Omega-3 Sustainability

Because nature's gifts don't come for free

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

MarComm-2023-00367

Omega-3 Sustainability

From fishery to formulation

Suppliers

We source responsibly

- We require fisheries we source from to have a 3rd-party certification of sustainable practices
- Established Supplier CO_2 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

* Available upon Environmental NDA signing

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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

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We minimize our impact on the oceans

We require the fisheries we source from to have a 3rd-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_2 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.

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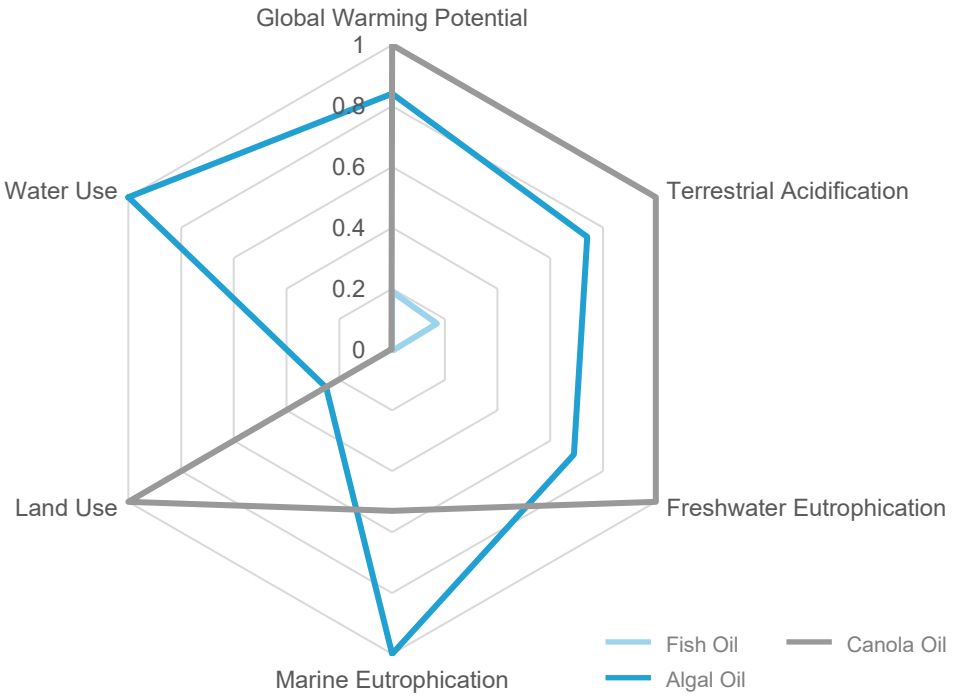
Environmental impact of Omega-3 sources*

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.

