

# Omega-3 Sustainability

Because nature's gifts don't come for free



We create chemistry

We drive environmental & social  
accountability from fishery to formulation  
for your peace of mind



# Omega-3 Sustainability

From fishery to formulation



## Suppliers



We source responsibly

- We require fisheries we source from to have a 3<sup>rd</sup>-party certification of sustainable practices
- Established Supplier CO<sub>2</sub> Management Program
- Life cycle assessment of Omega-3 sources available

## BASF Operations



We produce efficiently & safely for the environment

- Recent investments to increase product yield and reduce raw material consumption
- Continuous optimization of water and energy use
- Conversion of side products into value-added materials
- 100% of purchased electricity for EPA96/97 production from renewable sources

## Customers



We drive sustainable solutions

- Partner with 25+ years experience in environmental impact calculations
- Product carbon footprints available\* according to ISO norms and Greenhouse Gas Protocol

Contact your BASF Account Manager to get connected to our Sustainability Team  
[www.omega3.basf.com](http://www.omega3.basf.com)

\* Available upon Environmental NDA signing

# We minimize our impact on the oceans

With an established and comprehensive fish oil sourcing policy

- ✓ **Suppliers are required to provide traceability** of their fish oil to the vessel, fish species, and catch area, period, and method
- ✓ Omega-3 fish oil is derived from **small pelagic species** that are typically characterized as fast-growing with limited human consumption markets
- ✓ We continuously **monitor stock assessments and regional fishing practices** via the Food and Agriculture Organization (FAO) of the United Nations

## We strictly do NOT accept:

- Endangered fish species from the IUCN Red List
- Illegal, unreported, and unregulated (IUU) fishing
- Bottom trawling
- Dynamiting/ poisoning





# We minimize our impact on the oceans

We require the fisheries we source from to have a 3<sup>rd</sup>-party certification\* of sustainable practices

Here are some of the critical topics that are covered with certifications:



## Biodiversity

- Stock status quotas
- By-catch limits



## Environment

- EHS standards
- Minimization of marine pollution & CO<sub>2</sub> footprint



## Traceability

- Species & origin identification
- Management & traceability framework



## Society

- Labor rights & benefits
- Employee safety
- No child labor



## Accountability

- Regular audits & record keeping
- Violation repercussions

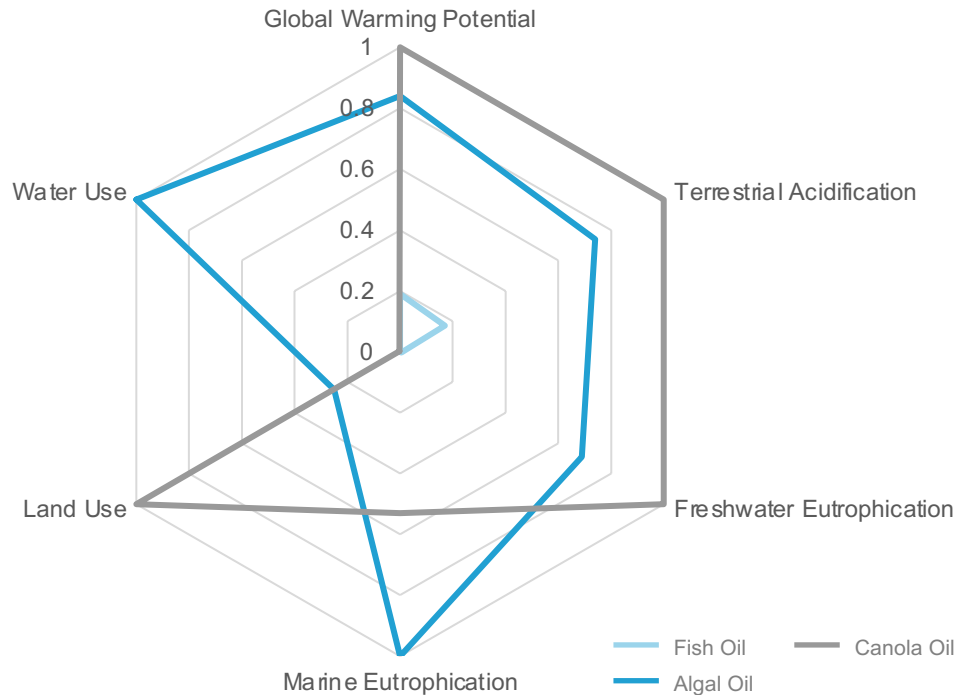


\* Accepted certifications: Marine Stewardship Council (MSC), MarinTrust / IFFO RS, and Friends of the Sea (FOS). Fishery improvement programs are accepted if there is a credible path towards certification.



