continuous improvement process. Since 2020, we have conducted annual environmental audits to assess compliance with regulations, the application of management systems, and progress in achieving our improvement goals. Management also conducts a review as part of the annual management review.

In accordance with our values, we take our responsibility to society, the environment, and the region in which we operate seriously. Monitoring all regulations and documenting processes create trust and security for all stakeholders. We reliably comply with the set limit values, meet environmental standards, and the highest requirements for state-of-the-art technology (such as BREF) using our knowledge and experience to become even better. Trusting cooperation with the authorities is of central importance to us.

While the proximity to the employees' places of residence was an advantage when the company was founded, we recognise that an industrial company is not always seen as an ideal neighbour in residential areas today. Nevertheless, we maintain a very good relationship with our neighbourhood and actively work to preserve it, primarily through open communication.

EMAS requires that our regular environmental statement be validated by an external environmental auditor to ensure the inclusion of performance indicators (KPIs) and progress in achieving our set goals. This validation contributes to additional transparency for interested stakeholders.





...and  
all important  
(CSR) functions  
are firmly  
anchored  
in our  
organisation.

## Organisational Chart

EMAS and all important (CSR) functions are firmly anchored in our organisation.



Figure 8

## Emergency Response Plan

The EMAS officer works closely with the Head of CSR on all EMAS issues and monitors the continuous improvement process.

The internal alarm and emergency response plan in accordance with § 10 Appendix 4 of the Industrial Safety Ordinance is processed and updated by the environmental engineer and the safety officer.

The internal alarm and emergency response plan is intended to ensure that, in an emergency, the cooperation between internal and external aid and rescue services functions smoothly, that emergency

measures take effect immediately, and that impacts are minimised.

As internal emergency response forces and facilities, it includes the plant fire brigade, the first aid service, plant security, business and operational management, as well as the in-house alarm centre (gate).

In the event of a catastrophe that can no longer be controlled by our own forces, external emergency response forces are available to us from outside the plant. The process is regulated via the alarm and emergency response plan.

\* The Head of Health, Safety, and Environment holds technical responsibility for the environmental facilities and serves as the Accident Prevention Officer of Kelheim Fibres GmbH.

\*\* The EMAS Officer works closely with the Head of CSR on all EMAS-related matters and monitors the continuous improvement process.

## 4.2.1 Our Actions *Have an Impact*

The introduction of EMAS symbolises our commitment to document and continuously improve our environmental performance. EMAS is aimed at our owners, customers, employees, and our local community. All stakeholders benefit from EMAS at different levels. Our common goal is to combine sustainable and ecological practices with economic perspectives, and we strive to continue the path of continuous improvement at all levels.

### Owners

Our owners invest in a future-oriented company. To meet their expectations, we must address the challenges of our time and offer solutions to current and future problems. Environmentally friendly products that not only fulfil their intended purpose but also actively contribute to protecting our planet promise long-term success.

### Customers

Through our fibres, we enable our customers to create environmentally friendly end products, regardless of whether they operate in the hygiene, textile, packaging, or technical sectors. We offer innovative solutions and customised fibres that provide real added value, such as fully biodegradable products that are more than competitive in terms of their technical performance compared to petroleum-based alternatives. Our customers can rely on us because we store production parameters and raw material batches for each fibre bundle to ensure the highest transparency and security for consumers, customers, and ourselves.

### Employees

For over 85 years, we have been producing viscose fibres in Kelheim. Many of our employees are the children and grandchildren of our former colleagues. This fosters a deep connection and a friendly, almost familial atmosphere in the company. Over a third of our employees have been with us for more than 20 years, and we are proud of our low turnover rate because we know that the know-how and commitment of our employees are our most valuable assets. We promote employee participation in decision-making processes and develop common goals with the employee representatives. We offer competitive wages, very good social benefits, and ideal conditions for personal and professional development. Our suggestion scheme enables our employees to actively (and rewardingly) participate in our continuous improvement.

In addition, we support the future and educational opportunities of young people in the region. With currently 51 trainees, our training quota is thus significantly above the regional and national average.

## Neighbours, Region, Society

In line with our core values, we take our responsibility to society, the environment, and the region in which we operate seriously. Compliance with all regulations and the documentation of processes provide security for all involved. We consistently meet set limit values, comply with environmental standards, and meet the highest requirements for state-of-the-art technology. Effective cooperation with the authorities is of central importance to us. While the proximity of employees to the company's location was an advantage in the past, an industrial company is not always a welcome neighbour in a residential area today. Nevertheless, we maintain a positive relationship with our neighbourhood and actively work to ensure that this remains the case. The basis for this is the open communication that we cultivate to the best of our ability.

The basis of our actions, also in the environmental area, is our corporate policy.



## OUR COMPANY

In Kelheim, we have been producing viscose fibres for more than 85 years, making us the world's longest-operating viscose fibre plant. We manufacture wood-based specialty fibres for a sustainable lifestyle. As one of the leading global manufacturers of specialty viscose fibres, Kelheim Fibres contributes to the success of many brands and products. To ensure this continues in the future, our business policy is built on innovation, continuous improvement, specialisation, and reinvestment. At the same time, as a market-leading company, we secure a multitude of high-quality jobs within the region.

## OUR CLAIM TO SUCCESS

We strive for sustainable economic and ecological success. We have a clear vision of being the driving force behind the best individual solutions for a healthy lifestyle while simultaneously protecting the environment for future generations. In this way, we aim to propel the transition from a fossil-based to a bio-based society.

## OUR VALUES

Our business policy encompasses three core values that we actively live and promote: trust, commitment, and innovation shape our daily work.

*Trust:* The reputation of many international brands depends on our performance. Customers and end consumers rely on the highest standards, which we ensure through extensive quality assurance systems. Trust also defines our relationships with employees, suppliers, and other stakeholders. Transparency is one of the key pillars of trust.

*Commitment:* Commitment to our customers, products, employees, and suppliers holds a high value at Kelheim Fibres. Being committed means always giving our best and advancing both large and small projects with expertise and passion. This way, we can achieve exceptional results and be successful together.

*Innovation:* Innovations form the foundation of our success. We passionately pursue an open and creative corporate culture that generates new ideas. At Kelheim Fibres, this approach results in products and processes that convince customers and set standards within the industry.

## HOW WE OPERATE

- ◇ We consistently act in accordance with laws and regulations and uphold fairness in all areas.
- ◇ We value the diversity of the people who work with us and individually promote their different abilities, talents, and competencies — regardless of race, ethnic background, age, religion, gender, sexual orientation, or disability.
- ◇ We strive for continuous improvement in all areas. To achieve this, we regularly set goals to enhance our performance, identify and implement appropriate measures, and assess their success.
- ◇ Customers and end consumers rely on our fibres to meet the highest quality and hygiene standards. We ensure this through comprehensive quality assurance systems.
- ◇ We employ state-of-the-art environmental, energy, and process technologies to minimize our impact on the environment and set new standards. In maintenance and new plant projects, we prioritise efficient technologies.
- ◇ We are committed to the resource-efficient use of raw materials and energy. To achieve this, we continuously optimize the material and energy flows in our production, as well as the recycling of our inputs and the utilisation of residual energy.
- ◇ In our annual environmental statement, which is accessible to the public, we document our environmental goals as well as our progress in achieving these objectives.
- ◇ Sustainability encompasses the life cycle of our products, from raw material extraction, such as from sustainable forestry, through the environmental impacts along the value chain, to the end of their product life cycle.
- ◇ Responsible and trained personnel are the foundation for achieving our goals. We demand standards from our suppliers and service providers that align with our policies. Regular audits serve to monitor the effectiveness of our system and specific measures for goal attainment.
- ◇ The health and well-being of people are central concerns for us. Therefore, in all activities, processes, and products within our enterprises, we actively advocate for safety and health.
- ◇ We commit to the requirements of EMAS, ISO 14001, ISO 9001, ISO 50001, OHRIS, ISO 45001, and ISO 19600.

September 2022



Craig Barker  
CEO, Kelheim Fibres GmbH

## 4.2.2 Legal *Framework*

EMAS stands for continuous improvement of environmental performance. This improvement process is based on a functioning environmental management system that originates from a legal compliance system. Comprehensive legal compliance means the compilation of all relevant legal areas in a legal register that is constantly maintained and updated. Internally, we monitor compliance with regulations through the activities of the appointed officers for waste, water protection, and immission control, as well as through internal audits. External monitoring by authorities also takes place through various annual inspections, such as:

- IE monitoring (Industrial Emissions Directive),
- Monitoring of the residue incineration plant,
- Annual wastewater meeting on the operation of the biological wastewater treatment plant,
- Fire protection inspection.

From internal monitoring and official supervision, it can be assumed that the plant operation is legally compliant. The production plants as well as the upstream and downstream plants determine the applicable legal framework. The following list contains the essential regulations:

### **Production of Viscose fibres**

- Plant approval in accordance with § 4 BImSchG in conjunction with Appendix I of the 4th BImSchV No. 4.1.8
- Limitation of emissions from this plant in accordance with TA Luft
- Specification for the biological limit value for carbon disulphide in TRGS 903 in conjunction with TRGS 402
- Entry into force of BREF regulations for air emissions

### **Production of Sulphuric Acid**

- Plant approval in accordance with § 4 BImSchG in conjunction with Appendix I of the 4th BImSchV No. 4.1.13
- Limitation of emissions from this plant in accordance with TA Luft

### **Operation of the Power Plant**

- Plant approval in accordance with § 4 BImSchG in conjunction with Appendix I of the 4th BImSchV No. 1.1
- Limitation of emissions from this plant in accordance with the 13th BImSchV
- Greenhouse Gas Emissions Trading Act
- Combined Heat and Power Act

### **Operation of the Residue Incineration Plant**

- Plant approval in accordance with § 4 BImSchG in conjunction with Appendix I of the 4th BImSchV No. 8.1.1
- Limitation of emissions from this plant in accordance with the 17th BImSchV

### **Operation of the Biological Wastewater Treatment Plant in Conjunction with the Channels**

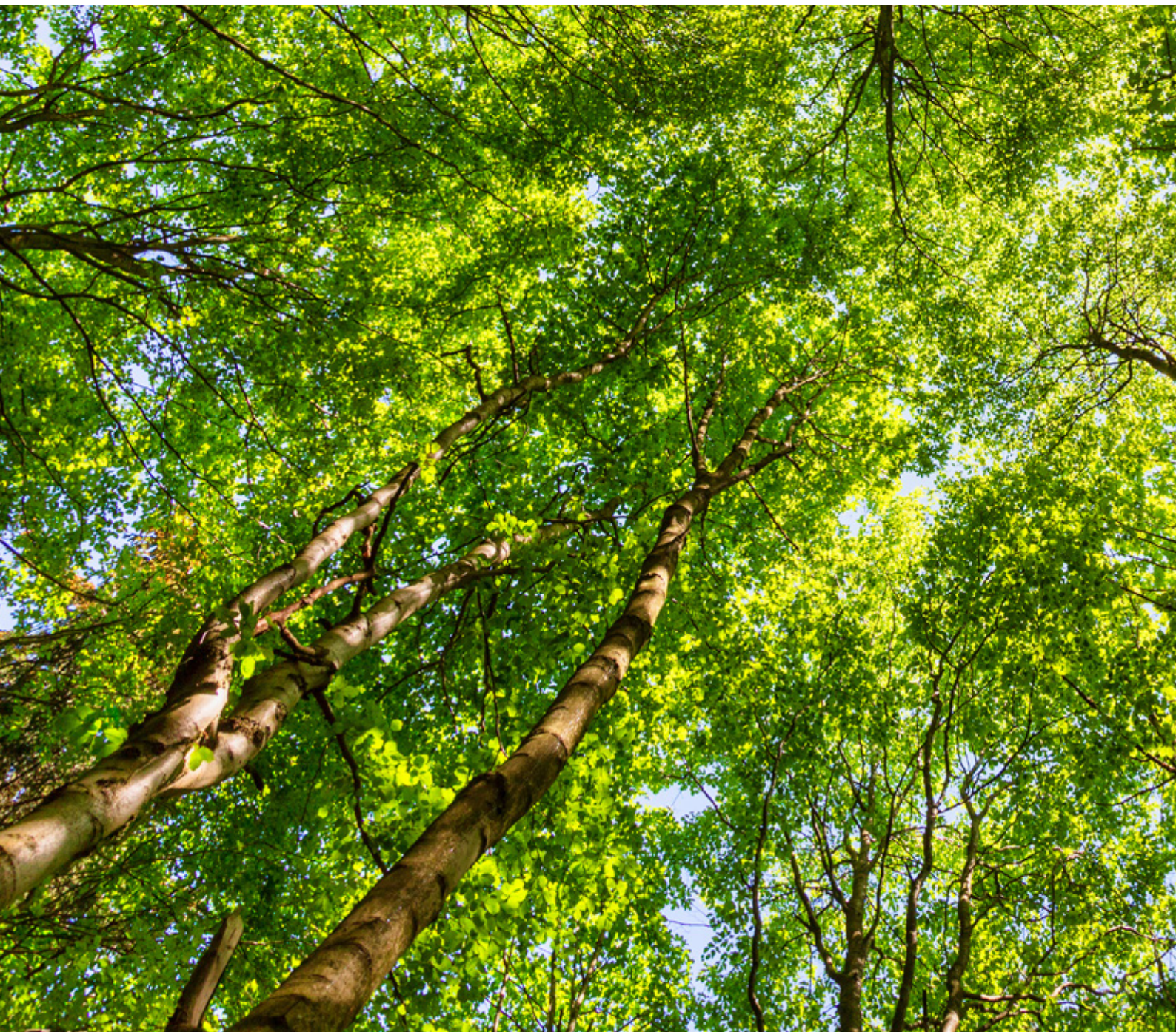
- Plant approval in accordance with the Water Resources Act in conjunction with Appendix 22 of the Wastewater Ordinance
- Limitation of emissions from this plant in accordance with the Water Resources Act in conjunction with the Water Framework Directive and the Self-Monitoring Ordinance

### Operation of Cooling Plants

- in accordance with the 42nd BImSchV

### Other Significant Applicable Legal Areas:

- Industrial Safety Ordinance, especially with regard to explosion protection and fire protection,
- AwSV (company-wide): the Ordinance on Facilities for Handling Water-Polluting Substances,
- Hazardous Substances Law with CLP Regulation (classification, labeling, and packaging of substances) and Hazardous Substances Ordinance,
- Dangerous Goods Law,
- REACH Regulation to ensure chemical safety,
- Radiation Protection Act
- Energy Efficiency Act



## 4.3 Water



In our processes, water is mainly used for cooling and then returned to the Danube. When water is needed as a medium in the process, we try to reuse it as much as possible to save resources.



