60 YEARS

BioMar

Edition: 13 **20.22**

Title: BioMar Group Integrated Sustainability Report

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Reflecting on a difficult year

CEO Message

Carlos Diaz

2022 was a year full of surprises. Some were positive, but many were and still are challenging. Our people have handled these challenges in the best way possible, demonstrating the commitment and resiliency of our organisation.

The war in Ukraine is one of the main issues and it took us all by surprise. We made the very difficult decision to pull out of Russia completely. It was a market we had developed over the years, with good and committed people, and it is also an important raw material market.

The financial consequences for BioMar are quite significant, but sometimes we have to take decisions that go beyond commercial and financial interests based on our values and ethics. Looking back, I am assured and proud that we made the right decision. It is tough for our organisation in the region, but I believe we have acted fairly and in accordance with our values.

It was heartwarming to see that several of our customers drew the same line, despite the short-term business impact. As a purpose-driven company, business ethics and our ability to protect our customers' brands must always come first.

In 2022 we undertook the biggest strategy process in the history of BioMar. Our new strategy, ABOVE & BEYOND, will guide our actions and initiatives until 2028. It is an ambitious growth strategy with exciting opportunities.

An outcome of our new strategy is to go beyond feed, and we have acted quickly. Our first venture beyond feed, AQ1, will hopefully pave the way for a future technology division that will help BioMar become an even better solutions provider.

"Our ability to protect our customer's brands must always come first."

As we look back at our financial performance, we are happy to see that the year ended better than initially anticipated. We are still experiencing very tough conditions. In addition to the war in Ukraine, we saw disruptions in global supply chains and inflation, travel restrictions due to Covid, and other ripple effects. However, we managed, and I am happy to say we ended 2022 with a satisfactory result thanks to the committed and dedicated work of our people.

The effort and commitment of our employees and the innovative ways of working were evident last year and will be just as important in 2023. We must continue to show resilience as the market conditions are likely to last throughout this year. Being agile and hands-on, innovative and motivated, and, not least, being able to execute are all part of the BioMar DNA.

Our customers want the best solutions, and we have to present these solutions before they request them. We will continue our value creation and growth journey collaboratively with all our stakeholders.

This report reflects and summarizes our commitment to sustainability and discloses the important aspects of our business. Please enjoy the in-depth articles and our experiences shared in this report.

60 years in the making...

From Farmers. For Farmers.

BioMar celebrated its 60th anniversary in 2022.

Sustainability Director Message
Vidar Gundersen

Back in 1962, a handful of entrepreneurial Danish fish farmers decided to start a factory to create their own, production of dry aquafeeds. They were among the first in Europe to produce pelletised dry feeds that were more nutrient dense and minimised nutrient loss. These are the fundamental pillars of innovation and environmental consciousness that BioMar was founded on.

Another anniversary took place last year. It marked 60 years since the publication of Silent Spring by Rachel Carson and the start of modern sustainability. This book documented the environmental harm caused by the use of synthetic pesticides and the negative domino effect on ecosystems. It brought environmental concerns into the public domain and kickstarted the modern, science-based environmental movement.

Today, global warming and climate change are among the most pressing societal problems facing us. We are in a period of transition in terms of energy and fossil emissions and the next 10-20 years will be decisive for whether we manage to reverse the trend of global warming.

Even though we've dealt with emissions problems before, e.g., acid rain and the ozone layer, today's challenges are more extensive and the consequences are potentially much worse.

The latest Intergovernmental Panel on Climate Change (IPCC) report delivers a 'final warning' on climate change[1]. There is still a chance of preventing the global temperature from rising more than 1.5°C above pre-industrial levels, the threshold beyond which our negative impact on the climate will rapidly become irreversible.

We are at 1.1°C now and will most likely reach 1.5°C within a decade. At BioMar we believe we must aim for this to be the peak.

Luckily, the world's nations have committed themselves to time-bound zero emissions targets. These targets will eventually be passed on to industry. Emissions reductions will become statutory requirements, which calls for industrial cooperation.

Like a large an increasing number of companies, BioMar has set ambitious reduction targets and committed to science-based targets to reduce our greenhouse gases. Most of our carbon footprint comprises Scope 3 emissions related to feed raw materials. We are working hard to reduce these environmental impacts and, together with our suppliers, we are setting up improvement plans and programmes to reduce environmental impacts and increase circular and restorative practices.

Applied, science-based sustainability is a mantra at BioMar, and data quality is key. We have very competent and skilled global and local teams working with cutting-edge tools and methods for the most optimal sustainability solutions for ourselves and for our customers. We will all reach our targets sooner by collaboration through the value chain.

Applied, science-based sustainability is a mantra in BioMar, and data quality is key.

Vidar Gundersen

State of world aquaculture

World aquaculture production of animal species was just 2.7% higher in 2020 than in 2019, the lowest annual growth rate in over 40 years.[2]

Global aquaculture production retained its growth trend in 2020 amid the worldwide spread of the COVID-19 pandemic. The total aquaculture production comprised 87.5 million tonnes of aquatic animals. The estimated total farm gate value, including algae and shells (35.1 MT), was USD 281.5 billion in 2020, an increase of USD 18.5 billion from 2018 and USD 6.7 billion from 2019.[2]

Finfish farming remained steady with minimal fluctuation, around 66 percent, accounting for the largest share of world aquaculture for decades. In 2020, farmed finfish reached 57.5 MT, including 49.1 MT from inland aquaculture and 8.3 MT from mariculture in the sea and coastal aquaculture on the shore. Production of other farmed aquatic animal species reached 17.7 MT of molluscs, primarily bivalves, 11.2 MT of crustaceans, 525,000 tonnes of aquatic invertebrates and 537,000 tonnes of semi-aquatic species, including turtles and frogs. [2]

World Capture Fisheries and Aquaculture Production[3]

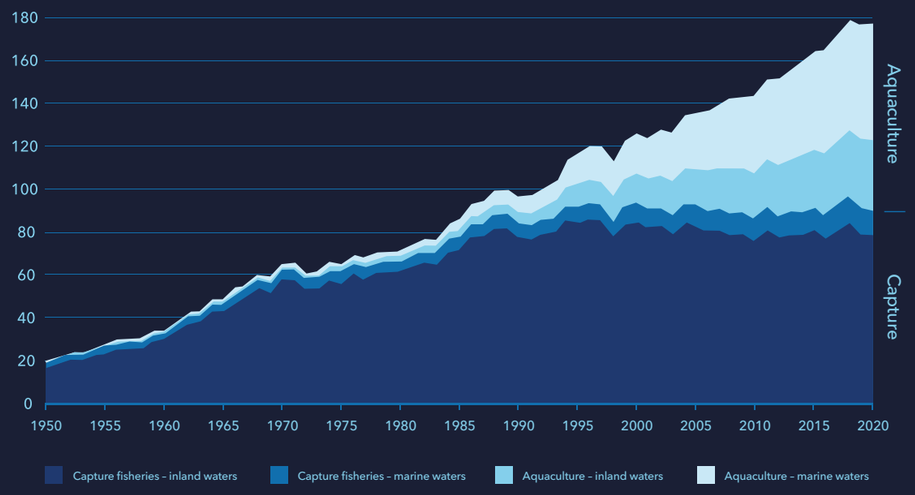
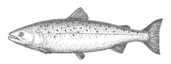


Figure 1. World aquaculture production of finfish, crustaceans, molluscs, etc. by principle species in 2020.
NOTE: Excludes aquatic mammals, crocodiles, alligators and caimans, seaweeds and other aquatic plants.

Major aquatic animal species in world aquaculture

		kT	Share	Change from 2015
	**Whiteleg shrimp** *Penaeus vannamei*	5812.0	7%	+53%
	**Grass carp** *Ctenopharyngodon idellus*	5791.5	7%	+9%
	**Silver carp** *Hypophthalmichthys molitrix*	4896.6	6%	+4%
	**Nile tilapia** *Oreochromis niloticus*	4407.2	5%	+10%
	**Common carp** *Cyprinus carpio*	4236.3	5%	+5%
	**Catla** *Catla catla*	3540.3	4%	+14%
	**Bighead carp** *Hypophthalmichthys nobilis*	3187.2	4%	+38%
	**Atlantic salmon** *Salmo salar*	2719.6	3%	+14%
	**Striped catfish** *Pangasianodon hypophthalmus*	2520.4	3%	+21%
	**Roho labeo** *Labeo rohita*	2484.8	3%	+39%

Top 10 species (finfish, crustaceans)	39,596.1	46%	+18%
Other species (finfish, crustaceans, molluscs, etc.)	46,843.9	54%	+10%
World total (all animals)	**86,440**	**100%**	**+14%**

Table 1. World aquaculture production of finfish, crustaceans, molluscs, etc. by principle species in 2020.

Closing the Gap on Sustainable Fisheries

Fishery Improvement Projects

BioMar has reduced its consumption of marine ingredients by 70% in the last 30 years. While these ingredients remain a great nutrient for fish and shrimp diets, they must be responsibly sourced from healthy fish stocks

The most recent report from the Sustainable Fisheries Partnership (SFP) on the health of fish stocks used for marine ingredients shows that 4% were rated very well managed, 75% reasonably well managed, and 21% poorly managed.[4]

BioMar recognises that "reasonably well managed" is likely insufficient protection against the intense fishing pressure and human-induced habitat changes that most global fisheries face. Moreover, a poor management rating for one out of every five fish stocks in the assessment is unacceptable.

BioMar wants to drive improvements in fisheries management so that poorly managed fish stocks move up to reasonably managed. The long-term goal is that the majority of fish stocks are very well managed.

The fishery improvement project (FIP) models of MarinTrust and FisheryProgress are designed for that express purpose.

FIPs are multi-stakeholder initiatives that identify and address the gaps between the current status of a fishery vs a limited set (basic FIP) or the complete set (comprehensive FIP) of the Marine Stewardship Council (MSC) indicators.

Since 2007, FIPs have increased from 6 to more than 250. This growth comes from the sustainable food systems movement and an increased focus on humans' negative impacts on oceans, where overfishing is the most severe and direct example.

Most of the world's sustainable fisheries are located in developed nations. The figure to the right shows that most of the global FIPs are located closer to the equator in less developed countries.

The geographical misalignment of sustainable fisheries occurs because less developed countries often need more institutional and scientific support than that required by ecosystem-based fisheries management.

FIPs alleviate this problem through capacity building, technology and knowledge transfer, premium market access, and foreign investment. If executed correctly, the FIP model and its supply-chain incentives can bring about positive human development in countries especially vulnerable to overfishing and depleted fish stocks.

The FIP participatory ecosystem must contain the right mix of stakeholders

The Conservation Alliance for Seafood Solutions (CASS) has published guidelines for supporting FIPs since 2012. CASS recommends including, at a minimum, the following types of stakeholders in FIPs.[5]

- Fishers or groups representing them (producers)
- Supply chain actors (BioMar)
- NGOs such as Sustainable Fisheries Partnership, World Wildlife Fund, etc.
- Scientific experts and researchers
- Governmental organizations, such as the Ministries of Fisheries/Labour/Natural Resources, etc.

This requirement allows for capacity building and information exchange between fisheries stakeholders on opposite ends of the power structure spectrum: rights-holders (i.e. workers and communities) and duty-bearers (i.e. authorities and industry).

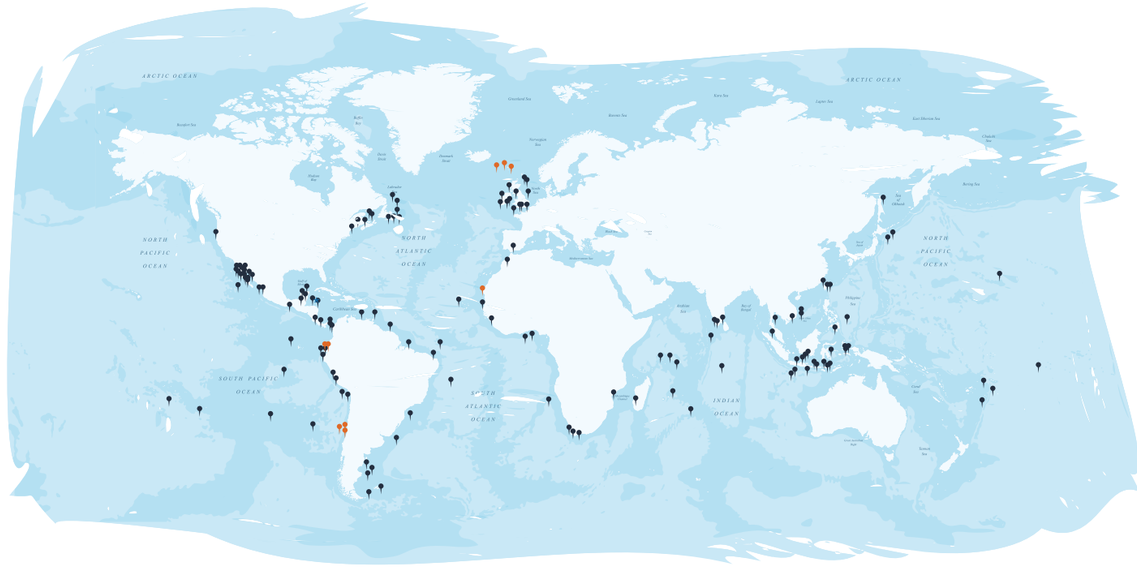
Social impact assessment in FIPs

A common and fair critique of the historical FIP model of transformative fishery change is that FIPs have not addressed social impacts. BioMar agrees with FIP information manager FisheryProgress that preventing and mitigating human rights abuses in seafood supply chains requires a systemic approach.[6]

FIPs must begin addressing their human rights risks immediately. However, we understand that the perfect cannot be the enemy of the good.

