

Gräfe Chemie GmbH

Sustainability Report

2022



GRÄFE CHEMIE

ADDITIVES FROM PLANT-BASED RAW MATERIALS

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Company

Raw material development

To protect the environment, end consumers in the 'here and now' rightly place comprehensive requirements on the raw materials that go into their cosmetic products. Origin and degradability, resource consumption and CO₂ emissions are topics that are increasingly becoming focal points of public discourse in terms of assessing raw materials.

These issues encourage us to develop modern raw materials that will remain reliable ingredients in responsible cosmetic formulations tomorrow and beyond.

At Graefe Chemie, we have been researching natural starches for over twenty years. On the basis of these sustainable sources and by means of our Amylomer™ technology, we develop, manufacture and supply effective raw materials for cosmetic skin and hair care products.

With the 2030 Agenda for Sustainable Development in mind, we are pleased to publish Graefe Chemie's first sustainability report. To ensure a transparent representation of our sustainability position, we will be publishing a new sustainability report every two years.

2030 Agenda for sustainable development



Planet



People



Product



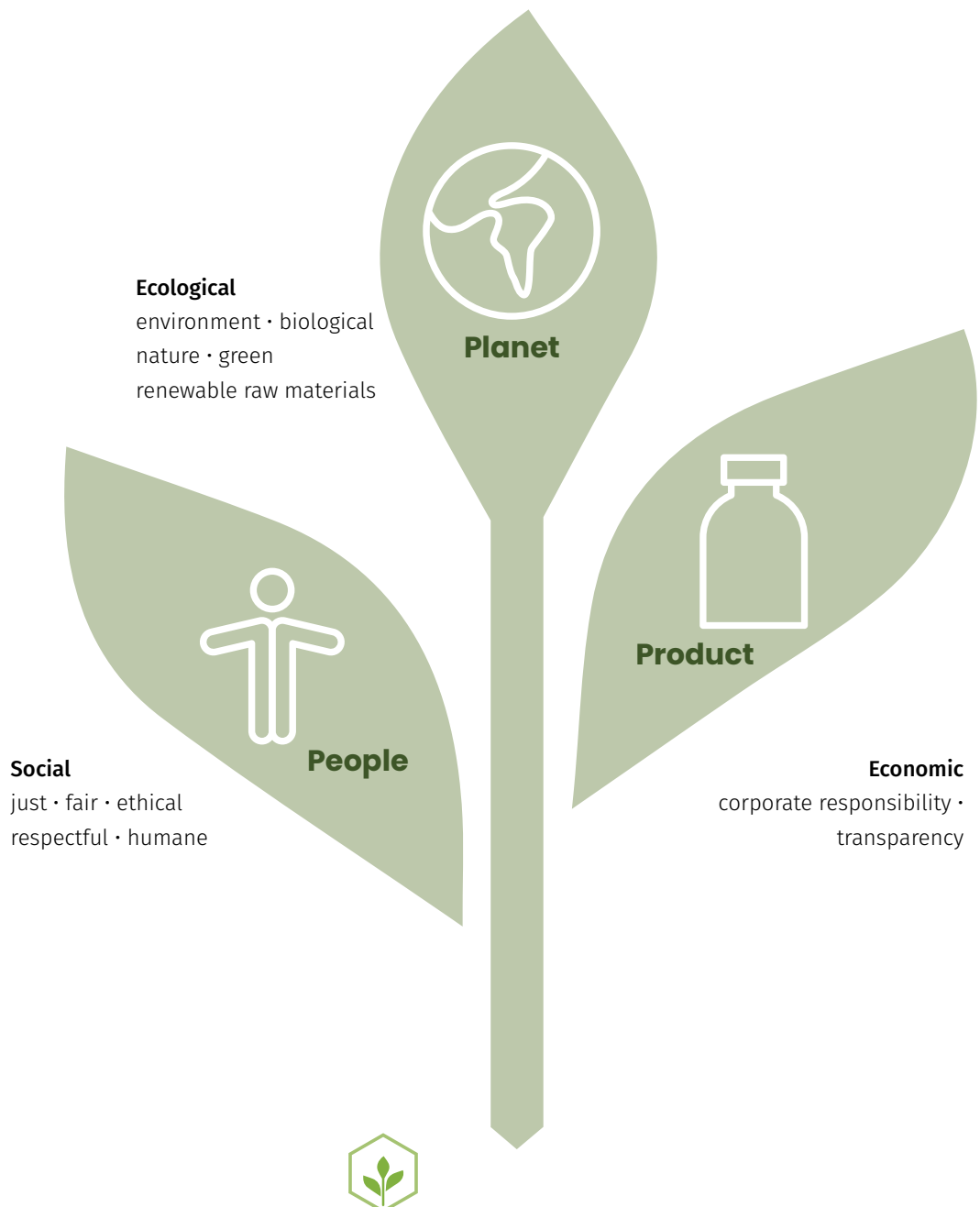
Sustainable development responsibility

“Sustainable development is development that safeguards the quality of life of the present generation and simultaneously provides future generations with the opportunity to shape their own lives!”

Although a smaller company, we consider it our responsibility to ensure our commercial practices conform with this principle, formulated in the 1987 Brundtland Report.

Against the backdrop of climate change, for Graefe Chemie this means developing strategies for all our current and future activities that effectively work towards reducing, avoiding or compensating for the CO₂ emissions caused by our actions.

Furthermore, we regard Graefe Chemie as a valuable participant in our society and wish to actively and responsibly contribute to the organisation and further development of such.



Responsibly aware, satisfied employees are our company's most valuable resource.

We consequently cultivate a corporate culture in which employees are valued and are able to develop their potential regardless of gender, ethnicity and age. We also require these standards from our business partners. Ensuring safe working conditions for our employees is an essential component of our corporate philosophy and work culture.

