/// Customized Cup Solutions

# Sustainability Report 2022

# DEAR READERS,

Three years have now passed since our last Sustainability Report, and the events of the last few years have significantly changed the way we look at a good many things.

The COVID 19 pandemic showed us just how vulnerable our liberal democratic system can be to outside interference. When a stricken vessel blocked the Suez Canal, supply chains were hugely affected and prices for sea containers skyrocketed. This saw what was formerly a closely interlocked world drift much further apart again. And latterly, the Ukraine war has once again divided the world along the old East-West lines.

Even just the increase in carbon emissions due to the damage caused there so far and the reconstruction work that will follow is likely to be on the same scale as the total annual emissions generated by countries like Spain, France or Egypt.

Next year, the world's population will rise to over 8 billion people and by 2030, around 60% of us will live in cities. How are these people who cannot grow food in their own garden or buy from the farmer around the corner to be fed?

We need to address this issue if we want to make our world more sustainable. This is especially true for companies like GIZEH, because the only way to feed the world's population is to produce goods in fertile areas and then transport them to the regions that need them. This requires packaging, which in turn requires proper disposal and reprocessing. People need to understand that waste is not just waste, but the basis for new raw materials.

For more than 20 years now, we here at GIZEH have been making key contributions, with our development department and working hand-in-hand with our customers, to designing their packaging to make it suitable for the application concerned and also sustainable at the same time. This packaging ranges from weight-optimised or technically optimised options that enable more efficient filling, to packaging with improved recycling properties.

But we also put our own processes under the microscope, as this report shows. Our motto is "A little better every year". But this can sometimes be far from easy.

Having already achieved a whole number of efficiency improvements, we also wanted to do something about the biggest contributing factor to our carbon emissions, electricity. As a result, we planned to build solar power plants in all of our European locations in order to reduce our electricity consumption by around 10%. We learned the hard way, however, that obstacles surrounding European jurisdiction and formalities make the rapid implementation of projects like these almost impossible: starting with nature conservation requirements, e.g. for the strictly protected sand lizard species, to extremely complex approval procedures and scenarios in which we were unable to obtain the final signature from the competent authorities. We get the impression that, despite the political will to achieve this energy turnaround, nobody wants it to happen to quickly or too intensively so as not to encroach on the interests of some lobbyists.

Meanwhile, GIZEH has already invested around EUR 2.5 million in solar plants and has not yet produced a single kilowatt hour of energy. This is something that SMEs cannot afford, and specific political measures are needed to create reasonable overall conditions for investments in climate protection like these.

Until then, let us hope that the world order will make a return to reason and peace. Then things might still not go fast enough, but they at least won't go backwards either.

Your GIZEH management team,

Ralf Jung

# 1

# WHAT WE UNDERSTAND BY SUSTAINABILITY

Striking a balance between economics and ecology

# Striking a balance between economics and ecology

Business policy can, and indeed must, set priorities. But companies also have to generate the resources that these priorities require. This creates a cycle which, in the best-case scenario, becomes a flywheel for every business. This is why sustainability must cover both aspects. Only a company that is commercially successful in the long run is in a position to consistently have the resources that a social, ecological and product and production-related business policy requires at its disposal.


A successful company like this also, however, has an obligation to live up to its social, ecological and product and production-related responsibilities.
As a result, our understanding of sustainability includes the following areas:

### Sustainable corporate governance

We aim to achieve a return on sales of approximately 3 - 5% in the long term. This allows us to secure our survival in the long run, pay our employees fair salaries on an ongoing basis and maintain a production structure that meets the relevant economic and ecological requirements. We aim to remain a family business in the long term and to uphold our traditional values.

### Products

When we develop our packaging, we are guided by the principle of reduce, reuse and recycle. Constant optimisation allows us to continually reduce the amount of material required for our packaging. High levels of reusability and recyclability are also considered in our packaging design process right from the start. Even if the current legislation and development status still imposes limits on us, we are conducting research into the increased use of sustainable and biological materials.

### Energy

A company that relies on the consumption of irretrievable resources has restricted prospects for the future. We are working at full tilt on using less and less energy and on extracting as little of it as possible from fossil fuels. We are aiming not only

to become a completely $CO_2$-neutral company, but also to make a positive contribution as we interact with nature and our climate. This is why GIZEH generates and uses electricity from its own solar power systems and is actively working on measures to continuously optimise its energy management.

## Social

It is often said that family businesses do not think from quarter to quarter, but rather from generation to generation. As a result, we are very proud to have some employees that are already the third generation of their family to work for us. Satisfied, motivated and well-trained employees are a key success factor. This is why taking targeted measures to keep employee satisfaction levels high in the long term is a priority for us.

## Our contribution to the SDGs

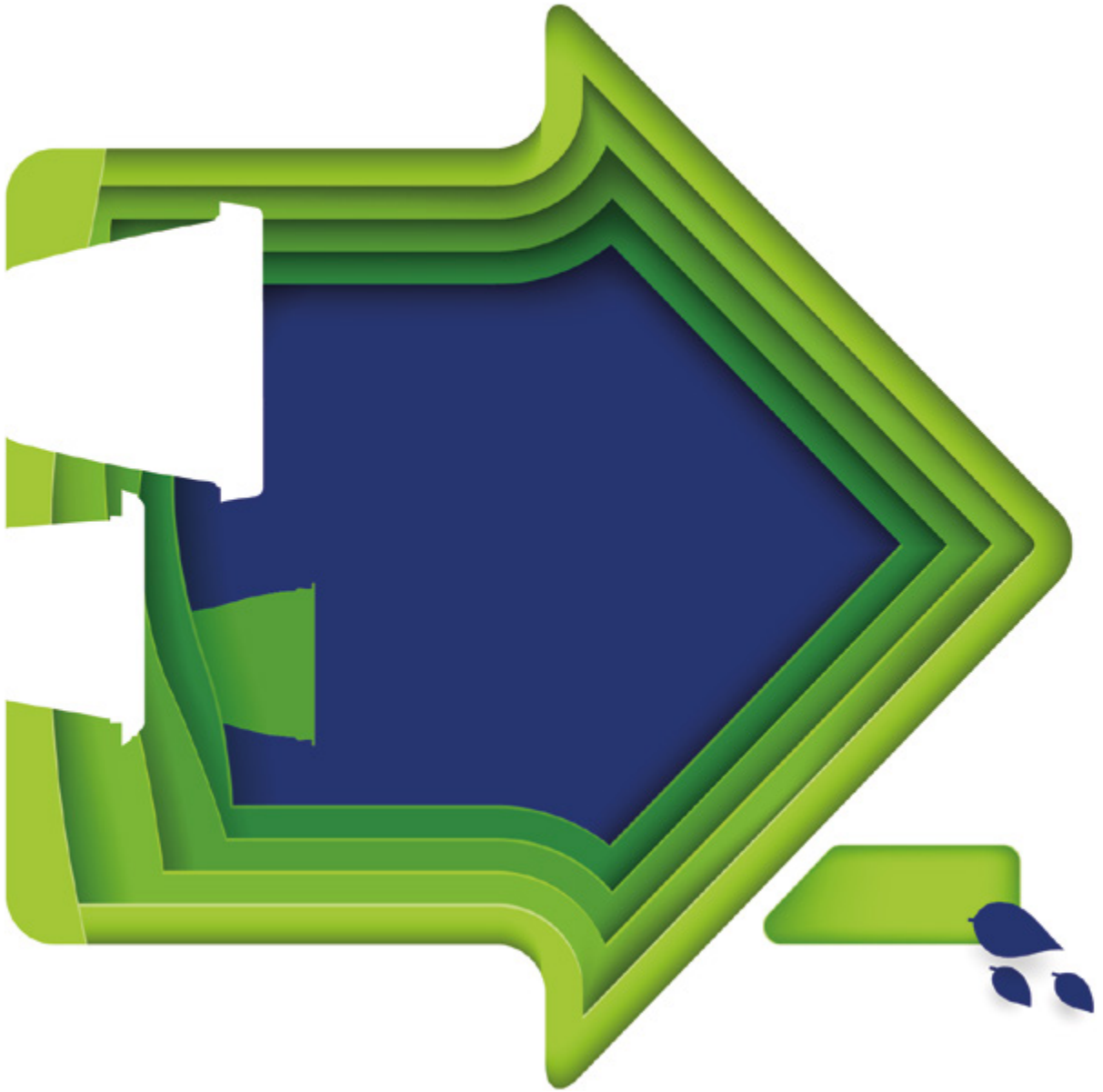
The GIZEH Group has operations worldwide. This means that many of our decisions have global implications and also explains why we are committed to the Sustainable Development Goals ("SDGs" for short) of the United Nations as part of its 2030 Agenda. Our sustainable measures allow us to make a significant contribution to making the world a good bit cleaner and fairer. Our sustainability strategy, for example, already addresses 16 out of 17 Sustainable Development Goals.