## 4.3.1 Water *Quantity*

### Annual Water Consumption

| Water           | 2022       | 2023       | 2024       | Unit                    |
|-----------------|------------|------------|------------|-------------------------|
| Well Water      | 13,823,260 | 13,472,086 | 13,271,388 | m <sup>3</sup>          |
| Well Water      | 272        | 277        | 243        | m <sup>3</sup> /t fibre |
| Danube Water    | 6,743,943  | 5,915,444  | 6,581,319  | m <sup>3</sup>          |
| Danube Water    | 133        | 122        | 121        | m <sup>3</sup> /t fibre |
| Municipal Water | 17,770     | 15,526     | 14,408     | m <sup>3</sup>          |

Table 2

After use, the process water is cleaned in bio-high reactors that meet the highest standards in cleaning performance. Kelheim Fibres was the first company to invest in this state-of-the-art and unique vertical bio-high reactor technology. With a degradation rate of 96%, our bio-high reactors significantly

exceed the performance of conventional wastewater treatment plants, which normally achieve around 90%. Our cleaning capacity corresponds to that of a sewage treatment plant for a city with a population of 160,000. A comprehensive monitoring network, both internal and external, ensures constant compliance with legal limits.

## 4.3.2 Water *Quality*

Substances commonly referred to as pollutants provide the basic nutrients for the microorganisms in our treatment plants. These microorganisms convert organic residues into harmless substances. The by-products of this process are mainly carbon dioxide, water, and nitrogen. This natural process takes place under optimised conditions in the bio-high reactors. Intelligent measurement technology helps to control the process in a very precise manner: An alphameter, for example, is used to regulate the air supply to the sewage treatment plants based on the expected load

on the plant. This ensures a continuous supply of microorganisms and energy-efficient air extraction. The wastewater generated in the process is returned to the Danube. Compliance with strict emission limits is monitored by the local water authorities. We are also subject to the Self-Monitoring Ordinance. Samples are taken and analysed at regular intervals, so we can respond immediately to changes in values.





## 4.4 Resource *Efficiency*



A sustainable production process involves preserving resources, minimising emissions and waste, and applying energy-efficient practices in the operating facilities. We achieve this by operating modern and technologically advanced recovery and processing plants. The recovery plants close the loop in our processes and guarantee a process-integrated approach. The following

are examples of process-integrated plant operation:

- Carbon disulphide ( $\text{CS}_2$ ) is recovered from exhaust gas streams in an activated carbon adsorption plant or by direct condensation. This significantly reduces our need for primary resources.
- Our waste streams with high concentrations of hydrogen sulphide ( $\text{H}_2\text{S}$ ) and carbon disulphide ( $\text{CS}_2$ ) are fed to the sulphuric acid plant for combustion. This enables the production of sulphuric acid and high-pressure steam for subsequent power generation. This process also contributes to the reduction of  $\text{CO}_2$  emissions.
- Waste is disposed of on-site in our incineration plant and used for steam generation. This reduces the consumption of natural gas and leads to a reduction in  $\text{CO}_2$  emissions through the use of fossil fuels.
- Energy is recovered from hot media streams using heat exchangers.
- The lye used in our production process is filtered and reused for other purposes in our process before disposal.



The definitions of BREF, the specifications of ZDHC, and common labeling systems such as the Nordic Swan and the EU Ecolabel serve as benchmarks for sustainability.

### BREF



"Best Available Technology reference document" of the European Commission

### ZDHC Roadmap to Zero



ZDHC (Zero Discharge of Hazardous Chemicals) is a non-profit organisation focused on eliminating harmful substances from the textile value chain. The "Roadmap to Zero" is an initiative of this organisation aimed at reducing hazardous chemicals in the textile industry.

### Resource Efficiency: CS<sub>2</sub> Consumption

| Material        | 2022    | 2023    | 2024    | Unit      |
|-----------------|---------|---------|---------|-----------|
| CS <sub>2</sub> | 4,629.6 | 4,161.2 | 4,675.6 | t         |
| CS <sub>2</sub> | 0.0990  | 0.0856  | 0.0857  | t/t fibre |

Table 3



# 4.5 Circular Economy – *Strengthening the Circular Economy*

## 4.5.1 Raw *Materials*

The pulp used for viscose production in Kelheim comes exclusively from wood from certified and managed sources. Two types of wood are used: plantation wood, where trees are replanted after harvesting, and wood from natural forests that is no longer suitable for other purposes, such as the furniture industry.

By exclusively using wood with FSC™ or PEFC certification, we ensure that the wood is not harvested illegally or in violation of protective regulations for humans and nature. By participating

in the Canopy Initiative, Kelheim Fibres has committed to protecting old and endangered forest areas. This commitment is also reflected in our pulp procurement policy.

### Raw Material Usage

| Material                       | 2022  | 2023  | 2024  | Einheit   |
|--------------------------------|-------|-------|-------|-----------|
| Pulp                           | 1.025 | 1.035 | 1.034 | t/t fibre |
| NaOH                           | 0.507 | 0.506 | 0.500 | t/t fibre |
| H <sub>2</sub> SO <sub>4</sub> | 0.747 | 0.730 | 0.759 | t/t fibre |

Table 4





## 4.5.2 Circular *Economy*



Viscose fibres are a wood-based product with an identical cellulose structure to the raw material wood pulp. More and more manufacturers of end products are committing to using only sustainable and plastic-free raw materials. In addition, raw material availability, circular economy, and transparent supply chains are increasingly gaining importance in terms of production processes and communication efforts.

All these goals have been pursued at Kelheim Fibres for many years and remain the focus of our ongoing efforts. The sustainability of our production processes is continuously improved by conserving resources, minimising emissions and waste, and operating plants in an energy-efficient manner.



# 4.6 Energy



## 4.6.1 Energy Sources



To fulfil our responsibility for successful, efficient, and sustainable business operations, a major focus is on optimising our energy needs.

Our responsible use of energy resources is reflected in the following aspects:

- The effective generation and provision of energy
- The economical use of energy and the best possible use of residual energy from the processes
- The efficient use of energy through recycling and reuse of process materials
- Our continuous improvement process

We operate a modern power plant based on natural gas with low emission values. This power plant is located directly next to our production. Due to this very short distance, we can also use the steam co-generated in the power generation process, which leads to a massive increase in efficiency to over 88%.

Compared to the average emissions of German generation plants (442 g CO<sub>2</sub>e/kWh in 2022 without upstream chain), our gas-powered plant emits only 15 g CO<sub>2</sub>e/kWh. Operating our power plant also brings responsibilities related to European climate goals (according to the Kyoto Protocol) and the German Climate Agreement (climate neutrality by 2045). Emissions trading plays an important role in achieving these goals. Fossil energy is not the future. In Germany, the industrial sector accounted for 44% of total energy consumption in 2021. Compared to commercial (27%) and private (26%) consumption, the influence and impact of the industrial sector are significantly greater due to its size and energy needs.

### Average Efficiency of Power Generation in Comparison<sup>1</sup>

|                      | Energy Generation Efficiency |
|----------------------|------------------------------|
| Kelheim Fibres (CHP) | > 91%                        |
| China 2016           | 48%                          |
| India 2016           | 40%                          |
| Germany 2016         | 48%                          |
| Australia 2016       | 36%                          |

Table 5

Therefore, we see progress in the energy transition towards green solutions as the main obligation of the industrial sector.

Our plan is to start using hydrogen from 2030.

### Energy Consumption KPIs

| Energy Consumption | 2022          | 2023          | 2024          | Unit        |
|--------------------|---------------|---------------|---------------|-------------|
| Electricity        | 90,946,319.0  | 86,865,943.0  | 74,975,466.0  | kWh         |
| Electricity        | 1,786.9       | 1,787.7       | 1,373.7*      | kWh/t fibre |
| Steam              | 510,275,990.0 | 509,762,686.0 | 372,506,000.0 | kWh         |
| Steam              | 10,025.9      | 10,490.9      | 6,825.3       | kWh/t fibre |

Table 6

\* In previous years, the electricity consumption of the entire site was reported; starting in 2024, the consumption for viscose fibre production will be specified.

### German Energy Usage, Share of Usage Group<sup>3</sup>

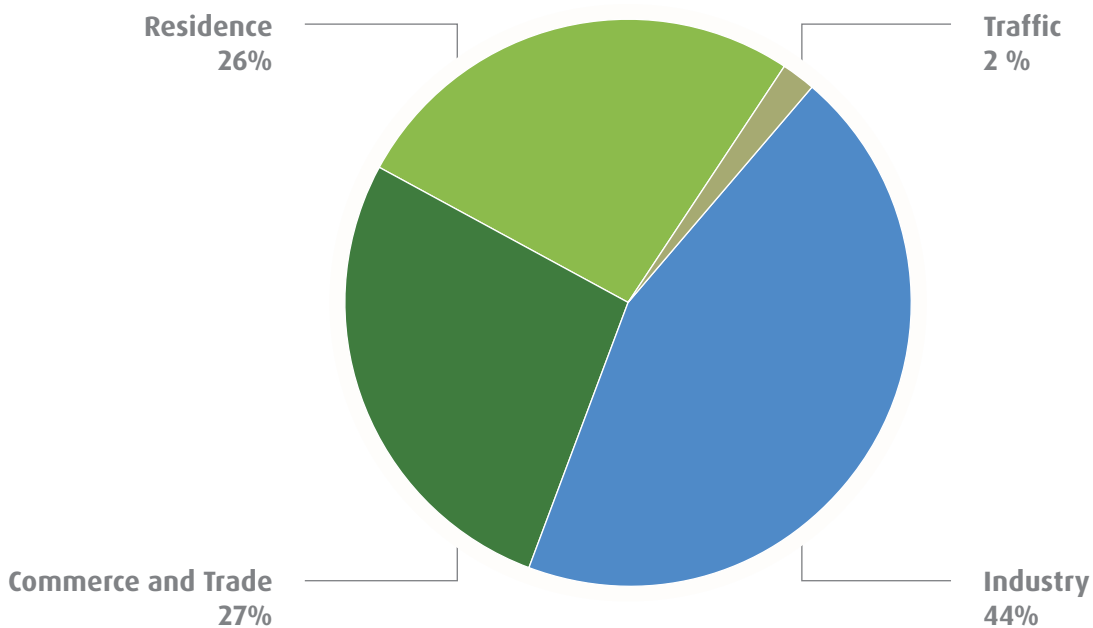


Figure 9

<sup>1</sup> <https://guidehouse.com/-/media/www/site/downloads/energy/2018/intl-comparison-of-fossil-power-efficiency--co2-in.pdf>  
<sup>2</sup> <https://www.umweltbundesamt.de/themen/klima-energie/energieversorgung/strom-waermeversorgung-in-zahlen#Strommix>  
<sup>3</sup> <https://de.statista.com/statistik/daten/studie/236757/umfrage/stromverbrauch-nach-sektoren-in-deutschland/>



## 4.6.2 Energy Generation Efficiency *and Recovery*



By operating recovery plants, we meet the requirements for both material and thermal use of exhaust gas streams. Our sulphuric acid plant contributes significantly to low-CO<sub>2</sub> energy generation.

This helps us save significant amounts of primary energy from fossil sources and actively contributes to the reduction of greenhouse gases. Our important goal for the coming years is to generate energy from renewable sources.

Other energy sources include a residue incineration plant with low-pressure steam generation and the return of condensate streams to the power plant.

## 4.7 Air – Emissions *and CO<sub>2</sub>*



The use and handling of sulphur-containing substances are crucial for the production of viscose fibres.

Cellulose in the form of pulp is dissolved in caustic soda and CS<sub>2</sub> (xanthation) during the production process, forming a honey-like, highly viscous liquid that gives the viscose process its name. This liquid is extruded through spinnerets into a coagulation bath, where the dissolved cellulose regenerates into a fibre. The process then goes through several steps, and CS<sub>2</sub> and H<sub>2</sub>S are removed from the fibres. The highly concentrated exhaust air streams are subjected to a material recycling process, while the harmless low-concentration

streams are mainly released into the atmosphere via the 86-metre-high chimney. In addition, a few partial streams are discharged through the roof of the spinning area.

Since many parts of our plant are subject to the Federal Immission Control Act, important emission parameters are recorded online. The authorities have unrestricted access to the recorded data. This allows the authorities to carry out inspections and check the emissions from our plant at any time. In addition, the plant is subject to independent checks as part of the annual inspections to continue to ensure compliance with the regulations.

