



For tomorrow

GKD sets its sights on sustainability going forward

"Responsibility toward the next generation"

Interview with
Lara Kufferath

Small wires, big difference

GKD makes a positive impact

Non-negotiable

Values and standards: Social responsibility at GKD

**FOR A HEALTHIER,
CLEANER, SAFER WORLD**

IS THE WORLD BETTER OFF BECAUSE YOUR COMPANY IS IN IT?

Companies should strive to give more back to society, the environment, and the economy than they take out. GKD firmly believes this principle, which is also foundational to the Net Positive Manifesto published by Paul Polman and Andrew Winston in 2021. This goes beyond merely addressing CO2 emissions; it is about adopting a holistic approach that encompasses nature and society. It's about creating a legacy that extends well beyond the conventional confines of a business balance sheet. This is what drives us.

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Because water is life

Two thirds of the Earth's surface is covered with water. However, only 0.3 percent of this can be accessed and used by humans. We are reaching the limits of our groundwater systems and yet water consumption will continue to grow by one percent each year. We need to waste less water, purify it, make it reusable, and return it to the natural cycle in as clean a condition as possible. We are working on these solutions.

**FOR A HEALTHIER,
CLEANER, SAFER WORLD**





Because we need to move

The first car in 1886 had three wheels, a wide bench with a big steering tiller, and a one-cylinder four-stroke engine. 140 years later, this single automobile has grown into 1.3 billion cars worldwide. Where there used to be open roads, vehicles now sit in miles-long jams. By 2050, the volume of passenger traffic alone is set to more than double, with emissions solely from this sector rising by 16 percent. It is vital, then, that transitional technologies become cleaner and new, more sustainable technologies catch on in everyday life. We are working on these solutions.

**FOR A HEALTHIER,
CLEANER, SAFER WORLD**

Because sustainable energy is the key

Wind, water, sun, oil, coal: There is energy everywhere in nature. Without it, our world would come to a standstill. We are reliant on energy, more and more so. Which means that energy consumption is expected to rise by more than a quarter by 2040. At the same time, energy-related emissions have reached a new peak. In order to protect the climate, nature, and its energy sources, decarbonization needs to happen faster. We need far more sustainable and renewable energies worldwide. We are working on these solutions.

**FOR A HEALTHIER,
CLEANER, SAFER WORLD**





Tracking global trends

Worldwide challenges like climate change and the energy transition shape GKD's strategy

When is a company sustainable? When has it met its responsibility to the environment, society, and living conditions for future generations? GKD answers this question with the Net Positive Manifesto. Lara Kufferath, who is the fourth generation to head the family-run company, says, "The world should be a better place because of GKD. That is our understanding of a sustainable and responsible corporate citizen. If we have a negative impact overall, then we need to act. That's why we want to give more than we take."

Carbon reduction and storage, alternative drive technologies, green hydrogen, clean water through microplastic filtration – these are issues that concern humanity and on which the future of humans and the planet depends. They are also what motivates this family-run company whose story started a good hundred years ago with wire weaving. Today, GKD pursues its vision FOR A HEALTHIER, CLEANER, SAFER WORLD across all continents with entire product solutions made of metals, synthetics, and hybrid materials.

What was once an intrinsic motivation or the natural responsibility of the company has long since taken on a strategic dimension for GKD in view of climate change and other global challenges. "We actively invest in fields where global demand is growing," says Dr. Stephan Kufferath. "We develop solutions that help to enable progress and growth in line with sustainability goals." GKD products clean dirty water, ensure efficient energy generation, protect against infections, keep foods hygienic, or reduce the

energy consumption of buildings. They protect against lightning strikes and make industrial processes more efficient, thereby reducing consumption of natural resources.

Is the world a better place because of GKD? The answer to this question encompasses more than just the impact of GKD products; it also involves our actions and the extent to which we adhere to economic, environmental, and societal standards. The company commits to these standards under the heading of "Sustainable Economic Enterprise GKD" – SEE. Even though GKD has been certified to recognized standards for environmental and energy management for a long time, for example, there is still a lack of measurable transparency in some respects. SEE intends to create more transparency and highlight the potential to be leveraged in all areas of the value chain.