**https://sdgs.un.org/goals**

# 2

# OUR PRODUCTS

Better protection for good products



# PRODUCTS

## Our highlights

It goes without saying that our top priorities are ensuring optimum protection for the packaging contents, as well as measures to promote a closed-loop economy and sustainable packaging. This is why we focus on the following:

- ✓ **Product protection and durability**
  Technical advancements in the production of packaging that not only contains a barrier layer and minimises the permeability of gases (e.g. oxygen) and vapours (e.g. water vapour), but is also completely recyclable at the same time.

- ✓ **Resource optimisation**
  Technical developments and advancements to reduce the weight of different forms of packaging with the same or improved technical functions.

  Successful tests using recycled polypropylene (PCR-PP) made from 100% recycled packaging originating from household waste (material with the "green point" recycling symbol). For example, we recently produced a screw cap made of 100% PCR-PP in combination with a container made of 100% recycled PET (rPET). Similar projects are currently under way, also aiming to enable post-consumer material to be reused safely for food applications.

- ✓ **Design for recycling**
  New and further development of packaging that simplifies material separation for containers and decorative elements, e.g. IML, cardboard sleeves, sleeves and labels, to optimise the recycling process.

## Our visions

Our overriding objective is to achieve a closed-loop material cycle. This will involve the following measures:

- ✓ Further increase in the recyclability of our packaging
- ✓ Further minimisation of material consumption
- ✓ Safe use of recycled materials to promote the circular economy
- ✓ Increased use of sustainable materials, e.g. from organic feedstock sources, and – where appropriate – use of organic-based or biodegradable materials, provided they have no negative impact on the environment and their production does not compete with food cultivation

## Our initiatives

AGVU
Arbeitsgemeinschaft Verpackung + Umwelt

Der Runde Tisch Eco:Design von Kunststoffverpackungen

RAL GÜTEZEICHEN RECYCLING-KUNSTSTOFF

## Because environmental protection starts with packaging

Packaging made of plastic is an important part of our modern everyday life and is set to remain so for the foreseeable future. Its advantages are undisputed: it is lightweight, allows for flexible use and is durable in contact with both heat and water. What is more, it takes much less energy to produce than glass or aluminium, for example. As a result, the content of packaging often has a much higher carbon footprint than the packaging itself, making it particularly worthy of protection for this reason alone. This means that packaging that is as well suited to the product as possible already makes a specific contribution to environmental protection.

At GIZEH, our "Customized Cup Solutions" provide our customers with innovative and optimised packaging solutions. Behind this buzzword, however, is also a holistic approach to packaging and its contents – including their impact on our environment.

We focus our commitment first and fore most on the following approaches:

- protection that is the perfect fit for the product
- ongoing optimisation of resource requirements and using sustainable sources to meet these products to the greatest extent possible
- taking recycling aspects into account back at the design stage so as to ensure or increase reusability

## Product protection and durability – better protection for good products

Packaging allows products to be transported and stored efficiently. But packaging is, of course, designed primarily to protect the product. In this respect, packaging fulfils a simple but key function: it shields goods and environment from each other.

Food, in particular, is often not consumed fresh. Even if it can be preserved, it has needs the right packaging to protect it against perishable influences.

GIZEH has a wealth of experience in manufacturing packaging with a built-in barrier layer. This generally consists of multi-layer films that contain a barrier layer as a form of additional protection for the product.

As well as direct shielding the product from external physical influences, it also offers protection by ensuring only the most minimal permeability of gases (e.g. air) and vapours (e.g. water vapour) in both directions.

This not only helps to preserve flavour and consistency, but also to conserves volatile substances such as vitamins. The oxidation of the food is also prevented. This protection means, among other things, that there is no need to add preservatives.

The direct impact: the product has a much longer shelf life. This not only avoids unnecessary food waste caused by premature spoilage, but also saves $CO_2$.

# Optimised use of resources – achieving more with less

In its quest to make its use of resources ever more efficient, GIZEH is investing in the following approaches:

- Material savings
- Use of recycled material
  - Ongoing improvements in the recyclability of packaging
  - Use of additives that are fully compatible with current recycling processes
- Increased use of organically based and biodegradable plastics for applications where this approach also makes sense (for items that are very likely not to be disposed of properly and to end up in the environment)
- Reusable solutions for personal use, as well as in the events and hospitality sector

## Material savings

Our aim is to produce packaging in a way that is as resource-friendly as possible. In order to achieve this, we are optimising our technical capabilities with regard to material, design and the required processes (e.g. for tools). And our hard work is paying off: these developments have enabled us to reduce the weight of our packaging by up to 20% with the same or even improved technical functions. This is one of the main reasons why our expertise is in demand, especially when it comes to advice on the ideal manufacturing process.

Joint analyses of the necessary processes allow us not only to develop the best possible new designs with our customers, but also to improve existing containers by reducing their weight/wall thickness.

But resource-saving development is not just limited to individual packaging. Stackability, in particular, which we are maximising for the vast majority of our packaging, ensures that the largest possible number of items can be shipped with the smallest number of necessary truck shipments. Compared to heavy glass containers, for example, which are also usually not stackable, our plastic packaging has a better carbon footprint not only in production, but also in its transportation.

## Use of recycled material

The catalogues of measures recently adopted by the EU and, among other things, the requirements they contain for the future use of recyclate in packaging call for solutions allowing other recycled plastics, besides rPET, from the closed deposit system to be reused for food.

Various joint trials and projects with our customers and partners have shown that post-consumer rPP can be processed using both thermoforming and injection moulding. 100% of this processed recycled polypropylene came from normal household waste (material with the "green point" recycling symbol), which is why it is also referred to as post-consumer material. While our trials have been promising, the use of rPP from post-consumer waste is difficult, and recycled polypropylene from post-consumer waste (PCR-PP) has not yet been approved by the EU for reuse in the food industry. This is due primarily to possible risks resulting from the release of substances that migrated into the packaging during its use and can make their way from the plastic back into the food. Since the origin of the material with the "green point" recycling symbol is unknown, it is currently impossible to rule out a scenario in which plastics not approved for use in the food sector enter and contaminate the recycling process. As a result, direct applications are currently limited to the household and cosmetics sector where there is no direct contact with food.

There are, however, currently several promising approaches to solving this problem, such as additional protection for the packaged food using "functional barriers", which prevent substances migrating from the packaging into the food. In cooperation with a major German plastics institute, a project is under way in which a thin barrier layer (with similar barrier properties to glass) is applied to cups made of rPP in order to prevent the possible migration of critical substances into the final packaged product.

Another more direct approach involves increasing the quality of the recyclate by, for example, clearly separating "food grade" and "non-food grade" plastics and packaging at the outset during the sorting process.

GIZEH is actively involved in trials as part of several projects in this area, and is also a member of the HolyGrail 2.0 project (Pioneering Digital Watermarks | Holy Grail 2.0). The aim of this project is to use digital watermarks and a corresponding camera system to separate food and non-food material during recycling. As the watermark can also be recognised by any modern smartphone camera, there are additional options for the use of links referring to the manufacturer's websites, or augmented reality (AR) applications with the packaging itself.

GIZEH also supports the NEXTLOOP project (NEXTLOOPP | The goal is to establish a circular economy in the production of post-consumer food-grade rPP), in which we have produced samples of post-consumer rPP for technical experiments and analysis in cooperation with one of our largest customers. NEXTLOOP is also addressing ways of marking and recognising defined plastic packaging (suitable for food). Compared to the HolyGrail 2.0 approach, however, this project uses fluorescent markers in the printed design or in the label, IML or sleeve.

One example of the ways in which rPP (recycled PP) can currently be used is the screw cap made from 100% post-consumer PP that was recently developed as part of a pilot project. Designed together with a major recycling company and a manufacturer of toiletries and cosmetic products, it already has a long-standing track record of successful series production. Together with the matching container made of 100% recycled PET (rPET), the products make up a form of packaging made entirely of recycled material.

GIZEH is receiving an ever-increasing number of enquiries for the use of recycled PET, in particular. Demand will continue to rise, especially in light of the new EU requirements for recycling quotas and the share of recyclates in packaging by 2030.