# Environmental impact of Omega-3 sources\*

## Using recognized Life Cycle Assessment (LCA) methodology



- ✓ **Fish oil has the lowest impact** in all six environmental categories evaluated in this assessment
- ✓ **Canola oil and algal oil** are agriculturally based (e.g., canola crop and sugar source for algae fermentation) and therefore have higher impacts in nearly every category due to fertilizer use, crop harvest yield, and oil yield
- ✓ Omega-3s from **algal oil require 5000x more water** than fish oil due to fermentation and downstream processing steps

\* Results according to BASF internal environmental impact assessment (2022) according to ISO 14040/44 standards and ReCiPe LCA methodology.

# Environmental impact of Omega-3 sources\*

## Global Warming Potential/ Carbon Footprint

Emission of greenhouse gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O), leading to an increase in the global mean temperature

## Terrestrial Acidification

Atmospheric deposition of inorganic substances (SO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub>) that result in the acidification of soil and damage to terrestrial ecosystems

## Eutrophication

Impact of phosphorus- or nitrogen-containing emissions, leading to excess algal growth and depleted freshwater & marine oxygen levels

## Land Use

Change of land cover and use of the new land, leading to decreased or loss of habitat availability, soil disturbances, and reduction of wildlife diversity

## Water Use

Consumption of water that is no longer available in the watershed of origin for humans nor for ecosystems

# Sustainability-focused Omega-3 operations



Maximizing resource efficiency, minimizing energy & waste

**2** **Production sites:**  
Callanish, Scotland &  
Sandefjord, Norway



Through our **optimized production processes** and utilization of our **value streams** we steer towards Zero waste

**Increase in utilization** of EPA/DHA  
in fish oil over past 16 years

**190%**

**+100%**

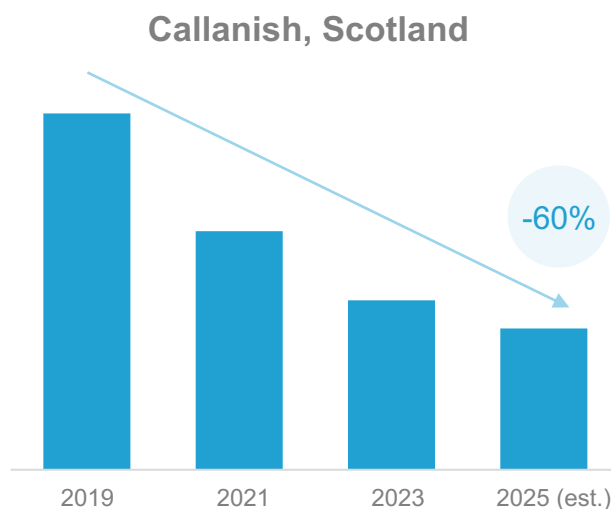
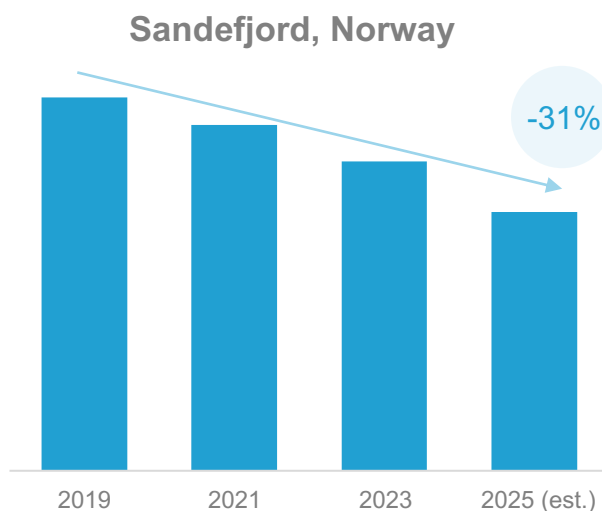
of purchased electricity in Callanish  
is from **renewable sources**



# Sustainability-focused Omega-3 operations

Innovative OpEx projects at our sites deliver major improvements in efficiency

As an example, below is shown the actual and predicted reduction in production emissions (CO<sub>2</sub> eq) per kg products