## 4.7.1 Specific *Emissions*

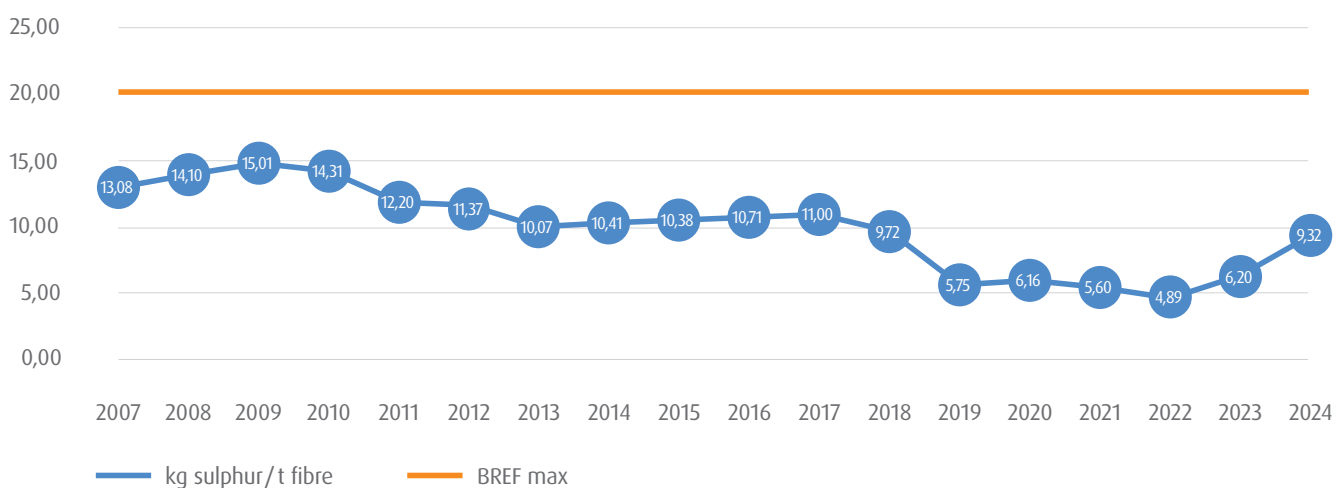
The highly concentrated exhaust air streams are treated by two methods: either in the sulphuric acid plant, where sulphuric acid is produced by a combustion process, or in the CS<sub>2</sub> recovery plant, where carbon disulphide is adsorbed and bound to activated carbon. Another form of CS<sub>2</sub> recovery is through direct condensation, which is implemented in certain sections of our production line. The raw materials recovered in this way are then fed back into the process. The use of these technologies has helped to reduce sulphur emissions from the viscose fibre manufacturing process by about 40% over the past 15 years. As a result, Kelheim Fibres is able to meet the strict limits of the World Health organisation (WHO) for environmentally relevant sulphur emissions and exceed the currently applicable regulatory requirements.

### Air Emissions

| Emissions                | 2022    | 2023    | 2024    | Unit       |
|--------------------------|---------|---------|---------|------------|
| Total Dust               | 71.00   | 72.00   | 59.00   | kg         |
| SO <sub>2</sub> Absolute | 129,723 | 116,703 | 122,780 | kg         |
| NO <sub>2</sub> Absolute | 53,585  | 47,203  | 41,170  | kg         |
| Dust Relative            | 1.4     | 1.5     | 1.1     | kg/t fibre |
| SO <sub>2</sub> Relative | 2.55    | 2.40    | 2.25    | kg/t fibre |
| NO <sub>2</sub> Relative | 1.05    | 0.97    | 0.86    | kg/t fibre |

Table 7

### Development of Specific Sulphur Emissions into the Air (kg Sulphur/t fibre)



Note: The increase in 2024 is due to measures to improve the causticisation efficiency and poorer performance of the CS<sub>2</sub> recovery as well as increases at the viscose chimney. Corresponding countermeasures to improve emissions have been underway since the end of the year and will have concrete effects in the following years. From 2026, the BREF max will be 9 kg sulphur/t fibre.

Figure 10



## 4.7.2 Greenhouse *Gases*

Until the reporting year 2020, we used an external service provider to calculate our carbon balance. However, starting from the data for the year 2021, we decided to conduct the impact assessment ourselves, in accordance with the guidelines of the Greenhouse Gas Protocol.

This approach allows us to gain valuable insights into impact categories, identify hotspots, and provide individual datasets for interested stakeholders with variable scopes.

**The GHG Protocol divides a company's impacts into three scopes:**

- Scope 1 includes all direct emissions from our processes.
- Scope 2 contains indirect emissions such as external power supplies.
- Scope 3 emissions are the broadest and include data from the entire supply chain, both upstream and downstream.

For better understanding and classification of the values, we explain the basic data and the system boundaries of the calculation. It is important to know that a distinction must be made between total emissions and product-specific emissions (PCE). To standardise the indicators, the Greenhouse Gas Protocol also suggests the metric tCO<sub>2</sub>e. The "e" stands for equivalent. Not only emitted CO<sub>2</sub> is considered, but also released CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and NF<sub>3</sub> are summed up in one figure. However, only CO<sub>2</sub> is relevant.

### 4.7.2.1 Basic *Data*

Due to a fire in 2018 that damaged large parts of our production facility, the full production capacity was not available until June 2023. From 2020 to 2021, there was an increase in production performance by 13.3%. In 2022, rising raw material and energy costs forced us to increase fibre prices, leading to a 19.1% decrease in total production. In 2024, due to lower energy prices and higher plant utilisation, there was an increase of 11.2%. This must be taken into account when analyzing our emission values and intensities. Starting from 2023, we began to separately break down the three production processes (viscose fibres, sodium sulphate, sulphuric acid) at the site.

#### Emissions

| Daten point  | 2022    | 2023    | 2024     | Unit                         |
|--|---------|---------|----------|------------------------------|
| Total fibre output                                       | 50,896  | 48,591  | 54,578   | t fibre                      |
| Sodium sulphate output                                   | 28,108  | 29,343  | 30,022   | t                            |
| Change compared to previous year (based on fibre output) | - 4.5 % |         | + 12.3 % |                              |
| Scope 1 emissions  | 104,662 | 91,893  | 98,829   | tCO <sub>2</sub> e           |
| Scope 2 emissions  | 2,355   | 41      | 62       | tCO <sub>2</sub> e           |
| Scope 3 emissions  | 103,340 | 78,939  | 83,843   | tCO <sub>2</sub> e           |
| Total emissions  | 210,357 | 170,873 | 182,213  | tCO <sub>2</sub> e           |
| Emission per t fibre                                     | 4.13    | 3.52    | 3.34     | tCO <sub>2</sub> e / t fibre |

Table 8

## 4.7.2.2 Scope 1

**COMBUSTION PLANTS:** Our continuous production process requires a lot of energy. Therefore, we need a constant and reliable energy supply. To ensure a stable production process, we operate our own on-site power plant – a CHP plant that uses natural gas to generate steam and electricity. The power plant was modified in 2023 to also use heating oil as a primary energy source in case of possible natural gas shortages. In addition, a significant portion of the high-pressure steam that drives the turbine comes from the exothermic production process of our sulphuric acid plant. The low-pressure steam leaving the turbine is used as heating energy for the production facilities. The waste incineration plant also contributes to the supply of heating steam. The overall energy efficiency is based on the balance between the required electricity and steam, depending on the outdoor temperatures and on-site production. Until mid-2023, Dolan GmbH at the site used various site services provided by us. Thus, through combined heat and power, a good balance could be achieved between Dolan's more electricity-driven production and our more heat-driven demand. Due to Dolan's insolvency in 2023, some of these synergy effects were lost, which is also noticeable in the CO<sub>2</sub> balance. This process continued into 2024.

## 4.7.2.3 Scope 2

By using a combined heat and power plant, we produce both electricity and heat. Due to the failure of Dolan from 2022, we were unable to fully utilise the potential of our generation efficiency and had to repeatedly purchase electricity to cover consumption peaks. In 2024, emissions were at a similar level to 2023.

### Carbon Footprint: Scope 1 Emissions

| Category          | 2022           | 2023           | 2024          | Unit                    |
|-------------------|----------------|----------------|---------------|-------------------------|
| Combustion Plants | 104,559        | 103,867        | 97,546        | tCO <sub>2</sub> e      |
| Vehicles          | 45             | 39             | 22            | tCO <sub>2</sub> e      |
| Diffuse Emissions | 58             | 38             | 35            | tCO <sub>2</sub> e      |
| <b>Total</b>      | <b>104,662</b> | <b>103,944</b> | <b>98,829</b> | <b>tCO<sub>2</sub>e</b> |

Table 9

**VEHICLES:** Since a significant portion of our operational logistics is handled by rail using two shunting locomotives, the emissions from the fuel used by these locomotives are also included here.

**COOLANTS:** A small part of our cooling systems requires refrigerants to function properly. These need to be regularly refilled. Since the refill period does not necessarily coincide with calendar years, the values are not comparable from year to year.

### Carbon Footprint: Scope 2 Emissions

| Category              | 2022  | 2023 | 2024 | Unit               |
|-----------------------|-------|------|------|--------------------|
| Purchased Electricity | 2,355 | 41   | 62   | tCO <sub>2</sub> e |

Table 10



## 4.7.2.4 Scope 3

### Carbon Footprint: Scope 3 Emissions

| Category                              | 2022    | 2023   | 2024   | Unit               |
|---------------------------------------|---------|--------|--------|--------------------|
| Purchased Goods and Services          | 63,737  | 48,660 | 49,879 | tCO <sub>2</sub> e |
| Fuel and Energy-Related Activities    | 18,435  | 16,415 | 16,407 | tCO <sub>2</sub> e |
| Upstream Transport and Distribution   | 5,784   | 5,142  | 4,815  | tCO <sub>2</sub> e |
| Waste Generation in Operations        | 857     | 18     | 18     | tCO <sub>2</sub> e |
| Business Travel                       | 86      | 128    | 55     | tCO <sub>2</sub> e |
| Employee Commute                      | 704     | 655    | 644    | tCO <sub>2</sub> e |
| Downstream Transport and Distribution | 13,267  | 12,128 | 12,187 | tCO <sub>2</sub> e |
| Total Scope 3                         | 103,340 | 78,939 | 83,843 | tCO <sub>2</sub> e |

Table 11<sup>1</sup>

**PURCHASED GOODS AND SERVICES:** This includes emissions arising from the raw materials necessary for our production and follows a cradle-to-gate approach. For the 2023 data, we entered into an exchange with our largest suppliers and were able to significantly improve the quality of the data basis. The increase in 2024 is due to the increase in production.

**FUEL AND ENERGY-RELATED ACTIVITIES:** In contrast to Scope 1 and Scope 2 emissions, we have included indirect emissions due to energy consumption. These include the extraction, transport, and processing of fuels.

**UPSTREAM TRANSPORT AND DISTRIBUTION:** This category includes all emissions caused by the incoming transport from our suppliers to our site.

**WASTE GENERATION IN OPERATIONS:** Here, we distinguish between four different types of waste, three of which are recorded in this category:

- Waste for external recycling,
- Waste for external disposal,
- Scrap,
- Waste for our waste incineration plant (this is assigned to Scope 1, as we generate energy from our waste).

**BUSINESS TRAVEL:** This includes all our emissions from business trips by car, train, and plane.

**EMPLOYEE COMMUTE:** The daily commute of our employees is an important data point. Since the pandemic, we have enabled mobile working for employees whose presence on site is not required (mainly administrative tasks).

**DOWNSTREAM TRANSPORT AND DISTRIBUTION:** This category includes all emissions caused by the outgoing transport from our site to customer facilities.

**USE OF SOLD PRODUCTS/END-OF-LIFE TREATMENT OF SOLD PRODUCTS:**

We are manufacturers of a wide range of specialty fibres that are used worldwide in very different application areas. Our specialty fibres are used in very different markets in very different products and countries. This makes a rough estimate of end-of-life emissions impossible, which is why we decided to remove this point from the calculation compared to the previous year.



*<sup>1</sup> Capital goods can no longer be refurbished at the location and, if depreciation models were used, would distort the annual values. Therefore, they are not taken into account.*

## 4.8 Chemicals

### 4.8.1 REACH



Our responsibility as a manufacturer also means that our products must not pose a risk during either production or later use. This is covered by the REACH regulation. Only approved raw materials may be used, and the conditions of use are defined in chemical safety reports. Limits are also set for substances that must not be exceeded in the end products. The implementation of REACH is holistic and complements measures related to operational and sustainable environmental protection.

### 4.8.2 ZDHC



The non-profit organisation, with over 300 members worldwide, aims to completely eliminate harmful substances from the textile value chain. The ZDHC guidelines provide manufacturers of man-made cellulosic fibres (MMCF) with uniform criteria for measuring indicators such as wastewater, air emissions, and other process-related parameters. The measured data is independently monitored and published. In the MMCF module, where compliance with these guidelines is assessed, we have received the certificate at the highest level, "aspirational."

## 4.9 Waste

The waste generated at the site is disposed of properly. For this purpose, the site has its own residue incineration plant. The plant, which was built in 1974 and modernised in 2001 and 2002, meets the highest standards in terms of safety and emission control.

The residue incineration plant falls under the 17th BImSchV. Site waste is thermally utilised in the plant. To maintain the required process temperature, additional natural gas is burned. The combustion processes generate about four tonnes of 16-bar steam per hour, which is then fed into the site's low-pressure steam network for thermal use.