We consistently optimise our processes and efficiently use our resources and expertise. As a small company, we operate office and lab sharing and favour digital methods over business trips for communication and networking with our partners and customers. By paying for local public transport tickets, we encourage our employees to travel to the office in a climate-friendly way.

We promote flexible working time models based on a culture of trust. Mobile working is a matter of course for us. Promoting a family-friendly personnel policy and regular training opportunities, we constantly aim to provide our employees with personal development opportunities and treat them in a socially responsible manner.



Sponsoring memberships

We are delighted to be supporting a variety of projects; especially if their interests overlap with our idea of social responsibility and sustainable consumption.

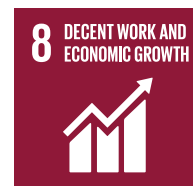
As a sponsoring member of **Viva con Agua**, we provide effective, long-term support for water projects by paying a regular membership fee. Our membership fee helps to give people all over the world access to clean drinking water and promotes the social engagement of young people in Germany. (SDG 3, 6, 8, 10)



Königinnen e.V. is an independent, non-profit association that we support through our membership. Through the provision of individual human hair wigs or hairpieces, people who suffer from hair loss due to illness or hereditary patterns gain a better quality of life and rediscover their normal level of anonymity. The association also enables people on low incomes to afford professionally made hair replacements – giving a boost to their self-esteem. (SDG 3, 10)



Since 1993, **Dunkelziffer e.V.** has been combating the sexual abuse of children and child pornography with therapy, counselling, prevention and ongoing education. The association has long campaigned for better victim protection and tougher penalties, as well as for the removal of taboos on the subject through media work and comprehensive public education. Graefe Chemie supports Dunkelziffer e.V. with an annual donation. (SDG 3, 8)



We are delighted to lend our support to good projects; especially if their interests overlap with our idea of social responsibility and sustainable consumption.

Our supply chain

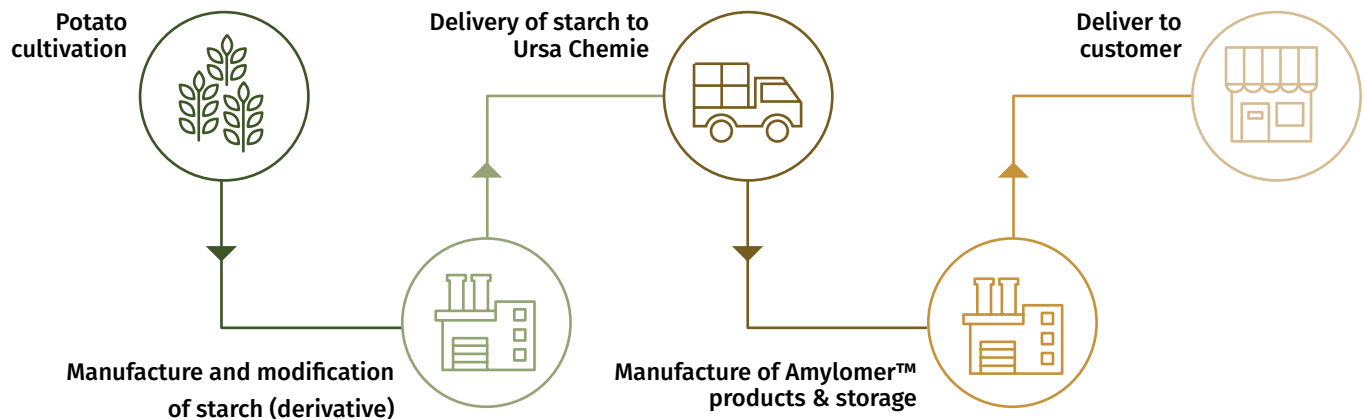
Short distances, local production (SDG 12, 13)

