

# Sustainability at Klüber Lubrication 2021



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# A message from the Management Board

Dear Madam/Sir,

Even though we – like our customers and everyone around the world – continued to be affected by the Covid-19 pandemic in 2021, we have not lost sight of our long-term goal: to steadily improve our ecological footprint and handprint in order to help combat the causes of climate change, the loss of biodiversity and the destruction of our natural resources. Our aim is to be a driver of sustainable solutions. Our customers have always played a key role in our sustainability efforts and we provide them with products and services that help them save energy and resources. We also made strong progress at our own sites on six continents in 2021.

One thing has proved to be true time and again: our business model – which has always been aimed at helping our customers save energy and reduce wear and waste – goes hand in hand with global sustainability targets and our long-term, responsible, socially conscious behaviour as a corporate citizen.

Our sustainability activities are part of a larger framework that includes key stakeholders and organisations. For example, our parent company Freudenberg is an important source of inspiration for us, including through its participation in the UN Global Compact, which it signed onto in 2014. And we expressly welcome the German government's goal of achieving climate neutrality by 2045. It is a goal to which we are also firmly committed, and from 2022 onwards we will take the appropriate action at our own production and sales sites in line with Scope 1 and 2 of the Greenhouse Gas Protocol.

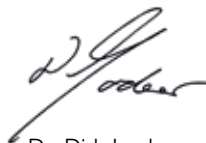
We are proud of the numerous external awards we have received for our systematic activities – particularly the presentation of a gold medal by EcoVadis, a leading provider of business sustainability ratings.

Our customers, employees, suppliers and other stakeholders are increasingly interested in our sustainability and corporate social responsibility achievements. We are pleased that they are interested in the path we are pursuing. Therefore, we have updated this sixth sustainability report accordingly and also added a summary of the most important highlights of 2021. We hope you find it inspiring.

We thank all of our employees for their enthusiastic and tireless support in improving our sustainability indicators.



Claus Langgartner  
Speaker of the Managing Board,  
Executive Vice President Sales/Marketing



Dr. Dirk Loderer  
Executive Vice President Technology/R&D



Thomas Wieandt  
Executive Vice President Finances/  
Administration

# Our sustainability highlights

## In focus: climate neutrality for Klüber Lubrication and our customers

Achieving climate neutrality quickly is a key objective for the global community, for many of our customers – and for us:

- In 2019, we set ourselves the target – which seemed ambitious at the time – of increasing the **proportion of green electricity** to 50 % of our consumption by 2025. We exceeded this target ahead of schedule in 2021, with around 72 %. We are now aiming to use 100 % green electricity at our production sites by 2030.
- By 2025, we want to cut our **absolute CO<sub>2</sub>eq\* emissions** by 75 % compared with 2019 levels. CO<sub>2</sub>eq means that we will take all climate-related emissions into account, not just CO<sub>2</sub>. Our employees succeeded in reducing CO<sub>2</sub>eq emissions by more than 32 % in 2021, and by more than 49 % from 2019 to 2021 – these are now down to just 25,036 tonnes.
- We were helped by the fact that we have improved our **energy efficiency per tonne of product** by around 8 % since 2019.

This has motivated us to be able to take the next step forward credibly: **climate neutrality for our company from 2022 onwards in line with Scope\*\* 1 and 2** of the Greenhouse Gas Protocol. From 2022 onwards, we will offset our annual residual emissions of CO<sub>2</sub>eq through appropriate recognised projects.

Like many other companies, we have had to learn that the emissions we can influence through our development, purchasing and investment decisions in the upstream and downstream supply chain (**Scope 3**) account for more than 90 % of our total CO<sub>2</sub>eq output. Our initial calculations and estimates for 2019 indicate Scope 3 emissions of around 800,000 tonnes of CO<sub>2</sub>eq – compared with approx. 49,000 tonnes for Scope 1 and Scope 2. We have set ourselves the target of identifying these Scope 3 emissions more precisely and will work with our suppliers, customers and partners to consistently reduce them.

In December 2021, we made a commitment to achieving **Scope 3 climate neutrality by 2045**. We are currently developing a suitable implementation plan for the significant challenge that lies ahead of us over the next 23 years. A key

element here is our **Ethical Sourcing 2.0** programme which we began rolling out in November 2021 together with a respected partner.

## Our core competence is helping our customers achieve their sustainability goals

We specialise in offering our customers solutions that effectively support them in achieving both their economic goals and their sustainability goals. This makes it possible for us to tap into huge optimisation potential together with our customers:

- One of our goals was to help our customers achieve **energy savings** of up to 350 GWh by 2025 with our KlüberEnergy service. We exceeded this ahead of schedule in 2021 with 395 GWh – which equates to around 52,000 tonnes of CO<sub>2</sub>. The new target for 2025 is 800 GWh.
- Other key elements of our programme have been the systematic sustainability approach for new products and our **product portfolio** since 2011. Here, too, we are pleased that our team succeeded in bringing the share of outperformers – products with higher sustainability requirements – in our overall portfolio to 40 % in 2021. This means we have already exceeded our target of achieving 35 % outperformer products by 2030!



\* CO<sub>2</sub>eq: CO<sub>2</sub> equivalent

\*\* Greenhouse Gas Protocol Scope 1, 2, 3. Scope 1 – direct emissions at our sites (e.g. through gas), Scope 2 – indirect emissions (e.g. electricity), Scope 3 – indirect emissions in the supply chain (up and downstream, e.g. through purchased raw materials and services, business travel). See also pages 23 ff..

## Recognition and awards

In the areas of corporate social responsibility (CSR) und environment, social and governance (ESG), we are guided by objective standards and also collect external feedback about our company to ensure we continue to meet our high requirements.

- The UN Sustainable Development Goals (UN SDGs) are an important guide to our activities. In 2021, we produced an internal **Responsibility & Sustainability report** to show our employees and selected stakeholders which goals we are working on, which UN SDGs we are supporting and what progress we have already made in relation to these.
- Freudenberg awards the **“We all take care” award (WATC)** every year in recognition of the best projects relating to the environment, health protection and sustainability within the Group. **We achieved first place** in 2021 with our solvents project and the associated saving of more than 12,000 tonnes of CO<sub>2</sub>eq (see page 11).

- **Diversity and inclusion** are aspects that we are increasingly tackling globally and making more measurable. In 2019, for example, one of the goals we set ourselves was to increase the proportion of women in management to over 25 % by 2025. We succeeded in doing this for the first time in 2021.
- **SEDEX/SMETA** audits at several locations in 2021 confirmed that we are complying with standards relating to occupational health and safety, operational environmental protection and ethical conduct.
- The requirements of **EcoVadis**, a leading provider of sustainability ratings, go even further. These requirements also include the aspect of ethical procurement. Here, we are very proud to have received a **gold rating** for the first time in 2022, after receiving silver in 2019 and 2021. This puts us in the top 6 % of the 90,000+ companies assessed by EcoVadis!

You can find more details about most of our highlights in the following chapters, particularly in “Facts and figures”.



# Sustainability as part of corporate responsibility

The “Values and Principles” of our parent company, the Freudenberg Group, define corporate social responsibility, as shown in the diagram below, and provide the framework for the design of our sustainability programme.

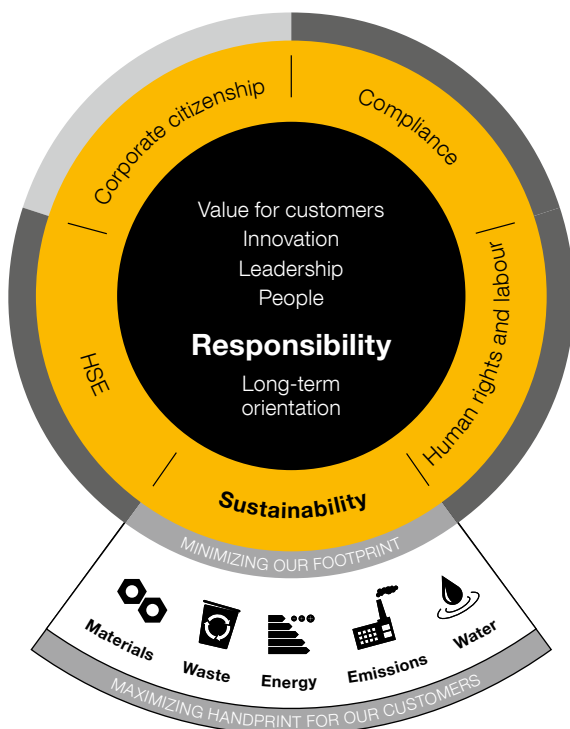
Via Freudenberg, we participate in the UN Global Compact. Its principles on human rights, labour standards, environmental protection and anti-corruption are also embedded in our “Values & Principles”. Compliance with regulatory and ethical principles is the basis for our own code of conduct. We carefully choose suppliers to ensure an ethically sound procurement management. We take a proactive and forward-looking approach to compliance with the important regulatory requirements for our industry, such as REACH (one of several European chemical regulations). As a company in the chemical industry, we also work in line with the chemical guidelines<sup>3</sup> and sustainability initiatives of the German Federation of the Chemical Industry (VCI). In addition, Klüber Lubrication is one of the founding members of the German lubricant industry’s sustainability initiative (NaSch), launched by the German Association of the Lubricant Industry (VSI).