Since recycled PET comes from a closed, certified (EFSA) system – meaning that it remains separate from rPET for non-food applications – it can be used in the food sector without hesitation. About 50% of the PET used at GIZEH is now recycled material. For other materials such as polypropylene, closed loops like these do not yet exist, and corresponding EFSA approval is still outstanding. Recently, however, new regulations have been introduced at EU level which now provide a legal basis for establishing new recycling processes and also for processing other plastics accordingly so that they are suitable for direct food contact again, namely in line with the very same quality criteria that apply to virgin materials.

A number of corresponding projects are also under way at GIZEH, including one with a yoghurt pot made of rPP. Together with our customer, we collected empty pots from the market as part of this project in order to recycle them and ideally turn them into food-grade cups again. While some research and approvals are still pending, experience of recycling and reusing the material has already been very positive.

### Use of renewable and biodegradable plastics

Our development team is also focusing on processing biodegradable materials and using materials from renewable resources. Unfortunately, many organic-based or degradable material types are not (yet) any more sustainable than conventional plastic. This is also because they account for a small proportion of the total waste volume, which is why, among other things, they are currently not always classified as recyclable. We are, however, keeping our eye on the market and have carried out successful tests using the following alternative plastics:

### Organic feedstock:

This term refers to plastics based on oils and fats from industry and forestry. They are usually created as a waste product in these industries. The use of these plastic alternatives and more sustainable oil as a basis allows the use of crude oil to be reduced. ISCC certification guarantees the entire material flow, from the proportion of organic feedstock in production to processing and packaging.

### Green PE/PP:

This material is a form of plastic based on renewable sugar cane that has almost identical properties to conventional PE/PP plastic. The special thing about it: this type of plastic can be used to increase the proportion of renewable raw material to as much as 100 %.

### Post-consumer PP from chemical recycling

Chemical recycling involves breaking down collected plastic waste into its monomers, i.e. its basic chemical building blocks, in a pyrolysis process. This produces what is known as pyrolysis oil, which replaces fossil crude oil as the basis for plastic production later on, improving the carbon footprint and supporting the recycling cycle. In order to make the recycling process safe and traceable, GIZEH also already has ISCC PLUS certification.

### Additives to improve biodegradability

Many countries have no collection systems for used packaging. This means that large quantities of waste are not disposed of ideally and end up in the environment, either directly or indirectly. New additives, however, now open up the option of using standard polypropylene, for example, as a fully biodegradable plastic. Micro-bacteria break down the plastic completely over time into its original chemical components. This allows negative effects such as microplastics or toxic by-products to be avoided.

In 2022, GIZEH implemented a pot for sauces and dips featuring this sort of additive in collaboration with a customer. The focus is still on recycling the packaging, and the additive does not affect this process, but merely serves as a backup option. If the packaging is not disposed of correctly, it will decompose into its natural components within a very short space of time – without any negative impact on the environment or surrounding area.

### Reusable solutions

For several years now, GIZEH CUPSTORYS has been producing, decorating and distributing reusable drinking cups for large and small-scale events. The high-quality printed cups can be used several times over and ensure safety, thanks to their breaking strength, and a clean environment thanks to the deposit that is refunded on their return.

Current developments will also allow the cups to be linked to the digital world in the future.

Using what are known as RFID tags, it will be possible to register the cups automatically, e.g. in combination with collection or deposit systems.

The portfolio is also being expanded to include reusable bowls for the catering industry.
This can help to avoid the use of disposable items.

# RE-USE


**Green PE:
sugar cane-based
plastic cups**


**PLM material:
fully biodegradable PP cup thanks
to additives**

**Reusable drinking cups:
used in the Allianz Arena – home to
FC Bayern Munich**

# Design for recycling – considering recyclability right from the outset

"Design for recycling" is the name of a solution approach that GIZEH already takes as a basis when developing packaging: whenever new packaging is designed, the extent to which it can be recycled after disposal is taken into account directly. This means that the recyclability of the material used is an essential design criterion for us in the design phase. The aim is to use only materials and/or combinations of materials that do not have a negative impact on recyclability wherever possible.

### Why is this important?

All forms of plastic packaging feature a specific combination of polymers and additives. The individual composition depends on the product to be packaged, as well as the functional and aesthetic requirements. The resulting vast range of different packaging can make the recycling process more difficult, more expensive, and can affect the quality and, as a result, the value of recycled plastic. A design decision made at the very start of the process that appears to make sense for marketing or branding reasons (e.g. the use of very dark colours) can have a negative impact on the value of the recycled material later on. Design for recycling takes this aspect into account right from the start – and helps to plan for added value at the end of production from day one.

### What might this sort of solution look like?

White or transparent packaging is best suited to the recycling process. Without additional decoration, however, the packaging cannot fulfil its purpose, namely to provide information. The decoration is also what makes the packaging unique. It is required to label the contents based on their type, quantity, weight and price. The decoration also provides information about expiry dates and carries machine-readable information such as bar codes. In order to prevent a scenario in which decoration makes packaging less recyclable, the material used for labels (OML/IML), for example, or shrink sleeves should be as close as possible to the packaging material. And the packaging itself should be made of a polymer that is also collected, as part of a common recycling category, in as many countries as possible where the item may be generated as waste. For example, packaging for chocolates was recently switched from polystyrene to polypropylene, which is known to be one of the largest recycling categories, not only in Germany.
In addition, GIZEH is already working on issues that will play a more important role in the future, such as printing inks/IML that are easier to separate and remove in the recycling process.

This alone has the potential to significantly increase the quality of the recyclate, bringing us one step closer to reuse in the food sector. Similar to the current rPET "bottle-to-bottle" stream, there could soon be a stream for all other food packaging – "cup-to-cup".

The combination of product design and decoration is a key factor in improving recyclability and has the potential to significantly reduce the cost of processing plastic packaging waste.

We make a contribution to these SDGs:

# 3

# OUR PLANET

Resource-friendly ways of working

# OUR PLANET



## Our highlights

- Reduction in our specific energy consumption by 16% (as against 2019)
- ISO -50001 certification for the Bergneustadt and Elsterwerda sites
- Recycling our release paper to reduce the carbon footprint
- Planting over 1,000 trees in GIZEH's own forest
- Photovoltaic system with an output of around 3.5 million kWh/a
- CUPSTORYS as the first climate-neutral company with climate-neutral products
- Integration of the French and Polish sites into our EnM software

## Our visions

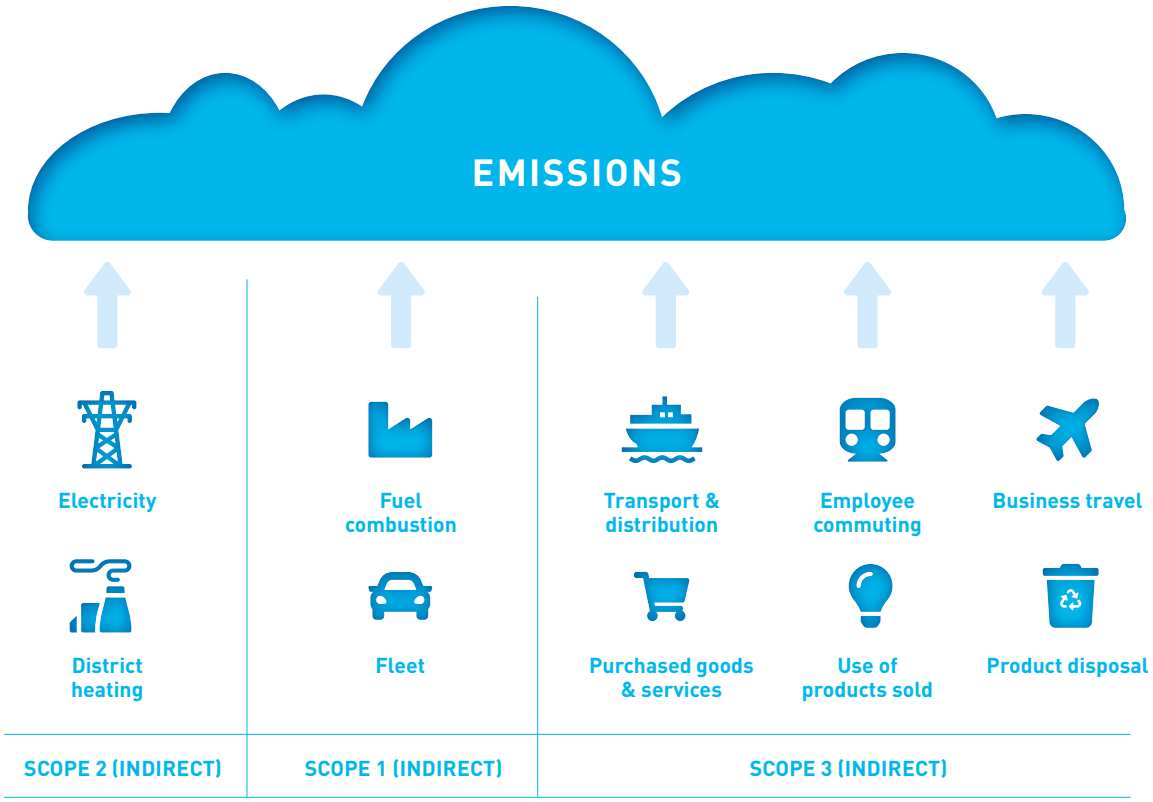
- German sites to be climate-neutral by 2025 with regard to Scopes 1 and 2
- Expansion of our own generation of renewable electricity
- Further analyses of the main categories of our Scope 3 emissions
- Continuously increasing the efficiency of our energy use in our production operations
- Certification of our energy management system according to ISO 14001