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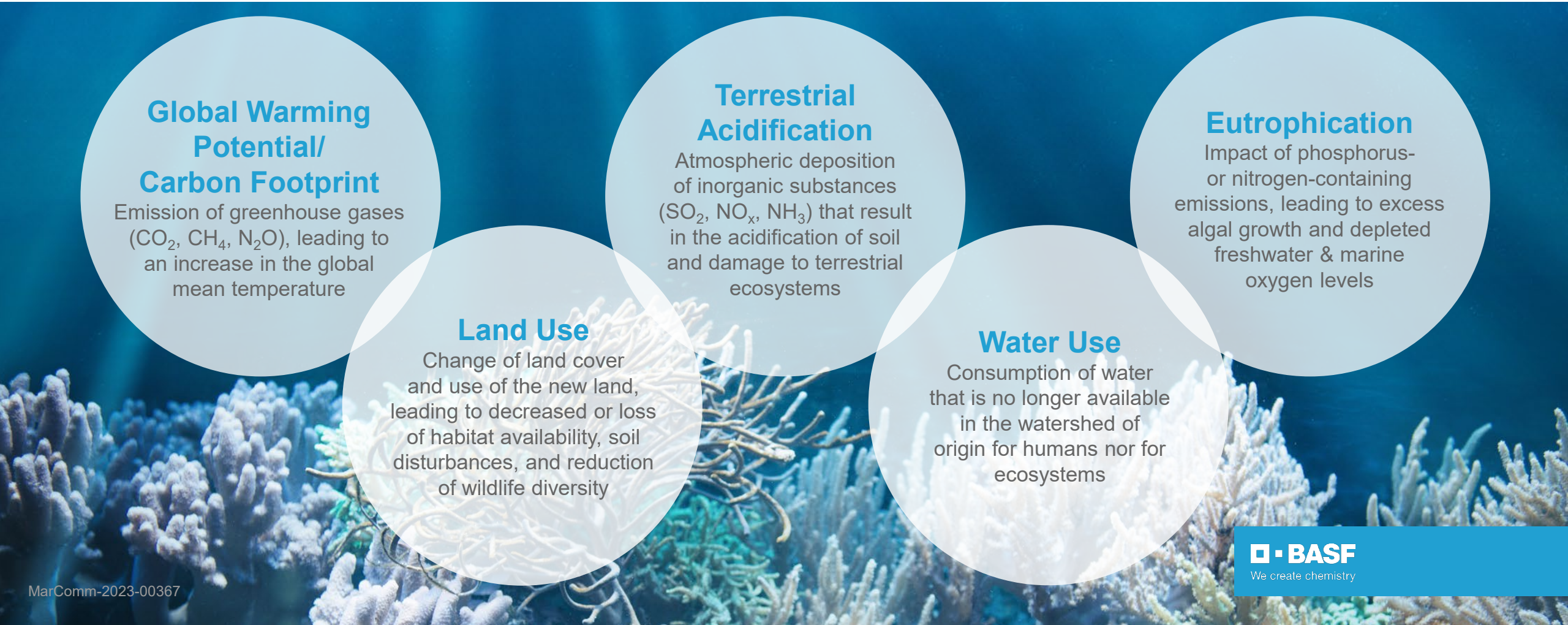
Environmental impact of Omega-3 sources*



Global Warming Potential/ Carbon Footprint

Emission of greenhouse gases (CO_2, CH_4, N_2O), leading to an increase in the global mean temperature

Terrestrial Acidification

Atmospheric deposition of inorganic substances (SO_2, NO_x, NH_3) 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

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Sustainability-focused Omega-3 operations

Maximizing resource efficiency, minimizing energy & waste

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

+100%
of purchased electricity in Callanish
is from **renewable sources**

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%

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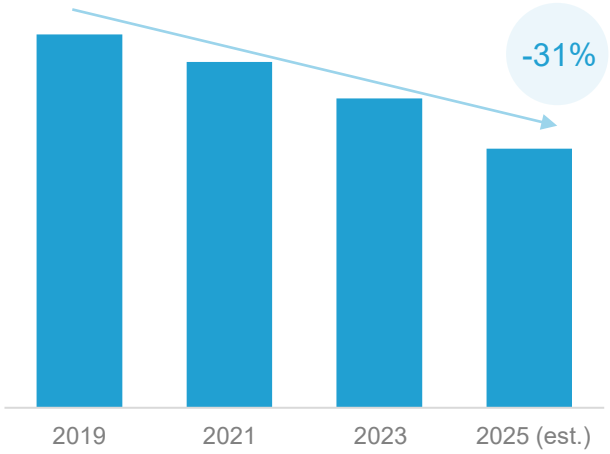
Sustainability-focused Omega-3 operations