# Non-hazardous and *Hazardous Waste*

## Waste by Categories

| Waste Management           | 2022    | 2023    | 2024  | Unit       |
|----------------------------|---------|---------|-------|------------|
| Total Waste                | 6,243.4 | 4,180.4 | 3,886 | t          |
| Total Waste                | 122.7   | 86.0    | 71.2  | kg/t fibre |
| Process Waste for Recovery | 206.5   | 72.2    | 196   | t          |
| Process Waste for Recovery | 4       | 1.5     | 3.6   | kg/t fibre |
| Process Waste for Disposal | 1,727.9 | 1,590   | 1,800 | t          |
| Process Waste for Disposal | 33.9    | 32.7    | 32.9  | kg/t fibre |
| Other Waste*               | 4,309.1 | 2,518** | 1,890 | t          |
| Other Waste                | 84.7    | 51.8    | 34.6  | kg/t fibre |

Table 12

## Of Which Hazardous Waste by Categories

| Waste Management                     | 2022    | 2023 | 2024 | Unit       |
|--------------------------------------|---------|------|------|------------|
| Total Hazardous Waste                | 1,195   | 435  | 250  | t          |
| Total Hazardous Waste                | 23.5    | 9.0  | 4.6  | kg/t fibre |
| Process Hazardous Waste for Recovery | 18.0    | 21   | 14   | t          |
| Process Hazardous Waste for Recovery | 0.4     | 0.4  | 0.3  | kg/t fibre |
| Process Hazardous Waste for Disposal | 78.4    | 104  | 85   | t          |
| Process Hazardous Waste for Disposal | 1.5     | 2.1  | 1.6  | kg/t fibre |
| Other Hazardous Waste                | 1,098.7 | 310  | 152  | t          |
| Other Hazardous Waste                | 21.6    | 6.4  | 2.8  | kg/t fibre |

Table 13

\* Waste not generated by the viscose fibre production process.

\*\* In 2023, significantly fewer room clearances were carried out. Therefore, the waste volume decreased.

Since we operate a state-of-the-art plant with an experienced team, we are able to safely treat CS<sub>2</sub>-contaminated waste on our premises. Any hazardous waste that cannot be reused in the process is disposed of strictly in accordance with applicable regulations.

## Our Main Process Waste

|                  | 2022     | 2023    | 2024  | Unit       |
|------------------|----------|---------|-------|------------|
| Alkali Cellulose | 74.54    | 70.4    | 62.0  | t          |
| Alkali Cellulose | 1.5      | 1.4     | 1.1   | kg/t fibre |
| Sour Cable       | 1,154.74 | 1,109.5 | 1,187 | t          |
| Sour Cable       | 22.7     | 22.8    | 21.75 | kg/t fibre |
| fibre Waste      | 276.17   | 224.4   | 422.9 | t          |
| fibre Waste      | 5.4      | 4.6     | 7.75  | kg/t fibre |

Table 14



## 4.10 Impact *on the Neighbourhood*



Hydrogen sulphide is released during our production processes and is sometimes perceptible as an odor by the population near the plant. The concentration and the amount of hydrogen sulphide released are crucial for this. Kelheim Fibres has been making efforts for a long time to significantly reduce sulphur emissions. Over the past ten years, a targeted modernisation programme has reduced sulphur loads by more than 50%.

The population density in Kelheim is increasing, and the residential areas are getting closer to industrial

sites. This trend is intensifying due to the current housing shortage. Over the past ten years, we have invested several million euros in noise protection as part of an ambitious noise reduction programme. Visible signs of this programme are our noise protection halls west of the plant, the dampened chimney of the CS<sub>2</sub> recovery plant, and the renovated 86-metre-high chimney. As part of the reconstruction measures after the fire in 2018, further measures were implemented to reduce noise emissions from the spinning hall area. This package of measures means that noise emissions at the relevant immission points have been reduced by at least another six dB(A).



# 4.11 Biodegradability



According to the provisions of the EU Directive on Single-Use Plastics (SUPD), our viscose

fibres are not chemically modified and are therefore not considered plastic. One of the most important properties of the fibres in this context is their biodegradability. The question arises as to what exactly is meant by biodegradability and how it is proven.

Scientifically, a product is only biodegradable if microorganisms are able to break down the

material in question into its elemental components such as carbon, oxygen, hydrogen, and minerals. However, compostability is inseparably linked with biodegradability in common understanding. Compostability is confirmed and proven according to DIN EN 13432. In reality, however, compostability only covers part of the full definition of biodegradability. For example, how do substances behave in an aqueous environment? The pollution of the seas by plastic is one of the central environmental problems that humanity has still not solved. Various test methods provide answers to the question of what environmental impact a substance has on the marine environment.

## Biodegradability Certificates: Overview

| Method                        | Description  |
|-------------------------------|--|
| OECD 301 B                    | Proof of rapid biodegradability within 28 days                         |
| DIN EN ISO 14851 or ISO 14852 | Oxygen demand in closed respirometers with sludge incubation           |
| DIN EN ISO 17756              | Oxygen demand and/or CO <sub>2</sub> development with soil incubation  |
| DIN EN ISO 18830              | Oxygen demand in closed respirometers with marine dune sand incubation |
| OECD 301 F                    | Calculation of oxygen demand for measuring aerobic degradation         |

Table 15





## PART OF THE SOLUTION: VISCOSE FIBRES FROM KELHEIM

What is the big benefit of viscose fibres compared to oil-based fibres?

**COMPOSTABILITY:** Viscose fibres are compostable according to DIN EN 13432.

## DEGRADATION BEHAVIOR IN THE SEA

The following figure provides an overview over the biodegradation time required for viscose fibres compared to oil-based materials.

### Average Degradation Time of Products\*

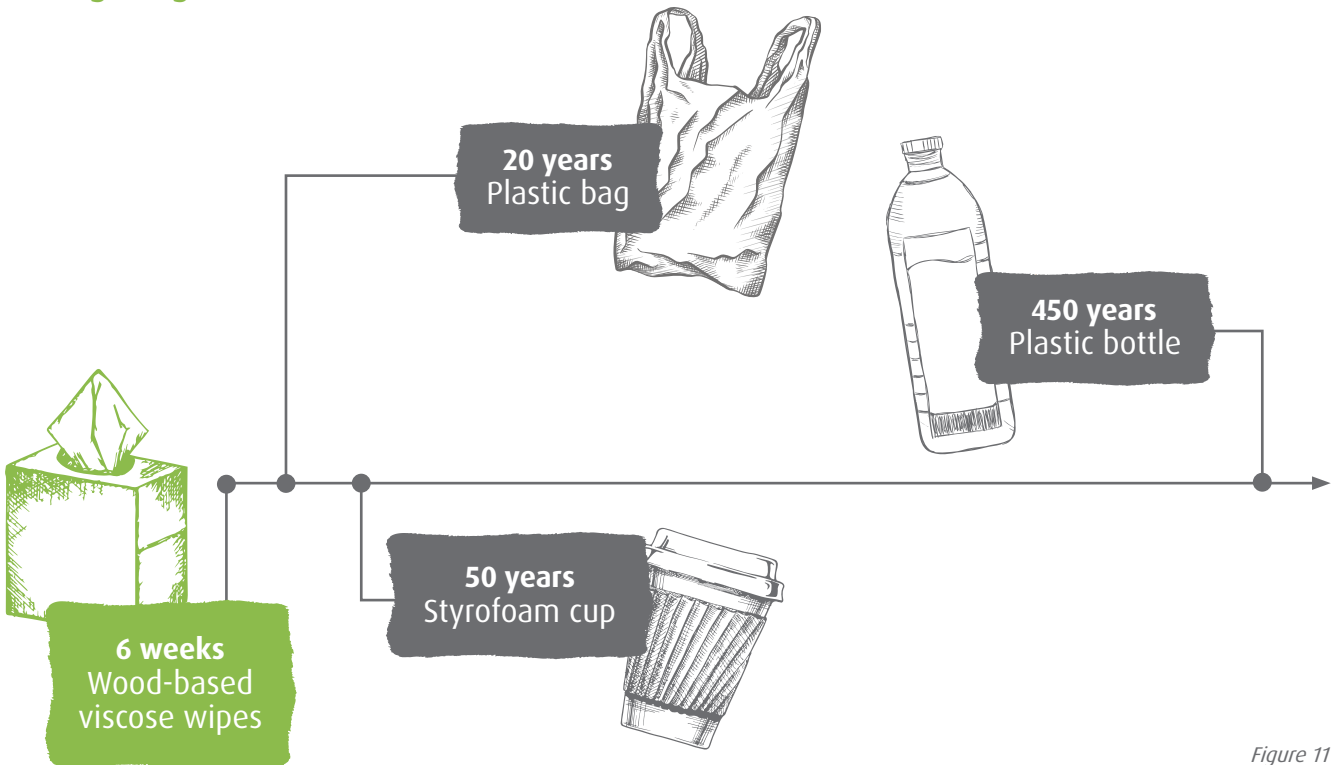


Figure 11

\* Source: statista\_de/Nabu

## The Biodegradation Process of GALAXY® Fibres Compared to Cellulose

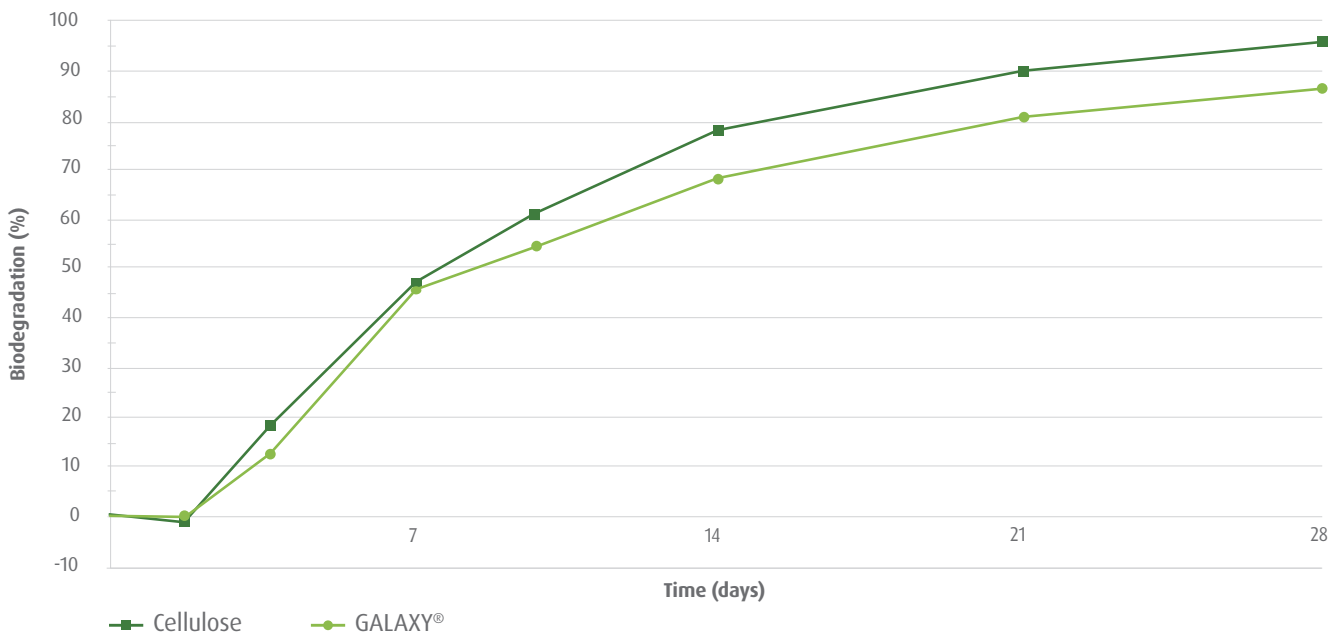
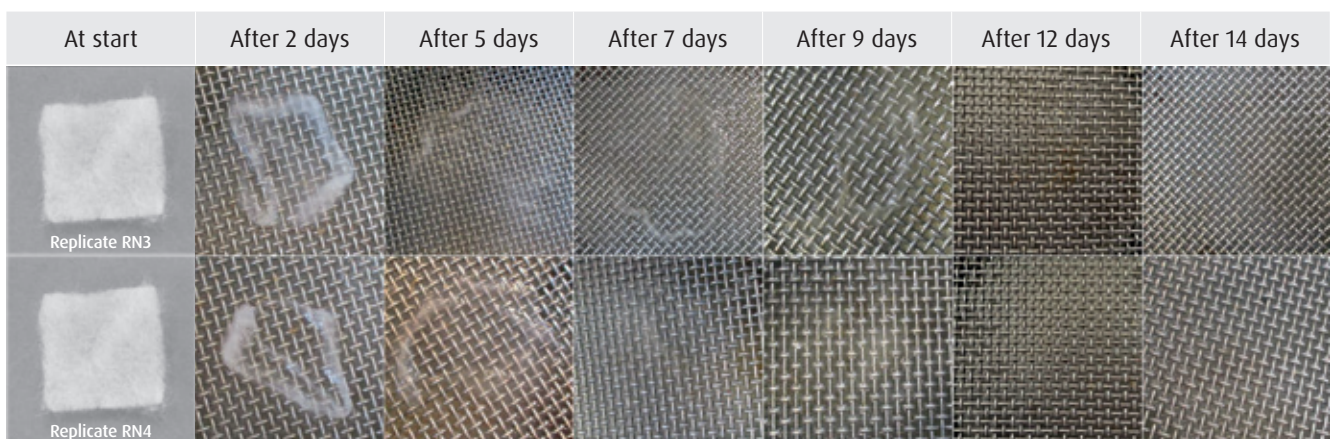


Figure 12

How well the wood-based viscose fibres really degrade can be seen when tested alongside the naturally occurring polymer cellulose. In the figure above, you can see the biodegradation times for natural cellulose compared to our GALAXY® fibre.

