

Safer process.
Safer profit.



Rhenus Lub

SUSTAINABILITY REPORT

2022

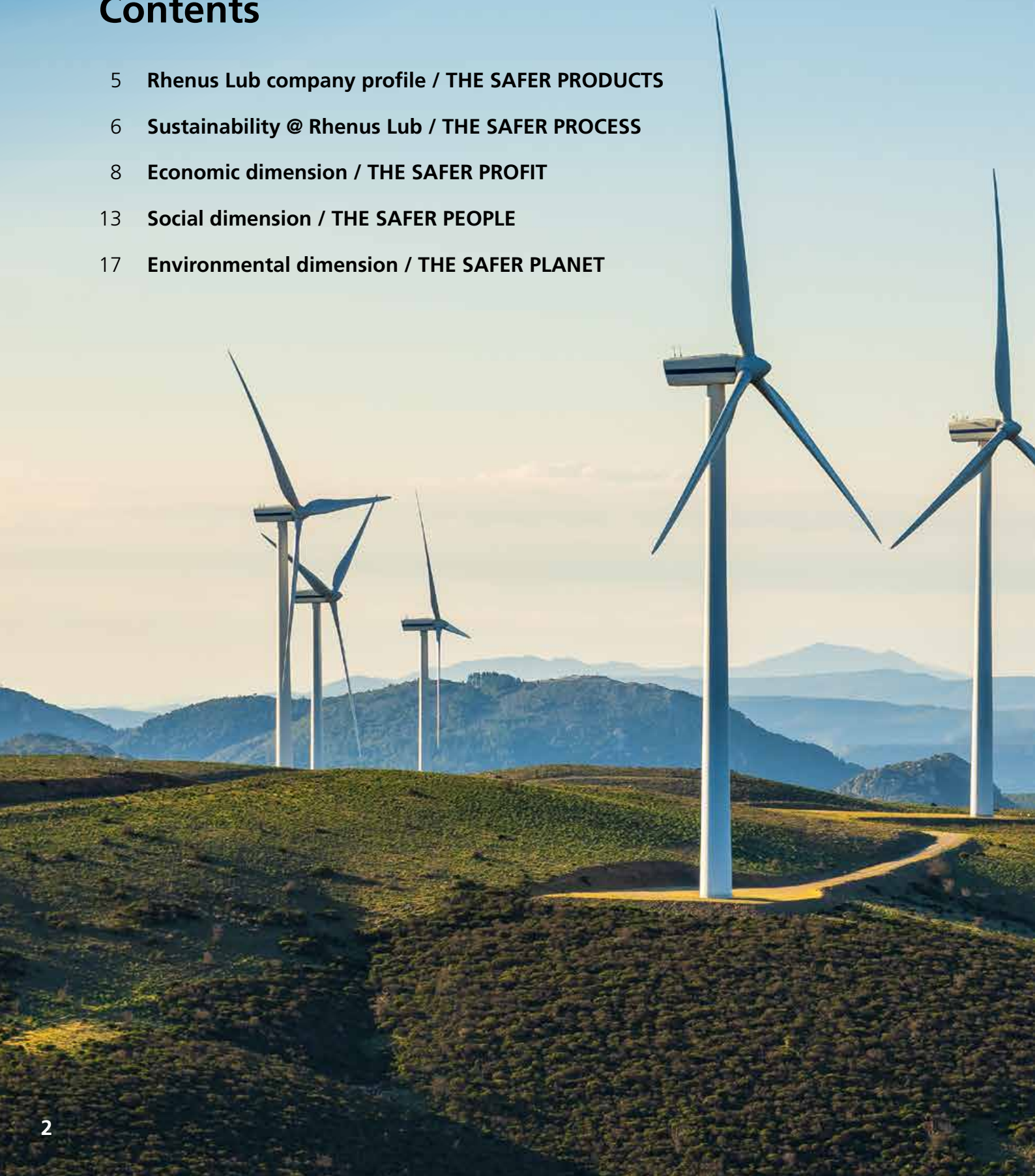


Rhenus Lub

SUSTAINABILITY REPORT 2022

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Rhenus Lub company profile

THE SAFER PRODUCTS

Rhenus Lub is a leading international system provider of special lubricants, application consulting services and process solutions for modern metalworking and metal processing.