## Klüber Lubrication – the company

Speciality lubricants for the OEM market are our core business. We offer our customers competent tribological solutions. We work mostly through direct marketing to deliver these solutions, selling to customers from all industries and almost all regional markets. Our customers are producers of components, sub-assemblies, machines and systems, as well as operators of these machines and systems. Klüber Lubrication was founded in 1929 in Munich by Theodor Klüber and flies the colours of the Bavarian capital (black and yellow) in its brand, which is where our headquarters has always been located. Our employees, however, work across the globe to serve our customers. Our sales specialists are constantly in touch with their customer contacts. They work together with the customer to develop ideas for new, more effective, more efficient and more environmentally friendly special lubricants. The company generates more than 80 % of its sales outside Germany and manufactures products at 16 production facilities worldwide.

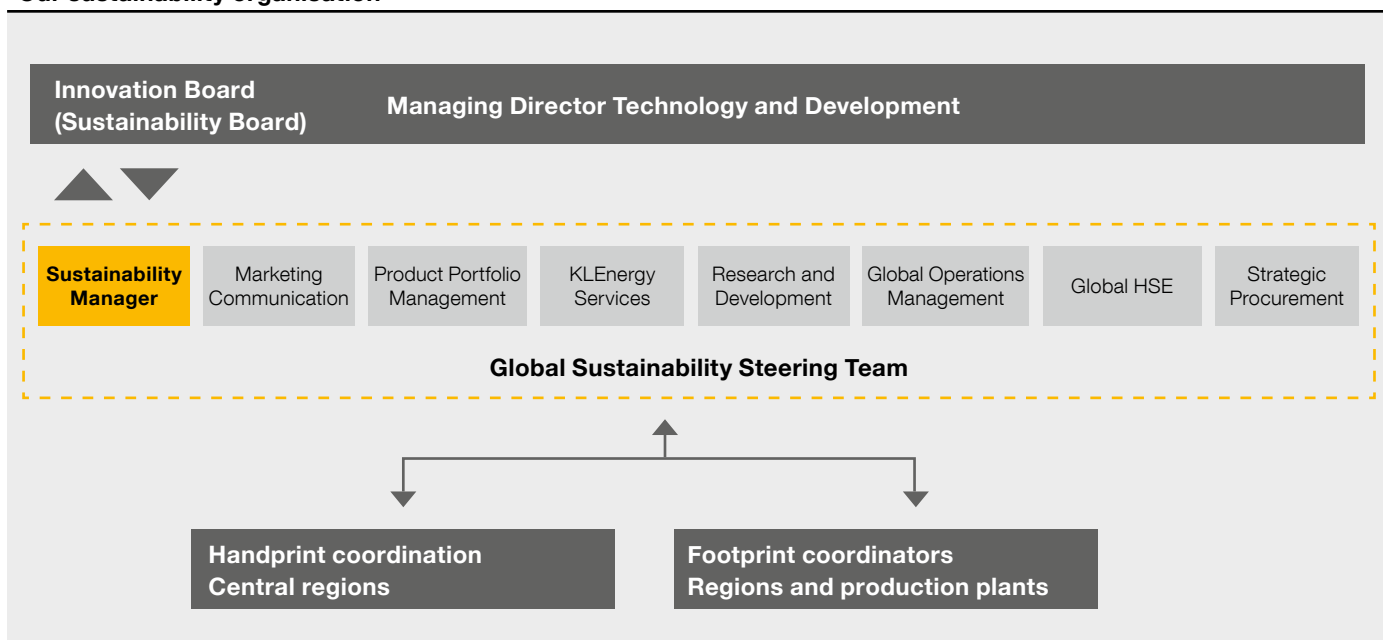
## Klüber Lubrication – Member of the Freudenberg Group

We have been a part of the Freudenberg Group since 1966, an international, family-run technology company founded in 1849 by Carl Johann Freudenberg. Klüber Lubrication is a business division of Freudenberg Chemical Specialities SE & Co. KG, a business group of Freudenberg & Co. KG, Weinheim.



- Freudenberg values and principles
- Fields relating to sustainability
- Operative processes within the value-added chain (e.g. relating to the UN Global Compact)
- Operative processes not relating to value creation

## Our sustainability organisation



## Organising sustainability

The guidelines, strategy and current set targets in the area of sustainability, as well as any organisational measures for their implementation, are set out by the interdisciplinary Sustainability Board.

This ensures that both central function matters and matters from the various regions and sites across the globe are heard and considered. It also helps to establish an effective communication structure to allow for dialogue and mediation of the various contexts across the far-reaching subject that is sustainability.

## No sustainability without responsibility

Other areas of corporate responsibility – such as equality, anti-discrimination, working conditions, human rights and social commitment, as well as issues relating to ethics, labour law and chemical law – are all managed directly by the Management Board with the relevant departments and global management structure. The Responsibility Council, led by the Sustainability Manager, has been providing support here since 2021. This ensures comprehensive coverage of all targets under the UN Sustainability Goals (SDGs). We obtain valuable support and

input on all of these topics from our parent company Freudenberg and through exchange with its respective companies and functions.

We are delighted that EcoVadis, a leading provider of business sustainability ratings, has awarded us a gold medal for our sustainability management activities. This means that Klüber Lubrication is in the top 6 % of over 90,000 companies assessed worldwide.

## Global social commitment

We have a duty to fulfil our social responsibility in all countries and communities in which we are active. We sometimes set up social projects ourselves or we take part in initiatives led by our parent company, Freudenberg. For example, our employees supported the social programme e<sup>2</sup> created by Freudenberg in 2015. e<sup>2</sup> stands for “**education**” and “**environment**” and promotes related projects throughout Freudenberg’s sphere of activity.

A sub-category of the “**We all take care**” awards conducted across the Group by Freudenberg recognises projects that demonstrate a high level of social responsibility in a particular

# Sustainability as part of corporate responsibility

way, e.g. through improving living conditions, workplace safety or environmental protection. Initiatives by our employees have already received a number of awards. For example, Klüber Lubrication reached first place in 2021 with a solvent reduction project that is enabling us to significantly cut our CO<sub>2</sub>eq emissions (see page 11).

## Focussing on sustainability

We have been focussed on sustainability for decades. In recent years, we have been relying more and more on two instruments that help us to focus our activities more effectively. The first is the UN Sustainable Development Goals (SDGs) and the other is our own Sustainability Scorecard for further developing our products and product portfolio.

## SDGs – focus on responsible consumption, climate change and innovation

We have been consistently committed to the UN Sustainable Development Goals (SDGs), as they were published in 2015. Based on the targets and indicators of the 17 SDGs, we analysed which of the SDGs Klüber Lubrication could make relevant and direct contributions to along the value-added chain. The focus here lies in three SDGs:

- SDG 12 “Responsible consumption and production”
- SDG 13 “Climate action”
- SDG 9 “Industry, innovation and infrastructure”



### SDG 12 “Responsible consumption and production”

Our key contribution to SDG 12 consists of promoting resource and energy efficiency along the value-added chain. Starting with the selection of raw materials and the manufacturing of our products, we can directly contribute towards reducing negative environmental impacts through our own activities. As a specialty lubricant company that currently still relies primarily on fossil fuels and non-renewable raw materials, we want to get the most out of the resources we do use. Using resources carefully and sparingly is key. This rule of thumb guides us when designing and modernising our production facilities, and manufacturing and using our products. For example, we monitor data on raw material and energy consumption, as well as on waste and

emissions produced by our plant operations. The aim is to identify and utilise any saving potential. We also reduce our energy consumption by using high-quality building and facility insulation and energy-efficient operating materials. We work diligently to avoid the use of raw materials that we believe to be critical, even if these materials are permitted. All our suppliers have been obligated to adhere to the UN Global Compact’s sustainability principles since 2015, and we are now starting the roll-out of our Ethical Sourcing 2.0.

Our production plants are certified in accordance with the relevant standards. Independent audits of environmental management and occupational health and safety are carried out at all locations. In 1996 – more than 25 years ago – our headquarters in Munich was the first company in the region’s capital to receive a certificate for its environmental management system in accordance with the EU’s eco-audit regulation. More and more of our products are also winning awards for their environmental compatibility. We report in detail on our progress and certifications in the “Facts and figures” chapter.



### SDG 13 “Climate action”

Effective climate protection is one of the most urgent tasks for the preservation of resources for future generations as well as for plants and animals. In 2018, we set ourselves the ambitious target of increasing the proportion of electricity we obtain from renewable sources to 50 % by 2025, and underpinned this with a package of relevant measures. In 2021, we significantly exceeded this target with 72 %, and we have now upped the target to 100 % by 2030. In 2020, our parent company Freudenberg declared its commitment to CO<sub>2</sub> reduction targets (-25 % by 2025, base year 2020, in relation to sales). We have defined additional goals for ourselves. You can find more information about these on pages 15–18.

In addition, we are helping our customers by providing support for efficiency improvements so that they can meet their sustainability goals. Through our KlüberEnergy service, we can already quantitatively and therefore reliably verify the contribution of our solutions for part of our business. As well as energy efficiency, our products contribute significantly towards improved resource management for our customers, primarily as a result of extended maintenance intervals and lifetime lubrication. Examples of this can be found from page 12 onwards. We expressly welcome the SDGs as a guide for the promotion of sustainable development. In addition to the direct contributions as part of our business activities along the



value-added chain, we also consider the SDGs to be an important guide for our efforts to promote sustainable development. This shared understanding with suppliers, customers and other stakeholders provides a supportive basis for our activities.



