

Climate change is one of the greatest challenges to be addressed globally - and thus also a decisive influencing factor for our entrepreneurial actions. Therefore, everyone in society must contribute to shaping a sustainable future in which the available resources are used in the best possible way. As a globally active specialty chemicals company, Alzchem Group AG has always been aware of its special responsibility for the environment. Our company sees sustainable management as an elementary prerequisite for maintaining and further developing its economic, social and ecological performance. For only in harmony with the environment and through responsible, sustainable action is economic success achievable for us in the long term.







At a glance

UNTIL 2030 ~75% 1. MILESTONES

CO₂-SAVINGS

~90.000t

ANNUAL

#31 mn

INVESTMENT

COST SAVINGS

~€ 6 mn

ANNUAL

TARGET UNTIL 2033 ~100% CO₂-SAVING

ANNUAL SAVINGS

~110.000t

CO₂-EMISSIONS







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WHAT WE DO ...

Our company's headquarters are located in the Bavarian Chiemgau region on the banks of the Alz River, surrounded by water and embedded in beautiful nature. What we need for our production are primarily lime, coal and energy. From this list of ingredients, we have developed a wide range of speciality chemical products for selected future markets over the years.

We see promising prospects especially in the areas of human and animal nutrition as well as in agriculture. For example, we want to create the basis for an efficient food supply with our products. Our pharmaceutical raw materials and creatine products can contribute to healthy ageing with a higher life expectancy. However, our products are also used in many other areas of application: https://www.alz-chem.com/en/application-area/









... AND HOW WE DO IT

Our actions are not measured by products and figures alone. Rather, we act according to binding principles. They form our corporate DNA. In view of climate change and other global upheavals, we have a responsibility to think every day about how the principle of sustainability can be implemented at Alzchem.

Alzchem defines sustainable entrepreneurial action as an integrated approach that ensures continuous improvement in our daily operations in terms of environment, safety, energy and quality. We consistently build sustainability aspects into our strategy and operational business. With products that add value for the environment, society and the economy, we ensure our lasting success.

We have laid down the principles that apply to this in our **integrated managementsystem**:

An Integrated Management System (IMS) combines different management systems - for example for quality, environmental protection and occupational safety, IT security, energy as well as asset management - and links them into a uniform structure. (Integrated) management systems are an essential element of reliable, efficient and sustainable corporate governance.



















SUSTAINABILITY AS CORPORATE DNA: **ALZCHEM'S BINDING PRINCIPLES**



We believe in and live the intergenerational contract and share a social responsibility for this. Balancing economic, ecological and social concerns is an integral part of our corporate philosophy.

We are helping to transform the economy and global value **chains** towards a more sustainable world.

The value of our company is not only based on our economic success. The social responsibility of our actions in the sense of corporate social responsibility also contributes significantly to this.



We are guided by the 17 **Sustainable Development** Goals of the United **Nations** and make our contribution to achieving these goals. In this way, we create added value for society and the company.



Sustainability serves as our guide to a profitable future.



















Social responsibility is also a high priority in our supply chain. That is why we have undergone an independent CSR rating by the global assessment platform EcoVadis, which awarded us the Gold Medal again in 2023. The company's activities in the areas of environment, labour and human rights, ethics and sustainable procurement were evaluated. This puts Alzchem in the top two percent of companies assessed by EcoVadis in the field of manufacturing basic chemical products.

In addition, our company has been **EMAS**-registered since 1997 and produces an annual environmental statement.

Now our company is setting itself a new green milestone as a goal: climate neutrality. Alzchem has recently developed a comprehensive climate roadmap with concrete packages of measures, which the board of directors developed together with an internal sustainability committee. We want to achieve the targeted climate neutrality primarily in two ways, namely through

- independence from fossil fuels (defossilisation) and
- climate-neutral production.

EMAS stands for the voluntary European environmental management system "Eco-Management and Audit Scheme". It helps organisations to operate a systematic environmental protection system at a high level, combined with the aspiration to continuously improve their own environmental performance.



Defossilisation means ending the emission of carbon dioxide from the combustion of fossil raw materials. This is accompanied by the conversion of combustion processes to renewable alternatives, e.g. in the form of electricity or hydrogen.