Founded in Mönchengladbach, Germany, in 1882, the company develops and manufactures water-miscible metalworking fluids and neat oils for demanding machining applications, special products for metalworking, and special greases and oils.

As an experienced specialist in metalworking processes, Rhenus Lub understands its customers' fluid management and believes in taking a holistic view of lubricant applications. This is decisive in successfully prolonging service lives and reducing process costs.

Products from Rhenus Lub are particularly suited to demanding applications and combine effective performance, innovation, long service lives and maximum safety.

As an innovation leader, Rhenus Lub invests an above-average amount in research and development, with over 20 per cent of all employees working in this area. This makes Rhenus Lub one of industry's preferred premium partners. Working in close collaboration with its customers, the company produces metalworking fluids and high-performance greases that meet the highest quality standards. These products are successfully used in wide-ranging and demanding applications by leading companies in sectors including mechanical engineering, the automotive and automotive supply industry, and the roller-bearing, food and aerospace industries.

Sustainability @ Rhenus Lub

THE SAFER PROCESS

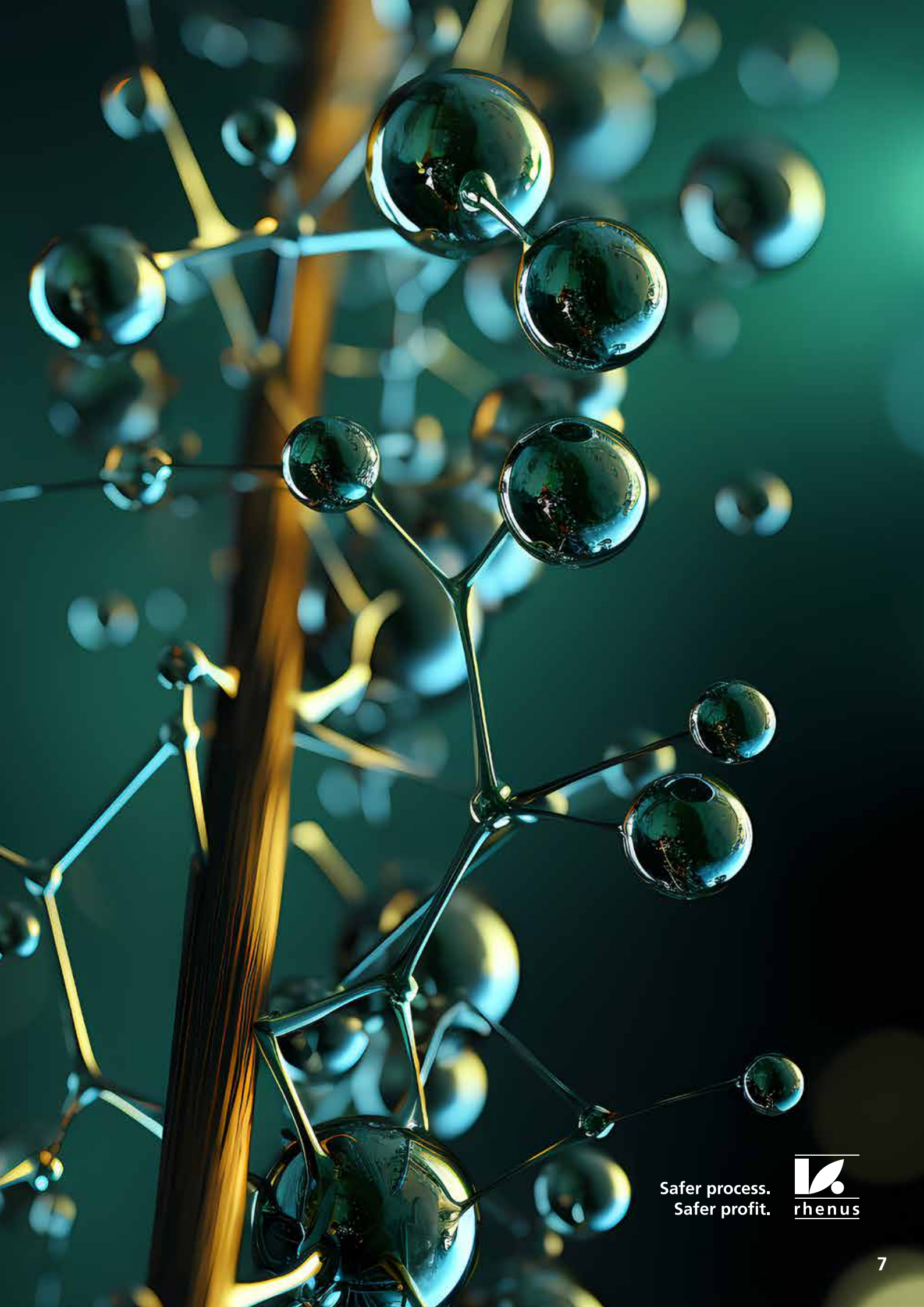
We live in a time of diverse challenges, new technologies and ever-increasing levels of performance. At the same time, the issue of sustainability is becoming increasingly important for many companies. The values of sustainability and responsibility for humans and the environment are firmly rooted within our corporate culture.