BioMar began contributing to implementing the new Human Rights and Social Responsibility Policy published by FisheryProgress in December 2022 for any new Fishery Improvement Project (FIP) we join.[6]

BioMar is supporting the Mauritania Small Pelagics FIP through the Global Roundtable on Marine Ingredients. The FIP will hopefully secure stable, long-term fishing opportunities for the 25,000 artisanal fishermen in the area.



Key:

FIPS

BioMar Engagement

Figure 2. Map showing FIPS and BioMar engagement based on the Fishery Improvement Project Progress Tracking Database.
* FIP in planning stages

The tangible benefits of improved FCR include:

Reduced feed requirements per production unit.

Production cost efficiencies.

Reduced amount of pollutants entering the internal farm water system.

Reduced farm effluent pollution potential to the surrounding environment and local communities.

AQ1 Systems

AQ1 Systems (AQ1) is a pioneer of acoustic feeding and biomass estimation technology for aquaculture.

AQ1's intelligent feeding system uses sophisticated acoustic monitoring technology to listen to the unique sounds made by shrimp as they eat.

The acoustic sensors use advanced algorithms to integrate with AQ1 Analytics, the company's centralised pond command and control technology. AQ1's product line includes wireless aeration control, environmental sensors, and sophisticated monitoring and reporting capability that supports farmers in optimising feeding regimes for farmed shrimp.

AQ1 helps farmers manage the feeding process to ensure the right amount of food is delivered at the right time to a maximum feed area for a better growth and feed conversion ratio (FCR).

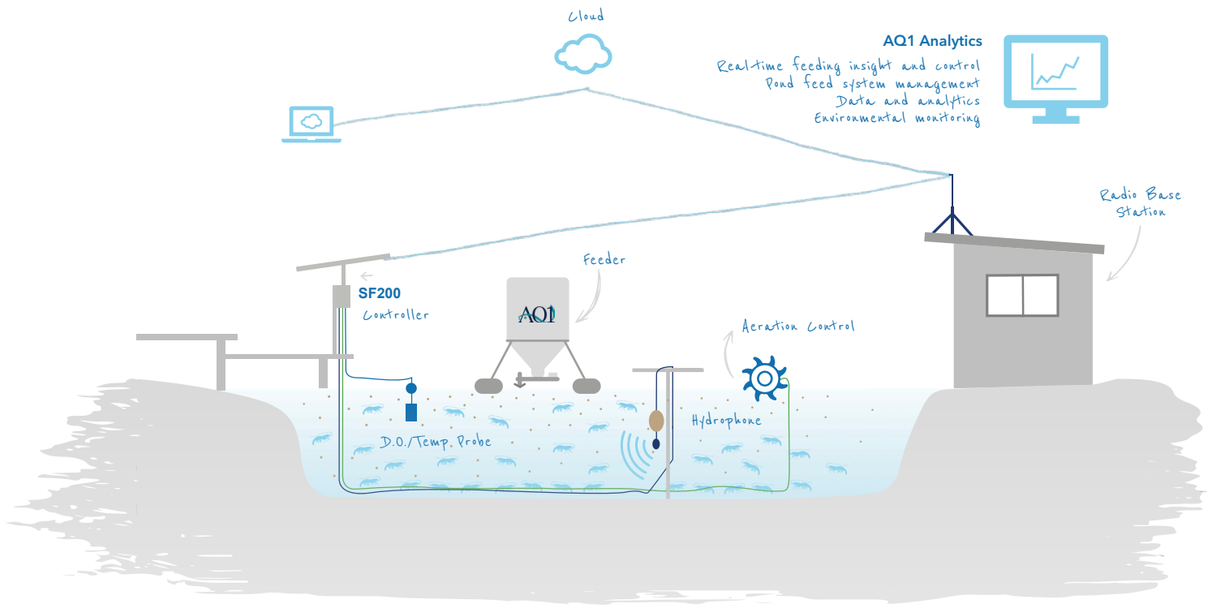


Figure 3. Example of AQ1 Systems operate in a pond shrimp farm.

Better growth also means higher biomass harvested per pond, which can lead to more efficient infrastructure usage as farms require fewer ponds long term for the same overall crop yield. Reducing the number of ponds could lessen the need for expansion into new areas, reducing land-use change impacts.

Creating technology that generates real-world improvements for farmers is a key pillar of AQ1's development process. Recognising that many farms are located in remote areas with little access to electricity, AQ1's intelligent feeding technology utilises built-in solar energy that reduces reliance on local infrastructure.

Wireless aeration control also helps farmers reduce energy consumption and production costs through more efficient aerator use.

AQ1 consistently helps farmers reduce their feed conversion ratio by 20-30%. Less feed per unit of shrimp produced will reduce feed raw materials' environmental and social impacts by 20-30%. This means that AQ1's technology can help shrimp farmers reduce their carbon footprint, water footprint, land-use footprint, and raw material biodiversity impact.

AQ1 will expands to more markets, and focus on helping farmers achieve optimal FCR no matter the species. This focus will lead to synergies between technology and farming practice that will support more sustainable aquaculture practices.

Visit https://aq1systems.com/ to learn more about AQ1 Systems, or scan the QR code.

BioSustain™

BioMar's sustainability programme and concept BioSustain helps to foster the use of high quality, low-impact raw materials in feed recipes, thereby promoting sustainable aquaculture and responsibly produced seafood. BioSustain is applied, science-based sustainability. We make sustainability tangible.

Environmental Impact Assessment and Circular Economy

Environmental Impact Assessment (EIA) is the systematic process of identifying and quantifying the environmental consequences of a current or proposed action/product. It improves transparency, practicability, flexibility, cost effectiveness, credibility, and accountability.

At BioMar, we use a sophisticated and dynamic Lifecycle Analysis (LCA) tool based on high-quality background data and expert LCA knowledge. We use it extensively to support customers and stakeholders seeking EIA documentation for certification.

The BioSustain LCA tool is used strategically and for accountability to document environmental impacts and improve our business. It also provides a service to our customers and helps them increase their business's environmental competitiveness.

BioMar plays an active role in building a circular economy. By using Material Flow Analysis (MFA), we map key materials and identify business opportunities for increasing recycling and closing resource loops. MFA is an analytical tool that tracks and quantifies the consumption and losses of materials or substances within a defined system to identify strategies to optimise their use.

As feed may depend on scarce resources, BioMar prioritises minimising resource consumption and recovering and reusing by-products throughout the supply chain. We use MFA to aid in this strategic decision-making and partner with suppliers to reach our sustainability and circular economy goals.

Materiality

In 2020/21, we conducted our fourth extensive materiality assessment addressing ESG topics and updated our materiality matrix based on the results.

The Governance Group (TGG), now Position Green Advisory, was used as an independent third party to map and ensure objective inputs from all parties. To capture and align with the recent and dramatic global shifts, BioMar plans for a new materiality assessment during 2023.

Sustainability is a vast topic. Understanding how to prioritise and align time, resources, and investment is essential. Identifying material risks and opportunities associated with sustainability strengthens risk management, improves the basis for decision-making, and allows for more targeted communication.

The matrix functions as a guide in managing our sustainability agenda. We intend to review and adjust the matrix every 2-3 years to meet external and business contextual changes. We concentrate on the highest priority items in our Sustainability Report.

Our sustainability strategy focuses on taking responsibility, minimising negative social and environmental impacts, and enhancing our positive reputation. These focus areas comprise the framework for our ambitions, targets, and milestones.

BioMar Materiality Assessment #4

Relevance to BioMar				Relevance to External Stakeholders
Low	**Medium**	**High**		
	Bribery and corruption Responsible use of medicines Labour relations and rights	Environmentally responsible sourcing Ethical business conduct Socially responsible sourcing Employee health and safety Low-impact feed solutions/ products	**High**	
Sustainability governance Hazardous materials and chemicals Climate risk	Diversity and equal opportunity Local communities Human rights Carbon footprint Stakeholder engagement Local ecosystem impacts in use Nutrition and public health	Supply chain risk Consumer health and safety Raising industry ESG standards	**Medium**	
Emergency preparedness Water management Business partner and customer due diligence Political accountability Philanthropy and sponsorships	Employee development Standards and certifications Energy management Waste management Local pollution		**Low**	

Table 2: BioMar Group Materiality Matrix 2020/2021 conducted by The Governance Group, now Position Green Advisory.

Stakeholder Management

BioMar has a long tradition of networking and interacting with stakeholders inside and outside the aquaculture industry. This has contributed to shaping BioMar into the company it is today.

For more than 60 years, BioMar has engaged actively in a continued dialogue with internal and external stakeholders. There have been joint projects in improving feed's nutritional and environmental performance and developing multi-stakeholder approaches for defining the best practices in the industry. BioMar also supports and is involved in public research projects and local educational activities. These activities strongly contribute to developing our corporate culture and driving continuous improvements in our operations and products.

Concerning sustainability and ESG, stakeholder engagement is fundamentally important. With new communication opportunities, such as social media, BioMar recognises that we must engage with stakeholders in new ways and that virtual and in-person representation is essential. Relating external engagement to core business activities is a challenging task. In addition, building internal awareness and interest can be challenging in a global environment.

We aim to reach out to all interest groups to discuss and transform information and learn from business intelligence. The first step is mapping our stakeholders. We have identified those to whom we have a legal, commercial or moral responsibility, such as our employees, regulators, customers, suppliers and the communities around our facilities.

Employees and suppliers are essential on an additional level since our business operations depend on them. Potential future clients or employees, such as students, are also important. We value diverse perspectives within our business, e.g., groups that can highlight new opportunities or areas that need attention, such as the media or NGOs.

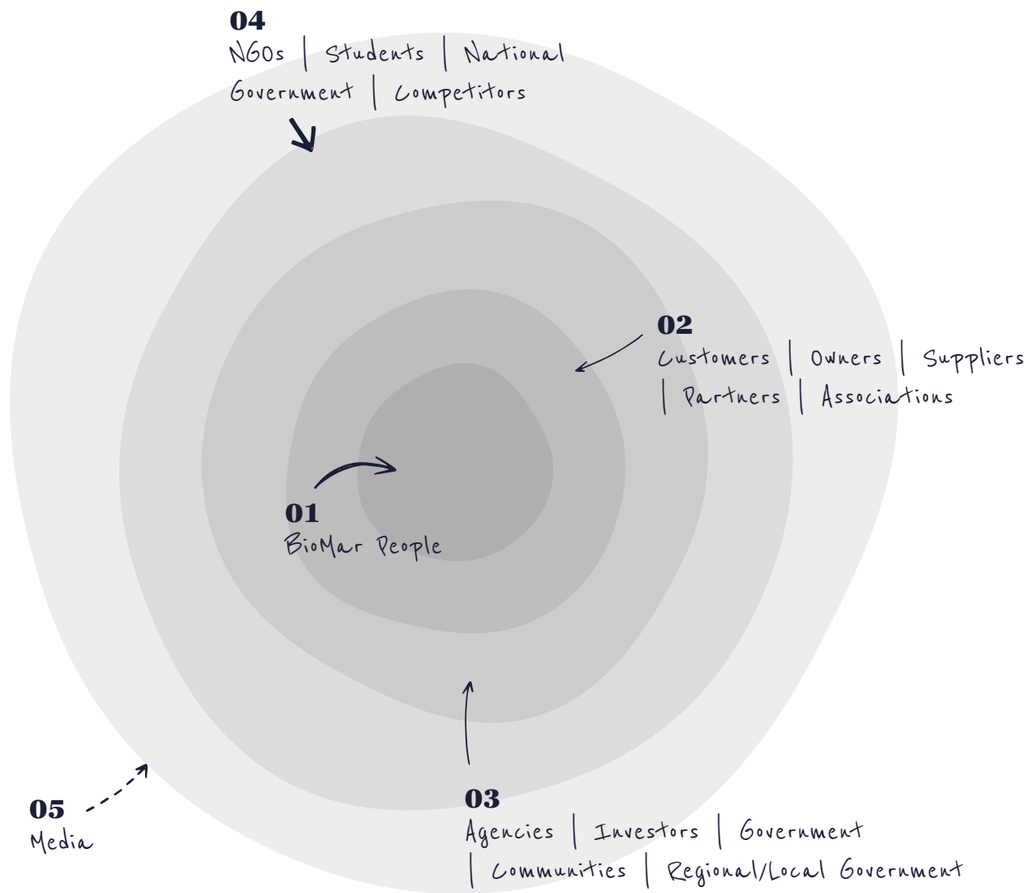


Figure 4. Stakeholder onion illustrating layers of stakeholders and interest groups of variable relevance and importance to BioMar.

Engagements

ASC

The Aquaculture Stewardship Council (ASC) is the world's leading certification scheme for farmed seafood. BioMar's contributions to the new ASC Feed Standard can be found throughout the entire document, and include definitions, methodology, calculations, data requirements, and environmental/social impact assessment.

Steering Committee Member

www.asc-aqua.org

Blue Food Partnership

As an active member of the Sustainable Aquaculture Working Group, BioMar contributed to the creation of the Global Sustainable Aquaculture Roadmap, Pathways for Systemic Change. Its purpose is to enable the sustainable growth of aquaculture to help achieve the Sustainable Development Goals and deliver actions that contribute to food security, climate action, and nutrition, among other areas.

Committee Member

www.weforum.org/blue-food-partnership

Caribbean Aquaculture Education & Innovation Hub

The recently formed Caribbean Aquaculture Network has been created to build and share scientific knowledge and farming techniques for the vast majority of blue foods farmed in the region. BioMar is using its influence, funds, knowledge, and experience to help get them established. The network hopes to become the centre of collaboration and knowledge in the Caribbean.