## Our initiatives

# Our planet – resource-friendly ways of working

Climate change is visible to the naked eye in Germany as well. The floods of 2021 and the heat records and droughts seen in 2022 are evidence of how extreme weather conditions are becoming more frequent. In order to reduce the threat to our ecosystems, the international community agreed in the Paris Agreement to limit global warming to less than 1.5 degrees Celsius if possible. In order to make its contribution to this target, Germany has made the goal of achieving climate neutrality in Germany by 2045 binding in the Federal Climate Change Act (Klimaschutzgesetz). In order to be able to record and analyse the greenhouse gas emissions associated with our business activities, we split our emissions (GHG) into Scope 1, 2 and 3 emissions in accordance with the requirements set out by the Greenhouse Gas Protocol. These scopes form the basis for calculating our direct and indirect energy-related carbon emissions. For example, we have found that the biggest sources of $CO_2$ in the context of our activities are the areas of raw materials and energy use.

This is why, as well as saving environmentally unfriendly $CO_2$ by becoming more energy-efficient, we are also focusing on reducing production waste. By saving raw materials, we can, in turn, have direct impact on greenhouse gas emissions in our value chain.




Source: Competition

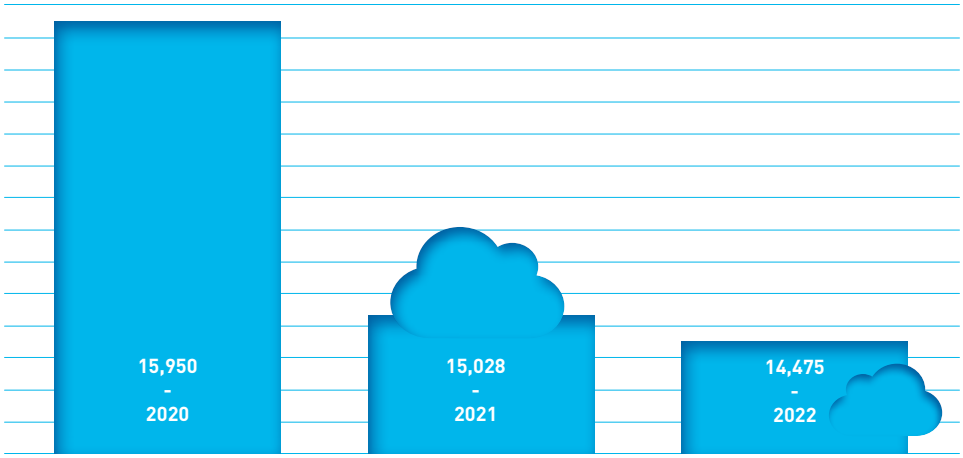
## Our climate target

Three years before the Paris Agreement on climate change, we had introduced an ambitious energy management system – with the ambitious goal of reducing our energy consumption by 20% within a ten-year period. We had already reached this target in 2019, instead of in 2022 as planned, and immediately set ourselves a new goal: to reduce our consumption by a further 5% by 2024.

The systematic implementation of a wide range of efficiency and saving measures remains the approach that will ensure our success.

So far, we have reduced our carbon emissions every year as a result of these efforts, and have slashed emissions by 15% over the last three years.

By 2025, we plan to have made our German sites carbon-neutral with regard to Scope 1 & 2 emissions. Specifically, this means that we include not only the direct $CO_2$ emissions resulting from our activities (e.g. from the combustion of heating gas), but also indirect emissions that are caused, for example, by the purchase of electricity.




$CO_2$ emissions [t $CO_2$e] Scope 1 & 2 GIZEH Bergneustadt and Elsterwerda sites

## Moving into the future with electromobility

Whereas in 2019, we were still at the beginning of our "journey" (pilot project), we have increased the proportion of vehicles with climate-friendly drive systems in recent years. Based on the consistently positive experience gleaned over the past few years, more and more hybrid and fully electric vehicles have been added to our fleet for business trips covering short distances and for transport in the local area. As a result, the total number of our vehicles with alternative drives has quadrupled compared to 2019.

In order to keep the impact of the remaining vehicles as low as possible during the phase of transition to zero-emissions mobility, we offset the $CO_2$ emissions emitted during our journeys using the DKV Climate Card fuel card.

# The long and winding road to climate neutrality

According to the United Nations Framework Convention on Climate Change (UNFCCC, 2021), climate neutrality by 2050 at the latest is the key concept to be used to combat climate change in order to achieve the 1.5 degree target set out in the Paris Agreement. Although the path to climate neutrality looks different for every company and product, it can be summarised, in simplified terms, based on the following key steps:

### 1. Determine the status quo and avoid emissions

In order to avoid emissions in the long run and become climate-neutral, the first step involves determining where we currently stand. This means examining all processes at all stages in the value chain and documenting the resulting emissions. Measures can then be taken to reduce or avoid emissions.

### 2. Reduce

Where it is not possible to switch to alternatives or where residual emissions remain, the aim is to keep them at a minimum. Examples of the measures that can be taken include:

- Switching to regenerative energy sources
- Using conference calls to avoid unnecessary business trips
- Using energy-efficient equipment and machinery
- Using digitalisation to avoid unnecessary paper consumption
- Optimising transport routes and means of transport

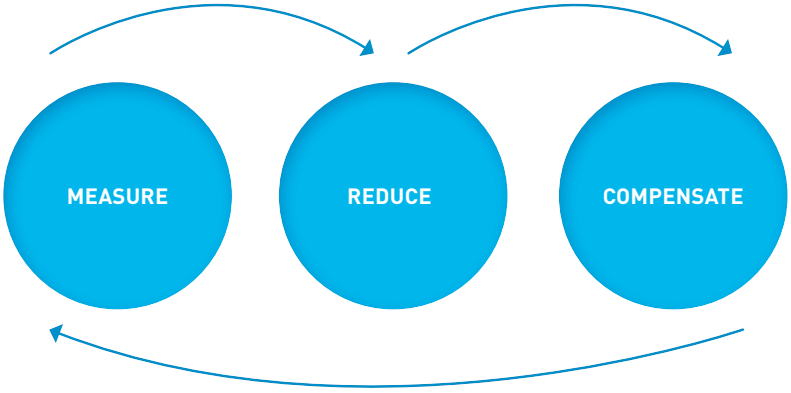
These measures have the potential to reduce our own greenhouse gas emissions, allowing us to make a key contribution to climate protection.

### 3. Compensate

We at GIZEH are convinced that achieving climate neutrality simply by offsetting the emissions we cause is not enough if we want to help ensure that people can continue to live according to their needs in the future.

Rather, we first of all have to focus on reduction measures to keep our own greenhouse gas emissions as low as possible – reflecting the current scientific consensus expressed in the "reduce... and only after that compensate" hierarchy.

Ultimately, however, we are left with emissions that cannot be avoided or reduced even if we do everything in our power to try, which is absolutely normal. As things stand at the moment, we have to offset the rest through certified climate protection projects.




Accounting
Forecast
Monitoring concept
Reporting
Communication

Reduction measures
Implementation support

Global potential
Local mechanisms

CUPSTORYS was the first part of our company to embark on this ambitious journey in 2020, making not only the company but also its products climate-neutral.

We also applied the processes described as part of this endeavour. We placed the greatest emphasis on the "avoid" and "reduce" steps in order to keep the proportion of emissions to be offset as low as possible. For example, we were able to eliminate the majority of emissions right away by switching to renewable energy sources. We also make a point of sourcing our raw materials from our immediate surroundings wherever possible.


To achieve this goal as quickly as possible, we have brought professional and expert help on board: together with the company ClimatePartner, we calculated the carbon footprint left by both CUPSTORYS and its products and, wherever possible, looked for ways to save on emissions. We offset the remaining share of unavoidable emissions, as described above, also in cooperation with ClimatePartner. As part of this process, we relied exclusively on the very highest international standards such as Verified Carbon Standard (VCS) or Gold Standard (GS). These climate protection projects are regularly monitored by independent third parties to ensure that they are making an impact in terms of protecting the climate.