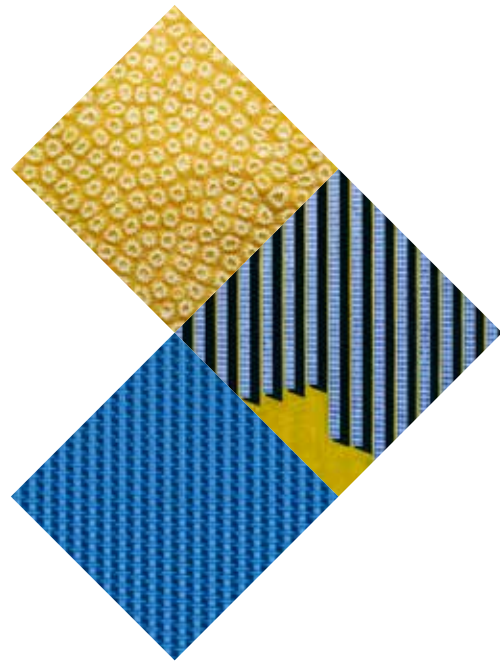
The authors of the Net Positive Manifesto are convinced that it is in every company's interest to play an active role in solving our greatest shared challenges. The economy can only thrive if people and the planet are doing well. That's how the GKD Group sees things, too. For decades, GKD has been governed by three principles. Innovation, tradition, and: sustainability.

Net Positive Manifesto

The core premise: Giving more than we take as a company



"WE ARE MAKING OUR CONTRIBUTION TO A BETTER WORLD"



GKD's strategy is to grow profitably with sustainable products and solutions. Lara Kufferath explains what the family business stands for

Lara Kufferath, is the world a better place because of the GKD Group?

I am entirely convinced of this. We make a valuable contribution in many industries and applications. By seeking to value and respect every person, we strive to be a responsible employer to our staff. We focus our business activities to the benefit of the next generation.

That sounds almost like a non-profit organization.

It's a widespread misconception that companies focusing on sustainability automatically lose profitability. For us, the opposite is true: We will become even more successful and continue to grow by acting sustainably and responsibly. Using resources efficiently, purifying water, or producing green energy are profitable business areas for us. We are making our contribution to a better world and earning money that we can reinvest in the future.

Lara Kufferath is continuing the family tradition as the fourth generation to lead the company



"Sustainability is our strategy. As a company, we have a responsibility toward future generations. That's why we want to help actively shape the world we live in and play our part."

Lara Kufferath

You also work a great deal with and for "old" industries. Some people also refer to them as "dirty" industries. How does that fit together?

We don't see it as an option to steer clear of the old industries because they are of environmental concern. On the contrary, as long as we cannot do without them, our aim must be to ensure that development processes run as efficiently, safely, and resource-efficiently as possible. At the same time, we are fully committed to new fields of development – for example, our technical weaves ensure that green hydrogen can be produced efficiently. We are therefore helping the „old“ industries to reduce their footprint while also working on realizing a new energy world.

So, are you net positive overall?

We are working on providing measurable proof of this. That may be impossible down to the very last detail, but achieving the greatest possible transparency is important to us. We work proactively toward our vision for a healthier, cleaner, safer world. With the Sustainable Economic Enterprise GKD, there are now five working groups continuously measuring both our footprint and the positive impact of our products and solutions. In fact there are three fields in which we want to make a difference. The first is our products and solutions, which provide greater sustainability in our customers' applications. The second field is within our own value chain, from the raw material all the way through to production and delivery. And the third field is our social contribution. This last aspect is often lost in the conversation about sustainability.

Social commitment by GKD?

Social commitment on the one hand. We see ourselves as a corporate citizen at all of our sites – as part of their local community – and consider our responsibilities within each. Apart from that, we feel a social contribution also concerns how we deal with our staff, how we support and develop them, how we express respect and recognition within the company, and how we ensure a diverse working environment in which everyone can develop according to their personality and skills. We are a family-run business. And that not only says something about the ownership structure, but also about what is important to each individual here and how they are treated.