Board member

www.caribbeanaquaculture876.substack.com/about

GFLI

The Global Feed LCA Institute is the largest coordinated effort to improve the application of LCA for animal feed production. As technical experts in life cycle analysis, BioMar has contributed inputs on data quality, methodological approaches, considerations for primary data, and the overall business model.

Technical Management Committee Member

www.globalfeedlca.org

GlobalG.A.P.

BioMar is a contributor to the Compound Feed Manufacturing standard Focus Group. Recently, v3 of the standard was revised and updated to include an extra criterion on responsible sourcing of feed raw materials, in particular soy, palm oil, and fish meal/fish oil. BioMar helped develop content on additional ESG points to address recent legislative and commercial requirements.

Contributor

www.globalgap.org

Global Roundtable on Marine Ingredients

BioMar is a founding member of the Global Roundtable on Marine Ingredients (GRT), which is jointly led by SFP and The Marine Ingredients Organisation (IFFO). Among other projects, BioMar is an active participant in the West Africa Project Steering Committee. Through this initiative, we contribute to improving fisheries management, resource management, equability in fisheries, and global food security.

Member

www.marineingredientsroundtable.org

GSA

BioMar is an active member of the Global Seafood Alliance (GSA), an international, non-profit trade association dedicated to advancing responsible seafood practices. BioMar participates in knowledge sharing to support their agenda of education, advocacy, and third-party assurances. GSA developed and maintains the Best Aquaculture Practices standard (BAP).

Member

www.globalseafood.org

Donau Soja

Through the Donau Soja Protein Partnerships programme, BioMar has contributed to the production and certification of more than 60,000 tons of European origin soybeans. This effort contributes to increased efficiency, fairness, and sustainability in European food and feed protein value chains.

Committee Member

www.donausoja.org

FEFAC

The European Feed Manufacturers' Federation (FEFAC) includes committees where BioMar helps to improve best practices, animal nutrition, feed production, feed safety, and sustainability. BioMar's most important contribution in the past year was aligning FEFAC with the latest science on legal limits for synthetic antioxidants and environmental toxins.

Committee Member

www.fefac.eu

GSI

BioMar is an active member of the pre-competitive, CEO-led Global Salmon Initiative (GSI) to advance the sustainable practices of farmed salmon. BioMar has active participation in the Communications, Feed and Quality taskforces. Our CEO chairs the Feed Taskforce and we share their vision of providing a healthy food that minimises environmental impacts and improves social and economic contributions.

Committee Chair & Members

www.globalsalmoninitiative.org

IFFO

The Marine Ingredients Organisation (IFFO) is an international trade organisation that represents the marine ingredients industry, such as fishmeal and fish oil. BioMar works with IFFO on improving traceability and environmental/social impact assessment of marine ingredients supply chains with a focus on sustainable fisheries.

Committee Member

www.iffo.net

Engagements

Marin Trust

Committee Member

MarinTrust is a unique international certification programme for marine ingredient certification, including the main standard, a chain of custody standard, and an improver programme.

www.marin-trust.com

NAPA

Member

Through our active participation in the North Atlantic Pelagic Advocacy Group (NAPA), BioMar is working with a market-led approach to improving North Atlantic pelagic fisheries management, particularly for mackerel, herring, and blue whiting.

www.seafish.org

RTRS

Member

BioMar contributes to this multi-stakeholder group by reporting and monitoring the status of our soy purchases, including origin control, transformation, and logistics. The RTRS Standard is accepted as one of the leading responsible soy standards by all major aquaculture standards and benchmarked by FEFAC as conversion free.

www.responsiblesoy.org

SFP

Member

Sustainable Fisheries Partnership (SFP) is working towards a world where everyone has access to sustainable seafood. BioMar contributes to SFP by providing data for the annual Reduction Fisheries report and by promoting fishery improvement projects.

www.sustainablefish.org

NBNHR

Committee Member

BioMar is an active member of the Nordic Business Network for Human Rights (NBNHR), a professional network of global companies that continuously strive to improve their value chain practices, safeguarding human rights impacts. Together with the Danish Institute of Human Rights, the network members share best practices on new legislation and corporate social responsibility.

www.humanrights.dk

Ocean Panel

Committee Member

Comprising 17 ocean nations, the Ocean Panel is working towards achieving a sustainable ocean economy by 2030. BioMar actively participated in identifying and scaling pre-competitive initiatives to prioritise blue food topics. The two outputs are to catalyse science-based actions towards healthy and sustainable blue food value chains and the utilisation of blue food waste.

www.oceanpanel.org

SSP

Member

Through the Sustainable Shrimp Partnership (SSP), BioMar is committed to achieving and promoting the highest environmental and social standards. It is working towards a shared mission to make shrimp farming a thriving global practice.

www.sustainableshrimppartnership.org

Sustainable Brands

Advisory Board & Member

BioMar is part of the Sustainable Brands global community of brand innovators aiming to shape the future of commerce worldwide. BioMar is on the Advisory Board for Sustainable Brands Oceans, a bi-yearly conference focusing on ocean-related topics, including fisheries and aquaculture.

www.sustainablebrands.com

ProTerra

Stakeholder Council Member

ProTerra is one of the leading standards for sustainable, responsible, and GM-free soybeans. BioMar was elected to sit on the stakeholder council to provide aquaculture industry support on traceability, reducing environmental impacts of soybean production, regenerative agriculture, and MRV (monitoring, verification, and reporting) systems for deforestation/conversion-free claims.

www.proterrafoundation.org

RSPO

Member

BioMar supports and contributes to the RSPO's mission and principles. This includes their commitment to transparency, environmental responsibility, and conservation of natural resources and biodiversity. They also adhere to responsible consideration of rights-holders affected by growers and mills, and responsible development of new plantings.

www.rspo.org

USSEC

Global Aquaculture Advisory Council Member

Elected to this multi-stakeholder group in Q2 2022, BioMar's role in the GAAC is to translate the aquaculture industry's needs into essential criteria and guidance for the United States soybean industry. Specifically, BioMar is assisting the USSEC in demonstrating the benefits of deforestation/conversion-free and regenerative agriculture techniques in key feed markets.

www.ussec.org

WiCA

Board Member

With the support of BioMar, Women in Caribbean Aquaculture was created by the Caribbean Aquaculture Network as a way to unite women from the industry who are of Caribbean origin. Due to the challenges women face in the region, many seek advanced education outside of their countries and are now scattered across the world. BioMar is aiding in the setup and promotion of the organisation and its members.

Our Promise

BioMar makes a promise, to our planet and its people, with a set of ambitious targets that will seek to aid in the regeneration of our environment while enabling humanity to thrive.

Climate Action

1/3 by 2030

Reduce BioMar total feed GHG footprint by 1/3 by 2030

BioMar is responding to an urgent call-to-action for companies to set emissions reduction targets backed by a global network of UN agencies and business and industry leaders. We have set company-wide emissions targets in line with climate science to ensure we are net-zero within our own operations no later than 2050.

With aquafeed representing a significant proportion of the carbon footprint of farming, our farmers will be able to directly benefit from a reduction in their own on-farm footprint.

BioMar has set verifiable science-based targets through the Science Based Targets initiative (SBTi). We have been validated for the most ambitious GHG emissions reduction targets following the 1.5°C pathway. Climate scientists define this as necessary to meet the goals of the Paris Agreement.

Circular & Restorative

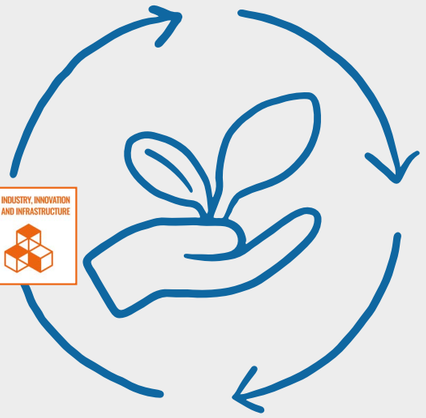
50% by 2030

BioMar feeds 50% circular and restorative by 2030

At BioMar, we take action for our areas of responsibility. We encourage and stimulate restorative practices in our supply chain and have set targets for minimum inclusion levels of circular and restorative ingredients.

BioMar considers raw materials originating from by-products and waste streams to be circular. We seek to decouple feed supply chains from direct competition with food for human consumption.

We define restorative ingredients as raw materials that significantly shift the balance between ecosystem impacts and human production systems. The goal is to stimulate net-positive environmental outcomes compared to time-bound relevant benchmarks.



Enable People

100,000 by 2030

100,000 people directly engaged in capacity building initiatives by 2030

At BioMar, we are actively engaging our entire value chain as we believe we can create a far-reaching impact on the world through capacity building, which lies at the core of all resilient societies.

We provide training courses and development programmes for employees, farmers, and communities. We actively engage in third-party agricultural and fishery improvement programmes and supplier improver initiatives. Through these initiatives, we aim to directly enable 100,000 people annually by 2030.

We promote human and labour rights through initiatives like responsible pay and diversity targets. Through innovation, we create aquafeeds that enable people to make healthier and more sustainable food choices . We continue our commitment of active participation in the public debate around sustainable nutrition.

Imagine a well balanced planet

Our blue journey.com

2030

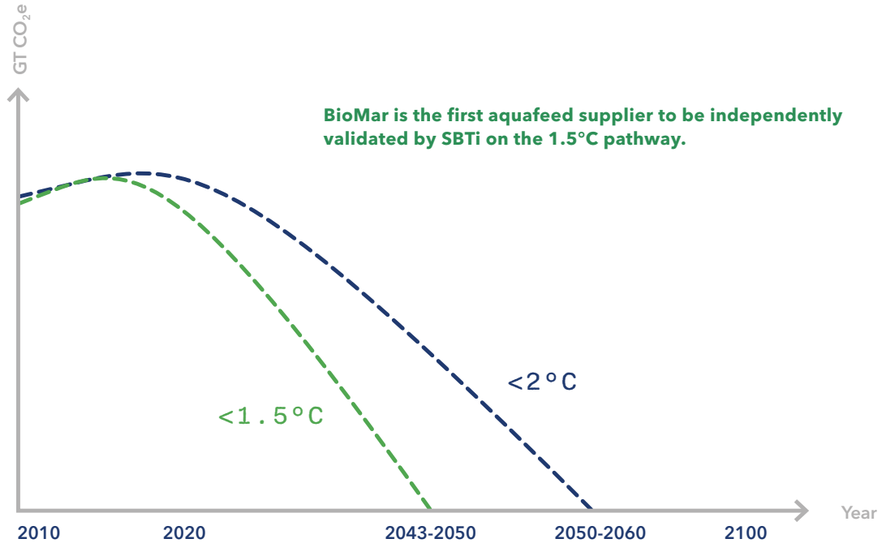
Our Targets

- Reduce BioMar total feed greenhouse gas (GHG) footprint by **1/3** by 2030
- Science-based targets through the Science Based Targets initiative (SBTi)
- Aligned with reductions required to keep global warming to less than **1.5°C**
- Scope 1 & 2 carbon neutral within our own operations by 2045, baseline 2020
- **4.2%** year-on-year absolute GHG emissions reduction target *(Scope 1 & 2)*
- Scope 3 reduction by **30%**, baseline 2021

2022

Milestones

- BioMar total feed GHG footprint: **2.08** tonnes CO_2/tonne feed *(**-5.5%** from baseline 2020)*
- Scope 1 & 2 SBTi status: **-7.6%** from 2021 *(**-15.9%** from baseline 2020)*
- Scope 3 SBTi status: **-1.6%** from 2021 *(**-1.6%** from baseline 2021)*
- Climate action targets validated and approved by the SBTi
- Achieved emissions reductions through low carbon technological solutions and fuel optimisation



The Importance of Limiting Warming to 1.5°C

BUSINESS AMBITION FOR 1.5°C

Figure 5. *(above)* In a Well Below 2°C scenario emissions decrease less quickly. In a 1.5°C scenario, global net emissions reach zero earlier than a 2°C scenario.[7]

The scientific community has stressed the urgency of limiting warming to 1.5°C because the health of oceans, ecosystems, and humans depends on it.

Human activities have caused approximately 1.1°C of global warming compared to pre-industrial levels.[8] If business as usual continues, warming will likely reach 3°C above pre-industrial levels by the end of the century.[25]

Recently, global initiatives, such as the Science Based Targets Initiative, revised their standards to align with the 1.5°C pathway rather than the previous limit of well below 2°C.[9]

Protecting our People

Scientists estimate climate-related risks to human health, food security, water supply, and livelihoods are far lower at 1.5°C of warming vs 2°C or higher.[10]

Limiting warming to 1.5°C could spare several hundred million people from climate-related risks and poverty, and could halve the proportion of the global population exposed to increased water stress.

Scientists project 10 cm less sea level rise at 1.5°C vs. 2°C, translating to 10 million fewer people from small islands, low-lying coastal areas, and deltas being exposed to damage from rising seawater.

If we can slow the warming rate, communities will have a better chance to adapt, manage, and restore vulnerable infrastructure and coastal ecosystems.

Protecting our Oceans

We depend on our water bodies to provide invaluable ecosystem services such as food, jobs, transportation, fuel, energy, and recreation. Restricting warming to 1.5°C is expected to limit ocean temperature increases, acidity, and decreased oxygen levels and reduce risks to marine biodiversity, fisheries, and ecosystems.