And our actions match our words – both in the manufacturing of our products and in our collaboration with employees, customers and partners.

Sustainability is becoming an increasingly important deciding factor for customers and plays a central role in our company's future orientation. For years, Rhenus Lub has been committed to a comprehensive sustainability strategy that is constantly being expanded. This commitment is reflected in innovative and therefore sustainable raw materials, as well as sustainable, long-lasting and energy-efficient products – and a particular focus on environmental and climate protection. We also invest in modern infrastructure and digital technology in order to do more than just “meet” the demands of tomorrow.

The socially responsible orientation of Rhenus Lub helps to strengthen relationships with suppliers and partners, as well as with our own employees. For us, sustainability also means taking responsibility for process safety and proactive health and safety protection – indeed, we're a driving force in this area. Social commitment and personal responsibility are also key elements of a stable company. This includes not only adhering to environmental and social standards but also ensuring employee satisfaction, the compatibility of family and working life, health management, and up-to-date training opportunities. By promoting diversity and greater community engagement, Rhenus Lub creates modern conditions to ensure its future success as an attractive company operating in a sustainable manner across the board.

In this report, we've described our sustainability performance in the economic, environmental and social dimensions based on measures, initiatives and specific indicators – and always with a close link to our products and solutions.



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Economic dimension

THE SAFER PROFIT

In terms of economics, Rhenus Lub sees sustainability as a key principle when it comes to the long-term orientation – and reliability – of its business. We're committed to continuously and sustainably increasing the company's value for our stakeholders.

Our economic view of sustainability also includes the development of products that optimise the sustainability of our customers' production processes from an economic perspective, for example when it comes to minimising consumption, waste or energy use and thereby reducing costs.

The portfolio of Rhenus Lub special lubricants includes water-miscible metalworking fluids and neat oils as well as high-performance greases that are used in a multitude of industries – from the automotive industry to cement production. We work closely with our customers to develop and produce products in accordance with strict quality criteria, going far beyond the common standards.

Often, the economic and social dimensions go hand in hand in terms of occupational health and safety.

Current examples:

- **rhenus TU 446** was launched as a high-performance and cost-efficient metalworking fluid. With its long-term stability, the product keeps machinery and workpieces alike clean. Fewer adjustments, reduced tool and machine maintenance, less waste and a lower risk of downtime are benefits that pay off immediately for the user from an economic perspective. In particular, the metalworking fluid takes account of stringent occupational safety requirements thanks to its formulation with no SVHC ingredients or formaldehyde releasers.
- In the development of **rhenus TY 155 L**, particular importance was attached to compatibility with humans and the environment. This metalworking fluid is free of biocides, features good skin compatibility with a neutral pH value, and also impresses with its pleasant odour. The user-friendly and high-performance product helps users significantly reduce process costs.