Viscose fibres thus fully meet the requirements of OECD 301 B, according to which a degradation performance of at least 60% must be achieved after 28 days.

## Biodegradability of GALAXY® Fibres



Visual presentation of the test fibre GALAXY® during 14 days of incubation.

Figure 13

## 4.12 Direct and Indirect *Environmental Aspects and Their Assessment*

To determine the direct environmental aspects, the approval notices of the sub-areas were first consulted, if available. An emission control approval is created based on expert reports with the participation of official experts from all environmental areas. Thus, expert opinions on the relevance of the individual aspects are already available in these areas. We supplemented this basic framework of classification with practical experience. In doing so, we asked

ourselves questions such as "Where do we have particularly high consumption?" or "Where do the highest emissions occur?"

We also asked ourselves these questions for areas without their own approval notice and thus, supported by safety analyses and expert opinions, classified the areas. This results in the following picture:

---

The evaluation refers to normal operation. In non-conforming operation, further emissions of pollutants or substance releases may occur. In our operational alarm and hazard defence plan, we have defined how we must respond to this. This is also reviewed by the authorities. Examples of non-conforming conditions are:

- Biological wastewater treatment plant: Non-adapted biocenosis and associated poorer degradation performance during the start-up phase due to increased loads
- Failure of the sulphuric acid plant: Increased sulphur emissions or increased natural gas consumption in the power plant to compensate for the lack of energy generation from the operation of the sulphuric acid plant
- Start-up process of the sulphuric acid plant after plant failure: Increased emission of sulphur oxides during the start-up process after a plant failure
- Flood management according to the operational hazard defence plan

| Operating area                | Sub-areas   | Air | Noise | Water | Waste | Energy | Safety | Hazardous goods | Radiation protection | Fire protection | Resources | Lands |
|-------------------------------|---|-----|-------|-------|-------|--------|--------|-----------------|----------------------|-----------------|-----------|-------|
|                               |   |     |       |       |       |        |        |                 |                      |                 |           |       |
| Supply systems                | Heat and electricity                                  | ■   |       | ●     | ●     | ■      | ▲      | ●               |                      | ▲               | ▲         |       |
|                               | Cold  |     |       |       |       | ▲      | ▲      |                 |                      |                 |           |       |
|                               | Compressed air  |     |       |       |       | ▲      | ▲      |                 |                      |                 |           |       |
|                               | Protective gas  |     |       |       |       | ▲      | ▲      |                 |                      |                 |           |       |
|                               | Water treatment                                       |     |       | ■     | ●     |        |        |                 |                      |                 | ▲         |       |
| Waste disposal                | Residue combustion                                    | ■   | ●     | ●     | ■     | ■      | ▲      | ▲               | ▲                    | ▲               | ▲         |       |
|                               | Biological wastewater treatment                       | ●   | ●     | ■     | ●     | ●      | ●      |                 |                      | ●               |           |       |
| Production - core areas       | Viscose production                                    | ▲   | ●     | ■     | ■     | ●      | ■      | ▲               |                      | ▲               | ▲         |       |
|                               | Spinning area   | ■   | ▲     | ■     | ▲     | ■      | ▲      | ▲               |                      | ■               | ▲         |       |
| Production - support areas    | CS <sub>2</sub> recovery                              | ■   | ▲     | ●     | ●     | ▲      | ■      | ▲               |                      | ▲               | ▲         |       |
|                               | CS <sub>2</sub> loading/<br>CS <sub>2</sub> unloading |     |       | ●     |       |        | ■      |                 |                      | ▲               |           |       |
|                               | Acid production                                       | ●   | ●     | ▲     | ●     | ■      | ▲      | ▲               | ▲                    | ●               | ●         |       |
|                               | Zinc plant  | ▲   |       | ▲     | ■     | ●      | ▲      | ▲               |                      | ●               | ●         |       |
|                               | Sulphuric acid plant                                  | ■   | ▲     | ▲     |       | ■      | ▲      | ▲               |                      | ▲               | ▲         |       |
|                               | Calcination   |     |       | ■     |       | ●      | ●      |                 |                      |                 |           |       |
|                               | Avivage plant   |     |       | ■     | ■     |        |        |                 |                      |                 |           |       |
| Production - downstream areas | Colour plant  |     |       | ●     |       | ■      |        | ■               |                      |                 |           |       |
|                               | Packaging   |     | ●     | ▲     |       |        |        |                 |                      | ▲               |           |       |
| Location                      |   |     | ▲     | ▲     |       |        |        |                 |                      |                 |           | ▲     |

Table 16

|   |                       |                         |  |
|---|-----------------------|-------------------------|--|
| ■ | Most important aspect | Very high relevance     | Very high legal requirements and/or very high consumption/emissions/immissions |
| ▲ | Main aspect           | High relevance          | High legal requirements and/or high consumption/emissions/immissions           |
| ● | Secondary aspect      | Medium relevance        | Legal requirements in place and/or moderate consumption/emissions/immissions   |
| □ | No aspect             | Very low / no relevance | No special legal relevance and no or very low consumption/emissions/immissions |



In addition to these environmental aspects over which we have direct influence, the environmental impact of viscose fibre production is also determined by external conditions that are beyond our scope of action.

| Aspect   | Explanation   | Impact   | Evaluation | Reasoning   |
|--|---|--|------------|---|
| Composition of Product Range   | The composition of our product mix is increasingly moving towards specialty fibres. | Water: The higher the proportion of specialty fibres, the higher the specific water consumption.<br><br>Energy: Additionally, the mix between dry and wet fibres influences energy consumption. Customer requirements are decisive here. | High       | The trend towards specialty fibres is already clearly visible.<br><br>The water consumption of specialty fibres is significantly higher.<br><br>Energy consumption is generally declining, but also more fluctuating. |
| Life Cycle   | Main focus: End-of-life, what happens to the end product after use?                 | Fibres are neither classified as plastic nor as microplastic.<br><br>→ Proof of complete biodegradability or compostability according to DIN and OECD methods; recyclability of hygiene products is low.                                 | High       | Legal labeling obligation if products were classified as plastic, circular economy.   |
| Life Cycle   | Environmental aspects in pulp production  | Scope 3 of the life cycle assessment and the LCA is influenced.  | Medium     | Pulp cannot be easily replaced; degrees of freedom are only the pulp supplier and the medium-term development of new pulp sources.  |
| Selection of Services  | Transport of our products   | CO <sub>2</sub> emissions, NO <sub>2</sub> emissions   | Low        | Transport is not a major factor in the CO <sub>2</sub> balance; the savings potential is low.   |
| Environmental Performance and behaviour of Contractors, Subcontractors and Suppliers | Suppliers of our raw materials  | Manufacturing processes also affect the carbon footprint and LCA results.  | Low        | Due to the amount of specialty raw materials, the range of suppliers is small, and Kelheim Fibres' influence is therefore strongly limited.   |

Table 17



## 4.13 Core *Indicators*

To better represent our company's environmental performance, core indicators have been formed. However, the multiple changes in our production capacities in recent years make direct comparability of the data difficult. This must be taken into account in the evaluation.



\* Hazardous waste is already included in the total waste quantity but is broken down separately here.

\*\* Area reduction due to the sale of the fibre washing house.

|  |
|--|
| <b>Production Quantity</b>             |
| Fibres Produced                        |
| Sodium Sulphate                        |
| Sulphuric Acid (100%)                  |
| <b>Energy</b>                          |
| Electricity (Total Energy Consumption) |
| Steam                                  |
| Renewable Energy                       |
| Vehicle Fuel                           |
| Gas Usage without Power Plant          |
| Total Energy                           |
| <b>Material</b>                        |
| Pulp                                   |
| NaOH                                   |
| H <sub>2</sub> SO <sub>4</sub>         |
| CO <sub>2</sub>                        |
| <b>Water</b>                           |
| Well Water                             |
| Danube Water                           |
| City Water                             |
| <b>Waste</b>                           |
| Total Waste                            |
| Process Waste for Recovery             |
| Process Waste for Disposal             |
| Other Waste                            |
| Total Hazardous Waste*                 |
| Hazardous Process Waste for Recovery   |
| Hazardous Process Waste for Disposal   |
| Hazardous Other Waste                  |
| <b>Land Consumption</b>                |
| Total Land Consumption                 |
| Total Sealed Area                      |
| Total Natural Area on Site             |
| Total Natural Area Off-Site            |
| <b>Emissions</b>                       |
| Total Greenhouse Gas (Scope 1+2)       |
| Total Greenhouse Gas (Scope 1+2+3)     |
| Total Dust                             |
| SO <sub>2</sub>                        |
| NO <sub>2</sub>                        |

| Absolute Numbers |               |                      |                             | Values for Input/Output Related to Production Quantities |          |         |                          |
|------------------|---------------|----------------------|-----------------------------|--|----------|---------|--------------------------|
| 2022             | 2023          | 2024                 | Unit                        | 2022   | 2023     | 2024    | Unit                     |
| 50,896           | 48,591        | 54,578               | t                           |  |          |         |                          |
| 28,108           | 29,343        | 30,022               | t                           |  |          |         |                          |
| 60,308           | 50,386        | 54,885               | t                           |  |          |         |                          |
| 90,946,319       | 86,865,943    | 74,975,466           | kWh                         | 1,787  | 1,788    | 1,374   | kWh/t fibres             |
| 435,196,000      | 509,762,686   | 372,506,000          | kWh                         | 8,551  | 10,490.9 | 6,825.2 | kWh/t fibres             |
| 0                | 0             | 0                    | kWh                         | 0  | 0        | 0       | kWh/t fibres             |
| 167,001.6        | 124,502.4     | 131,568              | kWh                         | 3.3  | 2.6      | 2.4     | kWh/t fibres             |
| 34,851,644       | 31,173,269    | 34,181,757           | kWh                         | 684.8  | 641.5    | 626.3   | kWh/t fibres             |
| 561,160,964.6    | 627,926,400.4 | 481,794,791          | kWh                         | 11,025.6   | 12,922.7 | 8,827.7 | kWh/t fibres             |
| 52,158           | 50,304        | 56,416               | t                           | 1.025  | 1.035    | 1.034   | t/t fibres               |
| 25,787           | 24,586        | 27,305               | t                           | 0.507  | 0.506    | 0.500   | t/t fibres               |
| 38,040           | 35,461        | 41,431               | t                           | 0.747  | 0.730    | 0.759   | t/t fibres               |
| 4,630            | 4,161         | 4,676                | t                           | 0.091  | 0.0856   | 0.0857  | t/t fibres               |
| 13,823,260       | 13,472,086    | 13,271,388           | m <sup>3</sup>              | 272  | 277      | 243.2   | m <sup>3</sup> /t fibres |
| 6,743,943        | 5,915,444     | 6,581,319            | m <sup>3</sup>              | 133  | 122      | 121     | m <sup>3</sup> /t fibres |
| 17,770           | 15,526        | 14,408               | m <sup>3</sup>              | 0.348  | 0.320    | 0.264   | m <sup>3</sup> /t fibres |
| 6,249            | 4,180         | 3,886                | t                           | 122.7  | 86.0     | 71.2    | kg/t fibres              |
| 206              | 72            | 1,191                | t                           | 4.1  | 1.5      | 3.6     | kg/t fibres              |
| 1,728            | 1,589         | 1,800                | t                           | 33.9   | 32.7     | 33.0    | kg/t fibres              |
| 4,315            | 2,518         | 1,890                | t                           | 84.7   | 6.3      | 34.6    | kg/t fibres              |
| 1,195            | 435           | 250                  | t                           | 23.5   | 9        | 4.6     | kg/t fibres              |
| 18               | 21            | 14                   | t                           | 0.4  | 0.4      | 0.3     | kg/t fibres              |
| 78               | 104           | 85                   | t                           | 1.5  | 2.1      | 1.6     | kg/t fibres              |
| 1,099            | 310           | 152                  | t                           | 21.6   | 6.4      | 2.8     | kg/t fibres              |
| 211,934          | 211,934       | 210,474 <sup>*</sup> | m <sup>2</sup>              |  |          |         |                          |
| 177,544          | 177,544       | 177,544              | m <sup>2</sup>              |  |          |         |                          |
| 34,390           | 34,390        | 34,390 <sup>**</sup> | m <sup>2</sup>              |  |          |         |                          |
| -                | -             | -                    |                             |  |          |         |                          |
| 89,055           | 103,985       | 98,891               | tCO <sub>2</sub> e/t fibres | 1.75   | 2.14     | 1.81    | t/t fibres               |
| 210,357          | 187,828       | 182,213              | tCO <sub>2</sub> e/t fibres | 4.13   | 3.52     | 3.34    | t/t fibres               |
| 71               | 72            | 59                   | kg                          | 1.4  | 1.5      | 1.1     | g/t fibres               |
| 129,723          | 116,703       | 122,780              | kg                          | 2.55   | 2.40     | 2.25    | kg/t fibres              |
| 53,585           | 47,203        | 41,170               | kg                          | 1.05   | 0.97     | 0.86    | kg/t fibres              |

Table 18



## 4.14 Environmental *Goals*

With EMAS, we commit ourselves to doing what is already anchored in our business strategy: to continuously optimise our environmental performance. Our environmental programme covers the largest environmental aspects and includes measures in all areas of our plant.

