



# Strategies for CO<sub>2</sub> reduction

CH Oleochemicals GmbH pursues its

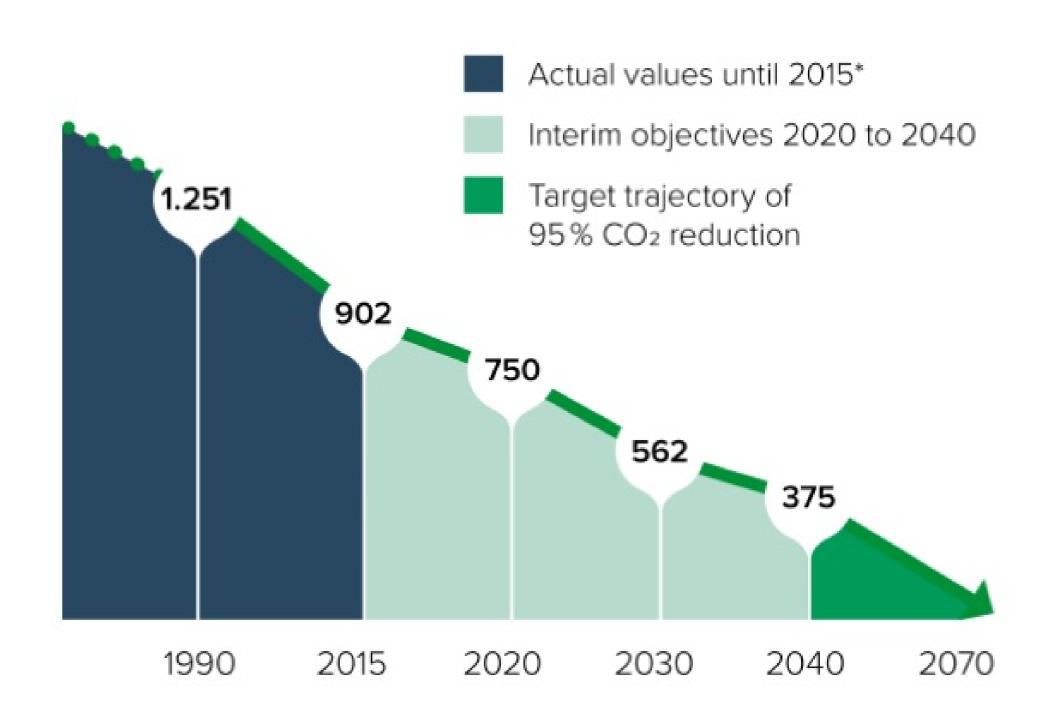
CO<sub>2</sub> reduction strategy by making sustainable
use of residual and waste materials generated
within the pure plant-based loop and by
creating energy products that deliver potential

CO<sub>2</sub> savings of over 90%. Biofuels and byproducts play an especially important role in
the implementation of this strategic alignment.

Virtually all industrial applications initiate substitution processes that move away from oil-based chemicals to take advantage of oleochemical materials that are entirely plant based and can be grown in a sustainable manner.

# The development of greenhouse gas emissions and the Route towards CO<sub>2</sub> neutrality\*

Figures in millions of tonnes of CO<sub>2</sub> equivalents Source: German Environment Agency



# Binding targets within the European Union

The so-called "Federal Government Decarbonisation Strategy" entered into force in 2015. The oil industry is now only permitted to use biofuel additives which generate the highest effect in terms of minimising greenhouse gases.

This circumstance has brought about a long-term change in the whole of the biofuels market. Since 2015, there has been an increasing demand for biofuels which are based on residual and waste

materials and exhibit a greenhouse gas reduction rate of at least 90%.

CH Oleochemicals supplies the raw materials used in such biofuels in a CO<sub>2</sub>-neutral way and is thus able to offer significant added value across the whole of the delivery chain.

At CH Oleochemicals, we see ourselves as a seller of CO<sub>2</sub> reduction which makes an important ecological contribution.



# Residual materials and recycled products that meet the very highest standards.

Our detailed and highly diverse product and process knowledge has enabled us to specialise in returning industrial waste and residues to the value-added chain in the form of raw materials. We treat and refine products in a way that meet the very highest

requirements in terms of further processing.

Customers who use our raw materials are also able to generate a further benefit by achieving considerable cuts in the amounts of CO<sub>2</sub> they produce.



- > Biodiesel UCOME (Used Cooking Oil Methylester)
- > Used Cooking Oil (UCO)
- Fatty Acids
- > CEHARIN Pharma Grade Glycerin 99.5%
- > CEHARIN Refined Glycerin 99.5% for technical applications
- > Crude Glycerin 80%
- > Glycerin Phase

#### **Biodiesel – UCOME**

A biodiesel produced using residual and waste materials, referred to in abbreviated form as UCOME (Used Cooking Oil Methyl Ester) and offering potential CO<sub>2</sub> savings of over 90% compared to fossil-based diesel. UCOME has the greatest impact on reducing CO<sub>2</sub> of any product in our portfolio. This biodiesel does not compete with foodstuffs. The basic material has already been used for the production of comestible goods and is subsequently deployed as plant-based oils that has been declared to be a residual and waste material.