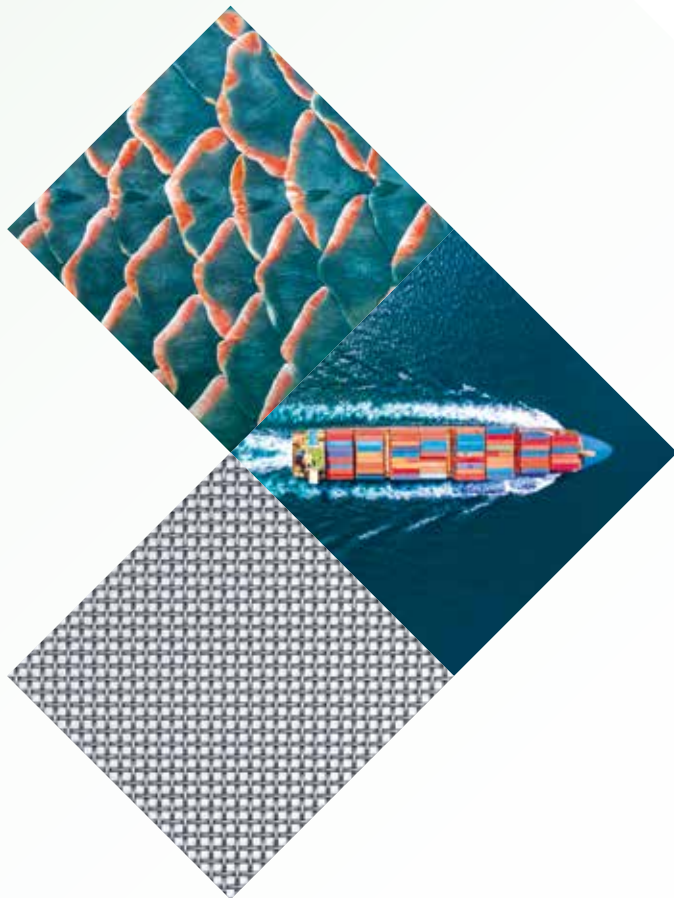
Respect, commitment, reliability, and development are GKD's cultural values. Where is sustainability in this?

Sustainability is our strategy and is firmly anchored in our DNA along with tradition and

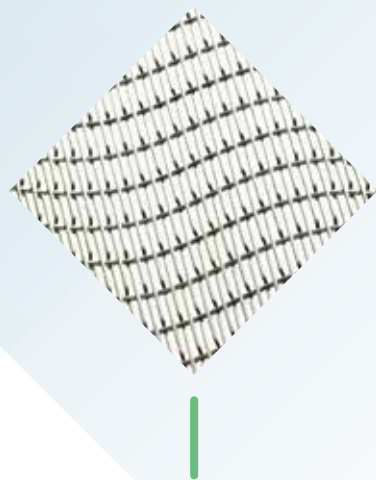
innovation. It is also in evidence throughout our culture and values. Irrespective of whether we're talking about our sales markets, the personnel markets of the future, the financial markets, or suppliers – sustainability is a critical success factor.

Does GKD apply the same standard for sustainability worldwide?

Our ambition is the same wherever we operate. Climate protection, clean water, or the energy transition are global challenges that are being addressed differently around the world. As a global company, we have a unique perspective of this complex issue. In South Africa where we operate, for example, clean water is a particularly critical matter, while in the USA we see this with recycling. We select our focus areas accordingly.



Facts, not fiction



Efficiency: + 25 percent

Alkaline water electrolysis (AEL) is currently the most promising technology used to produce hydrogen on an industrial scale. GKD has developed materials for electrodes that increase efficiency by up to 25 percent compared to conventional meshes.

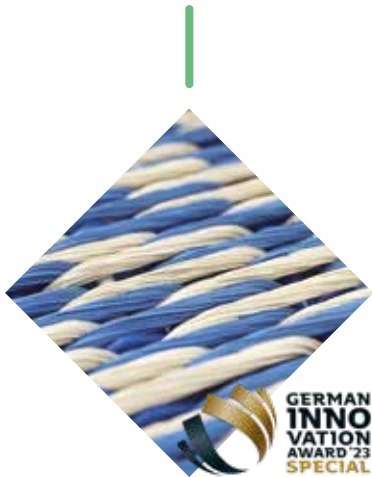
Efficient energy consumption

GKD meets all requirements of **international energy management standard ISO 50001**.