● Implemented   ● In Progress   ● Not Implemented



## 4.14.1 Water

| Objective   | Measure   | 23 | 24 | 25 | 26 | Status | Status as of 10/2025   | Responsibility         |
|---|---|----|----|----|----|--------|--|------------------------|
| Equalisation of Inflow Loads  | Integration of BHR 1 as an upstream balancing tank  | x  | x  |    |    | ●      | Conversion measures and functional tests carried out   | Environmental Plants   |
| Reduction of Specific Water Demand by 10% by the End of 2025                        | Completion of an accurate water balance   |    | x  | x  | x  | ●      |  | Energy Department/ CSR |
|   | Creation of a master's thesis on the topic: "Water management in resource-intensive production processes – the water footprint as a corporate control mechanism and for identifying potential improvements" | x  | x  | x  | x  | ●      | Water balance established. Savings potential identified within the framework of the master's thesis.<br>Water balance established. Savings potential identified within the framework of the master's thesis. |                        |
| Reduction of Well Water Consumption by 15% by the End of 2027                       | Setting measures resulting from the balancing and master's thesis   |    | x  | x  | x  | ●      | Potential analysis established. Currently, the feasibility of further individual measures is being evaluated.  | Energy Department/ CSR |
| Resource Conservation<br>Replacement of Urea or Ammonium Sulphate from October 2025 | Addition of nitrogen-containing external wastewater for resource conservation<br>Replacement of urea or ammonium sulphate   |    | x  | x  | x  | ●      | Trial operation is approved and has started and is scheduled to end at the end of the year.  | Energy Department/ CSR |

Table 19

## 4.14.2 Air

| Objective   | Measure                              | 23 | 24 | 25 | 26 | Status | Status as of 10/2025                                   | Responsibility              |
|---|--------------------------------------|----|----|----|----|--------|--|-----------------------------|
| Reduction of SO <sub>2</sub> Emissions in the Operation of the Sulphuric Acid Plant to a Maximum of SO <sub>2</sub> : 600 mg/Nm <sup>3</sup><br>TA Luft – Requirements According to EHIS Still Open | Downstream exhaust gas cleaning unit |    | x  | x  |    | ●      | Preliminary planning, inclusion in the investment plan | Technology/ Recovery Plants |

Table 20

## 4.14.3 Noise

We have completed a comprehensive renovation programme.

Further optimisations are expected from the continuous improvement process.


| Objective               | Measure  | 23 | 24 | 25 | 26 | Unit  | Status  | Status as of 10/2025                       | Responsibility |
|-------------------------|--|----|----|----|----|-------|---|--|----------------|
| Reduction of Immissions | Conducting immission measurements at the relevant points to prove the previous measures from the noise remediation programme (Reference: Requirements from subsequent order) | x  | x  | x  | x  | dB(A) |  | Immission measurements not yet carried out | CSR            |

Table 21

## 4.14.4 Waste




| Objective                          | Measure   | 23 | 24 | 25 | Unit  | Status as of 10/2025   | Responsibility                     |
|------------------------------------|---|----|----|----|---|--|------------------------------------|
| Improvement of Operational Safety  | Addition of high-calorific, external waste  | x  | x  | x  |  | Trial operation with high-calorific external waste is to begin at the end of 2025.                             | CSR/<br>Environmental Plants       |
| Reduction of Mercury Waste         | Method change in the BOD <sub>5</sub> determination. Replacement of the Winkler method by oxygen probe. | x  | x  |    |  | Implemented, continuous annual savings   | Chemical Laboratory                |
| Implementation of Circular Economy | Feasibility study on the use of alternative pulps   | x  | x  | x  |  | Renewcell insolvency, project temporarily paused, regular exchange with potential partners, market observation | Fibre &<br>Application Development |

Table 22

## 4.14.5 Energy

| Objective  | Measure  | 23 | 24 | 25 | 26 | Unit | Status | Status as of 10/2025  | Responsibility        |
|--|--|----|----|----|----|------|--------|---|-----------------------|
| Increase in the Proportion of Renewable Energy Generation to 2%                              | Feasibility study for the construction of a 2,000 kWp PV system as a basis for operational implementation                                  | x  | x  |    |    |      | ●      | Still part of the climate protection contract, but due to the sale of properties, it can only be realised as an external project. | CSR                   |
| Step-by-Step Plan for Energy Transformation  | Fuel change from natural gas to hydrogen   | x  | x  | x  | x  |      | ●      | Measures defined and entered as part of the climate protection contract   | CSR/Energy Department |
| Reduction of Electricity Consumption by 1% Annually  | Customer-specific improvement process from the certified energy management system according to ISO 50001 as the sum of all energy projects | -1 | -1 | -1 | -1 | [%]  | ●      | Savings of approx. 2.5% in electricity consumption  | Technology/Plants     |
| Feed into the Public Grid of 6 MW Construction of a Battery Storage with an External Partner |  |    |    |    |    |      | ●      | Conducting feasibility study in 2026  | Technology/Plants     |

Table 23



## 4.14.6 Sustainability

With the various measures to be implemented as part of the environmental programme, we aim to improve our environmental performance.

| Objective   | Measure   | 23 | 24 | 25 |
|---|---|----|----|----|
| Annual Binding of 10 t CO <sub>2</sub> per Hectare with a Humus Increase of 0.2%  | Project sponsorship for humus build-up programmes in agriculture for CO <sub>2</sub> binding  |    |    |    |
| Plastic Reduction, Materials from Renewable Raw Materials   | Femcare Project - Development of sustainable feminine hygiene products  | ×  | ×  | ×  |
| Tracing of Sustainable Textiles through Viscose Marker fibres   | Go-to-market activities for viscose fibres with incorporated marker pigments for the representation of traceable supply chains (blockchain) for the unambiguous identification of sustainable solutions and identification of product compositions for meaningful introduction into circular cycles | ×  | ×  | ×  |
| Use of Alternative/Cellulose-Containing Raw Materials (Other than Wood) to Diversify the Raw Material Landscape and Represent Circular Approaches | Screening of cellulose-containing raw materials regarding their usability in the viscose fibre process (feasibility study on a laboratory scale) (e.g., food waste, recovered cellulose from textile recycling, agricultural by-products/waste products)  | ×  | ×  | ×  |





| Status | Status as of 10/2025  | Responsibility                  |
|--------|---|---------------------------------|
| ●      | Project was discontinued.   | Management                      |
| ●      | <ul style="list-style-type: none"> <li>• Phase: Incorporation of fibres into end products</li> <li>• Product development (commercial end products together with end product manufacturers (established players and start-ups) in the area of single-use (pads, panty liners, tampons) and reusable products (menstrual underwear)</li> <li>• Goal for single-use products: Replacement of petroleum-based fibre solutions with biodegradable/bio-based specialty viscose fibres with comparable performance of the end product</li> <li>• Goal for reusable products: Textile solution for multiple use with high performance to further increase sustainability values.</li> </ul> | Fibre & Application Development |
| ●      | <p>Two concepts are being pursued:</p> <ul style="list-style-type: none"> <li>• Blockchain with Textile Genesis™: Due to the discontinuation of textile fibre production, no longer relevant</li> <li>• Physical tracing with FibreTrace® Pilot tests for new marker fibres in September 25 → Production of pigmented tracer fibres for tracking sustainable cotton.</li> </ul>   | Fibre & Application Development |
| ●      | Cooperation Renewcell, project temporarily paused, regular exchange with potential partners/market observation regarding further possible partners/technical possibilities.   | Fibre & Application Development |

Table 24



## 4.15 EU-BAT-*Specifications*

| Aspekt                                     | Unit                     | EU BAT        | EU BAT Status | Kelheim Fibres                 |
|--|--------------------------|---------------|---------------|--------------------------------|
| <b>Verbrauchsdaten</b>                     |                          |               |               |                                |
| Energy Intensity                           | GJ/t fibres              | 20 – 30       | ✓             | 31.8                           |
| Pulp                                       | t/t fibres               | 1.035 – 1.065 | ✓             | 1.034                          |
| H <sub>2</sub> SO <sub>4</sub>             | t/t fibres               | 0.6 – 1.0     | ✓             | 0.759                          |
| NaOH                                       | t/t fibres               | 0.4 – 0.6     | ✓             | 0.500                          |
| Cl <sub>2</sub>                            | kg/t fibres              | 80 – 100      | ✓             | 86                             |
| Zn   | kg/t fibres              | 2 – 10        | ✓             | 2.0                            |
| Avivages                                   | kg/t fibres              | 3 – 5         | ✓             | 3.0                            |
| NaOCl                                      | kg/t fibres              | 0 – 50        | ✓             | 20.1                           |
| Process Water                              | m <sup>3</sup> /t fibres | 35 – 70       | ✓             | 38                             |
| Cooling Water                              | m <sup>3</sup> /t fibres | 189 – 260     | ✓             | 254                            |
| <b>Specific Emissions/Occurrence</b>       |                          |               |               |                                |
| COD  | kg/t fibres              | 3 – 5         | ✓             | 5.98                           |
| Noise                                      | dB(A)                    | 55 – 70       | ✓             | 43                             |
| Sulphur in Air                             | kg/t fibres              | 6 – 9         | ✓             | 9.32                           |
| <b>Recovery Rates/Cleaning Performance</b> |                          |               |               |                                |
| COD Wastewater                             | %                        | 85            | ✓             | 96                             |
| Cl <sub>2</sub> -RG                        | %                        | 97            | ✓             | 97                             |
| Total Sulphur Air                          | %                        | 97            | ✓             | 90                             |
| <b>Energy</b>                              |                          |               |               |                                |
| Efficiency                                 | %                        | 50 – 60       | ✓             | 91                             |
| High-Efficiency Criterion                  | %                        | 10            | ✓             | 15                             |
| <b>Biodegradability</b>                    |                          |               |               |                                |
| Degradability of fibres                    |                          |               | ✓             | OECD 301 B<br>DIN EN ISO 14851 |

The data listed in the table meet the legal requirements.

Table 25



“ Sustainability is no longer a nice-to-have but a central competitive advantage. With our EMAS validation and the transparent communication of our environmental data, we offer our customers not only first-class fibres but also real decision-making bases. This makes us the preferred partner for everyone who values responsibility and quality.

Horst Wörner,  
Head of Sales

## 4.16 Validity *Declaration*



### Gültigkeitserklärung

Die im Folgenden aufgeführten Umweltgutachter bestätigen, begutachtet zu haben, dass der Standort, wie in der vorliegenden Umwelterklärung der Organisation Kelheim Fibres GmbH mit der Registrierungsnummer DE-166-00081 angegeben, alle Anforderungen der Verordnung (EG) Nr.1221/2009 des Europäischen Parlaments und des Rates vom 25. November 2009 in der Fassung vom 28.08.2017 und 19.12.2018 über die freiwillige Teilnahme von Organisationen an einem Gemeinschaftssystem für Umweltmanagement und Umweltbetriebsprüfung (EMAS) erfüllt.

| Name des Umweltgutachters | Registrierungsnummer | Zugelassen für die Bereiche (NACE)   |
|---------------------------|----------------------|--|
| Dr. Ulrich Wilcke         | DE-V-0297            | 20 Herstellung von chemischen Erzeugnissen<br>38.2 Abfallbehandlung und -beseitigung |
| Jochen Buser              | DE-V-0324            |  |

Mit Unterzeichnung dieser Erklärung wird bestätigt, dass:

- die Begutachtung und Validierung in voller Übereinstimmung mit den Anforderungen der Verordnung (EG) Nr. 1221/2009 in der durch die Verordnung (EU) 2017/1505 und (EU) 2018/2026 der Kommission geänderten Fassung durchgeführt wurden,
- das Ergebnis der Begutachtung und Validierung bestätigt, dass keine Belege für die Nichteinhaltung der geltenden Umweltvorschriften vorliegen und
- die Daten und Angaben der Umwelterklärung ein verlässliches, glaubhaftes und wahrheitsgetreues Bild sämtlicher Tätigkeiten der Organisation geben.

Diese Erklärung kann nicht mit einer EMAS-Registrierung gleichgesetzt werden. Die EMAS-Registrierung kann nur durch eine zuständige Stelle gemäß der Verordnung (EG) Nr. 1221/2009 erfolgen. Diese Erklärung darf nicht als eigenständige Grundlage für die Unterrichtung der Öffentlichkeit verwendet werden.