Into the future: our path to climate neutrality

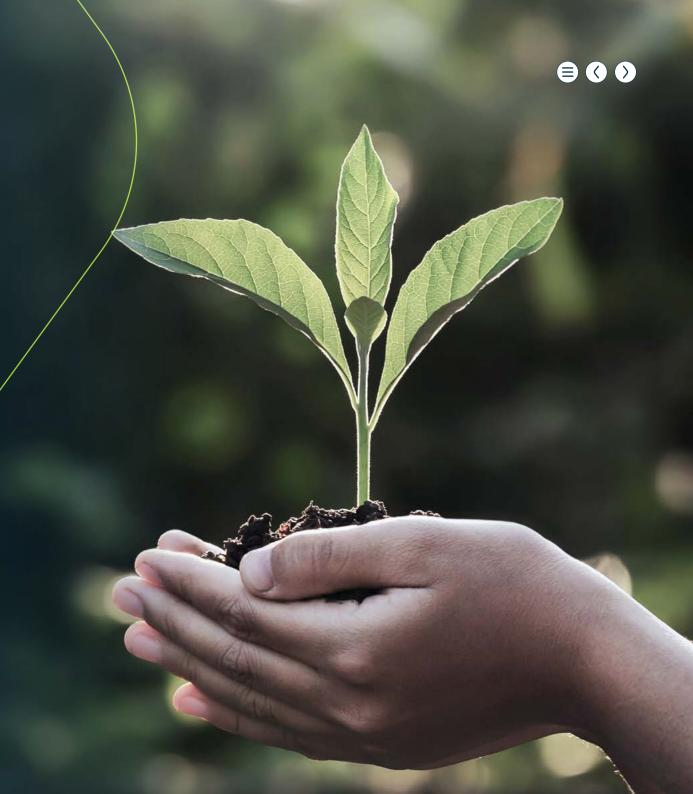
As a vertically integrated specialty chemicals supplier, Alzchem has secured a leading market position in selected niche markets. Our products are linked to relevant social developments, such as sustainability, healthy ageing, securing the world's food supply in the wake of population growth and climate protection. Our product Eminex®, for example, effectively suppresses methane and CO, emissions during manure storage and thus avoids climate-damaging emissions. Our feed additive Creamino® also plays an essential role in CO₂- reduction (by saving feed) for our customers.



Step by step to change

Through innovative solutions, our company is able to grow stably. Sustainable and environmentally conscious actions are of particular importance to us - not only for our products, but also with regard to our production cycle. Important to us are:

- the reduction of energy use,
- the avoidance of waste,
- the protection of waters, and emmission and noise protection.









TRUST IS GOOD, CONTROL IS BETTER

This is why we regularly monitor, document and evaluate the impact of our activities on the environment by determining meaningful sustainability key figures. This provides a quantitative overview of the most important trends for Alzchem. Below are some examples from the most important area for our climate roadmap, the production process:



Over the past three years, we have been able to continuously increase the amount of energy from heat recovery. In addition to the CO₂ quantities saved, this also makes a positive contribution to climate protection.

Dust emissions to the air were kept at a very low level overall.

NOx emissions, i.e. nitrogen oxides, which are mainly produced during combustion processes in plants and engines, have fallen significantly over the last ten years due to various quality improvements in fuels. Where we can, production-specific waste is returned to the production process or recycled internally. Here we have set ourselves the goal of "zero waste" - even though we know that "zero" is a huge challenge.

Thanks to these ongoing or even completed measures, we already have low CO₂ emissions in the production process compared to the rest of the industry. In total, about one third of the total emissions can currently be used internally as raw materials and thus recycled.



120

100

80

60

40

20

Plan federal government Alzchem climate roadmap Measures in preparation

Current status

Thousand tons







OUR MILESTONES

The remaining two thirds of our CO₂ emissions amounting to approx. 110,000 tonnes (basis 2022) are to be reduced in the future. We see these so-called **Scope 1 emissions** as the central adjusting screw that we want to turn with all our might in order to reach "green zero" (net zero) as quickly as possible. They are therefore at the centre of our climate roadmap.

1. Milestone

75 % CO₂ savings

"Net Zero" means achieving a global balance between human-induced greenhouse gas emissions and human efforts to remove carbon from the atmosphere, with full elimination of anthropogenic CO₂ emissions. For companies, net-zero means eliminating CO₂ emissions from their activities, including the entire value chain, while offsetting those emissions that have not yet been eliminated through decarbonisation and abatement measures.