Warmer oceans will cause marine species to relocate to higher latitudes, which will exacerbate the unequal distribution of global fish stocks, drive the loss of coastal resources, and reduce the productivity of fisheries and aquaculture.[10]

With 1.5°C of warming, the global marine fisheries catch is expected to decline 1.5 million tonnes. However, this is half the losses projected in the 2°C scenario, estimated at 3 million tonnes annually.[10]

Warmer oceans impact sea life physiology, survival, habitat, reproductive health, and disease occurrence while increasing the risk of invasive species. These impacts will be more intense at 2°C of warming. Coral reefs, for example, already face very high risks of bleaching and mortality at 1.5°C of warming. With warming below 2°C, almost all coral reefs will degrade from their current state, greatly depreciating the services they provide such as food, coastal protection, and tourism.

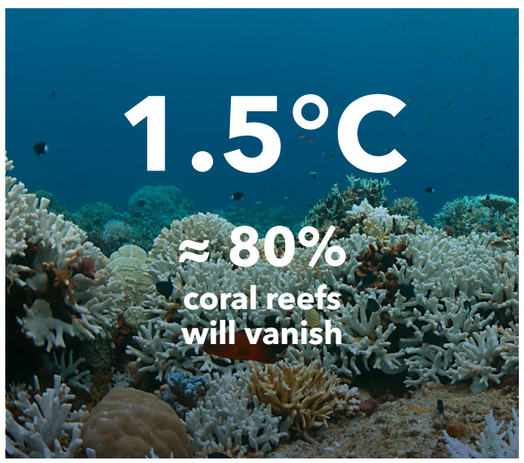
Protecting our Land

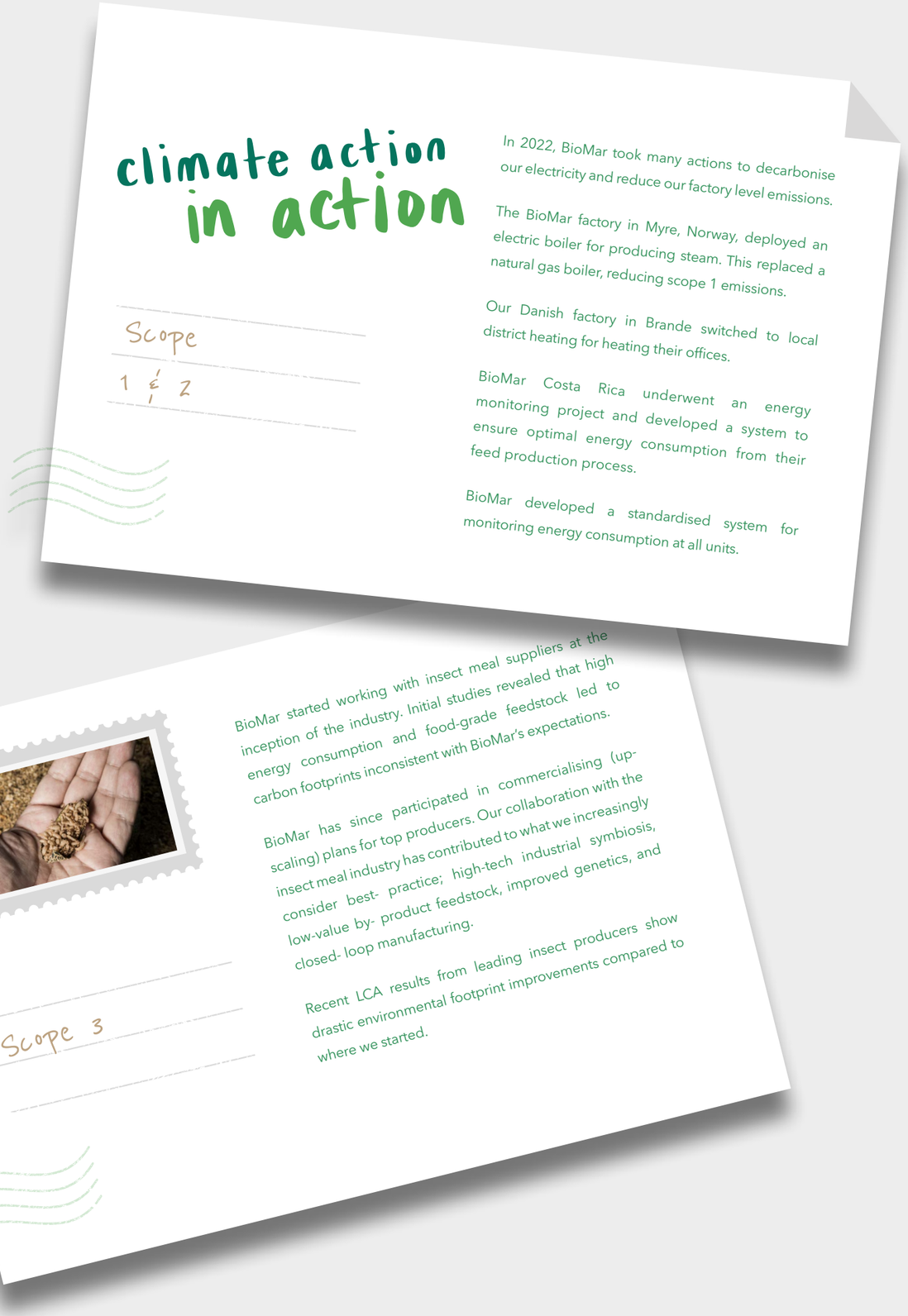
On land, limiting warming to 1.5°C will decrease impacts on biodiversity and ecosystems. With 1.5°C of warming, scientists predict that 3 to 14% of the species assessed will likely face a very high risk of extinction, increasing to 3 to 18% at 2°C.[8]

In addition, of the 105,000 species studied, 6% of insects, 4% of vertebrates, and 8% of plants will lose their geographical range at 1.5°C of warming compared to 18% of insects, 8% invertebrates and 16% of plants at 2°C.

The Bottom Line

Damage caused by climate change escalates with every increment of global warming. Our adherence to a net-zero carbon emissions strategy will determine whether warming can be limited to 1.5°C or 2°C. That is why we must take responsibility and do whatever it takes to achieve our climate goals.[8]





Targeting BioMar's Supply Chain Emissions

Reducing raw materials (RMs) emissions is an enormous challenge. In 2022, BioMar consumed approximately 1.6 million tonnes of RMs, which are diverse, sourced globally, and purchased from hundreds of suppliers.

Nevertheless, as part of BioMar's climate masterplan, we have partnered with a wide range of suppliers to start the journey towards net-zero.

BioMar has partnered with dozens of suppliers, from soy producers to micro ingredient manufacturers, to work towards the shared goal of improved environmental performance. Not every RM producer has performed advanced life cycle assessments of their products – but we meet suppliers where they are in their sustainability journey. When needed, we educate, inform, and, in some cases, even perform the life cycle assessment (LCA) on the supplier's behalf.

With a completed LCA, we can target hotspots for improvements. For example, with cultivated products, documenting zero land-use change and encouraging regenerative agricultural practices helps BioMar achieve two ambitions at once: climate action and 50% circular and/or restorative raw materials by 2030. At the processing level, scenario analysis allows us to quantify the climate benefits of switching from a diesel to an electric boiler for, e.g., drying.

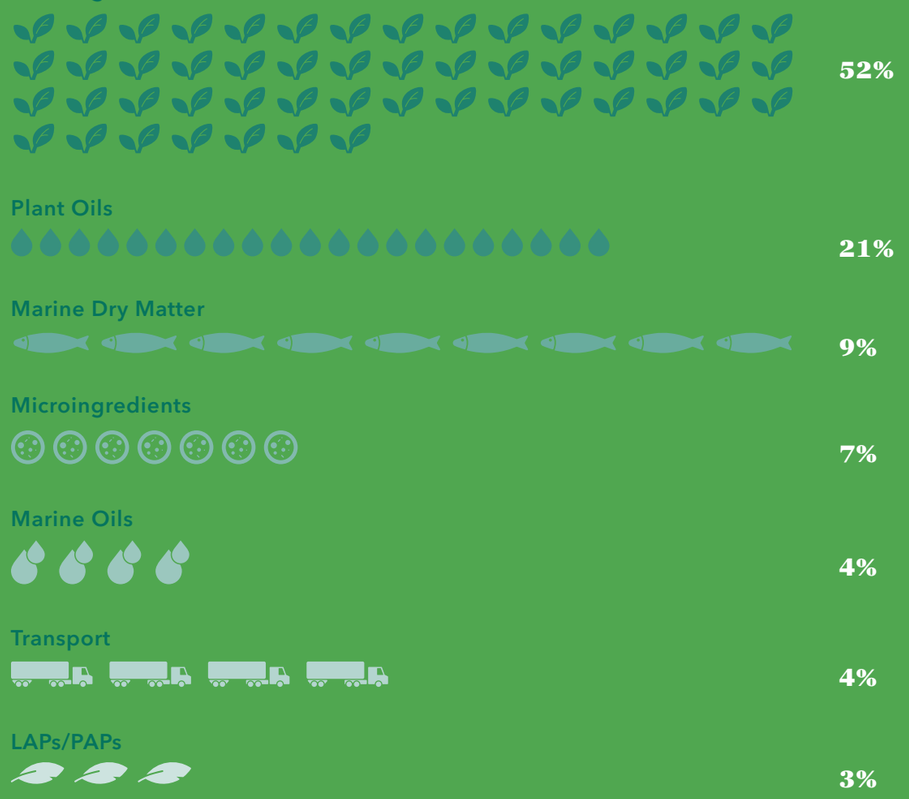
Our workflow for engaging with suppliers includes the following:

1. Sustainability education
2. Primary data collection under NDAs
3. Full Life Cycle Assessments, LCIs, and MFAs
4. Hotspot analysis
5. Audits
6. Provision of recommendations for reducing environmental impacts
7. Value chain collaborations
8. Validation of existing LCAs to ensure sufficient data quality and representativeness

Scope 1, 2 & 3 Emissions

BioMar is the first global aquafeed supplier to commit to the most ambitious 1.5°C pathway for GHG emissions reduction targets. BioMar has developed a long-term master plan focusing on operations and broader supply chain partners to create innovative solutions that make sustainability profitable. BioMar Group commits to reduce absolute scope 3 GHG emissions from purchased goods and services by 30% within 2030 from a 2021 base year. These targets align with reducing emissions to levels required to limit global temperature rise to 1.5°C above pre-industrial levels and avoid the worst climate impacts.