40% less energy

The innovative **BLUEBACKER** process belt from GKD is a real game changer for the booming corrugated board industry. It not only saves energy, but also significantly accelerates the manufacturing process. In May 2023, GKD received the prestigious German Innovation Award for its sustainable process belt.



19% cooler

A scientific trial demonstrated that **architectural fabric** from GKD cooled a building façade from 34.4 to 27.8 degrees Celsius.

Plastic free

Vast quantities of the microplastics found in the environment are caused by tire abrasion. GKD has developed a **collection basket** that filters out almost 100 percent of solids from road runoff.

97 %

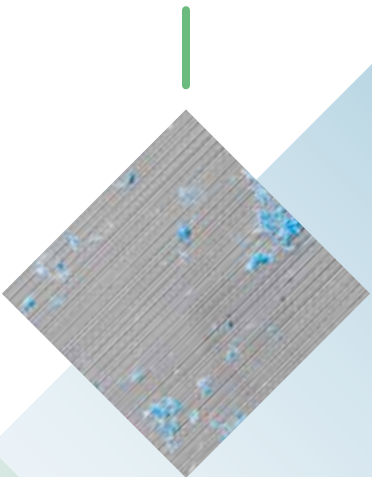


LEED / BREEAM

Architectural fabrics from GKD make a valuable contribution to optimizing the **energy balance of buildings** – for example by reducing the thermal load of interior spaces. Numerous structures featuring GKD façade fabrics have earned prestigious certifications, such as LEED (Leadership in Energy and Environmental Design) or BREEAM (Building Research Establishment Environmental Assessment Method).

50 micro- meters

A new patented filtration system with GKD mesh removes **synthetic microfibers** as small as 0.05 mm from washing machine water.



MISSION POSSIBLE

Metal, synthetic, and hybrid meshes from GKD make the world a better place. There are barely any industries that do not benefit from the GKD Group's products and research developments. From e-mobility to wind energy, from the water industry to the medical and pharmaceutical industries. The GKD Group's groundbreaking innovations significantly aid in making both the mobility transition and the ongoing transformation of industry a success.

Healthy cycle

Water is the prerequisite for all life on Earth. Water is the habitat, energy source, and building block of organisms – including roughly 60 of every human's body. As such, the effective filtration, purification, and recovery of water are major challenges both now and in the future. Filter mesh, filter elements, and filtration belts from GKD are used in municipal wastewater treatment. They treat process water in industry and thus help to conserve this most valuable of resources. In shipping, mesh from GKD filters ballast water worldwide, protecting valuable habitats and their inhabitants from invasive species. For years, GKD has been researching solutions that help to avoid microplastics in the environment and has already developed products that are ready for series production. This commitment will be especially beneficial to future generations, as the harmful effects of tiny plastic particles on human health have now been proven. The future belongs to such applications as the efficient filtration of synthetic textile fibers and tire abrasion in road traffic.

0.3%

Freshwater accounts for only 2.5 percent of the world's water reserves. Only 0.3 percent is accessible to humans as drinking water and for industry and agriculture.



Porometric mesh filters microplastic particles as small as 0.015 mm



- 55%

Under the Paris Climate Accord, EU Member States pledged to reduce their emissions by at least 55 % by 2030 compared to the 1990 level.



Trimetric filter laminates reduce emissions in hot gas flows

Clean air

The global concentration of carbon dioxide has risen by at least 50 percent since industrialization began. The effects of CO₂ and other greenhouse gases on climate change have been scientifically proven. Filters and mesh from GKD cannot reverse climate change but they do help reduce carbon emissions. GKD does this indirectly using solutions that replace fossil combustion processes with new and more sustainable methods. The essential concept here is the production and use of green hydrogen, the key technology for the transformation of industry and goods transportation. In addition, GKD tackles carbon reduction head-on. With the cutting-edge technology of Direct Air Capture (DAC), CO₂ is either permanently captured or reused – for example on plant farms and for synthetic fuels. CO₂ is removed from the air using chemical sorbent media like aqueous alkaline solvents or adsorbents. Mesh solutions from GKD play an important role in these processes, as they help to improve the efficiency of the plants.