2. Milestone

NET ZERO







CLOSING THE CO₂ CYCLE - NET ZERO IN 2033













The measurement of emissions according to "scopes"

In climate balances, a distinction is made between different types of emissions, which are divided into certain groups, so-called "scopes":

SCOPE 1	includes the direct release of climate-damaging emissions within the own company.
SCOPE 2	describes the indirect release of climate-damaging emissions through energy from third parties (e.g. electricity, steam).
SCOPE 3	considers the entire value chain and includes the indirect release of climate-damaging emissions in the raw and input materials purchased.

In order to obtain a complete picture of a company's carbon footprint, another - opposing - category is widely taken into account:

SCOPE 4

measures the climate-positive impact of a company's products on its customers.

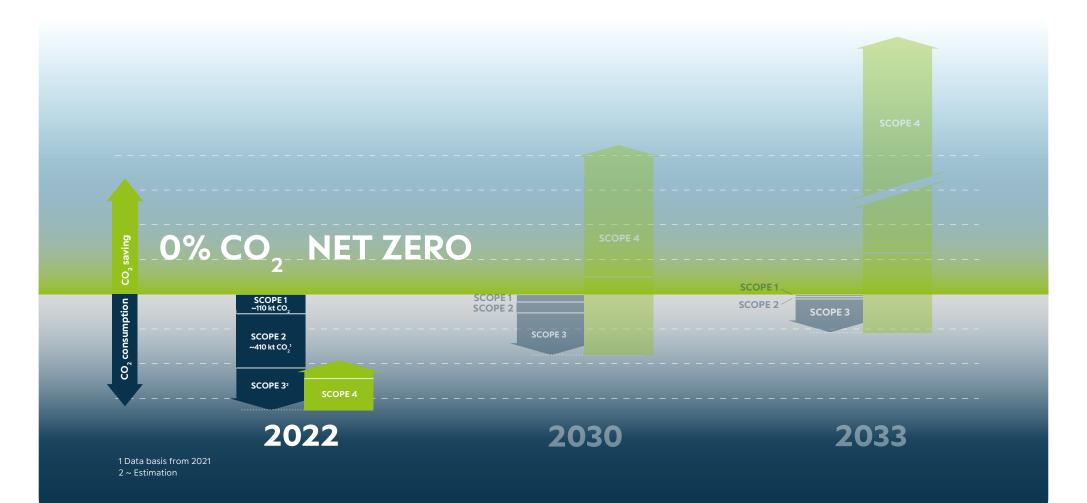






Our starting point in 2022

It is already clear here that a company can only directly influence emissions in Scopes 1 and 4. While Scope 1 emissions burden the environment with their emissions, the savings in Scope 4 lead to the desired balancing of the climate balance. The emissions in Scopes 2 and 3, on the other hand, are the "rucksack" that a company takes on from its suppliers. The responsibility for reducing them is therefore primarily - though not solely - borne by these suppliers. At best, a company can indirectly reduce its carbon footprint, for example through a clever purchasing policy.



Operating towards "Net Zero"– with the Alzchem climate roadmap

In order to effectively limit global warming, a balance must be achieved between the greenhouse gases produced and the emissions saved - a state known as "net zero".

The basis for an efficient climate protection strategy is the precise calculation of one's own CO_2 emissions and a thorough understanding of the various emission sources. Because what we do not record, localise and measure, we cannot manage. Therefore, the reduction of Scope 1 emissions is our central mission.

Doch But where do we need to start? The following four principles have emerged for our green path:

- We want to close our production cycles more efficiently,
- reduce the amount of energy needed,
- make more intensive use of the waste heat generated in our production processes and
- avoid any form of waste of resources.

Our climate roadmap is also oriented towards this. By reducing our total direct emissions, we not only want to contribute to mitigating climate change, but also to lead the company successfully into the future. Only a balanced climate ensures strong economic activity and at the same time an intact environment as an indispensable basis of life for our and future generations.

This is to be achieved through four concrete packages of measures derived from the above principles.

Our goal is to reduce the direct CO₂ emissions (Scope 1) released at all Alzchem sites by 75 percent by 2030. We want to achieve complete climate neutrality in 2033.