BioMar Total Scope 3 Emissions Breakdown 2022



1.9% Scope 1 **0.6%** Scope 2 **97.5%** Scope 3

Carbon Footprint

Tonnes of CO_2-eq. per tonne of feed

2.08

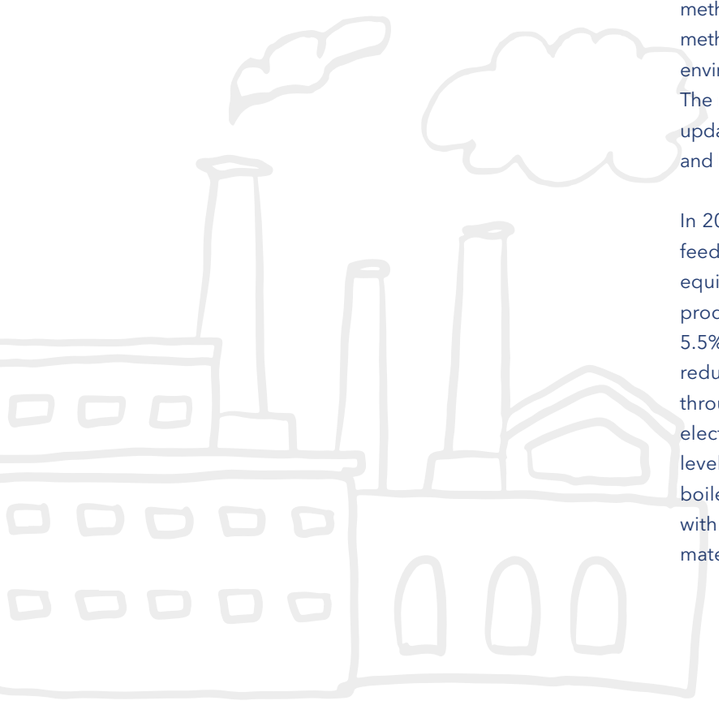
-5.5%

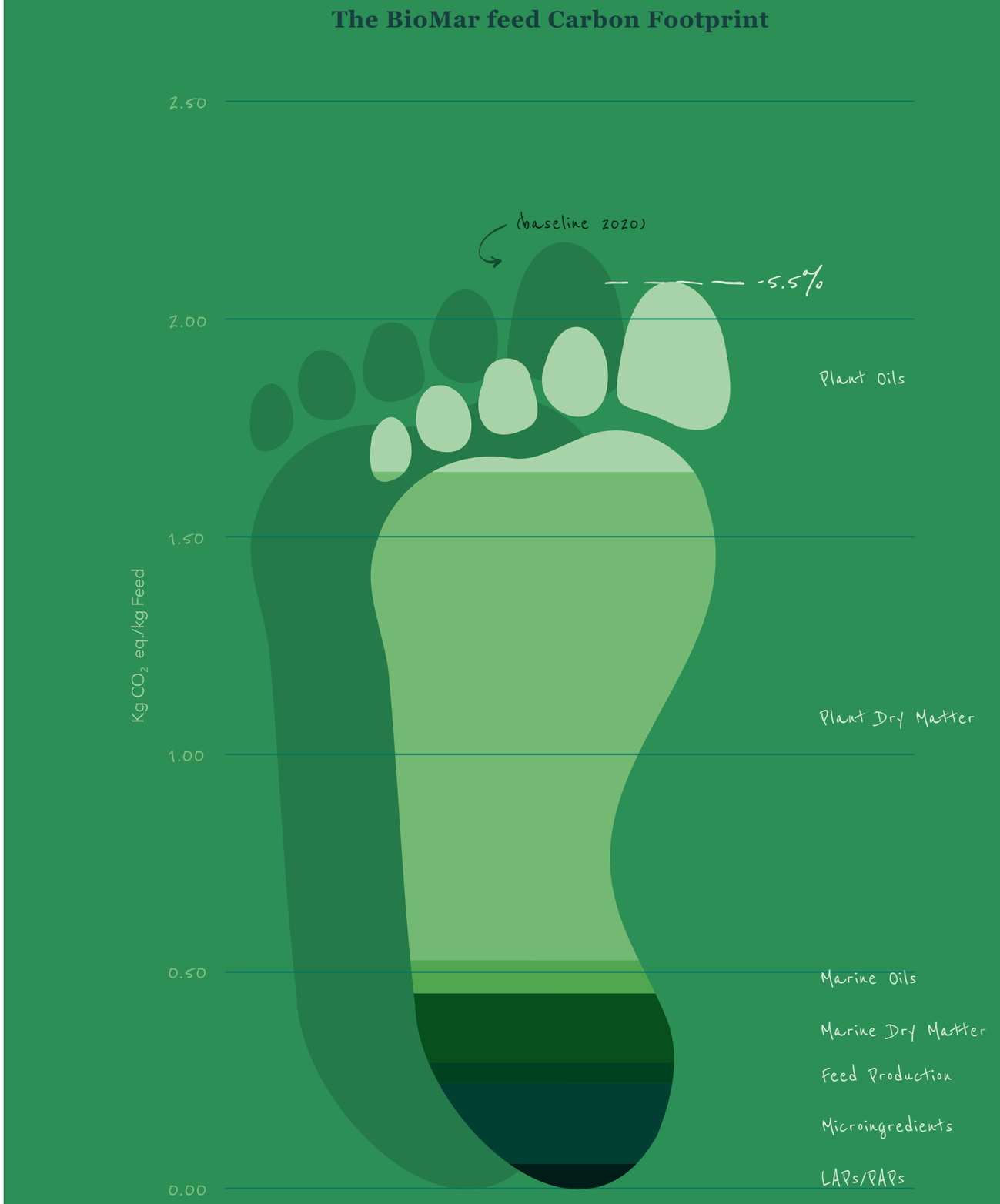
(baseline 2020)

The carbon footprint (CF) of feed is a measure of the total greenhouse gas emissions generated from the different stages of the feed's life cycle. A CF indicates the product's impacts on the climate, particularly global warming, and is expressed as kilograms of CO_2 equivalents per tonne of produced feed.

The BioMar feed Carbon Footprint is a cradle-to-gate assessment that follows the European Union Product Environmental Footprint (EU PEF) methodology, a harmonised EU methodology for measuring the environmental impacts of products. The methodology has recently been updated and includes peat oxidation and land use change.[11]

In 2022, the average BioMar group feed CF was 2.08 tonnes of CO_2 equivalents per tonne of feed produced, down approximately 5.5% from our 2020 baseline. The reduction was largely achieved through decarbonising our electricity sources at the factory level, implementing low-emission boiler technologies and working with key suppliers to cut raw material emissions.





2022

Here's how we did this year

Everything we produce or consume has an impact on our planet. Our strategy is to maximise our resource use by adopting responsible consumption policies that minimise waste and carbon emissions whilst optimising recycling.

Energy Management and Greenhouse Gas Emissions

The GHG Protocol Corporate Standard classifies a company's GHG emissions into scope 1, 2, and 3 emissions and allows scope 2 emissions to be calculated using either a location- or market-based approach.

A location-based approach reflects the average emissions intensity of power grids in the geographical location (country level) where energy consumption occurs. A market-based approach reflects emissions from electricity that companies have contracted from a specific supplier. Emissions factors must be disclosed and meet the requirements under the GHG Protocol Corporate Accounting and Reporting Standard (for example, relating to supply from wind, solar, or hydro sources).[12]

Total energy use and scope 1 and 2 emissions from BioMar are included in Table 3.

Energy Use & GHG Emissions	Scope 1 (GJ)	Scope 2 (GJ)	Total Energy (GJ)	Location Based Total GHG Emissions (CO_2e, MT)	Market Based Total GHG Emissions (CO_2e, MT)
Salmon Division	661,808	366,399	1,028,207	61,155	44,448
EMEA Division	212,061	81,100	293,161	15,529	14,677
Asia Division	175	1,309	1,484	243	243
LATAM Division	64,666	73,619	138,285	7,550	7,550
TOTAL	938,710	522,427	1,461,137	84,477	66,918

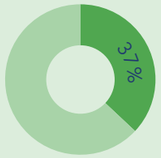
Table 3. *(left)* The table discloses scope 1 and 2 energy use in gigajoules (GJ) and total greenhouse gas (GHG) emissions in tonnes of CO_2 equivalents by BioMar manufacturing divisions in 2022 using IEA factors, expressed as both location-based and market-based figures in accordance with the SBTi and GHG protocol. Organisational boundaries are set according to financial control basis aligned with our SBTi validated targets. [7, 13]

Water

We aim to reduce the consumption of drinking quality fresh water in production.

0.404 m³/MT

Greenhouse Gas Emissions

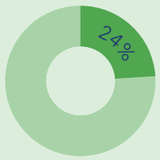


-3.4% compared to 2021 on a per tonne basis

61.8 Kg CO_2e / Tonne

Distribution GHG Emissions

Location-Based

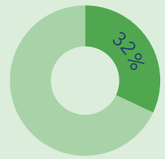


-3.4% compared to 2021 on a per tonne basis

51.2 Kg CO_2e / Tonne

Distribution GHG Emissions

Market-Based



-1.7% compared to 2021 on a per tonne basis

0.975 GJ / Tonne produced

Distribution Energy Use

Key — Scope 1 — Scope 2

Note: These figures stem from the total S1/S2 GHG footprint from all BioMar Group companies (including JVs and associated companies where BioMar does not hold >50% ownership)

Energy Use & GHG Emissions from Joint Ventures*	Scope 1 (GJ)	Scope 2 (GJ)	Total Energy (GJ)	Location Based Total GHG Emissions (CO_2e, MT)	Market Based Total GHG Emissions (CO_2e, MT)
TOTAL	92,712	87,940	180,652	17,991	17,991

* Where BioMar does not hold >50% ownership and from associated companies that lie outside the financial control boundary.

Animal welfare & sustainability go hand in hand

Fish health and sustainability are closely connected. Every loss is linked not only to reduced welfare but also to less sustainable resource use.

It's not easy to be a water farmer. Our Oceans and waterways are living ecosystems potentially containing billions of pathogenic organisms and experience fluctuating temperatures, oxygen, and weather conditions. As low survival rates are common in wild fish stocks, it does not make for a sustainable aquaculture business model. With feed representing around 50% of the operating cost of aquaculture farming, effective feed use while ensuring good fish health and welfare is critical to sustainable aquaculture.[14]

BioSustain™ MASTERCLASS

Gains achieved from surviving fish

Social benefits and savings by reducing wastage in salmon and trout production**

Figure 6. Estimated carbon footprint and economic opportunity cost of fish mortality per average site in Norwegian aquaculture. Site size based on Fiskehelserapporten 2022 and Barentswatch.[23] The value for greenhouse gas emissions from a typical passenger vehicle.[24]
** BioMar is aware that the figures exclude the contribution from the silage industry, which ensures that farming in Norway has an almost 100% residual raw material utilization. It would have been more correct to include this contribution in the accounts, but the data base was not sufficient. The contribution is therefore set at zero.

Better Feed. Better Fish.

Being mindful of our resource use extends beyond the creation of low-impact feeds. At BioMar, we understand that good animal welfare and survival rates are key factors in sustainability.

Fish and shrimp welfare is a long-term commitment that begins with the first feeding at the earliest possible life stage. BioMar creates aquafeeds with excellent physical properties that contain the correct nutrient demands for each target species for each life stage.

BioMar maintains a constantly evolving basket of functional components targeting health and animal robustness. These ingredients help to support many species, conditions, and challenges to help farmers work preventatively and with a long-term focus. Preventative management of fish and shrimp health using probiotics is an example of a recent success story from BioMar's research and development teams.

Probiotics are live lactic acid bacteria that contribute to a healthy gut microbiota and an intact and well-functioning gut structure for optimal nutrient uptake, disease prevention, and robustness towards stressful events. Due to the intimate contact with the water environment, fish microbiota is under considerably more external pressure than land animals.

BioMar research shows that a well-formulated diet that includes probiotics from the first day of feeding can support nutrient uptake and health, reducing deformities up to 75%.*

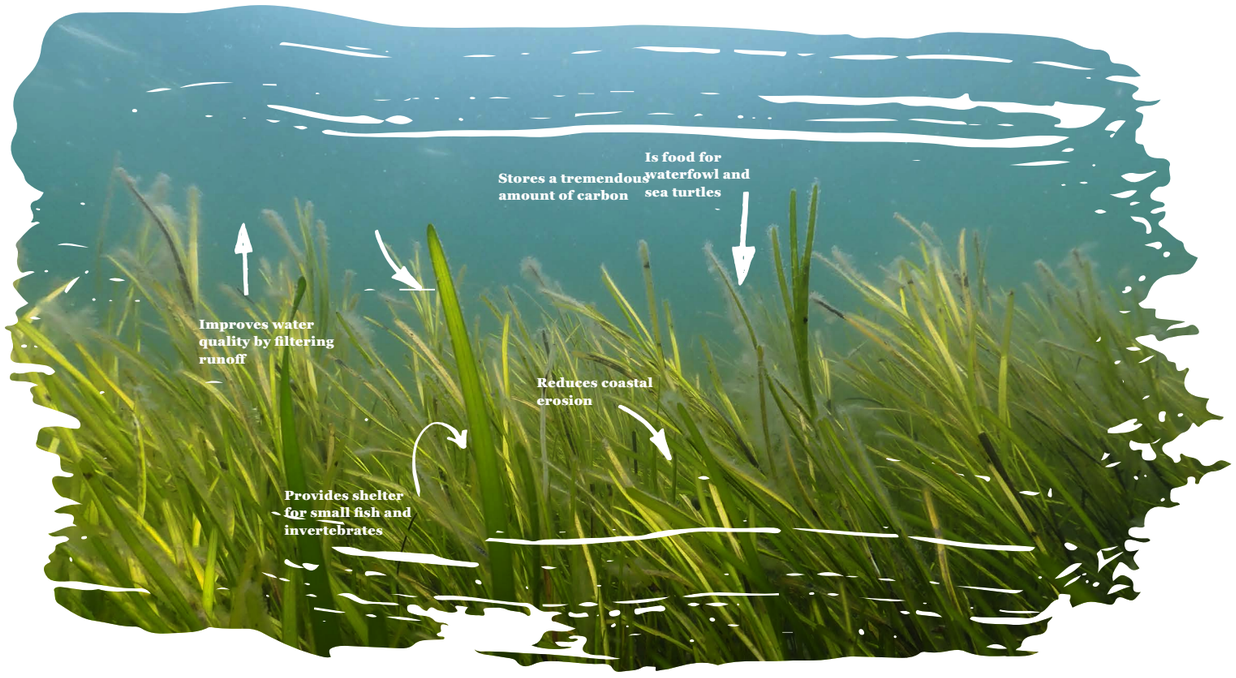
Caring for our animals is the key to a sustainable industry!

The focus on animal welfare is growing steadily, including in the aquaculture industry. Welfare indicators are being developed across fish species and implemented as guidance for industry, regulatory authorities, and consumers. BioMar is engaged in activities and projects alongside global scientific partners and customers. Improving survival is a team effort, where we need to support, push, and motivate each other.

* Based on BioFarm early co-feeding strategy trials with LARVIVA ProStart for Seabream and Seabass in commercial conditions.

HEADQUARTERS & ATC Hirtshals

Eelgrass, the unsung hero of the sea



Eelgrass plays a crucial role in the marine environment, as it creates habitats for fish and small animals and at the same time binds large amounts of CO_2 as well as nitrogen and phosphorus. But in many places, the distribution of eelgrass has declined along the Danish coast, and eelgrass meadows are no longer found at the same depth as before.

Eelgrass plays a crucial role in our oceans' ecosystems, serving as a nursery and sanctuary for many species while balancing oxygen, carbon, and nitrogen levels in coastal ecosystems. Danish coastal areas have historically contained hundreds of kilometres of eelgrass beds.

Since the beginning of the 20th century, between 80% and 90% of this plant population has disappeared. This dramatic decline has significant consequences for the area's marine environment, as eelgrass is an essential habitat for many fish and crustaceans. When eelgrass disappears, the species that depend on it migrate to other areas, potentially modifying their new habitat.

In healthy eelgrass beds, the plant produces oxygen and absorbs nitrogen and carbon dioxide from the water. The nitrogen removal aspect of eelgrass is critical in areas surrounding Denmark due to high levels of nitrogen emissions from human wastewater facilities and runoff from agriculture. When eelgrass dies and decays, carbon and other elements in the biomass are emitted into the environment. These factors contribute to ocean acidification and eutrophication, two main threats to marine biodiversity.

After harvest, the eelgrass seedlings were individually bound to uncoated iron nails and made ready for freedivers to plant them in designated areas. The corroding iron nails will become fertilizer for the plants in the coming months and years.

To restore the eelgrass population on Denmark's coastline, BioMar, together with Thomas Stampe Petersen of Mols Bjerge National Park, brought together over 100 volunteers and planted more than 8,500 eelgrass seedlings. The seedlings were harvested from well-established eelgrass beds in the Dragsmur area. They were individually bound to uncoated iron nails and made ready for freedivers to plant them in designated areas.