Safe mobility


Around 25.9 million electric vehicles were on the roads in 2022. According to forecasts by the International Energy Agency (IEA), there will be more than 200 million such vehicles by 2030. There is no doubt that hybrid, battery, and fuel-electric drives will shape private and goods transport even more in the future than they do today. At the same time, batteries are becoming more powerful, charging times are becoming shorter, and contactless charging could become the norm. Regardless of how technical developments proceed in detail, it is certain that passengers and components will have to be shielded from electromagnetic radiation even more thoroughly than before. Technical wire mesh from GKD does this in both automotive engineering and aviation. EMI shielding, made from conductive and easily shapeable wire mesh, ensures safety, daily functionality, and efficiency, particularly for the core component of electric drive systems: modern high-performance batteries. They are already indispensable as highly effective explosion protection.

Better carbon balance

In a lifecycle comparison, electric cars outperform gasoline cars. Extrapolated over 15 years, e-cars emit an average of 115 g/km of CO₂ and CO₂ equivalents, while the emissions of vehicles with gasoline engines add up to 244 g/km.



EMI shielding protects people and systems in vehicles with electric drives.



Energy from water

Green hydrogen plays a key role in the energy supply of the future. GKD is developing solutions to ensure that its production and use also succeed on a global scale.

In 2022 alone, global greenhouse gas emissions amounted to almost 37 gigatons – one percent higher than in the previous year, despite all efforts and declared intentions. The energy industry is responsible for the largest share of greenhouse gases in the form of carbon dioxide. The direction is therefore clear for GKD: away from fossil fuels and towards the energy sources of the future, above all green hydrogen.

Where can green hydrogen be used?

Green hydrogen is a beacon of hope. In the chemical industry, it is expected to reduce the use of crude oil, while in the steel industry, the emission-free energy source can replace coal as a reducing agent and fuel blast furnaces.

Green hydrogen also offers encouraging prospects for road traffic and goods transportation. Wherever it is difficult to convert to e-mobility in the foreseeable future, the fuel cell has great potential, such as in aviation or heavy goods transport.

How is GKD contributing to the production of green hydrogen?

Green hydrogen is generated through electrolysis of water. Electrolysis is a process in which electric current produces a chemical separation of substances. In the case of green hydrogen, this process takes place exclusively with the use of renewable energies such as wind or solar energy. Technical weaves from GKD are used in electrolysis as electrode material, spacers, and current distributors. Thanks to their electrochemical, structural, and mechanical properties, they amplify the hydrogen and oxygen generation reaction. For alkaline water electrolysis (AEL) – the most promising technology currently available – GKD has developed a coated wire mesh that increases efficiency by 25 percent compared to conventional electrodes. This leap in efficiency ensures that the energy from wind turbines, for example, is converted by the electrolyzer with as little loss as possible.

GKD's mesh solutions as electrode material also boost fuel cell efficiency, where green hydrogen is turned into electrical energy. Almost all fuel cell designs benefit from the porosity and conductivity that they offer. The distinct and yet smooth surface structures of the technical weaves ensure optimal electrical contact with the membrane. In addition, these meshes withstand considerable bending without losing contact with active materials.



More energy

One kilogram of compressed hydrogen has an energy content of 33 kWh. One liter of diesel has only 10 kWh.

NON-NEGOTIABLE

Companies can only navigate the path to sustainability together with employees, customers, suppliers, and service providers. For the GKD teams, values and standards that shape their actions and self-image also apply worldwide.

Rio de Janeiro, June 1992. 178 countries adopted Agenda 21 at the Earth Summit in Brazil. It describes a comprehensive action plan for sustainable development to improve people's lives and protect the environment. What began in Rio led to the 17 Sustainable Development Goals (SDGs) in 2015. Seventeen goals that make it clear that sustainability is more than climate protection.

Düren, 2023. Dr. Stephan Kufferath, who has been with the company for more than 40 years, takes stock and looks to the future: "For us, as a family-run company, sustainability has always meant acting so as to ensure that the company has a future." This conviction, which his predecessors also held, ensures job security and enables people to develop and realize their potential. He has passed that value on to his daughter Lara Kufferath, who wants to turn GKD into a Net Positive Company. "The social component is a significant factor in this," says Lara Kufferath. "People enjoy coming to work and are productive when they feel valued, can identify with the company's attitude, when they have exciting tasks and experience a certain fulfillment. That's why it is also strategically important for us to invest in sustainably attractive jobs and employee development."