### SDG 9 “Industry, innovation and infrastructure”

The ability to operate sustainably relies largely on innovation and the willingness to continuously improve. And it is key for all areas of our business. Innovation starts in the heads and hearts of our employees. That’s why regular employee information and training is so important to us. In 2019, we introduced an e-learning course on sustainability for all of our sites across the world. This ensures that every employee across the globe understands the extensive topic of sustainability and its necessity – and can actively support the company in its mission.

Research, development, new test methods, modern and resource-efficient production techniques, environmental protection/workplace safety, product and application safety, environmental compatibility and many other areas are at the core of

our investment policy. Experts from various functions consider forward-looking future trends, market development, standards and regulatory requirements at all points throughout the value-added chain. We give equal consideration to our footprint during procurement, manufacturing and transportation, and to our handprint during the in-use phase and disposal.

### Focus on developing our products

Speciality lubricants are generally not straight consumables but rather essential components that facilitate the operation of dynamic machines and systems or other components. Our processes aim to minimise our footprint and maximise our handprint. Using our Sustainability Scorecard, we work systematically towards this goal in the development of our products and product portfolio, as we will show below.



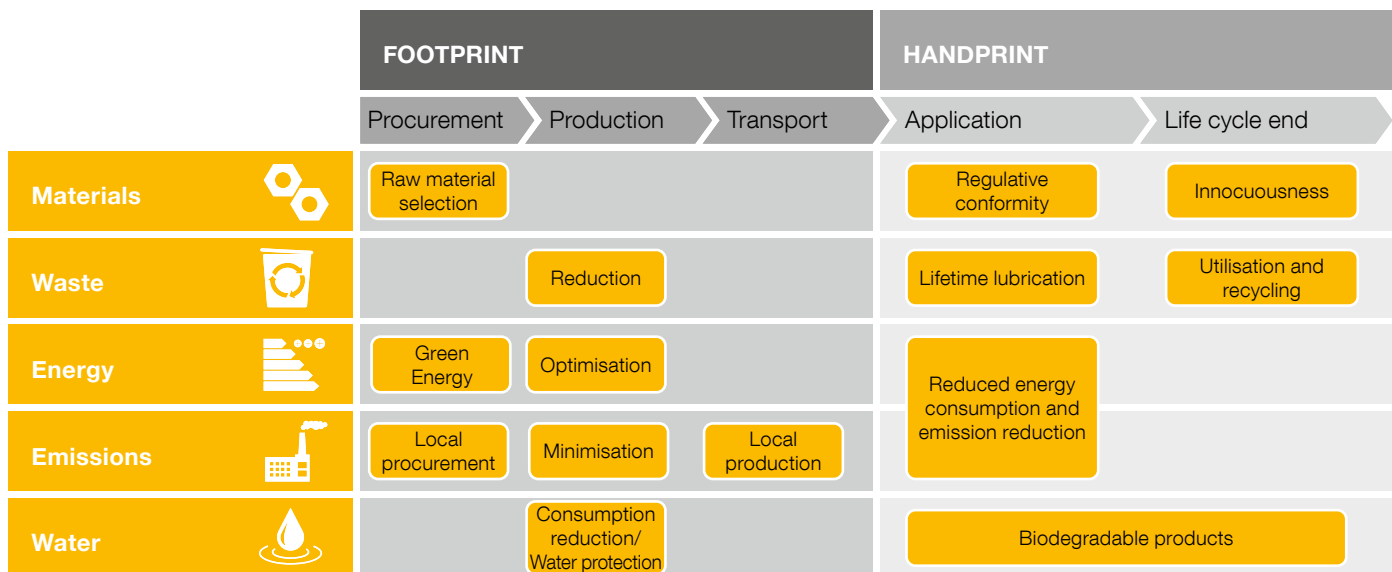
# Sustainability as part of corporate responsibility

## Measuring and evaluating optimisation

Sustainable development – optimisation from the start – requires a strong culture of innovation. Our goal: precise analysis of all relevant operative processes in the new development or modification of products and services with regard to their sustainability – and across our entire value-added chain. With our Sustainability Scorecard for innovation, we have been working towards this goal since 2011. This scorecard considers a product's life cycle and its intended product properties. It provides a forward-looking evaluation of our entire value-added chain with raw materials and additives, processing and production, packaging, transport, usefulness for the customer and waste management.

## Sustainable management of our product portfolio

Klüber Lubrication has also expanded its Sustainability Scorecard approach into an integrated evaluation and management system for the existing, international range of goods. This is subject to regular review using specific sustainability criteria. These criteria range from toxicity and biodegradability to energy efficiency and particular application safety. The focus always lies on the climate, biosphere and the individual. The results of this review are then used as the basis for measures to increase the portfolio's sustainability performance. Particularly sustainable products should be promoted, less sustainable products are modified or even removed from the range of goods altogether. Our goal is to continue to increase the contribution of sustainable products to our company's success. The market requirements in the target markets are constantly changing and so we must continuously work to develop the system. We are currently focussing on being able to quantify the CO<sub>2</sub> footprint of our products.



Our footprint and the customer benefit are both taken into account. If the balance is off, a development plan will generally not be pursued any further. The graphic shows potential benefits to be gained for both footprint and handprint as an example. The vertical bar on the left shows the so-called fields of action or materialities. This is a simplified representation to provide an overview of the possible benefits of a life cycle review.

# Recognition and awards for solvents project

At the end of 2019, the team responsible for sustainability at Klüber Lubrication looked confidently to the future. Huge steps forward in reducing CO<sub>2</sub> emissions were to be expected: from 2020, the switchover to green energy in particular would make a significant impact.

But a setback was looming on the horizon. “The then Head of Development for the Chinese production facility delivered some bad news to the sustainability team: a cleaning agent currently used in production had a high potential for global warming,” explains Markus Hermann, Sustainability Manager at Klüber Lubrication. The effect of one kilogram of this solvent on the environment reportedly corresponded to approximately 10,000 kilograms of CO<sub>2</sub>, the team learned.

Ingredients in cleaning agents had, until this point, not been largely considered as part of Klüber Lubrication’s CO<sub>2</sub> reduction policy. The agents were, until then, chosen over other products for their ability to remove residue of previously produced oils, greases and bonded coatings. The previous cleaning agent had been chosen largely because of its suitable performance parameters at an affordable price.

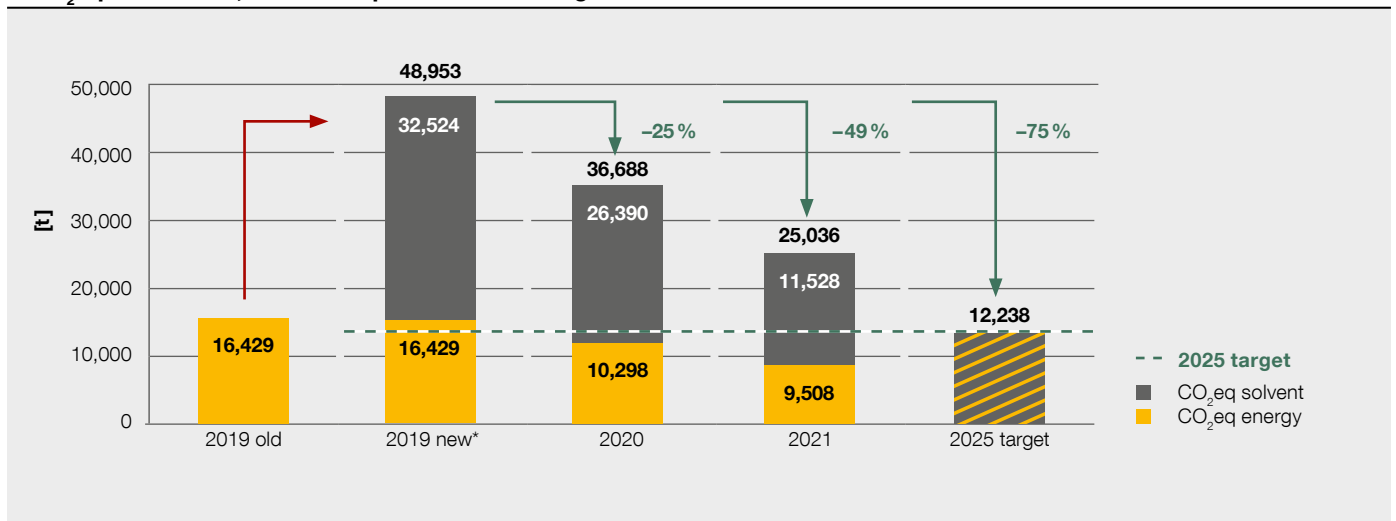
The sustainability team, however, was not willing to settle for significantly higher numbers in the company’s carbon footprint. Just a few tonnes of solvent caused 2.5 times higher CO<sub>2</sub> emissions than the energy consumption of all Klüber Lubrication production facilities combined.