The corroding iron nails will become fertilizer for the plants in the coming months and years. Marine experts held educational sessions for kids and adults throughout the planting session. Hother Hennings led a walking tour to learn about the Danish marine ecosystem. Author and seaweed expert Lilli Gruwier showed some exciting ways to incorporate seaweed into traditional Danish foods.

Imagine aquafeeds that regenerate resources

Our blue journey.com

Circular & Restorative

2030

Our Targets

- **50%** Circular & Restorative ingredients in our feed by 2030
- We seek to decouple feed supply chains from directly competing with food for human consumption
- Increase the use of circular ingredients
- Increase the use of restorative ingredients
- Annual reporting on hotspot raw material compliance
- Increased evidence-based transparency

2022

Milestones

- **23%** Circular and/or Restorative ingredients
- Submitted manuscripts to scientific journals to improve biodiversity coverage of our Restorative method
- Contributed **40,000** tons of new European origin, Donau Soja certified soybeans into the market
- Partnered with key suppliers to promote restorative practices, including regenerative agriculture
- Launched the West Africa Working Group through the Global Round Table to improve ESG impacts of fisheries
- Contributed to a social audit of impacts from the marine ingredients industry in Senegal and Mauritania
- All-time high in ASC-compliant raw materials

A deep dive into

Restorative Raw Materials

In 2021, BioMar set the lofty goal of increasing the share of circular and/or restorative raw materials (RMs) to 50% by 2030. This ambition aims to take sustainability to the next level by measuring and improving on all environmental impacts – not just carbon emissions. But how are these terms defined, and what does it mean to be restorative? Let's take a deep dive.

Circular RMs are derived from waste or by-products, as defined by the EU waste framework directive. Restorative RMs and the methodology that defines them are more complex. Science-based methods, such as life cycle analysis (LCA), allow BioMar's sustainability experts to calculate the carbon footprint of raw materials with great precision.[15]

Crucial sustainability indicators, such as biodiversity impacts from feed, need to be quantifiable. This requires an operational approach that is applicable in a commercial environment.

This will allow farmers and RM producers to understand what measures they can take to drive positive change. As there was no existing methodology for this, BioMar decided to develop an in-house method to begin the transition to a more environmentally friendly raw materials basket.

Restorative RMs significantly shift the balance between ecosystem impacts and move agriculture production systems towards net-positive environmental outcomes. The methodology BioMar developed utilises the LCA endpoint technique.

The LCA endpoint translates all impacts (called midpoints) into their damage to human health, ecosystems, and resource availability and combines them into a single value score. The higher the score, the worse the damage.[16]

LCA endpoint scores are calculated for all BioMar RMs and compared against a global benchmark of the highest globally consumed RM within its category.

An RM demonstrating a 50% or better improvement from the benchmark is considered restorative.

The restorative methodology allows BioMar to quantitatively compare RMs and find ingredients with significant advantages beyond the carbon footprint.

To improve the restorative level of RMs, we engage with suppliers to better understand the challenges specific to their farming systems. A non-exhaustive list of potentially restorative farming practices includes low-input agriculture, precision and no-till farming, nutrient management, and cover cropping.

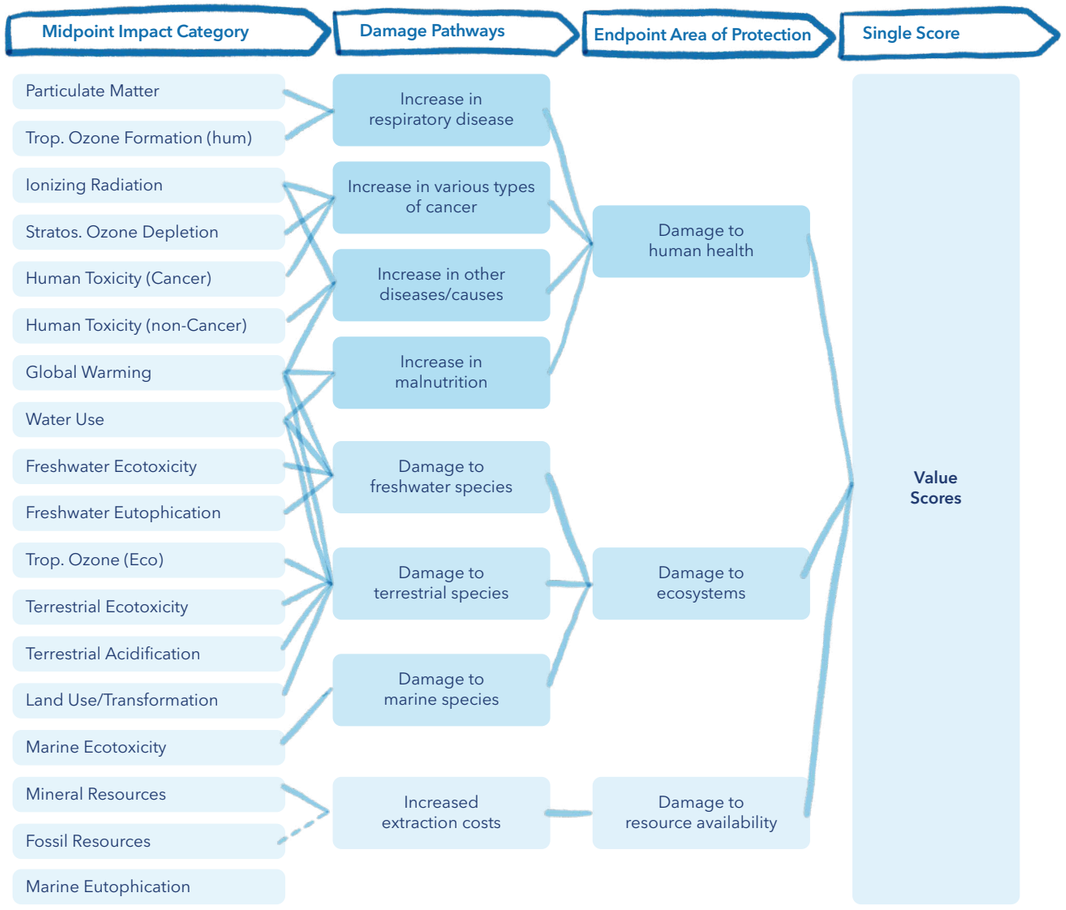


Figure 7. Midpoint indicators included in endpoint LCA analysis.

BioMar works closely with suppliers over several years to establish a baseline and document improvements. We favour new suppliers practising or transitioning towards restorative/regenerative farming practices.

We stimulate and incentivise suppliers to develop innovative solutions based on by-products or improvements in agricultural production systems.

The restorative method is a good start on a long journey for continuous improvement. That is why BioMar has teamed up with a dedicated group of researchers to develop interdisciplinary methods that predict both local and global environmental footprints under contrasting feed and climate scenarios.

BioMar's restorative methodology will be adapted as new data and knowledge become available through these types of projects.

The BioMar New Deal

Systematic change takes work and requires everyone in the value chain to be involved. To establish a new deal, we must rethink our current approach while at the same time reimagining new pathways.

The term value chain refers to the process in which businesses receive raw materials and add value through production, manufacturing, and other processes to create and sell a finished product to consumers.

BioMar's value chain encompasses farmers, fishermen, technical additive producers, factories that transform raw materials into ingredients and nutrients, BioMar feed facilties, logistics, aquaculture producers, and finally all players related to seafood processing, distribution, and sales.

Sustainable solutions require innovation and a willingness to bear the costs associated with innovation, including R&D, due diligence, product design and testing, up-scaling, and commercialisation. These costs must be less than the perceived benefit to the end consumer or the market will reject the innovation.

Collaboration, partnership, and explicit value propositions are paramount to achieving the transformational shift that our stakeholders and policymakers are demanding of our industry.

For more information on Blue Impact, scan the QR code below:

Integrating sustainability into the value chain

BioMar's sourcing department is responsible for filling our facilities with approximately 5000 tonnes of raw materials daily. These goods are carefully selected to balance strict requirements covering nutrition, finance, logistics, technical quality, and sustainability. While nutrition and technical quality are more resistant to geopolitical and societal changes, logistics, price, and sustainability are highly dynamic.

Considering that sustainability must include social, economic, and environmental perspectives, genuinely sustainable sourcing will require an appropriate integration of sustainability criteria into our supply chain, the BioMar organisation, and the wider seafood value chain.

Collaboration, supplier engagement, and partnership

BioMar is increasingly aware that sourcing from the global commodities market carries risks our business has no control over, including the war in Ukraine, inflation, geopolitical upheaval, and energy crises. BioMar's long-term strategic partnerships with key suppliers have proved critical to limiting the impact of these recent disruptions on our customers.

These partnerships have proven so valuable that BioMar is developing a roadmap to move beyond transactional relationships with our suppliers in favour of collaboration, co-creation, and partnership.

To support this, BioMar has initiated internal processes to accelerate innovation across functions and operations. This new cross-departmental alignment will help identify potential new raw material products and suppliers to collaborate with or engage suppliers to develop novel raw materials that do not currently exist.

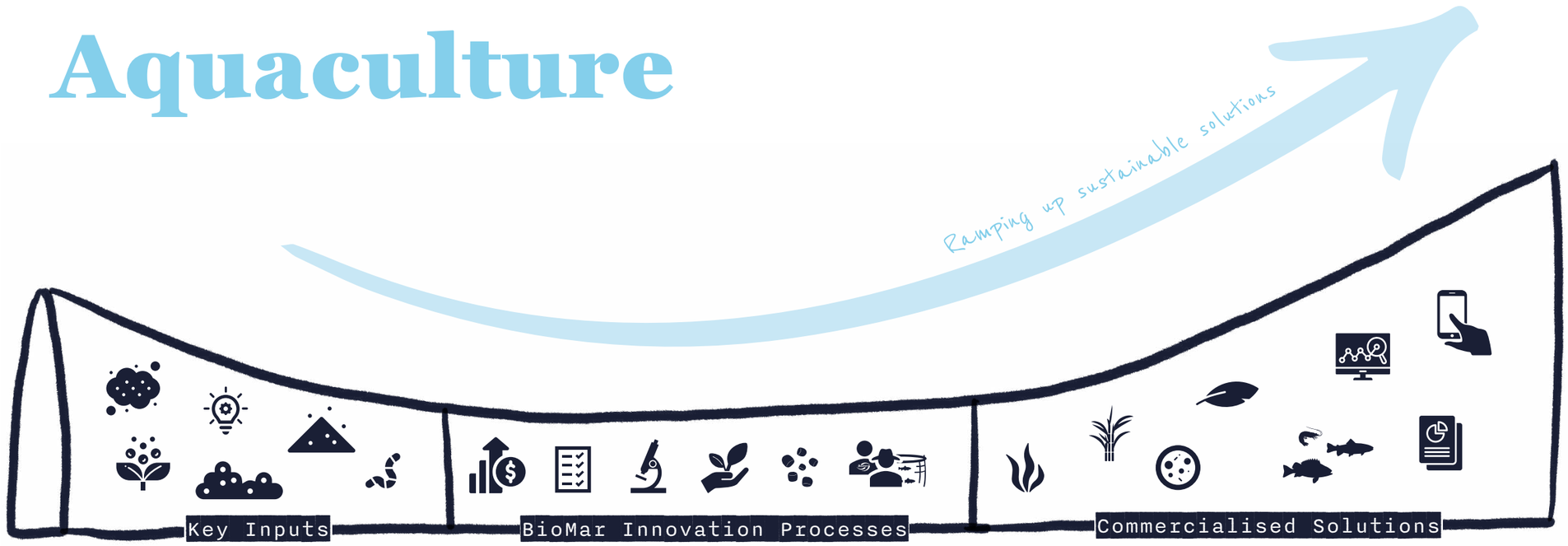
Securing the value proposition for commercial adoption

BioMar can only introduce large volumes of novel raw materials into the market if the reward outweighs the added cost. Innovative raw materials typically follow a pricing curve where initially higher prices fall as volumes increase due to economies of scale. This means the value proposition must be clear and attractive.

BioMar must find leaders among our customers willing to share the cost of investing in sustainable innovation. Our task is to clarify the value proposition and enable our customers to seek better market conditions based on superior feed and seafood.

As volumes of novel raw materials are currently limited, BioMar will maximise the impact by funnelling these ingredients into Blue Impact, a feed concept optimised across multiple sustainability parameters. This strategy will allow BioMar to help early adopters gain market advantage for both their company and product brands.

Innovating Aquaculture



BioMar Innovation Process

Our sustainability ambitions guide us, helping to provide innovative feed and services to address market needs. BioMar has adapted its internal workflow to accelerate innovation across departments, functions, and geographies.

This new innovation process allows us to move with agility to identify potential suppliers and novel ingredients, and to rapidly commercialise new products and solutions. **Figure 8.** *(above)*

BioMar's main activity is aquafeed production. Feed plays a very important role in aquaculture and is the most important input factor in aquaculture.

Feed is also an important factor in the climate impact of fish and shrimp farming, as feed ingredients bear most of the climate burden.

New raw materials and product development are crucial when it comes to producing healthy and sustainable seafood. Although it is the nutrients and not the raw materials themselves that are the main focus in feed production, it is still the raw material that carries the story.

We collaborate across departments, functions, and geographies to handle all shapes and forms that nutrients can come in. All our solutions, whether feed, services or technology, will involve many functions, processes, and quality controls.

Feed development requires close meetings between commercial teams, R&D, sourcing, sustainability, formulation, and manufacturing, while other solutions, such as footprinting, live reporting, or transparency tools, revolve more around quality, sustainability, marketing, and information and communications technology.