But the impact of climate protection projects often goes beyond merely saving on emissions! Many of these projects also support sustainable development in the Global South. We know only too well that these regions are particularly hard hit by climate injustice.

Our contribution to the SDGs:

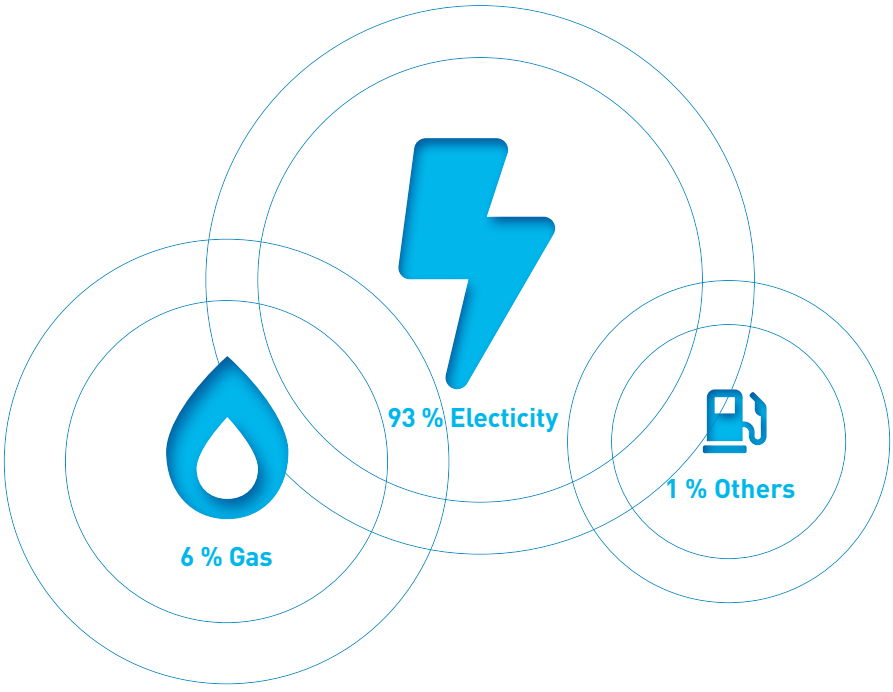
# Energy

With our certification in accordance with the ISO 50001 guideline, we have laid a solid foundation for the sustainable handling of different energy sources. In order to manage our continuous development and improvement using reliable data, we operate one of the most sophisticated energy measurement systems in the industry, with over 270 measuring points. This allows us to accurately identify savings potential, optimise energy-intensive processes and, in doing so, save $CO_2$ and costs in the long term.

Due to our consistently positive experience with our energy measurement system at our German sites, our international sites have also decided to gradually link up with our system. An energy measurement system that can be managed and analysed centrally allows us to now act globally to work even more efficiently and sustainably.

Over the last three years, we have required an average of approx. 32,000 MWh/a in energy for administration and production at the Bergneustadt and Elsterwerda sites, around 8,000 MWh/a less than three years ago. The average breakdown of energy sources has also changed slightly. Electricity is still the main energy source at 93%, followed by natural gas at around 6%. The remaining one percent relates to the use of petrol, diesel fuel and propane gas.

We are also still part of the Energy Efficiency Networks Campaign of the German Federal Ministry for Economic Affairs and Energy (BMWi). The initiative seeks to increase energy efficiency collectively through dialogue. Regular network meetings allow the members to exchange experience and ideas – which are also incorporated into our daily production routine.




Source: own information

# Electricity

Since operating our production facilities requires a lot of energy and electricity – which accounts for the biggest share of our total consumption – has the most leverage effect, we are continuously investing in highly efficient and state-of-the-art technologies.

Examples include:

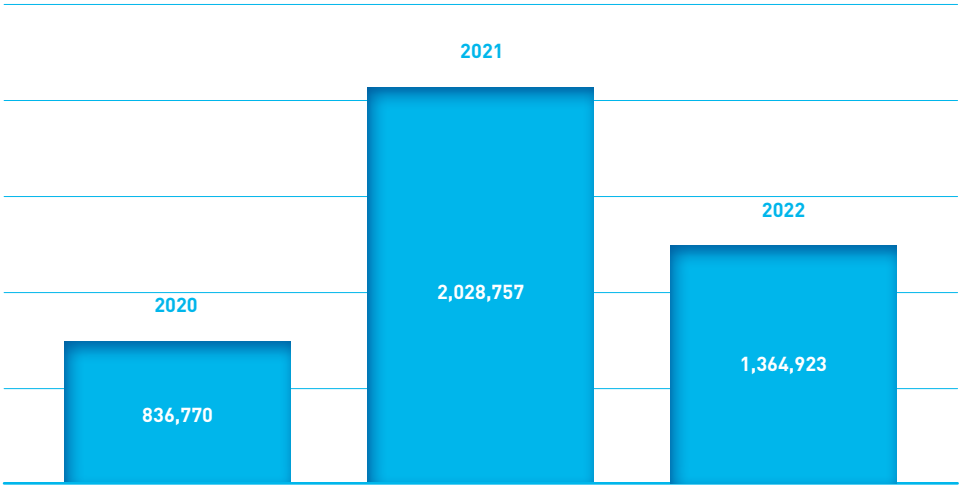
- Investment in state-of-the-art production machinery
- Reduction in heat losses on production lines
- Compressed air optimisation incl. elimination of leakages
- Free cooling to take pressure of the refrigeration systems in the winter
- Modernisation of our refrigeration systems

These measures have allowed us to save total $CO_2$ emissions of around 4,000 t $CO_2$e a year at our sites. The most successful projects of late have been replacement projects, i.e. the replacement of older, less efficient plants with new, significantly more efficient ones.

Some of the projects offer such considerable savings potential that they are even subsidised by government agencies. Subsidies like this are an important engine in helping us to remain competitive despite investing heavily in our efficiency and our environment.

The refrigeration system for the injection moulding department at the Bergneustadt site, for example, was modernised and redesigned last year (2022). Structured design and optimal adaptation of the refrigeration systems to meet our requirements will allow us to save large volumes of energy in the future: this is ensured by free coolers to take the strain off our refrigeration machines in the winter, the additional use of waste heat for heating when the weather is cold and the division of the cooling circuits. We also decommissioned one of the last cooling towers in operation at our company.

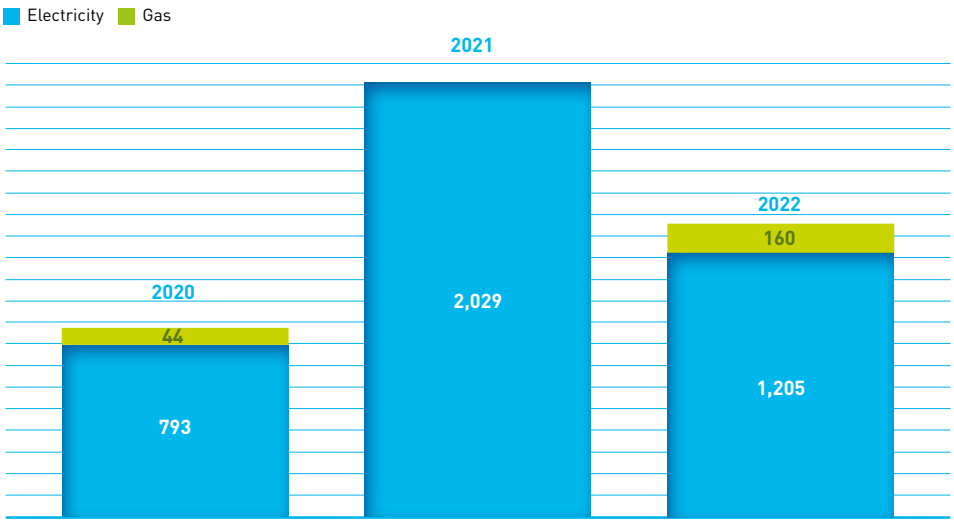
Thanks to the huge annual savings of around 370,000 kWh, this project was entered for the BMWi energy efficiency competition, meaning that it received 50 percent funding.




Electricity savings achieved 2020-2022 (kWh/a)

Source: own information

Our contribution to the SDGs:




Energy savings (MWh) achieved since 2020

Source: own information

## Renewable energy – we not only rely on "green electricity"; we also produce it ourselves

As well as boosting our energy efficiency, we are also pushing ahead with the active reduction of $CO_2$ emissions. One key measure as part of this quest involves switching our electricity supply to renewable sources.