The whole team was in agreement: the problem could not wait. Employees from Research and Development, Production and other departments urgently started the search for alternative cleaning agents. After extensive laboratory and production testing, a breakthrough was made. Another substance was found that provided the required performance. Its global warming potential is just 58 – as opposed to the 10,000 of the previous cleaning agent. What’s more, the alternative agent also cleans more efficiently.

Klüber Lubrication switched almost completely to the new cleaning agent. This helped significantly to save around 25%\*\* of CO<sub>2</sub>eq emissions in 2020 (see diagram). Further tests and application practice confirmed that the new agent even led to financial savings. For the Sustainability Manager, switching cleaning agent is an excellent example of how “economy and ecology often go hand in hand and how a sustainable corporate attitude can also be very profitable”.

The fact that this solvent story had a happy ending raised the question of whether the incident should even be mentioned. We decided to do so. When the fight against climate change is taken up, cross-company provision of information and cooperation and a quick exchange of reproduceable solutions is essential. This project has received a number of awards. We are especially proud of winning first prize in the “We all take care” competition run by the Freudenberg Group.

**CO<sub>2</sub>eq emissions, basis of report and 2025 target**



\* Solvent emissions included

\*\* Data amended due to inclusion of Traxit and correction of solvent consumption (see pages 21 ff.)

# Always in sight – our handprint with customers

## Sustainability Product Portfolio Segmentation (SPPS)

Sustainability is becoming an important issue for companies across more and more industries. The issue is also becoming more significant thanks to new laws and stricter limit values. Klüber Lubrication is always keeping its eye on the increasing sustainability demands and fast-paced, constantly changing legal requirements.

In fact, as early as ten years ago we introduced criteria for evaluating the sustainability of product development projects. With the aim of significantly increasing the contribution of our products to our and our customer's sustainability targets, we updated these evaluation criteria and applied them to our entire product portfolio.

Criteria that could be clearly assessed and measured with regard to the effect of our products on individuals and the environment, as well as sustainable production and resource conservation, have been incredibly important here.

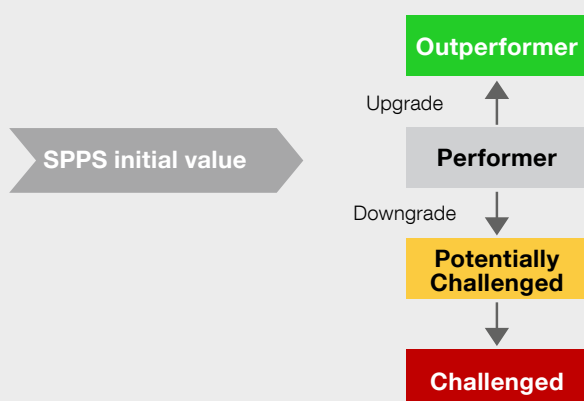
We have been analysing and evaluating our product portfolio using this method in recent years. Based on this, we further develop our portfolio with the aim of continuing to enhance the sustainability of our products for our customers. In addition to new certifications, one measure can include the use of more sustainable raw materials. In the future, we are also aiming to



expand the product benefits for our customers even further and integrate these even more effectively into the evaluation, e.g. increasing energy efficiency or reducing the quantity used.

In 2021, we achieved 40 %, therefore exceeding our 2030 target of 35 % of outperformer products in our overall portfolio for the first time!

### An overview of the four product segments



All of our lubricants contribute to sustainability, reducing friction and wear and ensuring longer operating times and less maintenance, etc. As a result, we classify all of our products initially as "Performer". Products that also meet certain standards or offer our customers added value for sustainable use in line with the UN SDGs are then upgraded to the "Outperformer" category. However, products that pose a danger to health or the environment, are downgraded to "Potentially Challenged" or "Challenged" and should be replaced in the medium term.

## Naturally high performers

One important criterion used in the evaluation of our products is their effect on the environment and compliance with the corresponding regulations. Our “Outperformer” products excel here. They are partially biodegradable and fulfil numerous environmental standards, such as Ecolabel, OSPAR or EAL for the protection of both land-dwelling and marine life.

In addition to the resource-saving use of packaging with a proportion of recycled materials, the renewable raw materials used offer a further advantage: they absorb and retain carbon dioxide (CO<sub>2</sub>) during the growth stage. In doing so, these materials improve the lubricant’s carbon footprint, as well as that of the lubricant user and their finished products. That’s what makes these lubricants the perfect choice for anyone aiming for CO<sub>2</sub>-neutral production.

### Example:

Stern tubes that pass through the propeller shafts of ships are subject to heavy loads and come into direct contact with seawater. To protect the environment, regulations on the lubrication of propeller shafts, such as the Vessel General Permit (VGP) in the USA, only permit lubrication with EAL\* products, as oil leakages cannot be fully avoided. By meeting the very demanding Ecolabel requirements, we provide additional added value for ocean protection with these products. Biodegradable lubricants for stern tubes have been available for a few years now, but they cannot match the performance of mineral oil-based products. Klüber Lubrication has now developed a lubricating oil that offers excellent lubrication performance, even exceeding that of mineral oil-based products. It’s also biodegradable and non-toxic. This is particularly important for the international shipping industry which is turning increasingly towards sustainable concepts.



\* Environmentally Acceptable Lubricant

# Always in sight – our handprint with customers

## Food products without critical oils and greases

This may sound like a diet plan, but the products referred to in fact protect the health and wellbeing of the consumer and help our customers to achieve a more sustainable production. Lubricants used in the food and water industries need to be safe for consumers. By meeting the NSF1 standards or drinking water regulations and producing our lubricants in line with ISO 21469\*, we help to ensure this.

To avoid endangering human health, it is essential to minimise the risk of contamination with MOSH/MOAH\*\* from lubricants. Combined with extensive analysis of the production and maintenance processes, as well as a specific risk assessment of our recipes, this ensures the protection of users in production and end users is completed.

### Example:

Bread, pastries, cakes and other industrially manufactured baked goods are manufactured in large-scale bakeries under a wide range of extreme conditions, including both incredibly high and low (freezing) temperatures. High-performance chain lubricants have been developed especially for this purpose. These lubricants are not only suitable where contact with food cannot be avoided, they can also withstand the high temperatures of industrial baking ovens. They provide reliable lubrication for drive and conveyor chains up to 250 °C and, thanks to excellent wear protection properties, low residue and vapour formation, help to extend the service life of. In turn, this helps to reduce the use of materials and saves resources.



\* Die ISO 21469 reguliert die Verwendung von Schmierstoffen in der Lebensmittel-, Kosmetik-, Pharmazie- und Tierfutterindustrie.

\*\* MOSH/MOAH sind Kohlenwasserstoffverbindungen. MOSH: Mineral Oil Saturated Hydrocarbons. MOAH: Mineral Oil Aromatic Hydrocarbons.

## Less CO<sub>2</sub> and more climate protection through efficiency

With our range of KlüberEnergy services, we help our customers significantly boost the efficiency of existing machines, thereby saving energy, CO<sub>2</sub> emissions and the related costs. An analysis of customers' systems is used as a basis. Our experts select the appropriate specialty lubricant depending on operating parameters. Klüber Lubrication then develop a custom lubricant optimised for energy efficiency. Using a matching product also significantly extends the lubricant replacement intervals. This means that annual waste disposal volumes can be significantly reduced and the efficiency of materials and resources increased. We also go one step further. In order to give our customers complete transparency in terms of savings, we provide evidence of these which has been accurately measured and is in line with international standards. This means our customers have both a solid basis for investment decisions and also an improvement measure that they can introduce as part of their ISO 50001 certification. **The savings generated and documented with the KlüberEnergy service amounted to approx. 396,000 MWh in 2021, which is equivalent to 52,000 tonnes of CO<sub>2</sub>.** This means that, in 2021, we achieved our self-imposed target for 2025 much earlier than expected.

We have set ourselves a new target for 2025: savings of 800,000 MWh. This exclusively includes energy savings that we make possible as part of KlüberEnergy service projects and are able to prove based on the measuring method used.

## Using innovation and efficiency to manage industrial maintenance and repair

The EfficiencyManager, our digital service portal, supports our customers with the overall management of lubrication points. The maintenance management module provides transparency in the management of time and maintenance plans, ensuring more efficient and sustainable maintenance and repair operations. Having such control over the maintenance process makes it almost impossible to confuse lubricants and ensures that only the necessary amounts are used, making adhering to compliance regulations even easier. Using sensor-supported predictive maintenance, our digital Total Productive Management Support helps to sustainably increase quality through higher system availability and longer service lives. It can also help to reduce repair costs and comply with internal processes.



# Always in sight – our handprint with customers

## Using less or running longer saves resources

Less is more. Not just for lubricants, but also for the replacement of machine components. After all, ensuring reliable lubrication while using less lubricant reduces raw material consumption, use of materials and waste, as well as procurement and disposal costs, and therefore improves your carbon footprint.

Another criterion for evaluating our lubricants is their ability to optimise the service life of a component, such as gearboxes or rolling bearings. A good lubricant helps to prevent downtime due to premature wear, ensuring that machines can run efficiently until the end of their service life. This can significantly delay the need for replacement wear parts, helping to reduce costs for maintenance and spare parts. This can also reduce the use of

raw materials throughout the machine's or component's running time, as well as the amount of lubricant waste after use. Apply lubricant once and never have to think about it again – that is the principle behind lifetime lubrication. For us, lifetime lubrication is the perfect solution – especially when we are able to establish it for applications that would previously need to be constantly relubricated. However, although lifetime lubrication is not always feasible, even individual steps in this direction are still important milestones for sustainable production. For us, these products have earned the label “outperformer”.