GKD has specified what constitutes sustainably attractive jobs in the company's set of values. They enumerate how corporate and economic development benefits employees, which is why sustainability is non-negotiable for company management. Lara Kufferath: "Regardless of how you think politically, sustainability must not be a matter of personal opinion. The sustainability strategy is a company-wide movement and a task in which everyone is invited to contribute their ideas and shape our shared future."

The four core values of GKD's corporate culture



Reliability – the basis for trust

Reliability is very important to GKD's customers and partners worldwide. Reliability engenders trust and is an essential element in any collaboration, whether in relation to customers, suppliers, and partners, or within the team. That's why GKD's employees always go the extra mile – be it for our colleagues or our customers.



Commitment – working together for the best solution

Innovation is in GKD's DNA. We analyze and improve processes and working methods, find new markets and applications as well as new solutions for our customers. Innovations are conceived and driven by people. That's why GKD encourages employee commitment and gives them the space they need to develop their ideas to the full.



Respect – diversity that enriches us

Treating employees, applicants, customers, and service providers with respect and appreciation is essential to GKD's corporate culture – regardless of nationality, skin color, gender, religion, sexual orientation, or physical disability. GKD sees internationality and diversity as an enrichment, both in terms of human interaction and with regard to the company's performance and future viability.



Development – ready to break new ground

The machines and technologies that GKD works with undergo constant enhancement. GKD employees also have the opportunity to develop their skills and expertise and are supported in doing so. Our customers and partners see us as problem solvers. That is why the courage and willingness of everyone to learn and move forward is a crucial success factor.

Responsibility is growing – at all sites

As GKD advances to becoming a Net Positive Company, our own standards of corporate social responsibility are also growing – worldwide.

Mining is almost as old as humanity itself. Yet it is an industry plagued by controversy, as it makes incredibly intensive use of energy, carbon, and water. Plus, working conditions in the sector are not always as they should be. So is it even acceptable for forward-looking companies to support mining any more? We think so. Our reasoning is that not all raw materials and resources required for the transformation of industry, the energy transition, and the mobility transition can be reused from the circular economy. Lithium, rare earth metals, copper, and other valuable raw materials still need to be extracted from the earth. Anyone who ignores the issue of mining is

making things too easy for themselves. Responsibility means using every opportunity to improve mining conditions worldwide.

Mining is a field in which the GKD Group can forge ahead with sustainable developments, particularly at the sites in South America and South Africa. For example, the high demand for water and the contamination of water in the extraction of lithium and gold, as well as in coal washing, are suitable starting points for improvements. With innovative filter and process belts, GKD provides the industry with solutions that not only reduce the ecological footprint, but often also ensure greater process reliability and plant efficiency.

Developing sustainable solutions for different sectors is one of the key motivations that drives GKD's actions around the world. And because the best place to start is with yourself, GKD Africa commissioned a 270 kW photovoltaic system at the Randfontein site in South Africa in the fall of 2023. This not only reduces the need for external energy, thereby cutting carbon emissions, but it also secures production in the event of a power outage.

Individual projects become a worldwide approach

Other companies in the GKD Group are also assuming responsibility. The GKD subsidiary Nextwire in the USA is successful in recycling and waste prevention. GKD China is campaigning for greater gender equality in the working world. And GKD India has pledged to use a portion of its business profits to fund initiatives that assume social responsibility. As such, GKD India supports the Disha Foundation Jaipur, an officially recognized foundation that campaigns on behalf of children with multiple disabilities who require special care.

At the start of 2023, GKD launched an extensive change process at its headquarters in Düren that includes developing and implementing a strategy for a sustainable transformation within the GKD Group. In line with the corporate vision FOR A HEALTHIER, CLEANER, SAFER WORLD, the Group intends to ready itself to meet the future requirements of customers and suppliers and to exceed the statutory Corporate Social Responsibility (CSR) regulations wherever possible.



GKD leads the way

Social responsibility is being expanded as part of the CSR guidelines.



GKD - Gebr. Kufferath AG

Metallweberstraße 46
52353 Düren
Germany

T +49 2421 803 0
F +49 2421 803 227
info@gkd-group.com
www.gkd-group.com

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and fabric solutions
for a better world