We have decided to build further large-scale PV systems in addition to our existing systems, using nearby open spaces and the roofs of our warehouse, production and office buildings. This means that electricity is generated directly where it is needed.

The ambitious projects are as follows: At our plant in Elsterwerda, we are planning to build a PV system with a total output of around 1680 kWp this year. The PV system in Elsterwerda will be installed in locations including warehouse roofs, open spaces, the office building and carports. A PV system with a total output of 410 kWp is being planned for the roof surfaces in Bergneustadt, with construction work also starting this year. In Poland, a PV system with a total output of 1000 kWp has already been installed on the roof and open spaces and is also scheduled to be connected to the grid this year. In France, there are plans for a free-standing system with a total output of around 180 kWp.

These projects alone produce more than 3 million kWh of green solar energy annually, which is used directly in production, reducing our carbon footprint by around 1600 tonnes of $CO_2$. The systems also guarantee a sustainable supply for our production facilities in times of crisis and make us less sensitive to energy price fluctuations.

## Gas

As already mentioned, gas follows electricity as our second largest energy source. Apart from our production operations, we need gas mostly to heat our offices and production areas.

We have, however, been able to reduce this consumption significantly in recent years. A smaller proportion is supplied by our photothermal unit, which is mounted on the roof of one of the production buildings in Bergneustadt. But we save the biggest share using what are known as heat recovery processes. This involves heating our premises using waste heat generated by our air compressors and, since the extensive modernisation of our refrigeration systems, also using waste heat from production machinery. This has enabled us to slash our gas consumption, relative to area, by another 23% from 41 kWh/m² to 31 kWh/m².

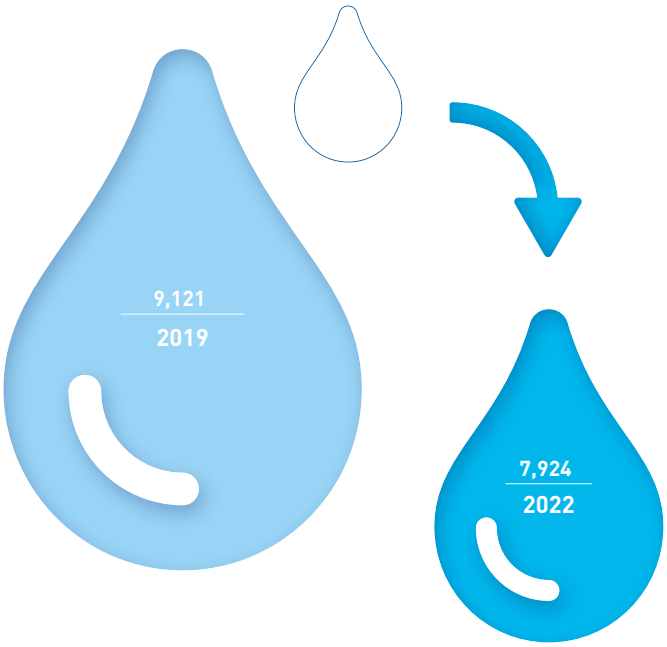
# Water

Clean drinking water is becoming increasingly scarce across the globe due to climate change and the growing world population. Particularly in regions with a high site-specific water risk, water scarcity is a major threat. In as early as 2013, for example, the World Economic Forum (WEF) identified a shortage of clean drinking water as one of the greatest global risks. Within the GIZEH Group, we, too, regard water as one of our most precious and vital resources. This is why systematically identifying opportunities and implementing suitable measures in all areas of the company and in all of our processes in order to minimise water consumption and, as a result, the volume of waste water is one of our top priorities.

By using state-of-the-art water treatment technology, for example, we were able to convert the water cooling for our machine chains into a closed circuit and reduce our fresh water consumption in this area to almost zero.

In recent years, we have also been able to achieve considerable water savings with regard to cooling towers. By coupling the hydraulic circuit to be cooled with a heat recovery unit, the running time of the cooling towers has been drastically reduced, especially in the winter months, meaning that hardly any water is needed for evaporation. The modernisation of the cooling systems at the Bergneustadt site mentioned above means that we have even been able to do away with one cooling tower completely. The last one will be decommissioned in 2023. This will allow us to save even more water.

**Water consumption (m³) 2019 vs. 2022**




Our contribution to the SDGs:

# Waste

Avoiding and recycling waste are also important ways of allowing us to contribute to reduction of carbon emissions and, as a result, to climate protection. Existing waste handling measures are being constantly optimised and expanded at all of our production sites across the globe. As waste can arise at all stages in our value chain and we are working not only on recycling, but first and foremost on avoiding, waste, monitoring our production waste as closely as possible on a daily basis is an absolute must. We introduced this monitoring system in November 2018 and developed and implemented measures based on the values analysed. As a result, by 2021, we had reduced our total production waste by 17% compared to 2019 (2019: 217 tonnes; 2021: 180 tonnes).

## Avoid

Preventing waste from arising in the first place or keeping the volume produced as low as possible is important and makes sense in both commercial and ecological terms. It allows us to save on raw materials, reduces $CO_2$ emissions and makes a significant contribution to protecting the environment. With this in mind, our waste management work has focused intensively on finding solutions to avoid waste. The process involved in planning suitable solutions goes hand-in-hand with general considerations on increasing efficiency. For example, we rely primarily on state-of-the-art technology, such as the inline process, in which waste produced in the production process is fed directly back into the production process. Software-supported evaluation of camera images allows any irregularities in the production process to be detected at an early stage and the resulting waste to be minimised as a result. We have also, however, achieved good results by optimising our production planning and increasing the degree of standardisation in production. As a result, by 2021, we had reduced our polypropylene plastic waste by 56% compared to 2018 (2018: 435 tonnes; 2021: 190 tonnes).

## Separate, recycle

In most cases, waste is a valuable raw material which, if properly separated and treated, can often be used in a new production process. This is why we are committed to working intensively on finding solutions to improve waste separation. By way of example, we regularly adapt our waste separation processes (e.g. separation by colour) to reflect our current production and the associated waste volume, allowing us to separate waste by type as much as possible. The more homogeneous the sorted waste is, the greater the probability that it can be reintroduced into the production process. By 2021, we had reduced the volume of unsorted (mixed) waste by 6% compared to 2019 (2019: 66 tonnes; 2021: 62 tonnes). One key component that made a decisive contribution to the achievement of this objective related to moves to raise awareness among, and train, our employees with regard to the conscientious handling of raw materials and the separation of waste.

## Release paper recycling

In order to also be able to permanently reduce the volume of waste that we consider to be unavoidable, we have been collaborating with the recycling company Cycle4Green (from Finland) since 2020. This company specialises in the recycling of release paper. Here at GIZEH, we collect our empty release paper liners that are generated as part of the labelling process, and they are collected and recycled by C4G at regular intervals. This saves disposal costs as well as resources, saving $CO_2$ in the process. Since 2020, 171.93 tonnes of release paper been recycled as a result of this partnership, which is equivalent to 327 tonnes of $CO_2$.

### Zero Pellet Loss

GIZEH Verpackungen has been certified by the "Zero Pellet Loss" initiative since 2017. It aims to minimise the loss of plastic pellets into the environment. All of the participating companies are asked to draw up an action plan for the prevention of pellet losses and to initiate the implementation of the plan, including employee training.

### AGVU – Packaging and Environment Working Group

GIZEH Verpackungen has been a member of the Packaging and Environment Working Group AGVU e.V. since 2019. It is committed to the efficient use of resources and to product responsibility in packaging. Through its members, the association represents the entire value chain: from the packaging industry to the consumer goods industry and retail to dual systems, waste disposal companies and recyclers.

## Nature – our ecological understanding

Besides climate change, there are other environmental problems that result in ecosystems being degraded due to human intervention. This is associated with a loss of biodiversity. The United Nations has declared the period from 2021 to 2030 as the "Decade on Ecosystem Restoration" to counteract the loss of biodiversity and the degradation of ecosystems both locally and globally.

GIZEH is more than aware of this issue, which is why we support a variety of conservation projects dedicated to protecting and restoring different ecosystems. We only work with certified partners such as the Welt-Wald-Klima-Initiative climate initiative of the "Senate of Economy" organisation and attach a great deal of importance to the quality and sustainability of the projects we support. For example, we plant one tree for every million containers we produce, helping to ensure the reforestation of approximately 4,000 trees every year.

We also continue to manage our own GIZEH forest. On an area spanning about 4.4 hectares (forest and green space), selected areas damaged by storms or drought are being replanted. We focus primarily on robust tree species such as Douglas fir, beech or chestnut, which are best able to cope with the new conditions on our doorstep.