## Hydro lubricants for hydropower – the perfect symbiosis

Water is life – whether as a cell component or as a drink, either straight from the tap or used in coffee or tea. Water allows us to enjoy the thrill of swimming, sailing and skiing. But water can do much more. It drives turbines that we use to generate power so that we can be active and mobile at all times. And water even helps to lubricate these turbines.

### **Example:**

Many parts of hydroelectric power plants are operated directly in the water, with some designs – such as the Kaplan turbine – working with oil-filled hubs. It is therefore important here to maximise environmental protection through the use of an oil-free and biodegradable product. Eco-friendly hydro lubricants are the solution. These innovative products are biodegradable while also providing excellent wear and corrosion protection and good water miscibility. In addition, lubricants with functional water content help to conserve scarce resources.



# Always in sight – our handprint with customers

## Green Deal – tackling global warming together

Our carbon footprint is a central element of climate protection. Greenhouse warming potential (GWP) or CO<sub>2</sub> equivalent of a chemical compound is a measure of its relative contribution to the greenhouse effect. The bigger the GWP, the more a particular gas warms the earth compared to CO<sub>2</sub> over the same period. It is not always possible to forgo the use of critical substances, but by making the right choices it is possible to significantly reduce the impact on global warming and pursue sustainability goals more efficiently.

Sometimes it is the small changes that make a big impact, such as switching to an alternative cleaning agent that is 170 times less harmful to the environment. As a result, emissions are reduced by up to 30,000 tonnes of CO<sub>2</sub>eq annually in the medium term. And it even cleans more efficiently. Our customers will avoid other emissions of around 60,000 tonnes of CO<sub>2</sub>eq annually when the solvent is replaced as a raw material from 2022 onwards.

### Example:

A minimal amount is often enough to achieve maximum effect: a fluorinated lubricant, applied in a very thin layer, can reduce friction so much that creaking noises are prevented or the doors of buses and trains open easily even in the coldest winter. The lubricant usually lasts a lifetime – with minimal quantities. The trick is in the application as dispersion. If the right solvent is chosen here, a reduction of around 97% in GWP can be achieved.

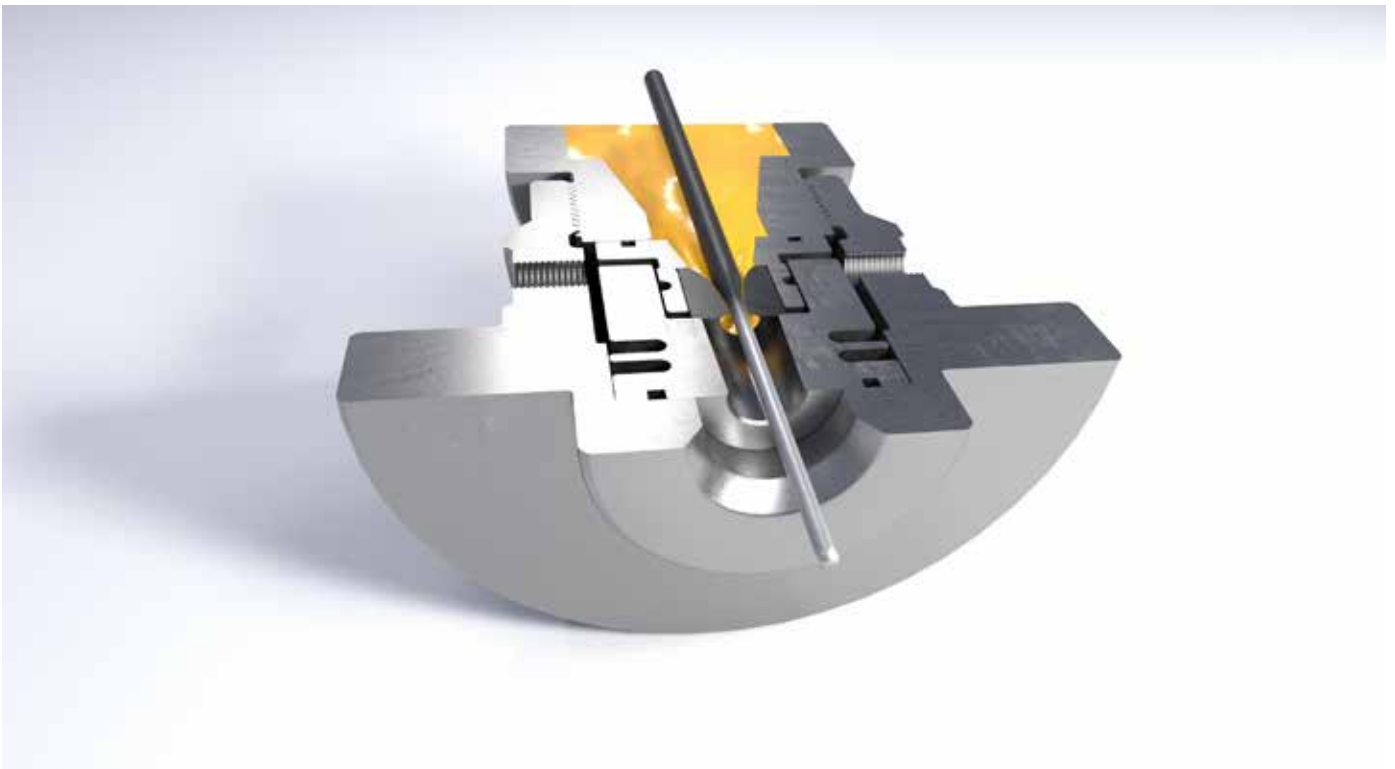


## Energy savings thanks to special lubricants

The wire drawing industry is very energy intensive. Plants and machines often run 24/7 to guarantee a high output and ensure companies remain competitive. Our customers in this industry are therefore always on the lookout for ways to save energy so they can reduce costs and also meet their sustainability targets. A large number of companies in the wire drawing industry have ISO 50001 certification. In most cases, efforts to save energy involve very high levels of investment

because entire plants or machines need to be replaced. But energy savings can also be achieved in a simpler way, as the lubricant used also plays a role in energy consumption. With the KlüberEnergy service, our experts from Traxit\* are providing measurable support to our wire drawing customers to help them boost the energy efficiency of existing wire drawing machines with specially developed wire drawing lubricants.

\* Traxit is a Klüber Lubrication brand for products that are supplied to the wire drawing industry.



# Minimising our ecological footprint in the value-added chain

There is only so much we can do to influence the ecological footprint of our products “Cradle to Gate”, meaning from raw material extraction to the factory gate before shipment to the customer. We want to better understand and extend our influence. **Life cycle analyses** of our products show that raw materials are responsible for the largest part of the footprint, with transporting and packaging not too far behind and our own production processes generally being only the fourth most impactful. This is, in large part, thanks to the success of our many years of process optimisation.

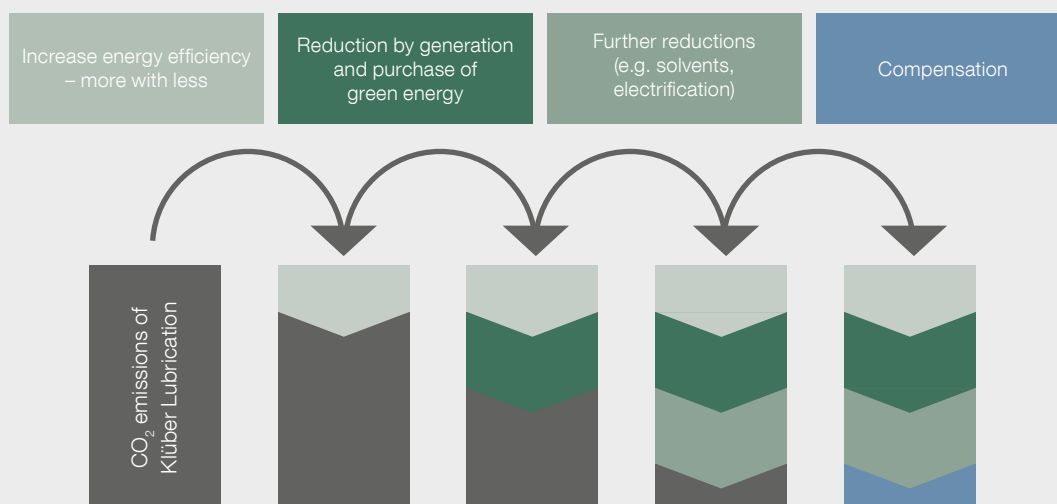
We are placing more and more importance on environmental properties (e.g. biodegradability and greenhouse potential) when **choosing raw materials**. As part of **procurement management**, Klüber Lubrication expects its suppliers to act responsibly when dealing with people and the natural environment. Our ethical standards for suppliers include social, health-related, safety, environmental and economic aspects and are aligned with international agreements and principles such as the UN Global Compact. However, we can only check compliance to a limited extent. In order to better quantify and also control the sustainability performance of our suppliers, we have launched the Ethical Sourcing 2.0 project in conjunction with a respected partner.