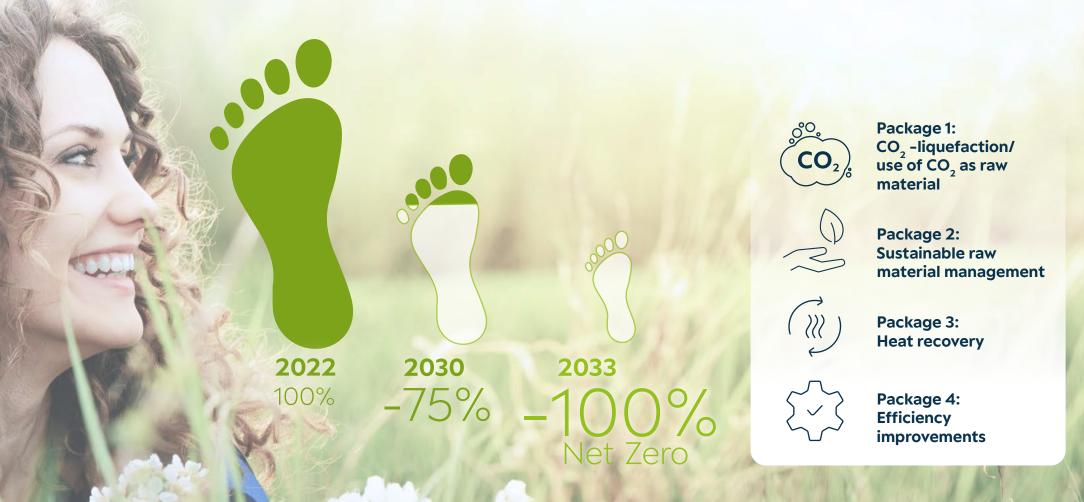






The packages of measures at a glance

Alzchem is optimizing its carbon footprint and is making important adjustments to its raw material and energy management to achieve this:









PACKAGE 1: CO₂-LIQUEFACTION/USE OF CO₂ AS RAW **MATERIAL**

MODERN PROCESSES CREATE ENVIRONMENTALLY FRIENDLY **VALUE CHAINS**

The biggest sources of emissions at the Trostberg and Schalchen sites are currently the steam boilers fired with fossil fuels and CO gas. Here we will purchase a new steam generator that will be operated in a much more advanced, so-called "oxyfuel process". This enables the recovery of highly concentrated CO, from the exhaust gas. As a gas or in liquefied form, this CO₂ can then be used again in the company's own production. There, it replaces fuel oil or natural gas, which have been used up to now to produce the raw material CO₂, among other things. A positive side effect: the use of the concentrated liquid carbon dioxide (CO₂) can also increase the economic efficiency of the associated production plant.









PACKAGE 2: SUSTAINABLE RAW MATERIAL MANAGEMENT

AWAY FROM FOSSIL FUELS WITH ALTERNATIVE **RAW MATERIALS**

Alzchem aims to achieve production without fossil energy in the long term. Various means are available to achieve this:

- Energetic utilisation of hydrogen: In a certain production process, hydrogen now accumulates evenly and continuously after a process conversion has taken place. This means that it can be used energetically and thus replace natural gas and/or heating oil
- Phasing out coal as an energy source: In the medium term, we intend to close the lime kiln at the Sundsvall site in Sweden, which has been using coal as an energy source for deacidifying limestone. Instead of the otherwise high investment requirement, an external purchase of quicklime could make sense in the future, which has a significantly lower CO₂ footprint.









PACKAGE 3: HEAT RECOVERY

USE OF WASTE HEAT IN A WIDE RANGE OF APPLICATIONS

Currently, production heat at the Trostberg site is used solely to heat the head office and the infrastructure. In the future, our heat recovery will be expanded and will replace steam in some places, which has been generated in our boiler houses with fuel oil or natural gas up to now. In this way, exothermic, own energy can replace fossil energy by feeding it back into the production processes.





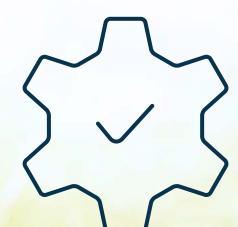




PACKAGE 4: EFFICIENCY IMPROVEMENTS

NOT ONLY GOOD FOR BUSINESS: OPTIMISING **PRODUCTION PROCESSES**

By optimising production processes, but also through the use of artificial intelligence, Alzchem is able to significantly increase plant efficiency. As a result, considerable resources can be saved. At the same time, the amount of waste and cooling water consumption is reduced, which in turn relieves the environment. For example, old compressors are to be replaced by new speed-controlled compressors. Due to the better controllability, production and offtake are better coordinated, which results in a significantly more favourable use of energy.



Total savings: A look into the year 2033

SCIENCE IS MAGIC THAT WORKS.