- **rhenus lubrineering**, the enhanced premium fluid management from Rhenus Lub, helps customers define measurable objectives and reduce costs on a lasting basis. We target our intervention where there is potential for long-term cost savings. Machining processes are analysed down to the last detail, and all relevant data is systematically recorded. This systematic collection of data forms the basis for defining realistic sub-goals. Uniform and integrated process analysis allows customers to extend the service life of their emulsions, reduce unit costs per workpiece and minimise waste – and therefore to make production processes more cost-effective and safer at the same time.
- On account of their properties and performance, lithium-based products make up the largest share of **multi-purpose greases** worldwide. However, given that modern multi-purpose greases need not only to offer excellent performance but also to be economical, lithium-based products are coming under greater scrutiny – including given many years of considerable increases in lithium prices. In light of this cost trend, design engineers and users must weigh up whether the use of lithium-based greases can still be considered a

sensible option in the long term. To make planning more reliable and independent, Rhenus Lub develops multi-purpose greases that dispense with lithium altogether.

- **Concept for a sustainable metalworking fluid** Rhenus Lub is currently working on a concept for a sustainable metalworking fluid based on biogenic carbon. A high biogenic carbon content is a key prerequisite for classifying a lubricant as sustainable. The biogenic carbon content is measurable and therefore transparent and traceable. It provides information about the carbon contained in the product and therefore about a product's chemical origins. The higher the biogenic carbon content in a product, the lower the proportion of fossil components.

The advantage of this concept is that it uses the climate-damaging greenhouse gas CO₂ as an active ingredient. In this way, CO₂ is converted into a usable raw material and a cyclical model is created in which CO₂ is taken from the atmosphere, biologically transformed and returned to the atmosphere after use. As a result, the metalworking fluid does not lead to a net increase in greenhouse gases even after its life cycle (final thermal recycling).

These preconditions form the basis for developing a product concept that will initially be implemented in the metalworking fluid sector. The launch of the first metalworking fluid is expected in autumn 2023.

- **Expansion of the lubricant portfolio with an EU Ecolabel (EEL)**

Established by the European Union, the EU Ecolabel is a voluntary environmental label that is awarded to products and services that have a low impact on the environment throughout their life cycle. The European Ecolabel (EEL) distinguishes lubricants that have a lower impact on water and soil and that lead to lower emissions of the greenhouse gas CO₂. These lubricants therefore contribute directly to greater environmental protection and sustainable development.

Particularly in the area of high-performance lubricating greases, Rhenus Lub is currently undertaking development projects for various lubricating greases whose aim is to be awarded the EU Ecolabel. These greases are based on synthetic esters in order to develop lubricants without using mineral oils while also ensuring extraordinary performance.



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Social dimension

THE SAFER PEOPLE

When it comes to social questions, Rhenus Lub believes that sustainability means taking responsibility not only for one's own employees but also for society. In many industries, it's no longer just about process reliability and maximum stability. Rather, the proactive protection of health and safety is just as important for ensuring successful production in the long term. For Rhenus Lub, people and their health take centre stage. With our health and safety management system, we ensure that our employees remain healthy and productive – often going beyond national and international standards. Our site in Mönchengladbach is certified according to ISO standard 45001, "Occupational health and safety management systems".

We also take occupational health and safety into account when developing our products. Back in the early 1990s, Rhenus Lub was the world's first supplier to develop and successfully market amine- and boric acid-free metalworking fluids with a view to proactive employee protection.

Rhenus Lub is also certified according to ISO standard 21469 for food-grade lubricating greases. This means that our management system meets the requirements of this standard on the "Safety of machinery – Lubricants with incidental product contact – Hygiene requirements".

	2022	2021	2020
Average age of employees in years	47	46	46
Age structure of employees in %			
<= 30 years	13	6	7
31–40 years	23	24	26
41–50 years	26	27	26
> 50 years	38	42	42
Average length of time working at the company in years	14	13	13
Fluctuation (voluntary departures of employees) in %	3.2	3.3	2.0

In addition to health management and adherence to social standards, the concept of social sustainability at Rhenus Lub also includes employee satisfaction, the compatibility of family and working life, the promotion of diversity, and up-to-date training opportunities. Our social sustainability indicators include the age structure of the workforce, how long they have worked for the company, and employee turnover. In the year of reporting, the average age of employees at Rhenus Lub was 47 and remained constant relative to the previous years. Both the average length of time at the company and employee turnover serve as indicators of satisfaction and

our employees' strong sense of attachment to the company. In 2022, the average length of time that our staff had worked at the company was slightly higher than in the previous year, at 14 years. In the reporting year, staff turnover remained at a low level of just 3.2%. In terms of equal treatment and gender equality, all vacant positions are advertised internally and there is parity among the equal opportunities representatives on the works council of Rhenus Lub.