**Local raw material sources and production** in sales markets allow us to minimise transport channels. For larger distances, our **transport logistics** policy favours ocean freight. Air freight

is only used when absolutely necessary. We have set out clear priorities for minimising climate-affecting emissions from our **own in-house processes**:

1. We reduce emissions or waste and water needs wherever we can. All sites are working on developing relevant options for increasing efficiency, sharing best practice and providing details of failures to colleagues as learning opportunities.
2. Any energy required should come from renewable sources as far as possible: we produce renewable energy using solar plants in Mexico and India. Our headquarters and our central warehouse cover almost all of their electricity needs with an external solar plant. More and more sites are obtaining green energy, e.g. from hydropower. We are also planning to move away from fossil-based natural gas as our primary energy source for heating in the mid to long term.
3. We are aiming to achieve further savings through the electrification of processes, like switching from combustion-engine to electric cars, and by reducing and optimising solvents.
4. **From 2022 onwards, we will offset the remaining annual CO<sub>2</sub>eq emissions with appropriate recognised projects (in accordance with Scope 1 and 2).**

## The current focus of our way to climate neutrality



# Facts and figures

The environmental indicators shown below are based on the standards set by the **Global Reporting Initiative** and the **Greenhouse Gas Protocol**. CO<sub>2</sub> emissions also include the values for our sales locations as well as the climate-related emissions of other greenhouse gases. To improve the informative value and comparability over the years, the values, where appropriate, are based on production quantities and on hours worked by our employees. For the first time, we have fully included our subsidiary Traxit with its plants in Germany, the US and China as of 2020, meaning that the historical comparability of the figures is reduced. For energy and CO<sub>2</sub>eq, we have ensured comparability from our base year 2019.

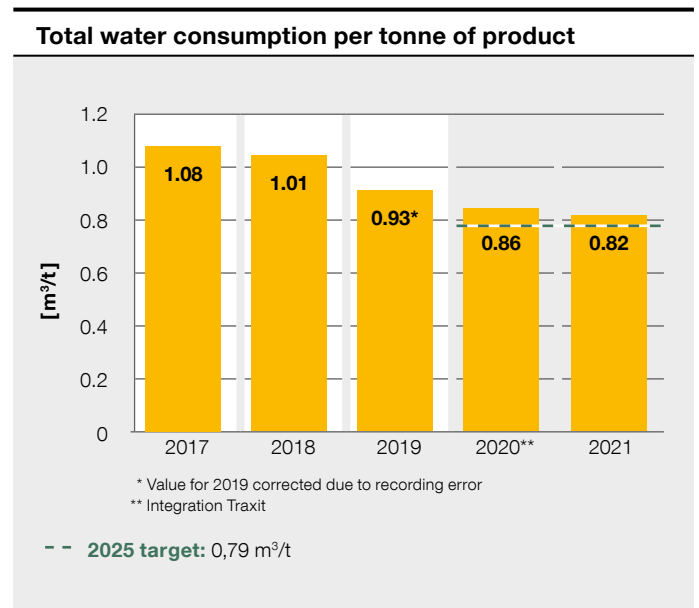
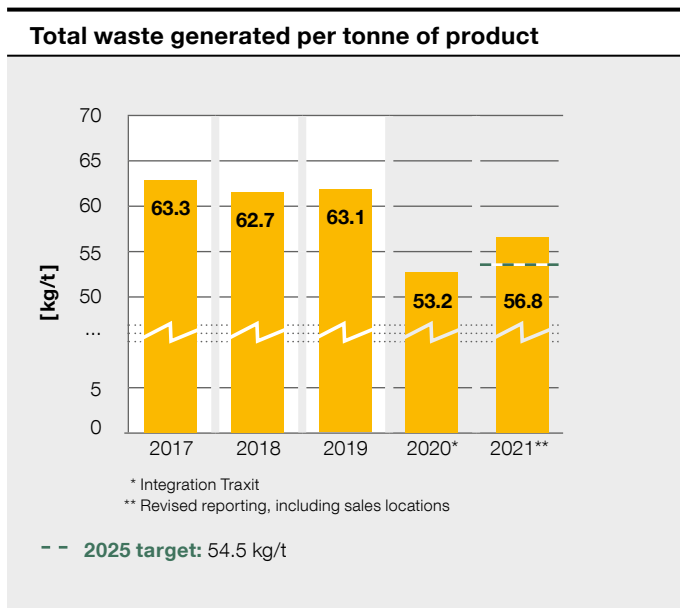
To ensure a clearer understanding of the key figures better, please note that, as a specialty lubricant manufacturer, Klüber Lubrication is not in the mass market for e.g. motor oils and rarely produces products in high volumes. We frequently produce small batches of highly specialised lubricants in large numbers. Our portfolio is also largely made up of greases from energy-intensive production.

## Generated waste

Up to and including 2020, our total volume of waste included all hazardous and non-hazardous waste generated by our production facilities. In 2021, the definitions were standardised internationally as part of the waste@FCS initiative and the level of detail in reporting was significantly increased. Larger relevant non-production sites were included. As a result of this process and the associated coordination, awareness of the potential for improvements was increased worldwide. Now we are focusing on tapping into this and other potential in order to move more quickly towards the new targets we have set. A number of sites have submitted “We all take care” projects on the subject of waste.

## Water consumption

We record the total water consumption at all our production facilities. We attribute the reduction of consumption per tonne mainly to efficiency gains through the significant increase in production volume and to reduced water consumption due to working from home, as well as various technical improvements.



# Facts and figures

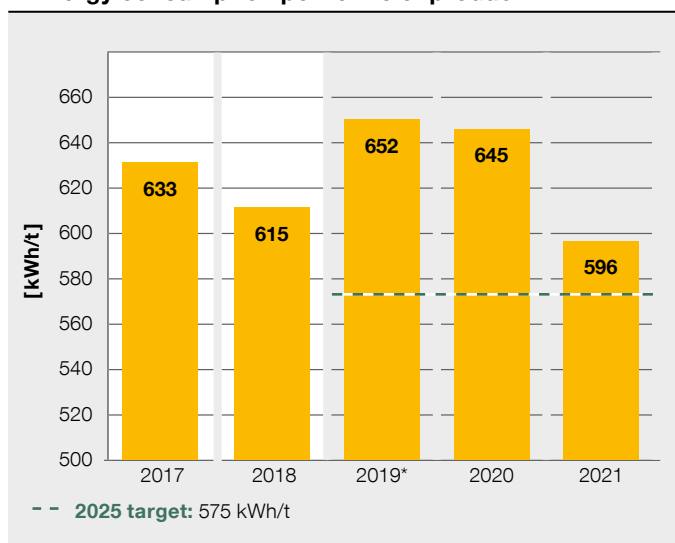
## Energy

We are reporting on our energy figures in the sustainability report for the first time. Increasing energy efficiency, i.e. decoupling energy consumption from volume growth, is the first step in our CO<sub>2</sub> minimisation strategy.

As shown in the graph on the right, we have succeeded in reducing energy consumption per tonne of product by 8.6% since 2019\*. A key instrument for this is regular energy audits at our sites. The findings obtained and recommendations for action are implemented promptly and shared among our global network of sustainability coordinators. Important measures include expanding our energy monitoring activities, changing all lighting to LEDs, optimising compressed air use including loss reduction, and replacing energy-intensive systems. We also regularly focus on influencing the behaviour of staff, for example when it comes to using air conditioning or heating systems as efficiently as possible. We are also excited by the potential we can achieve through better coordination between our production planning and process energy provision.

Further savings can be explained by the significant expansion of flexible home working options due to the coronavirus pandemic.

Energy consumption per tonne of product



The energy savings that were achieved as a result of employees making fewer journeys to work are not included in these figures. We will work out the appropriate CO<sub>2</sub> emissions from employee journeys to work as part of the CO<sub>2</sub> Scope 3 calculation. In a

### Key figures: energy

KL-Gruppe inklusive Vertriebsstandorte	2017	2018	2019*	2020	2021
<b>Total direct energy (gas oil, renewable energy, self-generated energy) (MWh)</b>	<b>18,521</b>	<b>18,575</b>	<b>25,032</b>	<b>23,030</b>	<b>23,066</b>
of which renewable/self-generated	0	0	0	780	808
<b>Total indirect energy (electricity, steam, district heating) (MWh)</b>	<b>18,543</b>	<b>18,887</b>	<b>24,902</b>	<b>24,157</b>	<b>25,868</b>
of which renewable	4,374	2,236	4,687	12,871	18,759
<b>Total energy in MWh</b>	<b>37,064</b>	<b>37,462</b>	<b>49,934</b>	<b>47,187</b>	<b>48,934</b>
Total renewable energy, including self-generated	<b>4,374</b>	<b>2,236</b>	<b>4,687</b>	<b>13,651</b>	<b>19,567</b>
Of which electricity from renewable energy sources, including self-generated (sun, wind, water, biomass)	4,374	2,236	4,687	13,651	19,567
<b>Renewable (green) electricity as % of indirect energy and self-generated electricity</b>	<b>24%</b>	<b>12%</b>	<b>19%</b>	<b>55%</b>	<b>73%</b>
<b>Renewable energy as % of total energy</b>	<b>12%</b>	<b>6%</b>	<b>9%</b>	<b>29%</b>	<b>40%</b>

\* Important note: 2019 is defined as the base year for our targets relating to energy and CO<sub>2</sub>eq. Therefore, in accordance with Chapter 5 of the Greenhouse Gas Protocol, we have included Traxit from 2019, even though the company did not legally become part of Klüber Lubrication until 2020. As explained in the previous sustainability report, there was a leap in energy consumption and in CO<sub>2</sub>eq emissions from 2018 to 2019 because we put our new warehouses into operation in Germany and the US in that period (to be accounted for in Scope 1 and 2). Corresponding external warehouses were closed (Scope 3).

pilot project, our Austrian colleagues have calculated that energy savings and thus CO<sub>2</sub> savings of over 40 % can be achieved through working from home.