BioMar promotes an open innovation approach with leading talents from industry, institutes, and universities to maximise innovation potential and contribute to new discoveries. The synergies that arise in these processes pave the way for new commercial ingredients and feed products and other innovative solutions.

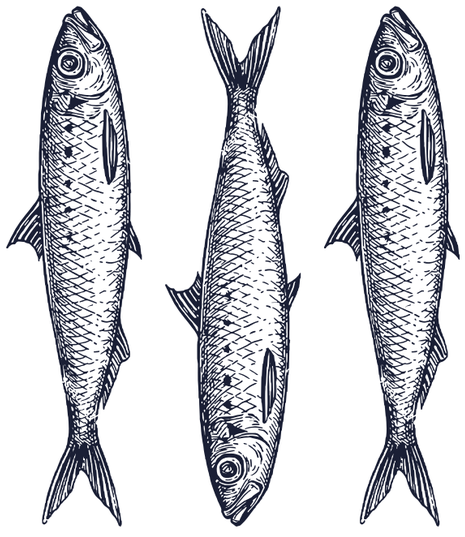
Forage Fish Dependency

Marine ingredients are limited resources that should be used responsibly. The forage fish dependency ratio (FFDR) indicates the amount of wild marine resources used to produce 1 kg of fish or shrimp, as calculated according to the ASC farm standards.

This measure accounts for the protein and oil contribution from wild fish equivalents, where the most limiting factor determines the feed FFDR. The FFDR of farmed seafood is calculated by multiplying the FFDR of the feed by the economic Feed Conversion Ratio (eFCR).

The figure to the right represents BioMar's global raw material use in 2022. The origin of marine ingredients differs slightly from year to year, and along with fluctuating availability, quality and industry growth, the FFDR will vary over time.

Forage Fish Dependency Ratio (FFDR)
Marine ingredients are limited resources that should be used responsibly. The FFDR is a measure of forage fish equivalents utilised to produce one unit of farmed seafood.[17]



BioMar Group	2018	2019	2020	2021	2022
FFDRm (fishmeal)	0.53	0.48	0.49	0.45	0.44
FFDRo (fish oil)	0.87	0.94	1.23	1.17	1.17
FFDR	0.87	0.94	1.23	1.17	1.17

Table 4. BioMar Group Fish-In:Fish-out ratios calculated according to the ASC formula - Forage Fish Dependency Ratio for meal and oil[17]

Raw Material Distribution

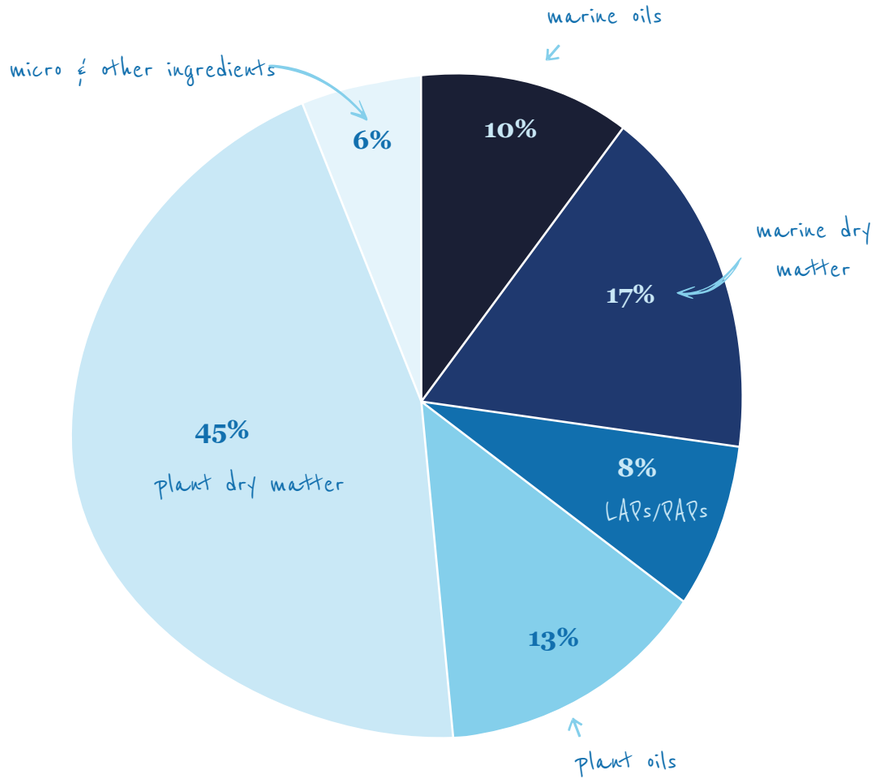


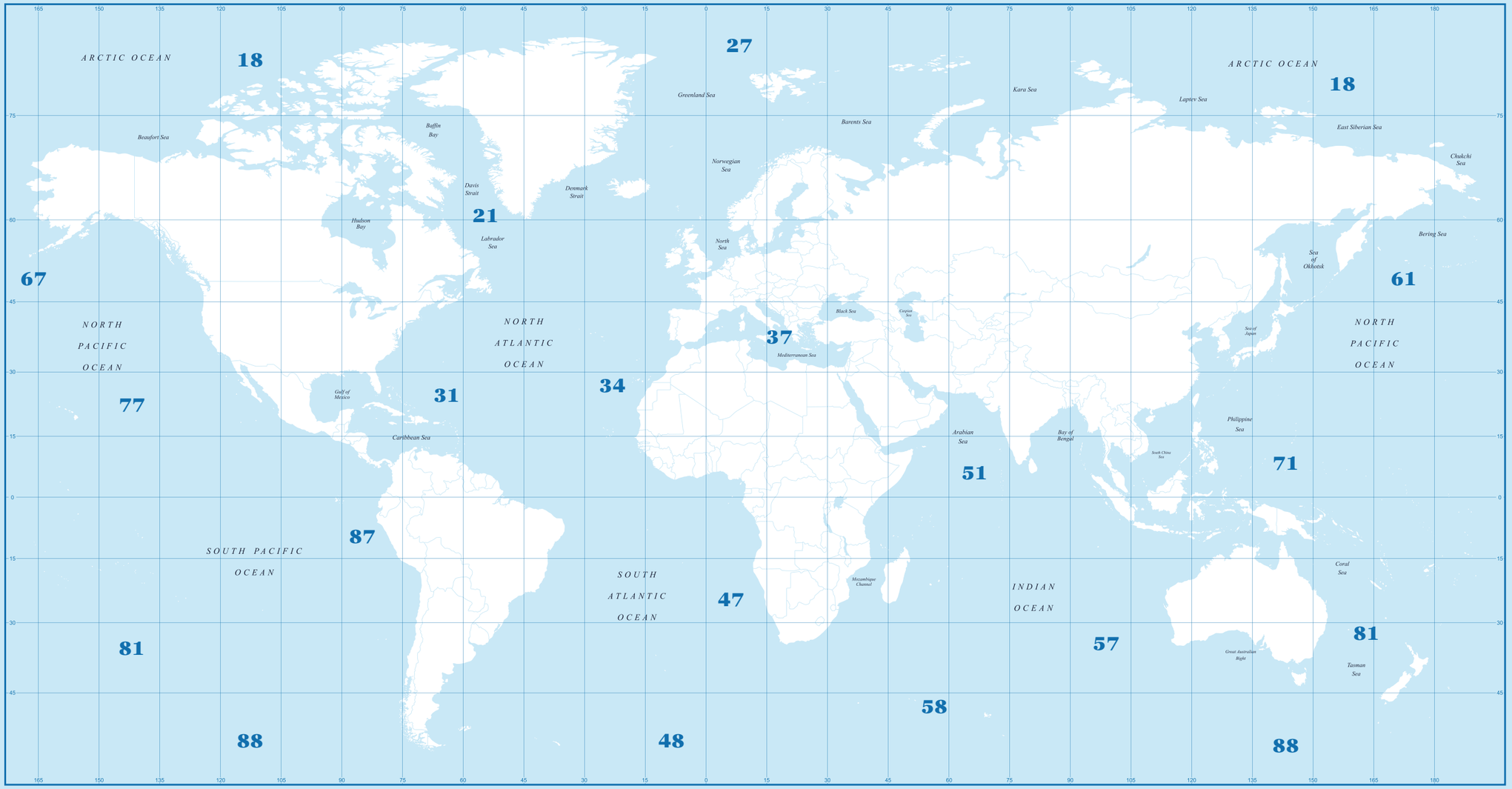
Figure 9. Distribution of the major nutritional contributors making up BioMar Group's total feed recipe for 2022.

Marine Ingredients

Species	Fishing Areas	Marine Protein		Marine Oil		Total Volume		
	FAO	Tonnes	Share	Tonnes	Share	Tonnes	Share	Trimmings
Peruvian Anchoveta	87	61,203	25.4%	26,621	20.6%	87,825	23.7%	7%
Atlantic Herring	27	35,921	14.9%	13,571	10.5%	49,492	13.4%	79%
Capelin	27	30,463	12.6%	7,032	5.4%	37,494	10.1%	26%
Farmed Seafood By-Products	87, 27	3,790	1.6%	22,528	17.4%	26,318	7.1%	100%
Antarctic Krill	48	16,737	6.9%	183	0.1%	16,920	4.6%	0%
Atlantic Sardine	27, 34, 37, 87	6,561	2.7%	9,942	7.7%	16,503	4.5%	31%
Blue Whiting	27	15,629	6.5%	854	0.7%	16,483	4.5%	3%
Wild Seafood By-Products*	27, 87, 41, 47, 34	11,365	4.7%	2,479	1.9%	13,844	3.7%	96%
Araucanian Herring	87	8,875	3.7%	4,755	3.7%	13,631	3.7%	0%
Pacific Mackerel Spp.	87, 77, 71	8,214	3.4%	5,188	4.0%	13,402	3.6%	2%
Tuna Spp.	87, 57	9,503	3.9%	1,979	1.5%	11,483	3.1%	100%
Anchovy	47, 77, 37, 27, 34, 87, 61	2,290	1.0%	8,083	6.3%	10,374	2.8%	11%
Atlantic Cod	27	7,628	3.2%	1,809	1.4%	9,437	2.5%	100%
Sprat	27	6,385	2.6%	2,950	2.3%	9,335	2.5%	10%
Pacific Sardine	77, 81, 61, 87	2,317	1.0%	5,907	4.6%	8,224	2.2%	0%
Sandeel	27	6,391	2.7%	1,582	1.2%	7,974	2.2%	0%
Atlantic Mackerel Spp.	27, 34	3,344	1.4%	2,730	2.1%	6,074	1.6%	89%
Sardinella	34, 37	449	0.2%	2,813	2.2%	3,262	0.9%	24%
Menhaden	87, 61	163	0.1%	2,552	2.0%	2,715	0.7%	0%
Alaska Pollock	67	-	0.0%	2,173	1.7%	2,173	0.6%	100%
Other	87, 27, 34, 77, 47, 51, 71	3,819	1.6%	3,572	2.8%	7,391	2.0%	9%
Total		**241,049**	**100%**	**129,303**	**100%**	**370,352**	**100%**	**36%**
MSC		87,565	36.3%	32,255	24.9%	119,820	32.4%	
MarinTrust		196,092	81.3%	61,585	47.6%	257,677	69.6%	
Fishery Improvement Projects		16,738	6.9%	8,248	6.4%	24,985	6.7%	
ASC Compliant **		219,759	91.2%	110,996	85.8%	330,755	89.3%	
Trimmings		76,739	31.8%	56,114	43.4%	132,853	35.9%	

Table 10. Species in marine meals and oils used by BioMar in 2022 are disclosed in the table in descending order, according to total volume (metric tonnes). Respective shares of species and MSC, MarinTrust, FIP, and ASC-compliant material are also shown. China volumes are not included.
*Includes species landed in compliance with the revised EU Common Fisheries Policy Landing Obligation (discards ban), fully implemented on 1January 2019.
** ASC compliant in accordance with species standards and their respective indicators in the ASC Interim Solution for marine ingredients.[19]

FAO Major Fishing Areas[18]



Sea	Area
Arctic Sea	18
Atlantic, Northwest	21
Atlantic, Northeast	27
Atlantic, Western Central	31

Atlantic, Eastern Central	34
Mediterranean and Black Sea	37
Atlantic, Southwest	41
Atlantic, Southeast	47
Atlantic, Antarctic	48

Indian Ocean, Western	51
Indian Ocean, Eastern	57
Indian Ocean, Antarctic & Southern	58
Pacific, Northwest	61
Pacific, Northeast	67

Pacific, Western Central	71
Pacific, Eastern Central	77
Pacific, Southwest	81
Pacific, Southeast	87
Pacific, Antarctic	88

Hotspot

Raw Materials

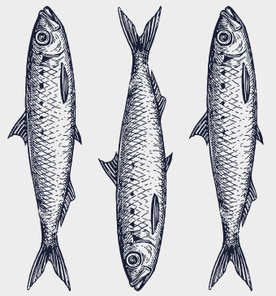
BioMar continuously balances purchasing criteria to ensure and document responsible and sustainable raw material production and procurement. For 'hotspot' raw materials that carry a higher ESG risk profile, BioMar requires certification to best-practice standards. In addition, BioMar's ambitions require additional commitments from suppliers on key sustainability aspects, including deforestation/conversion-free, responsible resource management, and additional social protections for human/labour rights.

The following certifications for hotspot raw materials represent BioMar's commitment to achieving a minimum of third-party-verified sustainability performance.