The further training of our employees is a key plank of our sustainable staffing policy. The "SAM" e-learning system is used to train all employees on numerous occupational safety and environmental issues. In 2022, a total of 5,911 SAM training courses were delivered in addition to 63 regular courses of further education and training with a total of 363 participants. In addition, Rhenus Lub supported one doctoral student during the reporting period.

We believe in respect and dedication and therefore in social commitment at a personal level. Through greater community engagement, Rhenus Lub creates up-to-date conditions in order to ensure its future as an attractive company operating in a sustainable manner across the board. We're conscious of the responsibility we have for our corporate actions. With that in mind, we champion a strong and liveable environment around the globe and in the Lower Rhine region, particularly in the vicinity of our company headquarters in Mönchengladbach. Here, Rhenus Lub focuses on individual, carefully selected initiatives and projects in the region. These include:

- **support for the Initiativkreis Mönchengladbach** (the Mönchengladbach initiative group) for positive development and promotion of the city and its residents since 2006
- **support for the Catholic Peace Foundation** and the Institute for Theology and Peace that it supports by creating a new workspace for research in the field of European foreign and security policy
- **Student café:** support for the Förderzentrum Nord Mönchengladbach since 2012 has helped to provide pupils with a protected environment where they receive a balanced breakfast

- **Christmas donation to social institutions**, since 2010 (e.g. modernisation of the Dahleener End playground, exercise equipment for children at the "Rainbow House" in the Rheindahlen area)
- **commitment to "Wissenscampus MG"**, which brings together a broad alliance of stakeholders from regional industry, academia, politics, administration and society, since 2019
- **support for the Clean-up initiative** for a clean city of Mönchengladbach, since 2017

As a company that operates internationally, we also take responsibility at the global level. The UN **Global Compact** initiative brings together businesses that go the extra mile to ensure sustainable social, environmental and economic globalisation. As an active member of the initiative, we've been working to ensure greater corporate responsibility within our area of influence, including across international borders, for over 10 years with a view to making the economy fairer and more sustainable. When we joined the UN Global Compact in 2011, we declared our intention to adhere to defined social and environmental standards in the areas of human rights, working standards, environmental protection and the fight against corruption – and we stand by our corporate responsibility for humans and the environment.



Environmental dimension

THE SAFER PLANET

When it comes to the environment, sustainability is one of the main purposes of lubricants. Their primary task is to reduce friction and protect against corrosion and wear, resulting in longer machine running times or tool life and therefore the efficient use of raw materials.

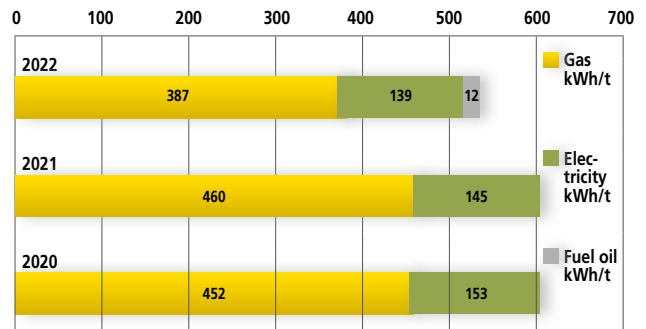
Rhenus Lub develops, produces and distributes application-oriented and emission-reducing lubricants, thereby contributing to the reduction of energy use, the conservation of resources and therefore to environmental sustainability with a view to maintaining a safe planet.

Energy-saving production, the targeted selection of raw materials – including renewable raw materials – and optimised logistics are three key pillars of the company’s approach to improving its environmental balance sheet on a lasting basis.

In a time of increasingly scarce natural resources, our top priority must be the responsible handling of energy, water, waste and our carbon footprint. As this is particularly pertinent to manufacturing at Rhenus Lub, we’ve also defined these indicators as environmental sustainability factors.