Berlin, den 16.11.2025

Dr. Ulrich Wilcke  
Umweltgutachter DE-V-0297

Jochen Buser  
Umweltgutachter DE-V-0324

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# 5

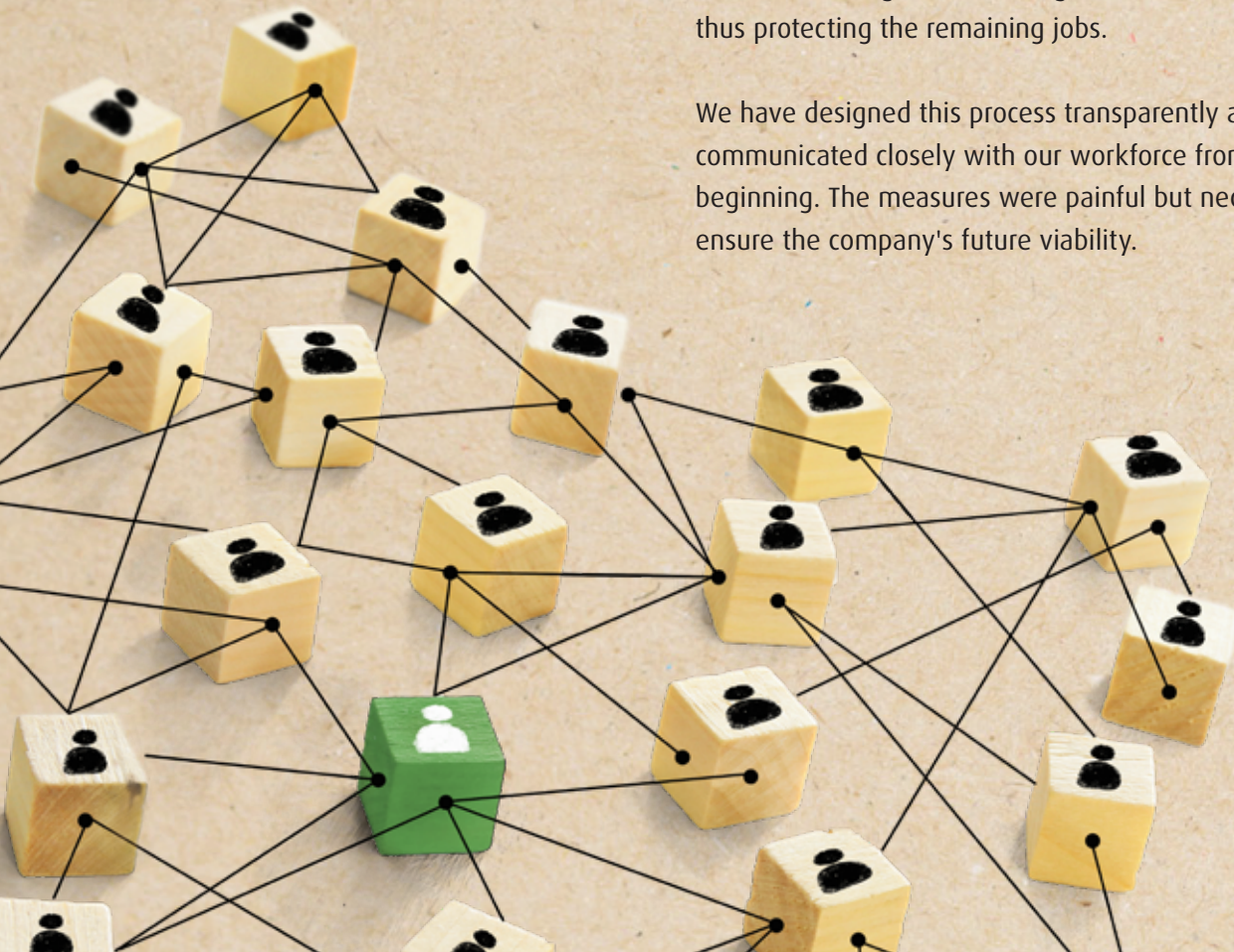
## Social & *Personnel* *Management*

**Principle 03:** Companies should support the freedom of association and the effective recognition of the right to collective bargaining.

Kelheim Fibres has been an important employer in the Kelheim region for over 85 years. Our company history is closely linked to the region and the people living here. Even in challenging times, our commitment to our workforce is at the centre.

In October 2024, we were forced to initiate insolvency proceedings. This step was a turning point that opened the way for necessary restructuring. The focus was and remains on the goal of securing the site sustainably and thus protecting the remaining jobs.

We have designed this process transparently and have communicated closely with our workforce from the beginning. The measures were painful but necessary to ensure the company's future viability.





*Our vision remains that Kelheim Fibres is a place where employees have long-term perspectives and feel connected to the company. In the current situation, this means above all creating trust, informing openly, and working together on the sustainable future of the site.*

*Tobias Westner,  
Personnel Manager*

## 5.1 Our *Personnel Policy*

At Kelheim Fibres, our personnel policy is based on the conviction that our employees are the key to our success. We are committed to creating an inclusive and diverse working environment where everyone can reach their full potential. Our personnel strategy focuses on transparent recruitment, continuous training, and fair remuneration.

We offer our employees opportunities for professional development and encourage them to actively participate in shaping their career paths. Safety,

well-being, and fair treatment are a priority in every aspect of employment, as we ensure compliance with labour laws and promote a work environment that supports innovation and teamwork.

In the restructuring phase, it is particularly important to us to implement the inevitable changes in as socially responsible a manner as possible and to communicate openly and transparently throughout the process.

## 5.2 Working *Conditions*



Forced or child labour is strictly prohibited at Kelheim Fibres. We adhere to international standards and do not tolerate any form of employment based on involuntary labour. The minimum age for all regular employees is 18 years. Apprentices can be employed from the age of 15 in accordance with German law. Special regulations apply to persons aged 15 to 18, such as restrictions on weekend or night shifts.

Our employees have the right to organise through employee representatives and trade unions. The goal of our company is to achieve a balanced relationship between our economic interests and those of our employees, which has a sustainably positive effect on

the company's success. We work closely with the IG BCE union; issues such as salary structures, vacation entitlements, and working time models are regulated by collective agreements.

We orient ourselves to legal minimum standards but go beyond them in many areas. Our minimum wage is 15.70 € per hour, which is 26.51% above the legal minimum wage of 12.41 € in 2024 and 22.46% above the legal minimum wage of 12.82 € from January 2025.

This ensures that our wages not only meet legal requirements but also enable our employees to have a sustainable income.

## 5.3 Restructuring, Staff Reduction *and Communication*

The restructuring initiated in October 2024 required a reduction of the workforce by 103 positions, which was implemented in the first quarter of 2025. This step was unavoidable to secure the competitiveness of Kelheim Fibres and to sustainably protect the remaining jobs. We placed particular emphasis on socially responsible implementation:

- Approximately 36% of those affected left through retirement regulations or voluntary resignations.
- Approximately 50% took advantage of the offer from our transfer company, which specifically supports the development of new career perspectives and optimally accompanies the transition to a new job.

With this differentiated approach, we were able to responsibly manage the staff reduction and provide concrete support to those affected.

From the beginning, we were aware: such a process can only succeed if it is accompanied by open and clear communication. Therefore, we regularly informed the entire workforce:

- In information events by the management and executives about the status of the insolvency, the progress of the restructuring, and the next steps.
- Via our intranet as a central platform for current, reliable, and always accessible information.
- Through the newly established company chat, which enables quick, direct communication and makes information permanently retrievable, and which is also accessible to employees without PC access at any time.

In this way, we were able to cushion hardships, reduce uncertainties, and at the same time lay the foundation for the future of the site. Transparency, trust, and dialogue were decisive factors in jointly managing the restructuring.



## 5.4 Training Culture, Continuing Education *and Career Development*

As a company with very specific competence requirements, the development and retention of our employees is a top priority. On 01.01.2025, we employed 555\* employees with an average length of service of 15.39 years.

At the end of 2024, 62 trainees were working in the company; the annual average was 56.4 trainees. Our takeover rate is traditionally high: in 2024, 63% of the trainees were able to be taken on in a permanent employment relationship after completing their training.

An essential aspect of our philosophy is not only to look for experienced specialists on the market but also to train our own junior staff and retain them in the long term. This secures our future viability and at the same time creates attractive career prospects for young people in the region. The further training of existing employees is also of central importance to us. In 2024, we invested around 145,000 € in external training and continuing education measures. These investments not only strengthen the qualifications of our workforce but also promote motivation and commitment to the company.

\* The number includes all employees incl. trainees, dormant employment relationships (e.g., parental leave), working students, etc.



## 5.5 Employee *Engagement*

We place great value on the knowledge and ideas of our employees. Through our improvement platform, employees can submit suggestions for optimising processes and efficiency. After evaluation and approval, those whose ideas are implemented receive a share of the savings. In 2024, we received

17 suggestions, seven of which were implemented, resulting in savings of approximately 107,775 €. We are incredibly proud of the joint effort that made these improvements possible and the valuable contributions of our team.

### MILESTONES

#### Collective Bargaining December 2024

Despite the special situation of insolvency, in-house collective bargaining with IG BCE was successfully concluded in December 2024. We were able to find a sustainable result that takes into account the economic situation and at the same time brings tangible improvements for the employees:

- +4% wage increase from January 2025
- Reduction of working hours to 36 hours per week
- 2 additional days off for the future account (a total of 5 days per year)
- Table wage increase from 1 May 2025 by 50 € per level (20 € for trainees)

#### Introduction of 5-Shift System from March 2025

Another important milestone in working time design was the introduction of the new 5-shift model on 1 March 2025. Almost all production departments now work in this system. The benefits for our employees are clear:

- Improved work-life balance through more predictable days off
- Longer recovery periods in one go and resulting
- Positive health effects
- Higher satisfaction and motivation

With this change, we were able to establish a modern shift model that meets the needs of our workforce and should give us a long-term competitive advantage in the market for qualified workers.

## 5.6 Equal Opportunity and *Gender Equity*

Kelheim Fibres is committed to promoting gender equity and equal opportunity for all employees. We are aware that our industry has historically been dominated by men, especially in technical and production areas.

But we are working intensively to change this. Through targeted initiatives, such as promoting women in MINT professions and gender-neutral recruitment processes, we strive for a more balanced workforce.

Our goal is to create a culture where diversity thrives and everyone, regardless of gender, is valued and empowered to contribute. We have developed solid policies to prevent discrimination. Potential violations of our principles can be reported confidentially or anonymously to our complaints office. Our AGG officers from the personnel department and the works council are specially trained and investigate all reports in this area.

**Employees from minorities  
and vulnerable groups:**

**16.2%**

**Non-EU employees:**

**13.56%**

**Female employees:**

**13.8%**

**Employees  
with disabilities:**

**2.67%**

## 5.7 Human *Rights*

Respect for human rights is a central value at Kelheim Fibres. We strictly adhere to the principles set out in international human rights laws, including the UN Global Compact, of which we are signatories.

We ensure fair labour practices throughout our supply chain and are committed to eliminating forced labour, child labour, and discrimination in all forms. Our employees are protected by a strict code of conduct, and we provide clear reporting channels for any violations.

# 5.8 Health and Safety of Employees

The safety and health of our employees are our top priority. Even during the restructuring, we consistently continued our commitment to occupational safety and health promotion.

## 5.8.1 Plant Fire Brigade

We operate our own plant fire brigade to provide quick protection for our employees in emergencies and to relieve the local fire brigade. Our fire brigade conducts regular exercises and is responsible for creating, implementing, and complying with fire protection regulations at the site. It also maintains all fire extinguishers throughout the plant. We are proud to have had our own trainee fire brigade since 2023 and have also included women in our fire brigade team – both great additions for our team. To support

| Plant Fire Brigade | 2022 | 2023 | 2024 |
|--------------------|------|------|------|
| Exercises          | 125  | 119  | 141  |
| Operations         | 51   | 55   | 54   |

Table 26

their important work, our firefighters also have access to a gym in our newly built fire station to stay in optimal physical condition and be able to react quickly in emergencies.



## 5.8.2 Occupational *Health Management*

At Kelheim Fibres, the health and well-being of our employees come first. We have implemented a comprehensive occupational health programme that includes preventive and occupational medical examinations, ergonomic workplace assessments, and support in the area of mental health. Our on-site medical team also offers programmes such as vaccinations and cancer screening examinations.

Additionally, we offer flexible working models – including the new 5-shift system – to promote a balanced work-life balance and ensure that our employees maintain their well-being while contributing to the company's success.



## 5.8.3 Regular Workplace Inspections *and Provision of Free Protective Equipment*

To ensure a safe working environment, we conduct workplace inspections at least annually to identify and rectify potential safety risks. These inspections are carried out by a team that includes the company's safety officer, the departments' safety officers, the works council, the department head, fire brigade personnel, the company doctor, and the plant manager. This comprehensive approach ensures that both technical and organisational risks are fully captured. Potential problems are documented in a safety protocol and resolved immediately.

We consider safety inspections as an ongoing, dynamic process and are constantly working to improve the safety of our working environment. To raise awareness and maintain a safety culture, we regularly conduct training on occupational safety. In addition, we encourage all employees to report potential hazards or near misses to take a proactive approach to accident prevention.

Based on hazard assessments, some workplaces have an inherent risk of injury. To minimise these risks, we primarily pursue technical solutions to eliminate hazards. If technical solutions are not feasible, we implement organisational measures to reduce the risk. If this is also not possible, we provide employees with personal protective equipment (PPE) or require them to use this equipment.

We ensure that our employees are equipped with the necessary protective equipment and work clothing. This includes, among other things, safety glasses, helmets, safety shoes, as well as respiratory protection devices and protective gloves, depending on the specific requirements of their tasks.

**50 conducted hazard assessments**

**88 instructions on safety risks**

**153 measures for eliminating hazards at the workplace**

**Disability quota (of 1,000 persons): 2.59**

**Severity rate: 0.34**



**Expenditure for occupational safety in 2024:  
151,391 €**

## 5.9 Goals & *KPIs*

Even after the restructuring, our focus at Kelheim Fibres is on the long-term development and well-being of our employees. To promote loyalty, engagement, and professional growth, we adhere to the following main goals:

### **1. Increase Employee Retention and Long-Term Engagement:**

Our goal is to promote long-term employment relationships in which employees feel valued and choose to spend the majority of their careers in the company.

### **2. Expand Training programmes:**

We aim to increase the number of trainees who are taken on in a permanent employment relationship after completing their training and to retain our young talent in the company in the long term.

### **3. Expand Internal Training programmes:**

We want to expand our internal training initiatives to build a qualified workforce and promote the individual professional development of our employees.

### **4. Promote Gender Equity and Diversity:**

Our goal is to create a more balanced gender distribution, especially in technical and managerial positions.