The significant increase in our production volumes with relatively stable energy consumption in many areas and the relative increase of oils in the overall portfolio also contribute to energy efficiency.

In 2019, Klüber Lubrication pledged to obtain 50 % of its electricity from renewable sources by 2025. In 2021, the proportion of green electricity at our global production sites and sales sites was over 72 % thanks to widespread commitment, meaning that we have already achieved our 2025 target. Our two solar plants in Mexico and India have contributed to this. By 2030, we want to convert our production facilities to 100 % green electricity from dedicated generation plants.

It will be an even bigger challenge to convert our direct energy consumption to green forms of energy with the aim of becoming less dependent on natural gas, in particular for our process heat. Since there are no solutions here that are globally available and ready for series production, we have intensified our research to make it possible for us to increase the proportion of green energy in our total energy consumption to 9 % (2019), 29 % (2020) and most recently 40 % (2021) to over 50 % as quickly as possible.

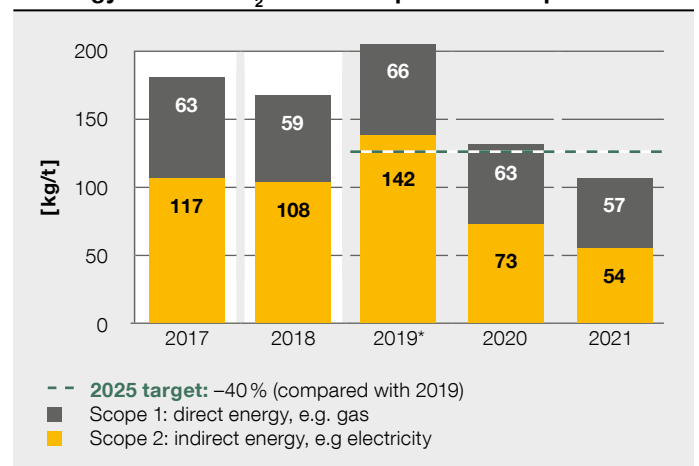
## CO<sub>2</sub>eq-emissions

For us, as for many other companies within our industry, energy-related CO<sub>2</sub> emissions per tonne of product has been the focus for many years. Klüber Lubrication has set itself the target of reducing its energy-related emissions per tonne of product by 40 % in comparison to 2019 by 2025. In 2021, we achieved a reduction of 47 % within three years.

We were able to achieve this huge success in such a short time thanks to our Sustainability Team and our international sites. After we in our network realised what a great lever we had through the purchase of green electricity (indirect energy), local conversion began with support from Freudenberg Business Services (part of our parent company). Austria and Belgium were followed by

Germany (including Traxit), the USA, Spain and Turkey. Where possible, we agree power purchase agreements and obtain green electricity directly from defined plants. Certificates of origin which only transfer the “green electricity characteristic” to us are the second choice. Mexico, India and, to a minor extent, also Brazil are helping to reduce CO<sub>2</sub> through the use of solar power. These and the measures described in the energy chapter, together with the exchange of knowledge in our network, are helping us to optimise our direct and indirect energy consumption and corresponding CO<sub>2</sub> emissions around the world.

**Energy-related CO<sub>2</sub> emissions per tonne of product**



The below graphic shows our climate-relevant emissions in absolute tonnage for scope 1 and 2 in accordance with the Greenhouse Gas Protocol. This means emissions from:

- Energy consumption of our production facilities
- Energy consumption of our sales sites (new)
- Solvents (new)

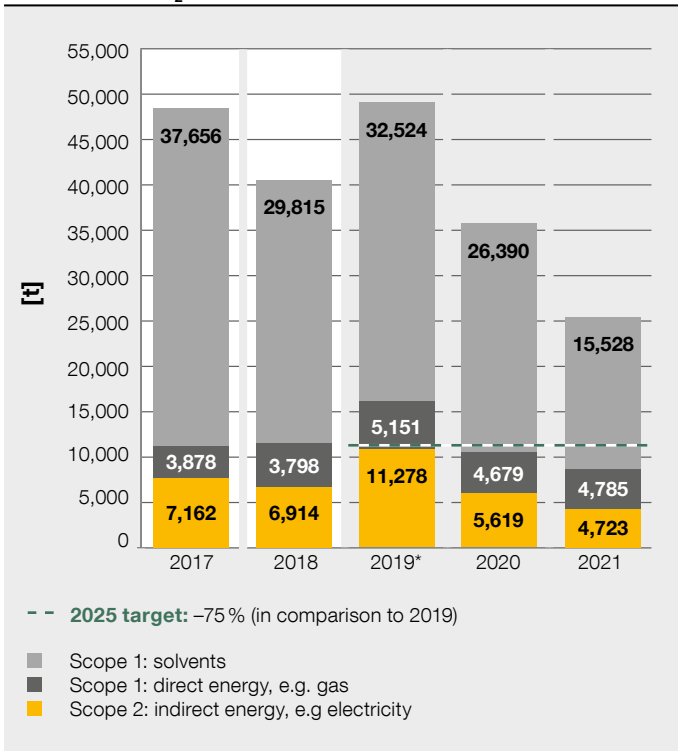
We only recognised the particular relevance of solvents in 2020 and then analysed this retrospectively based on consumption quantities. The large amount of solvent-related emissions is primarily a result of cleaning agents with a substantial greenhouse effect. Thanks to the intensive efforts of many employees and quick success in finding alternatives, we have significantly reduced the use of these since September 2020.

\* Important note: 2019 is defined as the base year for our targets relating to energy and CO<sub>2</sub>eq. Therefore, in accordance with Chapter 5 of the Greenhouse Gas Protocol, we have included Traxit from 2019, even though the company did not legally become part of Klüber Lubrication until 2020. As explained in the previous sustainability report, there was a leap in energy consumption and in CO<sub>2</sub>eq emissions from 2018 to 2019 because we put our new warehouses into operation in Germany and the US in that period (to be accounted for in Scope 1 and 2). Corresponding external warehouses were closed (Scope 3).

# Facts and figures

However, we only detected the additional use of a solvent later and were only able to start minimising it at a later stage. This and the inclusion of Traxit have now resulted in corrected CO<sub>2</sub> emissions values for previous years as well.

## Absolute CO<sub>2</sub>eq emissions



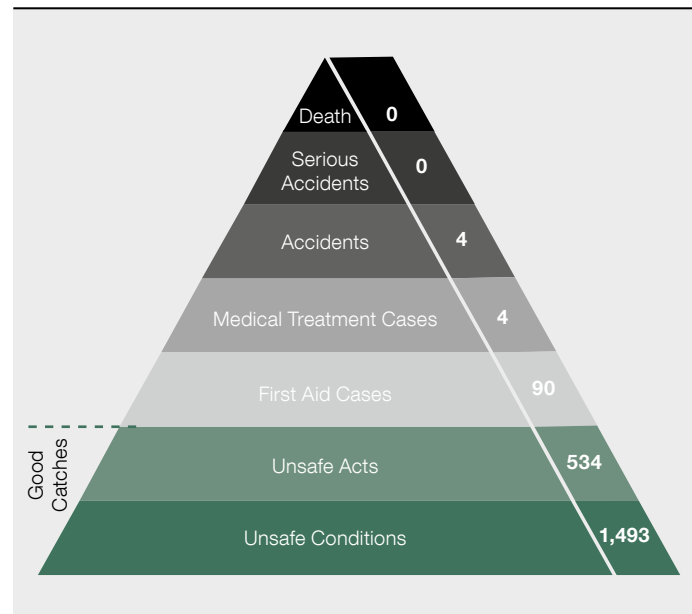
Despite these corrections, we have improved overall emissions considerably by 32% in 2021 and by 49% since 2019 – and we see further potential. Going forward, we would like to reduce CO<sub>2</sub>-equivalent emissions by 75% by 2025 at the latest. Achieving **climate neutrality** quickly and comprehensively is very important to Klüber Lubrication. We will therefore offset the annual remaining, further reduced CO<sub>2</sub> emissions from 2022 onwards through high-quality projects, thus bringing the balance to zero (Scope 1 and 2). We are also focusing on our entire supply chain (**Scope 3**) with regard to our climate neutrality. We expressly welcome the Federal Republic of Germany's climate neutral targets (2045) and are already taking systematic action to support these.