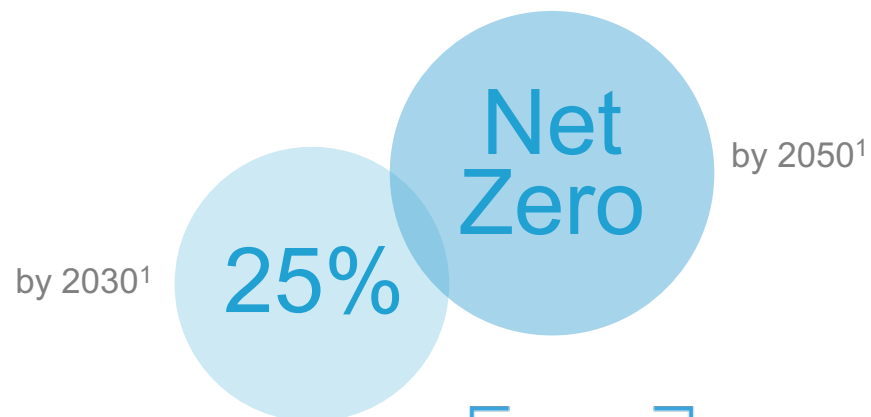
# An experienced and committed partner

With 25+ years experience in environmental impact evaluations

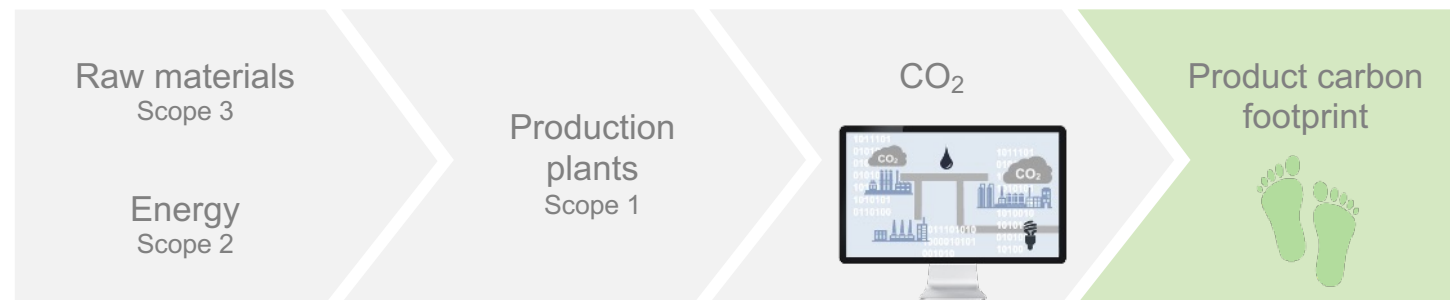


# An experienced and committed partner

BASF's ambitious CO<sub>2</sub> emissions reduction goals



With an award-winning digital tool for product carbon footprint calculations



2021 Responsible  
Care Award

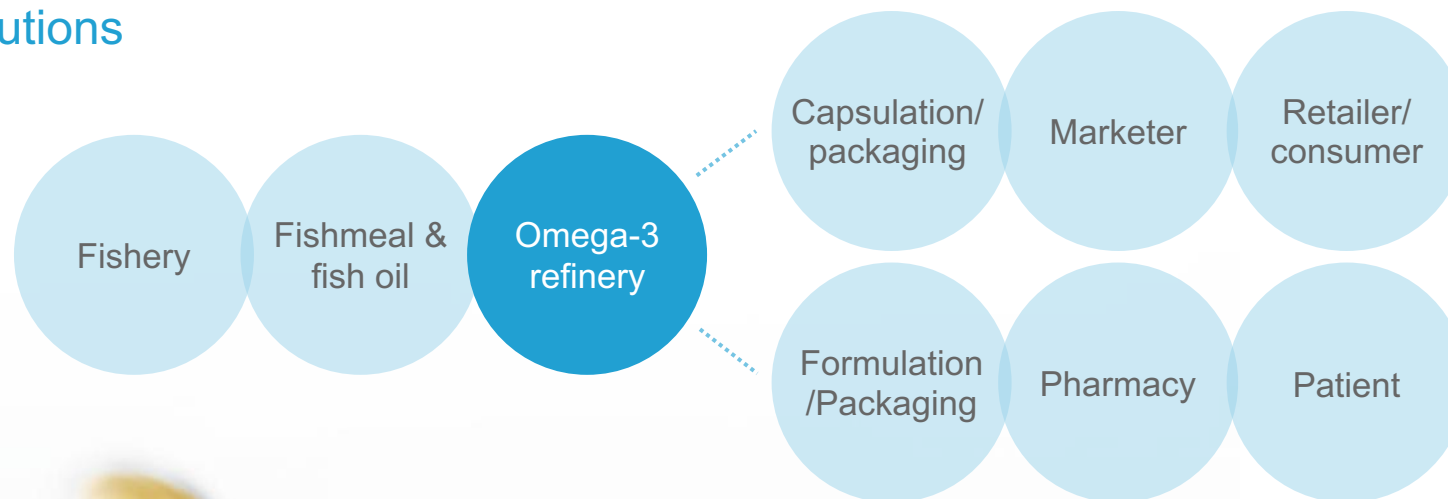


2021 Green  
Controlling Award

<sup>1</sup> Scope 1 + 2; compared with 2018

# We actively take part along the value chain

To drive sustainability topics & solutions





# We actively take part along the value chain

- ✓ **We are in continuous dialogue** with international standards & certification bodies
- ✓ **We are a board member** of GOED, the Global Organization for EPA and DHA Omega-3
- ✓ **We work with industry groups** such as the Pharmaceutical Supply Chain
- ✓ **We provide environmental** data transparency via credible Platforms such as CDP and ecovadis





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