This statement also fits in with environmental protection. Because every tonne of CO₂ saved helps to mitigate climate change. This is tangible science, not magic.

With the Climate Roadmap, we have developed a powerful set of instruments that will have a proud record in the end: The packages of measu-

res described above should lead to a CO₂ reduction of around 90,000 tonnes by 2030. That is more than 75 percent of our current CO₂ emissions. For comparison: a beech tree has to grow for 80 years to absorb a single tonne of CO₂.

If we consistently implement our climate plan, we will have offset the remaining 25 per cent of our emissions as early as 2033 and thus achieved the targeted climate neutrality. We can make this bold statement because we already know very precisely our remaining emissions in 2030. Here, we will use the latest technologies, especially in our plants. We are already working on initial ideas and solutions. For example, replacing the steam drying process we currently use with a modern induction process promises considerable savings potential. But it is also clear that a chemical company like ours can probably not completely avoid its CO₂ emissions according to the current state of knowledge. We will therefore reduce the unavoidable remaining emissions to net zero through appropriate compensation measures.

UNTIL 2030

90.000 t
CO₃ savings







This makes it possible for Alzchem to achieve the already ambitious goals of climate neutrality policy even much sooner. Nothing else applies to the goal set by the "Say on Climate Initiative" to reduce emissions by 50 percent by 2030 compared to 2010.

OUR MEASURES PAY OFF TWICE

Also, profitability is not neglected, because our investments - totalling more than 30 million euros - pays off: due to the associated measures alone, we are expected to realise annual savings of around 6 million euros from 2030 onwards, from which we will benefit in the long term. Our investments therefore make twofold sense: we not only save CO₂ for the environment, but also sustainably saves energy for our own processes thereby reducing costs.

"Say on Climate" is the term used to describe resolutions by the owners of a company, usually listed on the stock exchange, to address its climate strategy, either by supporting this strategy or by urging management to undertake more ambitious - or less ambitious - climate protection activities. The "Say on Climate Initiative" launched by the British hedge fund manager Christopher Hohn in connection with "The Children's Investment Fund Management (TCI)", which he runs, has meanwhile been joined by a large number of institutional investors, proxy advisors and non-governmental organisations.

ACT NOW, ACT TOGETHER.

Our path to reduce our own emissions (Scope 1) to **Net Zero** has been described in detail above. At the same time, however, we are also strongly committed to emissions scopes 2 to 4 within the scope of our possibilities.

SCOPE 2

Scope 2 includes indirect greenhouse gas emissions from purchased energy, such as electricity, steam, etc., which are generated outside the company's own system boundaries but consumed by the company. In the case of electricity, however, the further path to climate neutrality does not depend on us, but on the energy supply companies. In particular, they can significantly reduce their CO₂ emissions by switching to green electricity. We therefore welcome all the more the efforts of politicians and society to speed up the expansion of green electricity. Here we assume that by 2030 - as planned by the German government - 80 percent of electricity will already come from renewable energies. We are convinced that we can achieve similar savings rates here as in Scope 1.

SCOPE 2

How do we manage this?

How do we manage that? First and foremost, through our excellent starting point. In order to develop climate-neutral production of basic materials in the chemical industry, processes are needed that are based on electricity - or more precisely: green electricity. However, many of these processes are currently still in the process of developing into a fully mature, widely applicable technology.

Not so at Alzchem: the basis of our production network (NCN chain) has always been - in contrast to the standard in the industry - the electricity-based production of our essential starting product. The calcium carbide we produce is further refined along the NCN chain and forms the basis for large parts of our product family tree. We have thus always invested in a chemistry in which electricity is an essential raw material. This gives Alzchem an advantage: we already have the technology of tomorrow.







SCOPE 3

Scope 3 emissions occur upstream and downstream in the supply chain, for example through the use of products, services and office materials or business travel. These emissions, which predominantly occur outside of our own sphere of activity, are therefore not directly influenced by us.

However, we are not inactive here either: Scope 3 constantly identifies opportunities to save emissions within our value and supply chain. We want to use this to determine where the emissions hotspots or energy risks are located. Therefore we regularly conduct comprehensive supplier and customer audits that also focus on environmental and climate aspects.