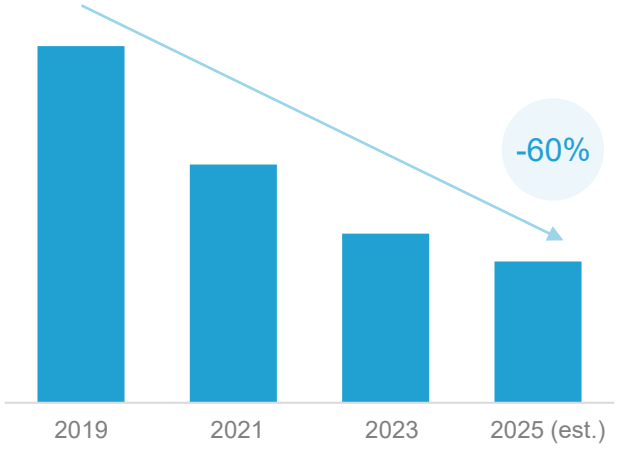
Innovative OpEx projects at our sites deliver major improvements in efficiency

As an example, below is shown the actual and predicted reduction in production emissions (CO_2 eq) per kg products

Sandefjord, Norway



Callanish, Scotland



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An experienced and committed partner

With 25+ years experience in environmental impact evaluations

1996

Products in the value chain

- Eco-Efficiency Analysis
- SEEbalance®

2007

Portfolio & digital solutions

- AgBalance™
- Investment evaluation

2012

Corporate

- Sustainable Solution Steering
- Value-to-Society

current

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BASF`s ambitious CO_2 emissions reduction goals

by 2030[1] **25%**

Net Zero by 2050[1]

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

cefic
2021 Responsible Care Award

icv
2021 Green Controlling Award

[1] Scope 1 + 2; compared with 2018

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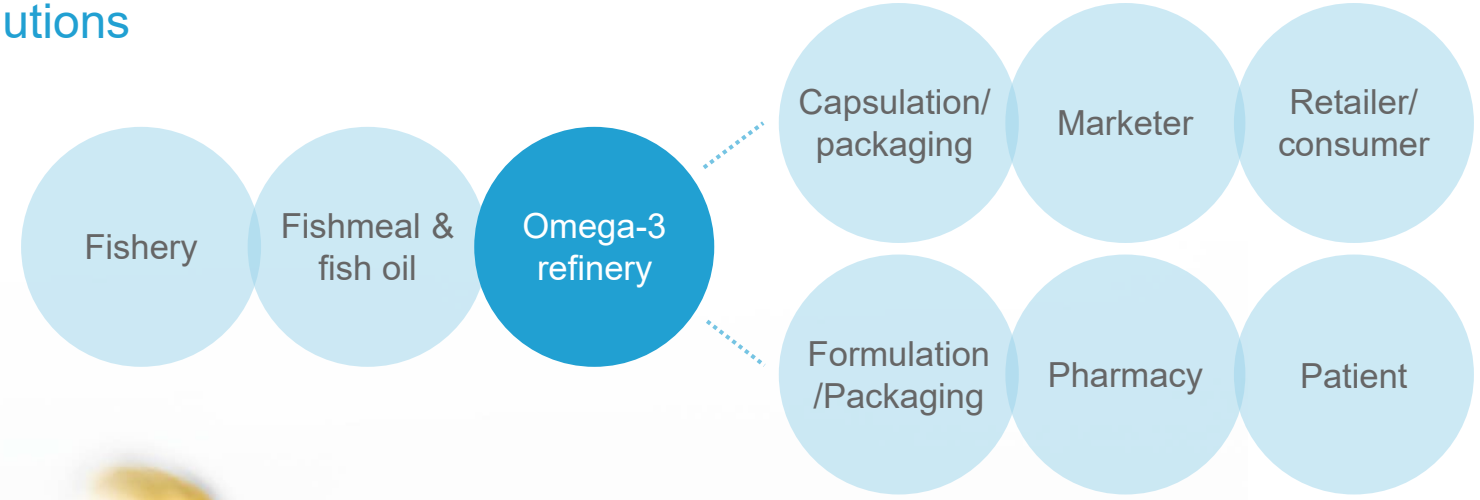
We actively take part along the value chain

To drive sustainability topics & solutions



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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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