#### **Used Cooking Oil (UCO)**

Industrial processing of waste edible fats and refined used cooking oil from a wide variety of sources and of differing qualities within our portfolio. Because UCO is a waste or residual material which has been previously used as a foodstuff, it produces 0 grammes of CO<sub>2</sub> emissions. These used cooking oils are primarily distributed via oleochemical applications and to the biodiesel industry. End products manufactured on this basis may achieve CO<sub>2</sub> reduction rates of over 90%.

#### Fatty Acids

The fatty acids contained within our portfolio are divided into 3 quality areas. These are Methyl Ester Fatty Acids, Refined Fatty Acids and Oleochemical Fatty Acids. Fatty acids occur as residual and waste products in many industrial sectors. Their 0 gramme  $CO_2$  emissions help considerably in minimising  $CO_2$  impact in our environment.

#### Crude Glycerin 80%

Plant-based raw glycerin is a by-product of biodiesel production and offers a guaranteed glycerin content of 80%. It is an essential raw component for the manufacture of Pharmaglycerin and Refined Glycerin. As a sustainable residual

material, it also emits 0 grammes of  $CO_2$ .

#### **CEHARIN Pharma Grade Glycerin 99.5%**

CEHARIN Pharmaglycerin min. 99.5% is a pure-plant based product. It is used as a raw material in many high-end applications in the cosmetics, pharmaceutical and food industries. CEHARIN Pharmaglycerin min. 99.5% is further deployed in other premium areas in technical industries. Because it represents a pure-plant based replacement for fossil options, it makes an active contribution towards decreasing CO<sub>2</sub>.

# CEHARIN Refined Glycerin 99.5% for technical applications

CEHARIN Refined Glycerin min. 99.5% is a product that is specially offered for technical applications. It is usually manufactured using pure plant-based residual and waste materials. This is another product which can be substituted for fossil-based chemicals and thus offers high potential CO<sub>2</sub> savings.

# Residual materials and recycled products that meet the very highest standards.

#### **Glycerin Phase**

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Glycerin Phase of plant-based origin is a valuable raw material for technical industrial applications. The maximum glycerin content is 60% depending on the area of use. Areas of use include the manufacture of Refined Glycerin. Glycerin Phase is an important and sustainable raw material for energy extraction because it produces 0 grammes of CO<sub>2</sub> emissions.



# **Certified quality**

The quality of the products we distribute and sell is the number one priority for CH Oleochemicals GmbH and its customers. We have Ecostep certification in place to ensure this commitment. Our sustainable residual and waste materials are also covered by the REDcert scheme, a system developed by leading associations and organisations in the German agricultural and biofuels sector, and all individual feedstuffs comply with the GMP+ Standard.









# Use our strenght to your advantage.

Our USP has its basis in cross-cutting networking that extends across the whole of the bio energy market. The business model adopted by CH Oleochemicals is rooted in a three-pillar strategy. Sustainable pure plant-based products offering a high degree of CO<sub>2</sub> reduction potential are distributed in a fully integrated way within the biodiesel industry and across into the related industrial chemicals sector.

We see our function on the market as processing business in a rapid and flexible way with as little red tape as possible. We also aspire to provide excellent product guidance and high quality logistics services. The primary objective of all our activities is to drive CO<sub>2</sub> reduction by deploying products, waste flows and residual materials which offer high potential savings in this area.







# Our service

- Consultancy
- Concept
- > Logistics
- > Sales and distribution

# Consultancy

- Information on general policy and statutory conditions
- Developments in the Renewable Energy Directive/RED at a German and European level
- Current market trends
- Overview of price developments
- > Application-specific product quality guidance

# Concept

- Cross-industry market integration
- > Full networking within the whole of the value-added chain
- Raw material delivery and product removal
- > Sale of CO<sub>2</sub> reduction





# Logistics

- Integrated processing of transports in the in-and-out business
- Same-day order and transport availability
- > Hazardous materials (GGVS), waste, kosher and GMP+ transports

### Sales and distribution

- > Global procurement and sales activities
- Security of supply thanks to full integration within the oleochemical industry
- Sales and distribution via the implementation of USP's
- An order processing approach that puts customers and suppliers first
- 35 years of experience in international sales and distribution





**Thorsten Cammann**Managing Director



**Andreas Rück** Managing Director





## Contact

#### **CH Oleochemicals GmbH**

Valvo Park – Gebäude 6 B

Tarpen 40

22419 Hamburg

Germany

Phone + 49 40 696 35 92 - 00

Fax + 49 40 696 35 92 - 90

E-mail info@ch-oleochemicals.de

Web www.ch-oleochemicals.de