## Health, Safety and Environment (HSE)

We switched our workplace safety management system over to the new ISO 45001 standard across all of our sites worldwide, including Traxit, in 2020. This standard is more stringent than previous standards in relation to employee issues and ideas. Employee awareness of the issue of HSE has always been important to us, so we welcome the improved opportunities for employees to be actively involved in the management system.

“We all take care” is a group-wide initiative by our parent company Freudenberg. This initiative aims to promote the health and safety of all employees, as well as issues of environmental protection, corporate responsibility and on-site safety. Every year, employees who have been particularly successful in supporting the initiative are presented with a “We all take care” award. Klüber Lubrication is always a prominent contributor to

## Accident pyramid 2021



Graphic representation of the various impacts of an accident. The accident pyramid stands on a wide base made up of recorded improvement potential (the “Good Catches”). In the second year of the coronavirus pandemic, more than 1,500 “unsafe acts” and urgent “unsafe conditions” were proactively identified.

\* Important note: 2019 is defined as the base year for our targets relating to energy and CO<sub>2</sub>eq. Therefore, in accordance with Chapter 5 of the Greenhouse Gas Protocol, we have included Traxit from 2019, even though the company did not legally become part of Klüber Lubrication until 2020. As explained in the previous sustainability report, there was a leap in energy consumption and in CO<sub>2</sub>eq emissions from 2018 to 2019 because we put our new warehouses into operation in Germany and the US in that period (to be accounted for in Scope 1 and 2). Corresponding external warehouses were closed (Scope 3).



this initiative, and our new colleagues at Traxit also submitted projects in their first year and then stepped up their efforts even further in the second year.

HSE experts from our global sites virtually exchange knowledge as part of our “HSE Community”. This community focusses on issues arising from everyday operation and works together to find solutions and translate any gained insights into binding standards for the entire company group.

The Work Related Incident Frequency Rate (WRIFR) includes all incidents that require more than just medical attention from a first-aid specialist. All WRIFR incidents and near incidents that could have led to injury are promptly analysed in detail to ensure that we implement the necessary measures at all sites. An explanation of occupational health and safety abbreviations can be found in the glossary below.

Freudenberg has supported the “**Zero accidents**” campaign since 2002. Klüber Lubrication also has a long history in this regard: the rate of accidents in which more than one day was lost (LDIFR1) was over 4 in 2003; the WRIFR for 2013–2017, after the reporting requirement for MTC was introduced, also fluctuated between 3 and 5. This figure has been well below 2 since 2019.

But most of all, we are pleased that, thanks to our ongoing efforts, no serious accidents have occurred for a long time. The last two serious accidents happened on business trips. In 2018, colleagues in India were injured in a serious traffic accident, and in 2007 a colleague died after his vehicle was attacked in Mexico. Our travel regulations were subsequently tightened up significantly for both countries.

An important step towards sustainable improvement was taken at the end of 2018 to investigate medical treatment cases in as much detail as LDI. **In 2020, Klüber Lubrication (without Traxit) achieved zero LDI for the first time.**

### Glossary of occupational health and safety abbreviations

Abbreviation	Meaning	Explanation
WRI	Work Related Incident (employee or temporary worker)	LDI and MTC
LDI LDI1	Lost Day Incident with 1 day or more inability to work	One of the key figures used to record the number of accidents of a severity requiring 1 or more days of interruption to work
MTC	Medical Treatment Case (employee or temporary worker)	One of the key figures used to record the number of accidents of a severity requiring more than first aid
LDIFR1 WRIFR	LDI1/WRI Frequency Rate per 1 mill. work hours	Key figure used to record the frequency rate of accidents of a severity requiring more than first aid

\* Medical treatment cases

# Facts and figures

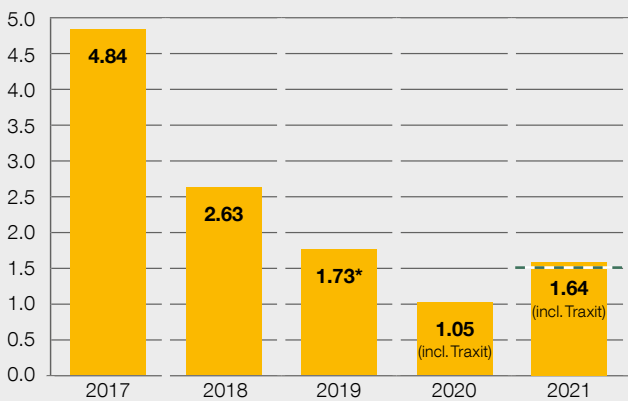
Unfortunately, the WRIFR including Traxit has now increased slightly – every accident is one accident too many – but still remains at a low level of 1.6. Despite the relatively low absolute number of incidents, a focus on ergonomics can be identified. All sites are working openly together in our global virtual community to improve our processes with the aim of ensuring that the probability of accidents or impacts on health is further reduced.

Despite the importance of ergonomics, health protection was again dominated by Covid-19 in 2021. For us, it was obvious that we not only needed to assist our plants in response to the pandemic, but also provide practical support with the procurement of tests and face masks and, where necessary, ensure medical care.

## Training and developing our employees

In 2021, 92.7% of all Klüber Lubrication employees around the world took part in training activities. The average was 4.05 days per person. The increase over the previous year (3.01 days) is primarily due to digitalisation in the training field. Internal and external instructors have responded quickly and adapted all training sessions to create online events. The trend for ever shorter but more frequent learning sequences is gaining ground. Klüber Lubrication's global learning management system has also been significantly improved and lots of new content added. In particular, we have put more training videos on it to reach and motivate our employees around the world, e.g. on the subject of greater sustainability.

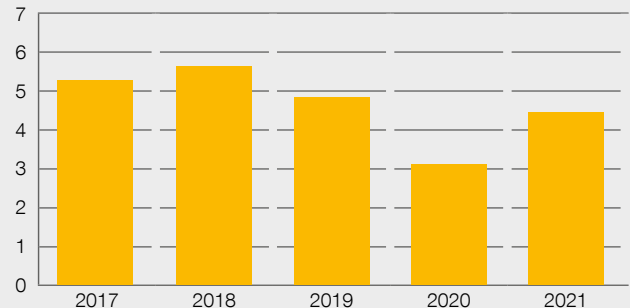
**Work accidents per 1 million workhours**



-- Target 2021

The figures shown in the graph include all accidents for which treatment by a medical professional was required, as well as accidents resulting in an absence lasting longer than one day.

**Training days per Klüber Lubrication employee**

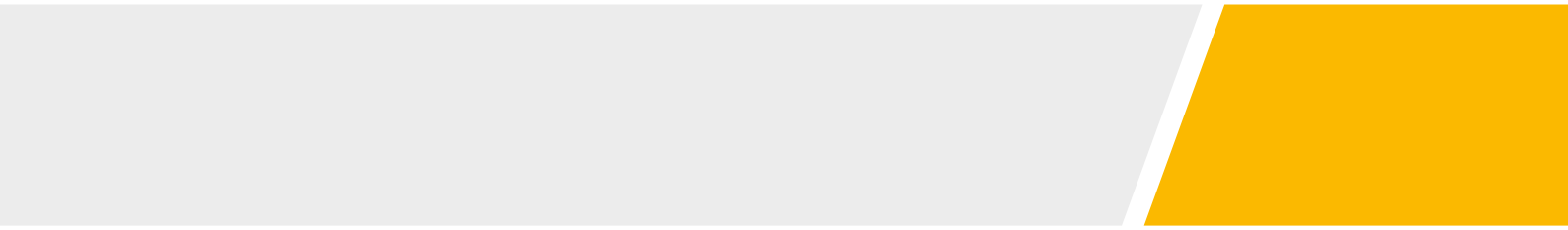


\*Due to missing reports of workhours, the figure stated in the 2019 sustainability report (1.77) was slightly too high. The graphic now includes the correct value.

## Site certifications

Certification refers to a process that helps to prove compliance with certain requirements. Certifications are often time-limited by an independent certification body such as DNV or TÜV, which are also responsible for independently auditing compliance with standards. To fulfil all the requirements of our customers and meet the increasing demands in the quality and environment sector, Klüber Lubrication maintains certifications at all of its production facilities. Each production facility has different requirements with regard to markets, customers or its know-how and adapts its certifications accordingly.

Location	Quality		Environmental protection	Workplace safety	Food and pharma	
	ISO 9001	IATF 16949	ISO 14001	OHSAS 18001/ ISO 45001	ISO 21469	Kosher, halal
Austria	✓	✓	✓	✓		
Belgium	✓	✓	✓	✓		
Italy	✓		✓	✓		
Germany	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓
Turkey	✓		✓	✓		
Argentina	✓		✓	✓		
Brazil	✓	✓	✓	✓	✓	✓
Mexiko	✓		✓	✓		
USA, Londonderry	✓		✓	✓	✓	✓
USA, Tyler	✓		✓	✓	✓	✓
China	✓	✓	✓	✓	✓	✓
India	✓		✓	✓		
Traxit Germany	✓		pre-audit	✓		
Traxit China (TRCHTJ)	✓					
Traxit China (TRCHHZ)						
Traxit USA						



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Our passion is creating innovative tribological solutions. Through personal support and consultation, we help our customers to be successful, around the globe, in every industry. By utilising complex engineering concepts and experienced, competent employees, we have mastered the growing demand for high-performance, cost-effective special lubricants for over 90 years.