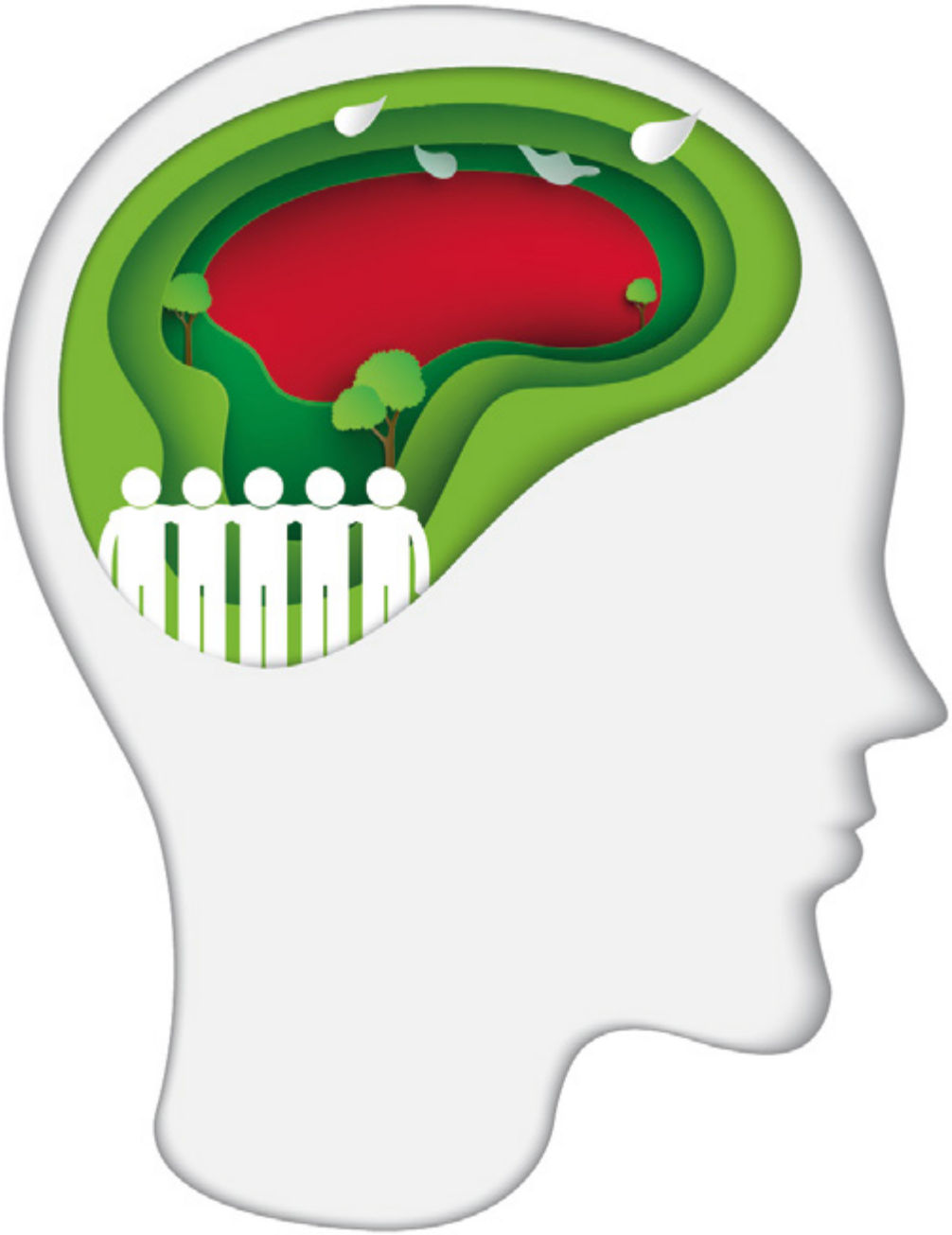
Besides the ecological benefits, these reforestation projects have another important effect: they help to extract $CO_2$ from the atmosphere and bind it in forests. These projects are a meaningful and, in our view a, necessary addition to our other $CO_2$-effective reduction measures.

Our contribution to the SDGs:

# 4

# OUR TEAM

Sustainably securing what makes us successful



# OUR TEAM

## Our highlights

- We are agile thanks to fast decision-making processes and flat hierarchies.
- GIZEH is committed to a family business culture.
- Time and again, GIZEH provides individual support to employees in cases of hardship.
- Important events are celebrated with all employees.
- We provide vocational training: 35 people are currently undergoing vocational training at GIZEH's German sites. 75% of trainees are currently taken on after they complete their training.
- We provide ongoing training: Both technical and interdisciplinary further training, such as language courses, shape our employees' careers
- We are growing steadily and regularly hire new employees.
- New hires get to know the company thanks to a structured onboarding phase.
- The average length of service is 13 years – some of our colleagues are already the third generation of their families to work in the company.
- Fresh food is prepared daily in the canteen at our main site in Bergneustadt.
- We offer an occupational pension scheme and tax-free employer grants for capital formation purposes.
- Spacious offices and state-of-the-art equipment are a matter of course for us.

## Our visions

- We will pay particular attention to the selection and internal development of talent.
- We attach a great deal of importance to cross-site networking among our employees and will make particular efforts to promote this in the future.
- We will enhance, and make greater use of, new recruitment tools.

## Our initiative

ecovadis
SUSTAINABLE SUPPLY MANAGEMENT

Enabling responsible supply chains
Sedex

## Sustainably securing what makes us successful

During the COVID-19 pandemic, it once again became clear to us that one of the most important success factors at GIZEH is a sense of team spirit. Time and again, our tried, tested and optimised processes were hampered by the pandemic. And whenever it seemed that things were going well again, there were new measures that had to be implemented or employees were absent due to the pandemic. GIZEH, however, rose to this challenge: we remained able to deliver, to make our contribution to ensuing food supplies and to further strengthen our customer relationships. And none of this would have been possible if the team had not helped and supported each other wherever possible. We remained true to our ideals in terms of cooperation throughout this period: our processes are characterised by quick decisions, flat hierarchies and open communication. This meant that we often implemented measures in-house before the government adopted them for the general public.

The beginning of 2022 then marked a turning point in European history after two years dominated by the pandemic. The war of aggression on Ukraine presented us with new challenges and one thing immediately became clear: together with our Polish sister company, we wanted to provide help quickly. Just as our workers can rely on individual support in times of need, we have also been able to provide assistance to refugees from Ukraine: in addition to fund-raising, we have also renovated and provided homes for refugees, and refugees who want to work at GIZEH have found jobs and are receiving free language lessons.

## Initial and further training

At GIZEH, we are currently training 30 young people in various apprenticeships. It is particularly important to us to provide individual support to trainees even after they have completed their training. For our technical trainees, this support is provided in our "training workshop". We also provide support in the form of on-site training and exam preparation courses. Every trainee also receives English lessons. During and after their training, trainees also receive regular feedback from the departments they are assigned to and also from their trainers. At the company's German sites, there are 12 different technical and commercial training courses.

Individual further training is also available to all employee groups based on their needs, and GIZEH also gives interns and working students the opportunity to gain an insight into the working world.

## Knowledge management

New employees at GIZEH are trained as part of an extensive onboarding process, giving them an insight into the specialist areas that are important to them. They have the opportunity to establish direct contact with their colleagues and minimise any problems that might arise at interfaces from the outset. The company's own intranet also provides access to the latest information – on processes and topics from all areas of the company. The intranet, based on a Wiki, is updated by all of the company's employees. Alongside providing information, protecting personal data is particularly important at GIZEH: in cooperation with the data protection officer, HR processes are put to the acid test. This ensures that the data can only be accessed by individuals who are authorised to do so.

## Employee loyalty and social benefits

On average, our employees have been with GIZEH for more than ten years. And many of them know the company because their family members were already employed by GIZEH. GIZEH is also particularly likely to give employees' children the opportunity to complete an apprenticeship or secure a position at the company, provided that their skills and qualifications are a good fit.

After the sale of food was temporarily prohibited during the pandemic, the canteen at the main site in Bergneustadt has now reopened and fresh food is cooked there every day (and should there be anything left over, ReFood generates environmentally friendly energy using this waste). For those employees who do not wish to use the canteen, we offer additional break rooms. We also offer occupational pension provision, tax-free employer grants for capital formation purposes and prepaid cards that are topped up based on the current situation. Employees can opt to use these cards with a number of regional partners. Its employees' health is also a top priority for GIZEH: in addition to ergonomic workstation design, an influenza and now also a COVID vaccination is offered to all employees every year. During the pandemic, employees also had the opportunity to undergo COVID testing at the purpose-built test centre at GIZEH and to use their test certificates for activities outside of work. It goes without saying that we also provided FFP2 face masks.