Energy consumption

(in kilowatt hours per tonne produced)



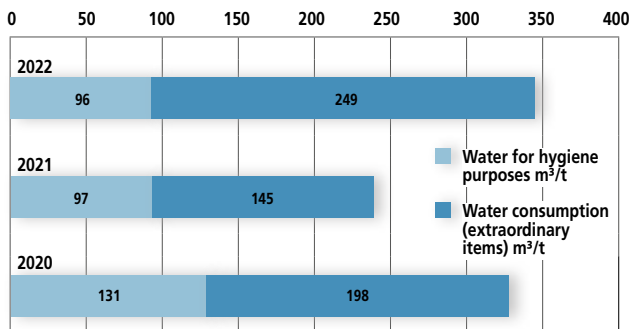
In 2022, the relative total energy consumption per unit produced (kWh/t) fell by 11% compared with the year 2020 (the proportion of gas was reduced by 14.5% and the proportion of electricity by 9%). This reduction can be attributed to the optimisation of heating and of production processes. In 2022 (according to IWU statistics), fewer “heating days” were recorded in Mönchengladbach and the nearby area, resulting in lower consumption of gas for heating purposes. Economical use of lighting, as well as renovation work carried out in 2022, led to a reduction of power consumption.

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Water consumption

(in litres per tonne produced)

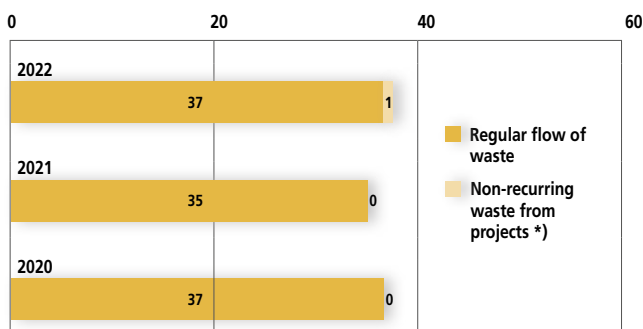


Causes of water consumption, 2022: Watering trees in the summer months, renovation work, rising staff numbers.

In 2022, total water consumption increased by 5% relative to the year 2020. Likewise, water consumption for hygiene purposes was reduced by 27% relative to 2020 and was at the same level as in the previous year. Renovation work and the high summer temperatures, which meant it was necessary to water the trees, caused the proportion of water consumption for “extraordinary items” to rise by 26% in 2022 relative to the year 2020.

Quantity of waste generated

(in kilograms per tonne produced)

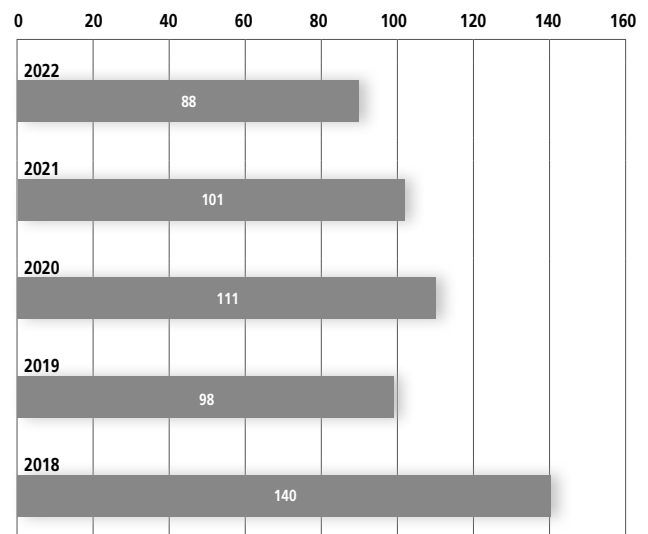


*) In 2022, non-recurring waste arose from the modernisation of metalworking fluid production and cartridge filling.

The regular flow of waste did not change relative to 2020. Small quantities of special waste arose due to modernisation of the oil factory and cartridge filling. In 2022, this waste primarily consisted of waste metal that arose in connection with conversion work in the production facility.

CO₂ emissions*

(kg CO₂ per tonne produced)



* Scope 1 + Scope 2: direct and indirect energy-related emissions

Compared with 2018, CO₂ emissions (Scope 1 and 2) were reduced by 37%. From 2019 onwards, electricity meeting the TÜV Süd EE01 standard (CO₂-free) has been used consistently. Rhenus Lub has been purchasing green electricity since 2019 (certificate), resulting in CO₂-free electricity consumption.