Expansion of e-mobility

Electromobility is an important element of a climate-friendly energy and transport policy. Alzchem is already very active in this regard: company cars for employees can only be ordered as pure electric vehicles or as far-reaching plug-in hybrids. In addition, since December 2020, all employees have the option of charging their company electric or hybrid vehicles free of charge at Alzchem e-charging stations using green electricity. This offer also applies to our employees' own cars. In the future, we would also like to increasingly use electric vehicles for our forklift trucks, so that the majority of our vehicle fleet will then run on electricity and no longer require fossil energy. Mobility is changing at Alzchem!

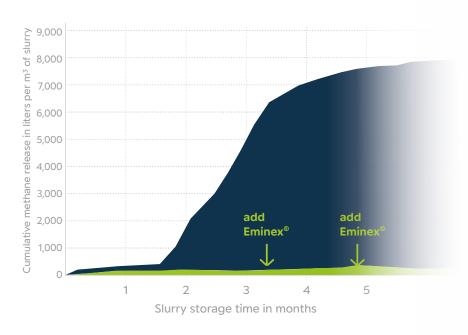




Eminex®

Eminex® is an absolute novelty on the world market: With this additive for slurry and biogas fermentation residues, which is added during storage, the methane, CO₂ and nitrous oxide emissions usually produced there - in other words, three essential greenhouse gases - can be permanently reduced by 90 to 100 percent. Eminex® improves both the quality and the fertilising effect of the slurry. At the same time, the product ensures greater occupational safety and animal welfare through lower HaS (hydrogen sulphide) emissions in the barn. The savings potential through Eminex® is about 4 to 5 million tonnes of CO, equivalents per year, based on Alzchem's current production capacities alone. Measured against the existing slurry pits in Germany or even Europe, the potential is many times higher.

RELEASE OF METHANE DURING THE STORAGE OF CATTLE SLURRY





Cattle slurry + Eminex®









CREAMINO®

Creamino[®] is a patent-protected feed additive based on the active ingredient quanidinoacetic acid (GAA). GAA, in turn, is a precursor of creatine, which is vital for mammals. Conventional feeds often do not contain creatine. It is a key biomolecule for the correct functioning of energy transfer and supply and supports various functions in the body, such as healthy growth or reproduction. Creamino® thus represents the next stage of development for feeds, as it ensures that sufficient energy is available in the animal body at all times and in all places. This means that substantial amounts of conventional feed can be reduced, which in turn leads to significant, regularly recurring CO₂ savings.

DEPLOYMENT RATE OF 0.06% CREAMINO®

CO₂ saving 600-700 kt

feed mix without Creamino®

feed mix mit Creamino®

Example based on a typical feed ration in Europe, related to the main components wheat, maize & soybean



Click here for the Creamino website

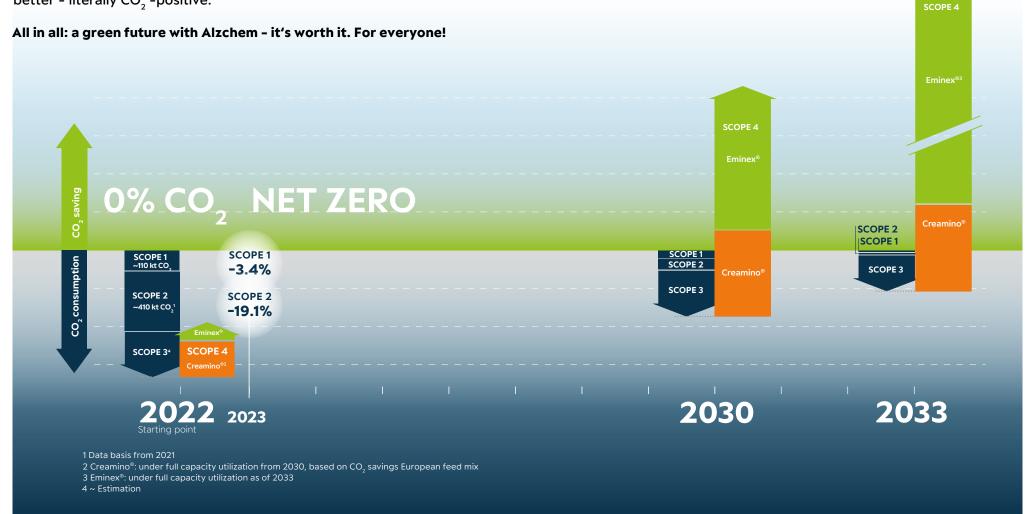






With Alzchem into a green future

Through the integration of production plants and technologies, Alzchem can already keep the CO₂ footprint of its own products comparatively low. With the Alzchem climate roadmap, the path to Net Zero - i.e. to an almost perfect circular economy in the area of Scope 1 emissions - has been concretely mapped out. New, innovative Alzchem products have the potential to make the company's overall climate balance even significantly better - literally CO₂ -positive.