Our goal is to grow healthily and sustainably. We aim to achieve this by ensuring that in all our activities ecological and social sustainability go hand in hand with economic value creation.

A short, reliable and low-emission supply chain and the production of our raw materials at a local production facility offer the best prerequisites to achieve this.

Our source materials are extracted in a resource-conserving manner and processed in-house in low-energy and low-waste manufacturing processes.

This allows us to offer product solutions that are already marked by a comparatively low carbon footprint during their manufacture and saves costs to give us the financial leeway to invest in new products and innovative services for our customers.



Natural resources (SDG 12, 13)

For the vast majority of our products, the potato is the source of our natural starch. The starch is grown and harvested locally and processed into Amylomer™ products in Germany.

We can trace our raw materials back to the actual cultivated potatoes and ensure our starch manufacturers and processors operate reliable sustainability strategies.

The starches used to make Amylomer™ products are based

on dextrin-rich potatoes that are not suitable as edible potatoes. As a consequence, the raw materials we use are not competing with food production.

Amylomer™ products are:





**CO₂ emissions of
Amylomer™ products
and product carbon
footprint (PCF)**



Climate-neutral Amylomer™ products

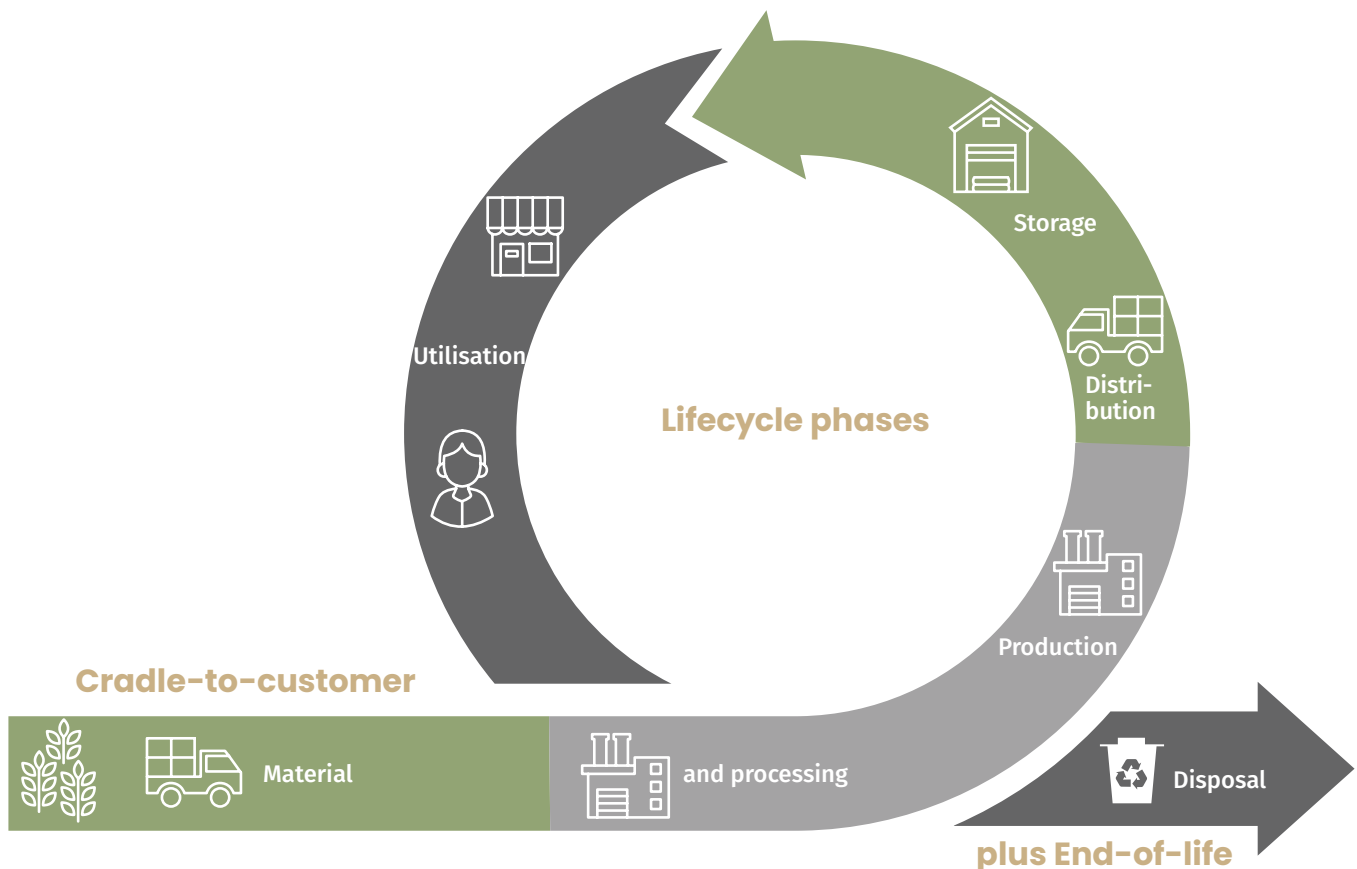
How does it work?