100 per cent green electricity from the power outlet

By switching over to green electricity, the company already took a key step towards greater sustainability a number of years ago. Today, only certified green electricity is used in both the factory and the administrative building. This electricity is derived entirely from renewable energies and generated according to demand in an environmentally friendly and sustainable process.

Making packaging more sustainable

In terms of steel, increasing importance is attached above all to “reconditioned steel drums”, which Rhenus Lub has already been using successfully for many years. These containers, which can be reused up to 10 times, accounted for a third of the drums used for the rhenus brand in 2022. The company is also preparing for the extensive use of recycled plastic materials in plastic packaging, specifically:

- **Post-consumer recycled (PCR) cartridges made from partially recycled plastic materials:** These cartridges are primarily used for filling smaller packaging sizes with oils and greases.
- **Intermediate bulk container (IBCs) made of partially recycled plastic materials:** at Rhenus Lub, IBCs are containers with a volume of 1,000 litres. Thanks to their rectangular format, they offer particularly efficient storage and transport.
- **Blow-moulded packaging made from partially recycled plastic materials:** blow-moulded packaging generally takes the form of smaller containers with a lower capacity. Rhenus Lub uses blow-moulded packaging of various sizes, ranging up to 20 litres.



Our focus: saving resources

Our sustainability measures

Sustainability starts with each individual person and brings us together as a community. This is something that we are particularly aware of as a family-run company; we think in terms of generations and have been firmly committed to sustainability for many years. We take responsibility. In line with our corporate philosophy, one of our declared goals is therefore to continuously analyse and constantly optimise the product carbon footprint (PCF) and the corporate carbon footprint (CCF) based on reliable data. This will ensure that resources are used more sparingly and that we can all enjoy a liveable future.

Product carbon footprint (PCF)

Rhenus Lub currently calculates the carbon footprint of selected products from the entire rhenus portfolio in collaboration with its partners along the supply chain and with support from an independent institute. Please note that industry-wide basic data is being compiled for a uniform standard. This data and the basis for

these calculations are determined as part of the Sustainability Initiative of the Lubricant Industry (NaSch), which was established by the Association of the German Lubricant Industry (VSI), and within the framework of the Union of the European Lubricants Industry (UEIL). Rhenus Lub is part of this initiative.

Corporate carbon footprint (CCF)

We have successfully implemented numerous measures in previous years. In the future, we will continue to put these measures for greater climate-friendliness and sustainability centre stage.



17 Sustainable Development Goals (SDGs)



Rhenus Lub supports the implementation of the 17 Sustainable Development Goals (SDGs), which were adopted by the United Nations in 2015, within its area of influence.

As well as tackling poverty and hunger and calling for education, health, equal treatment and decent work for all, the 17 SDGs also incorporate objectives such as climate protection and sustainable consumption and production.

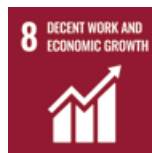
With our products and solutions, we want to contribute to the achievement of the SDGs in many ways and to the realisation of a sustainable global community. The topics set out below represent a selection of the SDGs that are currently the focus of our business activities and broader community engagement:



Goal 4: QUALITY EDUCATION

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

- Regular donations to the Förderzentrum Mönchengladbach-Nord educational centre: Rhenus Lub rises to its social responsibility to the region around its company headquarters by funding selected projects. Förderzentrum Mönchengladbach-Nord is a good example of this. Since 2012, Rhenus Lub has provided financial support to the school, which focuses on the areas of learning, emotional and social development, and language.
- Regular further education and training
- Regular support for diploma/doctoral students as part of close collaboration with the Niederrhein University of Applied Sciences



Goal 8: DECENT WORK AND ECONOMIC GROWTH

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

- Rhenus Lub has been an active member of the UN Global Compact initiative since 2011. The Global Compact is a United Nations initiative in which companies align their strategies and processes to universal principles relating to human rights, work, the environment and the fight against corruption, as well as adopting measures to advance these social goals.