## Sedex – Empowering Ethical Supply Chains

GIZEH Verpackungen has been a member of Sedex, a non-profit organisation that is committed to ethically responsible supply chains, since 2013. Sedex stands for Supplier Ethical Data Exchange and is an online platform where member companies disclose information on social and ethical processes and behaviours. The platform aims to create transparency across the entire global supply chain and, in doing so, to improve working conditions in terms of sustainability.

## EcoVadis – Sustainable Supply Management

Fairness pays off: GIZEH Verpackungen has been reporting data to EcoVadis on a voluntary basis since 2014. The rating company is a platform that assesses the sustainability of global supply chains. Scorecards are used to assess companies' environmental, social and ethical performance. More than 24,000 suppliers from 95 countries across the globe are registered on the EcoVadis platform. GIZEH has regularly been able to acquire silver status in recent years.

We make a contribution to these SDGs:

## Diversity

**For GIZEH, the person as an individual is at the centre of everything we do. Background, gender and other characteristics are irrelevant. Today, GIZEH represents 21 nations worldwide – and at the German sites in Bergneustadt and Elsterwerda, for example, women account for more than 30 percent of the workforce.**

# 5

# OUR FELLOW HUMAN BEINGS

Because the word “undertakings” contains the word “undertaking” for a reason

# OUR FELLOW HUMAN

As a family-owned company that strives to operate in a socially and ecologically sustainable manner, our commitment extends beyond our fields of business.

## We support

- reforestation and organic farming in Ethiopia,
- training for destitute young people in Ghana,
- education for orphans and civil war victims in Northern Uganda,
- projects to provide access to clean drinking water and safe sanitation worldwide and
- the dreams of children suffering from cancer in Germany

# Social responsibility

As a family business, we take our re-sponsibility towards our customers and employees seriously – as we do our responsibility towards our fellow human beings around the world. We are committed to specific, one-off and long-term aid projects both in Germany and abroad. In particular, creating opportunities for support in difficult circumstances is one of our central concerns. We present some of the partnerships we support in order to make our contribution to social cohesion below. Our commitment focuses on three main areas:

- Reforestation and environmental protection
- Vocational training
- Measures to support children

**A few selected examples:**

## Planting trees in Ethiopia

GIZEH Verpackungen is a sponsor of the "World Forest Climate Initiative", a cooperation between the Senate of Economy in Germany and the World Forest Foundation. The main objective of the initiative is to implement worldwide reforestation and forest protection projects on 500 million hectares of land with an annual $CO_2$ reduction of approximately 5 billion tonnes.

Because sponsorship is not enough for us, we also participate in other reforestation programs organised by $CO_2$OL and Forest Finest, with this promise: **we plant a tree for every million containers we produce!**

This means that GIZEH Verpackungen will be responsible for the reforestation of ap-proximately 4,000 trees planted in Ethio-pia every year.

## Trainer in Africa

GIZEH Verpackungen is involved as a "trainer in Africa" through the organisation Opportunity International. This programme gives poor but highly motivated young people in Ghana free three-year vocational training, health insurance and work tools, which remain in the their possession. They are trained as hairdressers, cooks, tailors, car mechanics, painters or metalworkers.
Completing their vocational training gives the young people prospects and helps to combat poverty and the exodus from the region in the long run.

**www.oid.org**

## Naume children's foundation: we help where help is needed most

In Africa, GIZEH supports the commitment of a team that is working in northern Uganda, a region plagued by civil war.
Most of the victims of the civil war are children, more than half of whom live alone in the district of Gulu in North Uganda. The families and also the village communities in this region have largely been destroyed.

Many children have fled or escaped the army but have subsequently suffered serious illness, become traumatised, and are often suffering from infectious diseases and malnutrition. They have no home and live in camps. There is limited medical care and opportunities for schooling and training are scarce.

The Naume children's foundation is committed to the Gulu region in the long term in the following areas:

- School and further education
- Construction of a boarding school for needy children, mainly orphans
- Basic medical services
- Access to clean water and food

Foundation board members and volunteer teams travel to the crisis region at their own expense to implement the foundation's goals. The children and young people in Gulu need fast assistance provided without red tape.

**www.naume-kinderstiftung.de**

## Commitment on the ground

In addition to supra-regional organisations, GIZEH Verpackungen supports charitable local and regional associations, schools and nurseries by making cash donations or donations in kind. For example, GIZEH has equipped sports centres in Bergneustadt with defibrillators, and GIZEH trainees are also committed to supporting social initiatives, for example by donating the money raised from the annual waffle sale to a good cause.

We make a contribution to these SDGs:

# Heroes in times of crisis - GIZEH Verpackungen recognised for its commitment during the COVID-19 crisis


GIZEH Verpackungen has received the "Heroes in times of crisis" (Helden in der Krise) award for its outstanding commitment during the COVID-19 crisis. F.A.Z.-Institut, Hansgrohe, Beekeeper, Signal Iduna and the dpa subsidiary news aktuell used the award to thank GIZEH Verpackungen for the extraordinary help it provided during the pandemic. It is hard to imagine what fate people would have suffered without the huge social commitment shown during the COVID-19 crisis.

The GIZEH Verpackungen Group very quickly established an effective COVID-19 management concept based on the findings of Germany's public health institute, the RKI, and the WHO. This, and the particular commitment shown by each individual employee, ensured that all of the Group's sites were able to operate free of COVID-19. This allowed us to keep producing packaging for food and hygiene products, which were urgently needed at the beginning of the crisis in particular, without any interruption. The Group also supported local health and aid organisations in all of its locations with cash and in-kind donations.

GIZEH Verpackungen is one of around 1,000 "Heroes in times of crisis". This figure only tells a small part of the story and shows just how remarkable social engagement in Germany was during the COVID-19 crisis.

F.A.Z.-Institut, Hansgrohe, Beekeeper, Signal Iduna and news aktuell (dpa) use the "Heroes in times of crisis" award to express their direct and personal thanks to everyone who excelled in their pandemic response. The list of "Heroes in times of crisis" will be published shortly in a special supplement of the newspaper Frankfurter Allgemeine Zeitung.

A whole range of different activities are honoured – from the production of large quantities of disinfectant for hospitals to special care services for the elderly and the establishment of Internet platforms to organise neighbourhood assistance. Around 350 million sources on the Internet were examined for the purposes of the study.

## Federal state award for "Volunteer work in the fire service and disaster control"

In 2022, GIZEH Verpackungen was also awarded the federal state "Förderplakette für Arbeitgeber" employer award by the Ministry of the Interior of North Rhine Westphalia in Düsseldorf.

This award recognises the understanding of, and support for, volunteering in the fire service. As the management team maintains regular contact with the fire brigade management and attaches considerable importance to a good relationship between volunteering and commercial activity, Bergneustadt's fire chief Michael Stricker nominated GIZEH for the award.

The company's commitment ranges from participation in the fire brigade's door-to-door collection initiative to monetary donations running into the five digits.

The youth fire brigade also received support in the form of an advertising campaign with a design print on drinking cups. The fire brigade can also use the premises for drills at any time.

## There are numerous other larger and smaller local and regional projects, including:

**Bergneustadt, Germany**
Oberbergische Tafel food banks
Strahlemännchen – Herzenswünsche initiative for children with cancer
Lebensfarben – Hilfen für Kinder und Jugendliche e.V. children's aid
Klinikum Oberberg hospital

**Elsterwerda, Germany**
Kinderhospiz Magdeburg children's hospice
Kinderhospiz Bärenherz Leipzig e.V. children's hospice
ALV Brandenburg Unemployed Persons Association

**Podgorne, Poland**
Stowarzyszenie na Rzecz Dzieci ze Złożoną Niepełnosprawnością "Potrafię Więcej"
Dom Dziecka "W Słońcu"

**Angers, France**
Angers Firemen association
Angers Hospital – CHU Angers
LES RESTAURANTS DU COEUR

**Brantford, Canada**
St. Joseph's Lifecare Foundation
Brant Community Healthcare System (BCHS) Foundation

## We are looking forward to a sustainable future.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Published by: GIZEH Verpackungen GmbH & Co. KG, Breiter Weg 40, 51702 Bergneustadt





Editorial staff: Ralf Jung, Jacqueline Jung, Frank Kriener, Lisa Schlereth, Julius Tews, Johannes Heynen, Tim Allgaier
Layout: Yellow Tree, Siegen
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Printed on 100 % recycled paper

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FSC® C004579