We recorded the CO₂ emissions of the Amylomer™ products together with [Climate Partner GmbH](#) to create the Product Carbon Footprint (PCF): in doing so we considered raw materials, logistics, packaging and disposal using the standard cradle-to-gate plus end-of-life approach.

We avoid and reduce these CO₂ emissions where possible. For example, the potatoes that are our main source of natural starch are grown, harvested and further processed locally in Germany.

In cooperation with our suppliers and partners, we work to continuously develop greater sustainability.

The following diagram shows the life cycle of our products; we are able to directly influence the factors marked in light green.



CO₂ Emissions of Amylomer™ products

Amylomer™ HA-CAT 75

Emission sources	Kg CO ₂	%
Material procurement and pre-processing (raw materials, packaging, inbound logistics)	1,539.00	77.0
Production (electricity)	0.35	0.0
Distribution and storage (outbound logistics)	283.00	14.0
Disposal	18.00	1.0
Non-allocable processes (general emissions)	156.00	8.0
Total per 1,100 kg	1,997.00	100.0

Amylomer™ CAT 531

Emission sources	Kg CO ₂	%
Material procurement and pre-processing (raw materials, packaging, inbound logistics)	1,467.00	76.0
Production (electricity)	0.35	0.0
Distribution and storage (outbound logistics)	283.00	15.0
Disposal	18.00	1.0
Non-allocable processes (general emissions)	150.00	8.0
Total per 1,100 kg	1,919.00	100.0

Amylomer™ HANI

Emission sources	Kg CO ₂	%
Material procurement and pre-processing (raw materials, packaging, inbound logistics)	1,319.00	75.0
Production (electricity)	0.35	0.0
Distribution and storage (outbound logistics)	283.00	16.0
Disposal	18.00	1.0
Non-allocable processes (general emissions)	138.00	8.0
Total per 1,100 kg	1,759.00	100.0

Year

2022

2023 (projection)

Total CO₂ emissions of Amylomer™ products

293.02 t CO₂293.43 t CO₂

ClimatePartner



We offset all unavoidable CO₂ emissions by supporting climate protection projects. As such, our Amylomer™ products are climate neutral. Climate protection projects reduce CO₂ - for example through reforestation measures or the replacement of climate-damaging technologies with climate-friendly alternatives.