Goal 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

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

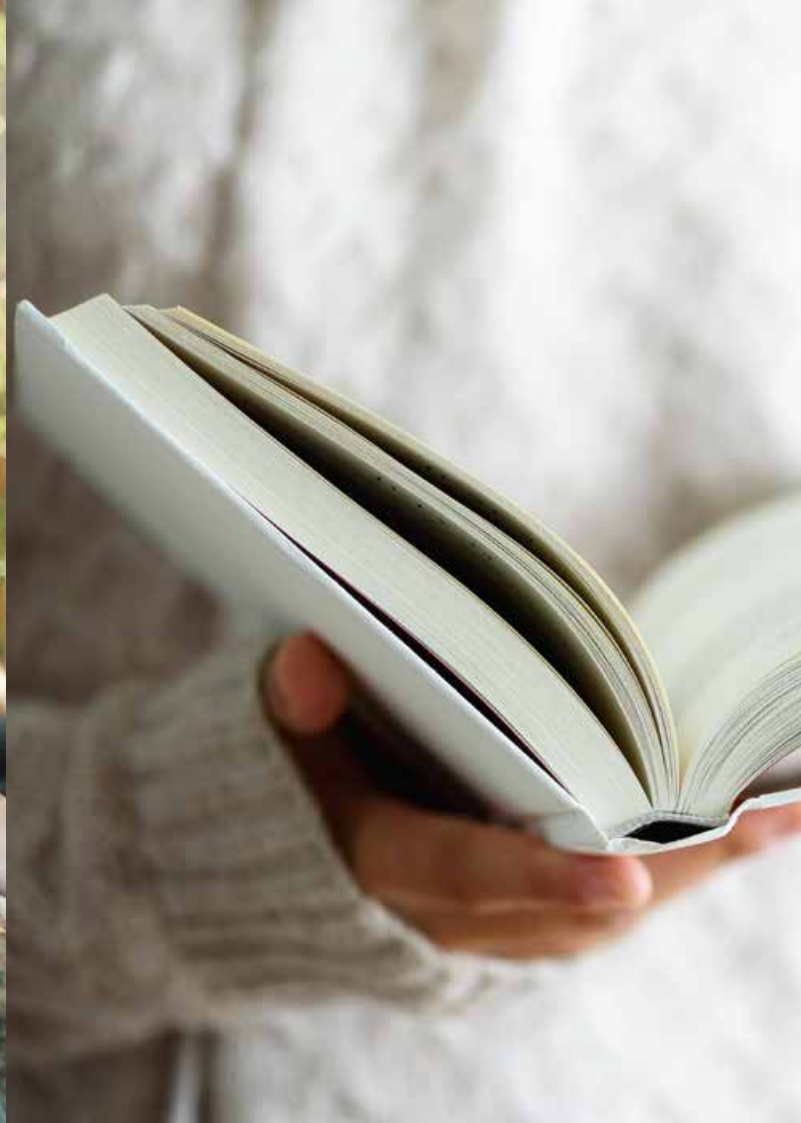
- Open percolation of rainwater to avoid flood waves in rivers in the event of prolonged or heavy rainfall (Rhine), replenish the water table, and relieve the burden on public sewer systems
- Energy savings thanks to lamps of the lowest energy class (LED) in all new buildings
- Energy savings thanks to consumption-optimised high-frequency charging devices for all forklift trucks
- Automated deactivation of frequency converters for speed control of stirrers and pumps in the grease factory during standstill. Power savings of approx. 70,000 kWh/year



Goal 13: CLIMATE ACTION

Take urgent action to combat climate change and its impacts.

- CO₂ savings thanks to use of 100% green electricity throughout the company site. This reduces CO₂ emissions by approx. 2,200 tonnes/year
- Participation in the Ecocockpit initiative Effizienz-Agentur NRW
- All steel barrels and IBCs that arise internally are sent for recycling.
- Waste quantities of flushing oils and flushing greases have been significantly reduced.



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An aerial photograph of a vast, dense green forest. A river winds through the landscape, curving from the left towards the bottom right. The forest is thick and vibrant green, covering rolling hills and valleys. In the distance, a hazy horizon line suggests a body of water or a distant plain under a clear sky.

Rhenus Lub:
“Looking to tomorrow
today”

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