Glossary

EMAS

EMAS stands for the voluntary European environmental management system "Eco-Management and Audit Scheme". It helps organisations to operate a systematic environmental protection system at a high level, combined with the aspiration to continuously improve their own environmental performance.

Defossilisation

Defossilisation means ending the emission of carbon dioxide from the combustion of fossil raw materials. This is accompanied by the conversion of combustion processes to renewable alternatives, e.g. in the form of electricity or hydrogen.

Decarbonisation

Literally, decarbonisation means ridding the world of carbon in the form of carbon dioxide. However, this is not a sensible goal, since life on earth is based precisely on carbon and oxygen. What is harmful is only the imbalance into which the atmosphere falls as a result of an increased CO₂ content that is no longer tolerable for the natural cycle.

The terms decarbonisation and defossilisation are often used imprecisely or even confusingly.

Integrated management system

An integrated management system (IMS) combines different management systems

- for example for quality, environmental protection and occupational safety, IT security, energy as well as asset management
- and links them into a uniform structure. (Integrated) management systems are an essential element of reliable, efficient and sustainable corporate governance.









Glossar

Net Zero

"Net Zero" means achieving a global balance between human-induced greenhouse gas emissions and human efforts to remove carbon from the atmosphere, with full elimination of anthropogenic CO₂ emissions.

For companies, net-zero means eliminating CO_2 emissions from their activities, including the entire value chain, while offsetting those emissions that have not yet been eliminated through decarbonisation and abatement measures.

NOx-Emissionen

NOx is the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts (for example, nitrogen monoxide (NO) and nitrogen dioxide (NO₂). Many nitrogen oxides are colourless and odourless.

Scopes

Typically, the emissions that are recorded in achieving climate neutrality are divided into three categories ("scopes"):

Scope 1: Direct emissions of a company, e.g. emissions emitted by boilers or furnaces of a company.

Scope 2: Indirect emissions, e.g. from the heat supply of the company building, which already occur during the generation of the energy required for this.

Scope 3: Indirect emissions from processes that are not within the direct sphere of influence of the company, such as the supply chain.

In order to obtain a complete picture of a company's carbon footprint, another - opposing - category is widely taken into account:

Scope 4: Emission reductions made possible by a company's products.

"Say on Climate"/ "Say on Climate-Initiative"

"Say on Climate" is the term used to describe resolutions by the owners of a company, usually listed on the stock exchange, to address its climate strategy, either by supporting this strategy or by encouraging management to undertake more ambitious - or less ambitious - climate protection activities. The "Say on Climate Initiative" launched by the British hedge fund manager Christopher Hohn in connection with "The Children's Investment Fund Management (TCI)", which he runs, has meanwhile been joined by a large number of institutional investors, voting rights advisors and non-governmental organisations.

Greenhouse gases (GHG)

These are gases that trap heat in the atmosphere and thus contribute to the warming of the earth. The best-known greenhouse gases - carbon dioxide (CO₂), methane and nitrous oxide - are naturally found in low concentrations in the atmosphere. Due to various man-made (anthropogenic) sources, their share has increased significantly since the beginning of the last century.

It is difficult to measure and compare the contributions of different greenhouse gases to climate change. Some greenhouse gases, such as carbon dioxide, linger in the atmosphere for hundreds of years, while others disappear after only a few years. Each substance also has a different effect in the atmosphere, depending on how much thermal radiation it absorbs or reflects. Gases are often referred to as CO₂e (carbon dioxide equivalent) in terms of their greenhouse gas impact over time, using CO₂ as a reference.







Note

This document contains forward-looking statements to a considerable extent. These are based on current assumptions and forecasts made by the management of Alzchem Group AG to the best of its knowledge. By their nature, however, such statements are subject to risks and uncertainties. These and other factors may therefore cause actual developments to deviate in whole or in part from the assessment made here and the presentation based on it. In such a case, the company will adapt its climate roadmap to the changed circumstances according to its best judgement. It cannot be ruled out that the goals originally intended with the climate action plan and the means used to achieve them will change at the same time.

Imprint

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