### **5. Strengthen Employee Health and Safety:**


We solidify our measures for a safe and healthy working environment. The focus is on systematic hazard assessments, the strengthening of preventive health measures, and the continuous improvement of our safety standards through internal processes and feedback.



# 6

## Compliance

**Principle 10:** Companies should work against corruption in all its forms, including extortion and bribery.



To maintain a free and competitive market, there are many laws and regulations. Kelheim Fibres strictly adheres to all relevant laws and regulations and ensures their full compliance. We use the strict legal requirements as the basis for our comprehensive code of conduct (Code of Conduct). This provides all employees with comprehensive guidelines on how to appropriately represent the values of Kelheim Fibres internally and externally.

All stakeholders can view our Code of Conduct on the website. In case of uncertainty regarding the correct behaviour in a particular situation, one can ask our Compliance Officer for advice. Our goal is to commit no violations of compliance issues.

**Principle 01:** Companies should support and respect the protection of internationally proclaimed human rights.

**Principle 02:** Ensure that they are not complicit in human rights abuses.

**Principle 04:** The elimination of all forms of forced and compulsory labour.

**Principle 05:** The effective abolition of child labour.

## 6.1 Fair *Business Practices*



Our internal rules for fair business practices focus on behaviour in the workplace, equal rights, and human rights. This is particularly important for creating an inclusive work environment for all employees. The associated corporate values were communicated to the employees in 2023 as part of a multi-part, mandatory training.

### 6.1.1 Human Rights, Child *and Forced Labour*

The protection of human and children's rights is a fundamental and universal requirement for us as a company. We reject all forms of child and forced labour, with the clear goal of preventing human rights violations. Employees must not be below the legal minimum age under any circumstances. National standards for the protection of children and young workers must be complied with at all times. We expect the same standards from all our business partners.



**Z E R O** Violations of  
human rights

**Z E R O** Cases of child labour

**Z E R O** Cases of forced labour

## 6.1.2 Conflict *of Interest*



**Z E R O**  
**reported conflicts of interes**

We must do everything in our power to avoid conflicts of interest. Unavoidable conflicts must be resolved as quickly as possible and in an ethically correct manner. Conflicts of interest can arise in the relationship between Kelheim Fibres and customers, Kelheim Fibres and suppliers, Kelheim Fibres and its employees, or as a conflict of interest between different customers. We expect our employees to inform their superiors about relationships to persons or companies that could lead to potential conflicts of interest. Our goal is to have no reported conflicts of interest.

## 6.1.3 Bribery *and Corruption*



**Z E R O**  
**cases of bribery**

**Z E R O**  
**cases of corruption**

We reject any form of bribery or corruption and expect behaviour that does not allow personal dependencies or influences. Our company must never offer, request, or grant gifts that aim to unlawfully influence the decisions or actions of a person. We expect and accept no improper advantages from suppliers or customers. If we are offered, promised, or granted improper advantages, we inform the Compliance Officer. The acceptance or granting of gifts, hospitality, and invitations is permissible in general business transactions. The prerequisite is that these are voluntary and not accepted in expectation of a return favour. Gifts, hospitality, and invitations must never create an influence or the appearance of influencing a business decision or lead to preferential treatment of the parties involved. The anti-corruption guideline regulates this in detail.

## 6.1.4 Transparent *Financial Reporting*

Our business partners expect that the legal regulations for the management and supervision of the company as well as the internationally recognised standards for good corporate governance are complied with. They need a transparent financial report to get an idea of the company's asset, financial, and earnings situation. Therefore, all employees of the company must contribute to

ensuring that our business transactions are fully and correctly recorded in the books. Transparency and correctness are of the utmost importance to us when it comes to proper accounting and financial reporting. Therefore, we strictly adhere to all legal frameworks and ensure that company funds and anything that has or represents financial value is always handled responsibly and honestly.

## 6.1.5 Product *Safety*

The safety of our products is non-negotiable. In compliance with applicable national and international regulations, we guarantee as a company the safety of our products, by aiming not only to meet but to exceed legal requirements. We rely on an effective quality management system that ensures our customers receive safe products of high quality.



## 6.2 Data *Security*

### 6.2.1 Confidentiality

We place great value on the completeness and accuracy of the information we provide and treat business matters, of which we become aware in the course of our activities, as strictly confidential. We do not misuse confidential information and do not disclose it to third parties without authorisation.



**Z E R O**

**Data protection violations**

### 6.2.2 Data *Protection*

With all appropriate and reasonable technical and organisational means, we protect company data as well as the personal data of our customers, suppliers, employees, and other business partners against unauthorised access, unauthorised or abusive use, loss, or premature destruction. We work closely with Projekt 29 GmbH, an external data protection company.

In 2021, a renewal of our data storage system was carried out to ensure the highest technical standard and security. To ensure the security of the company laptops of our employees even in the event of loss or theft, we have implemented extensive measures. This includes the use of encrypted hard drives, thereby effectively protecting sensitive data. Our server systems are structured hierarchically so that employees can only access the data they need. In 2023, mandatory data protection and security training was conducted for all employees.



## 6.3 Whistleblowing

We take the issue of compliance very seriously. Therefore, it is important to us to offer our employees, customers, and business partners the opportunity to report violations and to draw attention to possible misconduct in our company. For this reason, we have introduced an official whistleblowing process. This enables all those involved to anonymously report violations of work ethics, good business practices, and other legal concerns. In the event of a report, external consultants (ombudspersons) examine the case and decide which measures to take. You can find the contact on our homepage. Our goal is zero confirmed violations of business practices.

**We had Z E R O confirmed violations in 2024**



## 6.4 Measures in the *Event of Violations*

If employees violate agreements and regulations of any kind during their employment, appropriate measures are initiated. Our main focus is on encouraging the employees involved to change their behaviour by emphasising the importance of our code of conduct. Serious violations can also result in disciplinary measures.

All employees are obliged to inform the Compliance Officer if they become aware of violations. A deviation from the code of conduct may be permissible in certain situations but requires prior approval from the management.

**Z E R O cases of compliance violations in 2024**



# 7

## Responsible Supply Chain



As a manufacturing company, we rely on a wide range of raw materials and other resources. In today's interconnected world, procurement is a global issue. Theoretically, a company has almost endless possibilities regarding the quality of resources, price, place of procurement, means of transport, etc. This opens up various strategies for procurement in general. An example of our responsible procurement policy is that we source as many raw materials as possible locally to shorten transport routes. Our main raw material, pulp, is sourced exclusively from manufacturers that use only sustainably harvested wood.

From 2023, we expanded our commitment in the value chain by implementing a supplier questionnaire that ensures compliance with all relevant environmental, labour, and compliance regulations. This helps us to better understand our impact on upstream processes.



**Ensure the availability and sustainable management of water and sanitation for all.**



**Ensure access to affordable, reliable, sustainable and modern energy for all.**



**Ensure sustainable consumption and production patterns.**



# 7.1 Certifications



## 7.1.1 FSC™ & PEFC

Kelheim Fibres uses exclusively FSC™ (Forest Stewardship Council) and PEFC (Programme for the Endorsement of Forest Certification) compliant pulp. The wood comes from sustainably managed forests that are managed in strict compliance with social and environmental legal standards, as well as from other controlled sources.



## 7.1.2 OEKO-TEX® STANDARD 100

*OEKO-TEX® Product Class I (Baby Products) - Annex 6*  
If a textile article bears the OEKO-TEX® STANDARD 100 label, consumers can be sure that every component of this article, i.e., every thread, every button, and other accessories, has been tested for harmful substances and that the article is therefore safe for human health. Our products are certified accordingly.



## 7.1.3 Canopy

Canopy is a non-profit environmental organisation committed to the preservation of forests, species, and the climate. Canopy has worked with more than 750 companies to develop innovative solutions to make their supply chains more sustainable. The protection of old and endangered forests is a particular focus of their work. Kelheim Fibres achieved a green/dark green shirt in the Canopy Hot Button Ranking 2024.

## 7.2 Supply Chain *Due Diligence*

The FSC™ certification process includes a review procedure for wood legality, and PEFC has a system for reporting violations. In both cases, our suppliers must be certified for us to qualify for certification. To ensure flawless compliance with sustainable procurement, regular compliance screening and permanent control mechanisms are established for all our pulp suppliers.

## 7.3 Business Practices *of Suppliers*

In 2023, we conducted a sustainability survey of our suppliers for the first time. In addition to general information, specific topics from the areas of environment, social issues, compliance, and supply chain were also surveyed. We received feedback from a total of nine companies that account for a significant portion of our purchasing volume. The survey revealed an already very high level of sustainability efforts in all surveyed areas.

## 7.4 Conflict *Minerals*

In the past, certain minerals originating from the Democratic Republic of Congo and neighbouring countries became known for financing violent armed conflicts through their mining and sale. Since then, these minerals have generally been referred to as "conflict minerals," regardless of their country of origin. Conflict minerals (3TG) according to EU Directive (EU) 2017/821 are the following:

- Tin
- Tantalum
- Tungsten
- Gold
- Their derivatives

We are committed to corporate responsibility. Although some of our production tools may contain small amounts of the mentioned materials, these do not end up in the finished products. We ensure with all due diligence that all these minerals are mined and processed responsibly. We adhere to strict standards that uphold human rights and require the same from our business partners.

# Glossary/Abbreviations

|                                    |  |                         |   |
|------------------------------------|--|-------------------------|---|
| <b>AC</b>                          | Alkali Cellulose   | <b>ISO 17025</b>        | General requirements for the competence of testing and calibration laboratories   |
| <b>approx.</b>                     | approximately  | <b>ISO 50001</b>        | International standard for energy management systems  |
| <b>bar</b>                         | Pressure specification   | <b>ISO 9001</b>         | International standard for quality management systems   |
| <b>BEHG</b>                        | Fuel Emissions Trading Act   | <b>IUK</b>              | Information and communication technology  |
| <b>BHR</b>                         | Bio reactor  | <b>kg</b>               | Kilogram (unit of weight)   |
| <b>BImSchG</b>                     | Federal Immission Control Act  | <b>KPI</b>              | Key Performance Indicators  |
| <b>BImSchV</b>                     | Federal Immission Control Ordinance  | <b>KWK</b>              | Combined heat and power (cogeneration)  |
| <b>BREF</b>                        | Best Available Technology reference document   | <b>LCA</b>              | Life Cycle Analysis   |
| <b>CFR</b>                         | Code of Federal Regulations  | <b>m<sup>3</sup></b>    | Cubic meter   |
| <b>CFR 21</b>                      | Code of Federal Regulations Title 21   | <b>MMCF</b>             | Man-Made Cellulosic Fibres  |
| <b>CHP</b>                         | combined heat and power  | <b>NaOH</b>             | Caustic soda  |
| <b>CLP</b>                         | Chemical Labelling and Packaging; Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures | <b>NH<sub>4</sub>-N</b> | Ammonium nitrate  |
| <b>CO<sub>2</sub></b>              | Carbon dioxide   | <b>NO<sub>x</sub></b>   | Nitrogen oxide  |
| <b>CO<sub>2</sub>e</b>             | Carbon dioxide equivalent  | <b>OECD</b>             | Organisation for Economic Cooperation and Development   |
| <b>COS</b>                         | Carbonyl sulphide  | <b>OHRIS</b>            | Occupational Health and Risk Management System  |
| <b>CS<sub>2</sub></b>              | Carbon disulphide  | <b>PEFC</b>             | Program for the Endorsement of Forest Certification (a certification for sustainable forest management)   |
| <b>CSB</b>                         | Chemical oxygen demand   | <b>REACH</b>            | Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) |
| <b>CSR</b>                         | Corporate Social Responsibility  | <b>S</b>                | Sulphur   |
| <b>dB(A)</b>                       | Decibel A-weighted (sound pressure level)  | <b>SO<sub>2</sub></b>   | Sulphur dioxide   |
| <b>DIN</b>                         | German Industry Standard   | <b>SUPD</b>             | Single-Use Plastic Directive  |
| <b>DIN EN</b>                      | German Institute for European Standardization  | <b>S<sub>x</sub></b>    | Sulphur compounds   |
| <b>EMAS</b>                        | EU Eco-Management and Audit Scheme   | <b>TA Lärm</b>          | Technical Directive on Noise Pollution Control  |
| <b>FDA</b>                         | Food and Drug Administration (USA)   | <b>TA Luft</b>          | Technical Instructions on Air Quality Control   |
| <b>FSC™</b>                        | Forest Stewardship Council (a certification for sustainable forest management)   | <b>TRGS</b>             | Technical Rules for Hazardous Substances  |
| <b>g</b>                           | Gram (unit of weight)  | <b>WHO</b>              | World Health Organisation   |
| <b>H<sub>2</sub>S</b>              | Hydrogen sulphide  | <b>ZDHC</b>             | Zero Discharge of Hazardous Chemicals   |
| <b>H<sub>2</sub>SO<sub>4</sub></b> | Sulphuric acid   | <b>Zn</b>               | Zinc  |
| <b>IE</b>                          | Industrial Emissions Directive   | <b>ZnSO<sub>4</sub></b> | Zinc sulphate   |
| <b>ISEGA</b>                       | ISEGA Forschungs- und Untersuchungsgesellschaft mbH (ISEGA Research and Investigation Company mbH)   |                         |   |
| <b>ISO</b>                         | International Standards Organisation   |                         |   |
| <b>ISO 14001</b>                   | International Standard For Environmental Management Systems  |                         |   |

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# Dates

The date for the next Sustainability Report with Environmental Statement is 11/2026.

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