We mark our Amylomer™ products with the independent "climate neutral" label, enabling our customers to track climate neutrality and find out more about the climate protection project. As such, we play our part in providing the greatest possible transparency as regards the climate neutrality of our products. To offset our CO₂ emissions, we support the following recognised climate protection projects, which are certified according to international standards:

Solar energy in Outapi, Namibia

Affordable and clean energy: with an anticipated 9,356 MWh per year, the project underpins independent power supplies in Namibia. (SDG 7, 8, 13)

Hydro-electric power, Virunga, D.R. Congo

Climate protection measures: the project saves around 46,410 tons of CO₂ emissions a year. (SDG 7, 8, 11, 13, 15, 17)

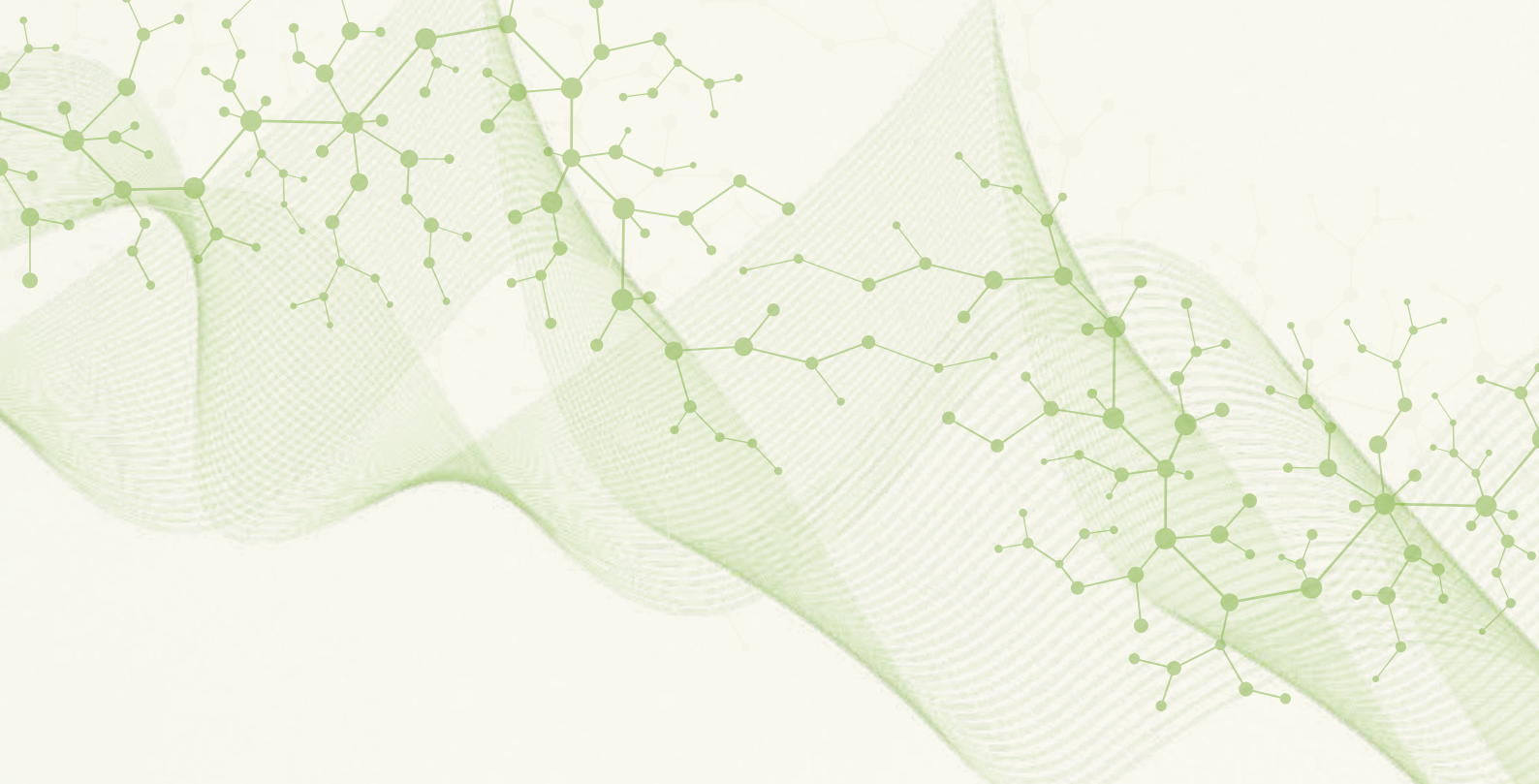
Forest protection, Para, Brazil

Sustainable consumption and production: production of organic Açaí and sustainable agroforestry products instead of deforestation. (SDG 1, 4, 8, 12, 13, 15)

Wind energy, North-east, Brazil

Civilised work and economic growth: the project generates additional sources of income for landowners as the project area can be used for other purposes. (SDG 7, 8, 13)





GRÄFECHEMIE

ADDITIVES FROM PLANT-BASED RAW MATERIALS

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