Soy	
CERTIFIED	100%
RTRS	☑
ProTerra	☑
Donau / Europe Soy*	☑
U.S.SSAP	☑

Palm Oil	
CERTIFIED	100%
RSPO	☑
Green Palm or equivalent	☑

Fish Oil	
ASC COMPLIANT	86%
MSC	☑
MarinTrust	☑
FIP or equivalent	☑
FishSource™	☑



Fishmeal	
ASC COMPLIANT	91%
MSC	☑
MarinTrust	☑
FIP or equivalent	☑
FishSource™	☑

Krill Meal	
CERTIFIED	100%
MSC	☑

Figure 11. This figure discloses certification in percentage terms of hotspot raw materials used in BioMar feed in 2022.
* Including Protein Partnerships

Cleaning up our seas

Hundreds of “curious” citizens witnessed part of the diver’s efforts to retrieve the marine litter from the sea floor of the port and stopped at BioMar’s stand to exchange opinions and concerns over important environmental issues.

To learn more - scan the QR code to watch the video.

GREECE

At BioMar , we know how important it is to have clean seas and oceans. This is why BioMar Greece has collaborated with local authorities and volunteers to clean up Volos Port.

For centuries, humans have been carelessly disposing of waste, including boats and other types of garbage, into our waterways, thinking it would simply disappear. But this waste has caused significant harm to marine ecosystems and their inhabitants.

Residues of discarded waste can release toxic substances, such as oils and chemicals, that harm marine life and disrupt the delicate balance of the ecosystem. In addition, sunken boats can pose a danger to shipping navigation, as a collision with a vessel could release harmful substances into the water.

To help address this problem, BioMar Greece initiated a project to restore the harbour of Volos Port. During the 9-day cleanup effort, over 10 tons of marine litter were collected and removed from the ocean. This included 33 shopping trolleys, 45 car tires, 4 bicycles, chairs, remnants of fishing boats, anchors, and light poles. All the collected items were sent to certified recyclers, who gave them a second life.

The extensive media attention this project raised across Greece has brought awareness to the serious issue of dumping garbage into the Mediterranean. By properly disposing of our waste and reducing our environmental impact, we can help protect the ocean and its precious ecosystem for future generations.

Seaports are major hubs of economic activity and of environmental pollution in coastal urban areas. Port operations can have a significant impact on water quality and the health of marine life.

Waste from ships and other port activities can result in loss or degradation of habitat areas and can also harm marine life.

Imagine conscious consumers

Our blue journey.com

2030

Our Targets

- **100,000** people directly and indirectly engaged in capacity building initiatives annually by 2030
- All salaries above living wage level
- **100%** equal progression through career levels
- **100%** equal pay

2022

Milestones

- Over **44,200** people impacted by capacity building initiatives
- **98%** of the workforce is paid at or above living wage level
- Employee engagement in the top **25%** of global manufacturing companies with a net promoter score (NPS) of **45**
- Created the global diversity policy and set 2025 targets
- Created an internal global Cultural Awareness programme
- New Code of Conduct globally adopted by senior management
- Started a metrics-based roadmap for reporting on human rights

Supporting WiCA

Women in Caribbean Aquaculture

With the support of BioMar, Women in Caribbean Aquaculture (WiCA), and the extended organisation of the Caribbean Aquaculture Education & Innovation Hub, the brainchild of Juli-Anne Russo is off to a great start.

Advanced education in the Caribbean region, especially for women, is a challenge. Many women seeking to become marine scientists leave for education opportunities in North America and Europe. These women are now scattered around the world but still hold a desire to bring their knowledge home to help make this area a blue foods powerhouse.

Juli-Anne Russo formed WiCA in hopes of uniting these amazing women to help bring about positive change in their homelands.

"There is so much potential in the Caribbean for sustainable aquaculture, and as one united industry, driven by strong women and others from this region, I believe there is nothing we can't achieve together." Juli-Anne Russo, Founder of WiCA and the Caribbean Aquaculture Education & Innovation Hub.

"I believe there is nothing we can't achieve together"

Founder,
Juli-Anne Russo

The Caribbean aquaculture industry, although relatively underdeveloped, is ideally situated next to one of the biggest seafood markets in the world–North America. The tropical waters of the region can support a large variety of blue foods; however, to grow the region, knowledge and infrastructure are required.

Besides providing initial establishment funds to get WiCA and the Caribbean Aquaculture Education & Innovation Hub up and running, BioMar is promoting the organisation and its members, including sponsoring their attendance at various international aquaculture events. We are also providing internal expertise through collaboration and knowledge sharing.

These amazing and talented women from the Caribbean are driven by a deep passion for the marine environment, improving their countries and giving back to their communities. At BioMar, we intend to support them on their vital journey.

Sustainable Fisheries:

A Shared Responsibility

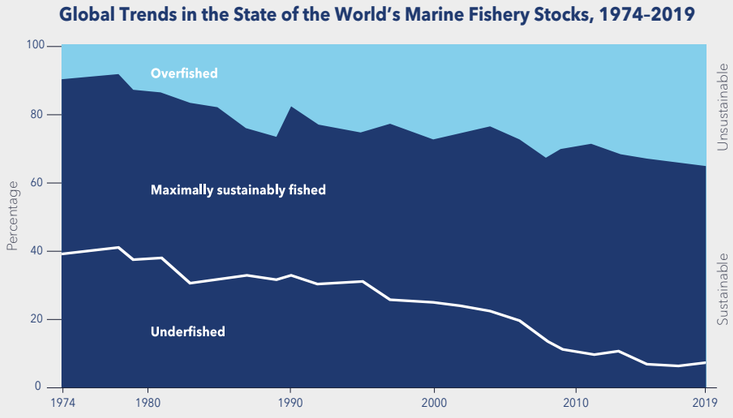
In the last 20 years, BioMar has reduced the inclusion of marine ingredients in aquafeeds by more than 60%. This dramatic reduction resulted from supply/demand and a desire to decouple aquaculture growth from dependency on wild fisheries as a resource base.

Reducing our consumption of marine ingredients is a priority for BioMar, but we are equally committed to improving the sustainability of our source fisheries.

The State of Global Fisheries

The recent SOFIA report published by the FAO (2022) shows that global fisheries, while improving, are still in critical condition. The fraction of fishery stocks within biologically sustainable levels decreased to 64.6% in 2019. However, 82.5% of the 2019 landings were from biologically sustainable stocks.[2]

Effective fisheries management successfully rebuilds stocks and restores ecosystems to a state where wild fish can sustainably support food security, nutrition, economic growth, and the well-being of coastal communities.



Sustainable Fisheries Defined

The new ASC Feed Standard defines sustainable fisheries in the Marine Sustainability Ladder (MSL). The MSL distinguishes between improving fisheries (FIPs) and certified fisheries (MarinTrust and MSC). MSC is widely recognised as the highest level of certification for fisheries, with MarinTrust a close second.[20]

The MSL ladder will challenge feed mills to continuously improve their source fisheries by demanding they move up one level every three years.

- Level 0: Uncertified
- Level 1: Basic FIP
- Level 2: MarinTrust
- Level 3: MSC FIP
- Level 4: MSC

FIPs will become an increasingly vital tool to increase the number of fisheries under good management regimes.

The long-term goal of the ASC and other robust seafood certification schemes is to increase the number of fisheries under best-practice fisheries management, which will increase the fraction of fishery stocks within biologically sustainable levels in the SOFIA report in the coming years.

Sustainable Fisheries Ecosystem

The market demand for more sustainable seafood comes from fish buyers who pass sustainability criteria upstream in the supply chain – first to aquaculture producers, then to BioMar, and from BioMar back to the source fisheries.

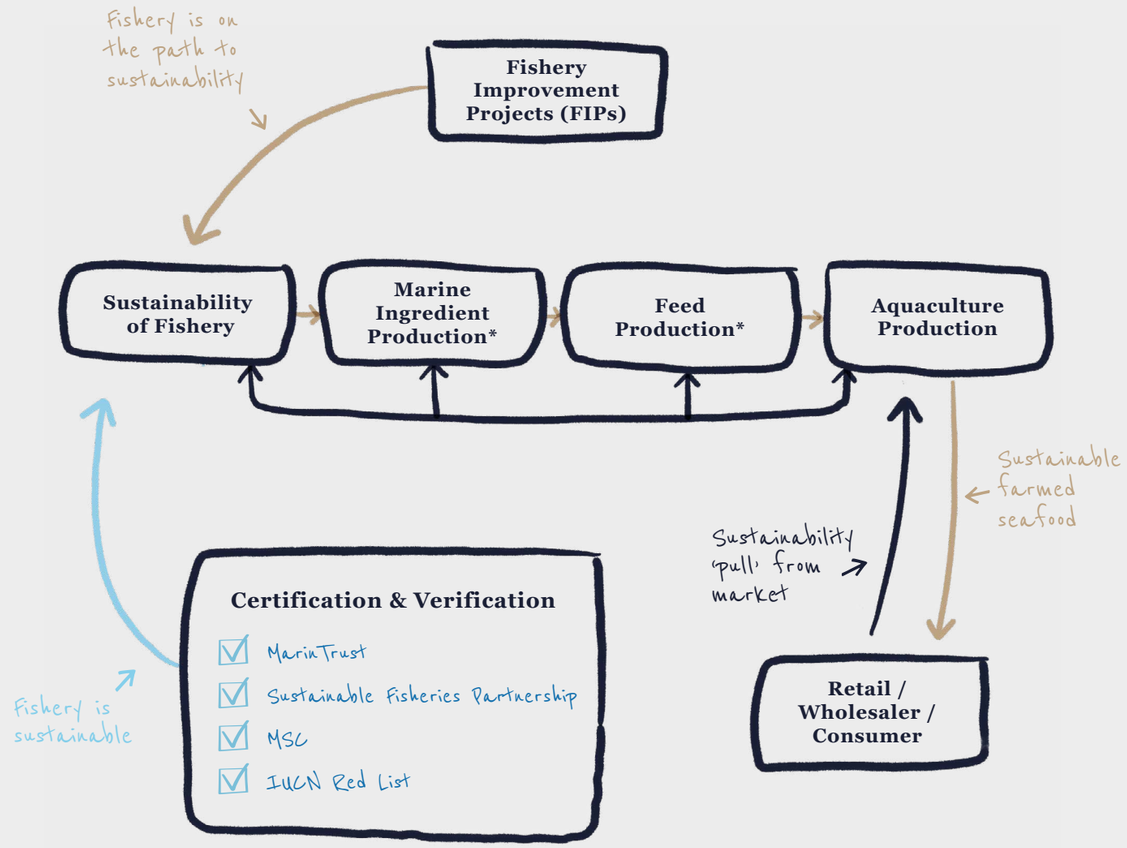


Figure 12. *(left)* Global trends in the state of the world's marine fishery stocks, 1974-2019[2]
Figure 13. *(above)* Sustainable marine ingredients ecosystem
* Marine ingredient producers and feed producers also operate according to number quality, food safety, and sustainability certifications and standards.

The concept of sustainable fisheries is clearly defined by responsible seafood/feed production standards, such as the Aquaculture Stewardship Council (ASC), Best Aquaculture Practices (BAP), and Global GAP.

These standards agree that the highest level of certification for marine ingredients comprises ISEAL-certified marine ingredients (MSC & MarinTrust), NGO requirements (FishSource scores & IUCN Red List), or credible Fishery Improvement Projects (FIPs) making good progress.

BioMar's Engagements in Sustainable Fisheries

BioMar is engaged in multiple stakeholder platforms and individual projects to improve global fisheries management within our supply chain.

These include the Global Marine Roundtable on Marine Ingredients, the North Atlantic Pelagic Advocacy Group, and the Ecuador Small Pelagics FIP.

For more information on our involvement in these engagements, please see page 11.

Enabling communities around the globe

We celebrated the 60 years anniversary of BioMar by partnering with local communities to enable people, take climate action and restore our planet in line with our purpose and 2030 ambitions.

In 2022, BioMar launched a global celebration of the company's 60th anniversary by inviting all employees to participate in a Community Project Competition . The objective was to foster capacity building and enable people to take action on climate change, restoring the planet, and building resilient communities. This is in line with the company purpose and 2030 ambitions.

Collaboration with our local communities has always been a part of the BioMar DNA. Most of our employees live with their families in local communities, and they are naturally interested in supporting sustainable development.

This year our engagement was enhanced and strengthened by the launch of this global competition, where we empowered our employees to define and implement partnership projects with local communities towards an even more sustainable future for people and planet.

In October 2022, the projects were presented with voting that was open to all employees with two official prizes. All the projects created winners across the globe – among our employees, in the local communities and in our industry.

We are committed to continuing our collaboration with local communities in the years to come, investing resources to ensure they are empowered to take action . Our ambition is to reach 100,000 people every year by 2030, creating a ripple effect on the world around us.

60 YEARS

Denmark

Documentary illustrating where the BioMar story began and how we are living our purpose today.

Chile

Engaging with the indigenous people around our factories, helping to protect their culture and lifestyle while discovering new and sustainable sources of income.

HQ

Restoring eelgrass in the local bay along with local stakeholders interested in protecting the natural wonders of the sea.

GREECE

Together with local authorities and volunteers, the Greek team made a huge difference by cleaning up 10 tonnes of waste in the local port area.

Ecuador

With a focus on enabling the next generation, employees constructed our fourth playground made out of recycled feed bags and built a science centre at a local school, enabling underprivileged children.

Spain

Enabling employee awareness around our personal CO_2 footprint and opening the door to changing habits in everyday life.

Australia

Challenged children to rethink waste, promoted women in aquaculture, which encouraged science-based thinking, and building new sustainable feed solutions.

UK

Aided a community in rebuilding a local park, donated wooden pallets to a men's shed (local woodworking community for mental health and well-beings), and provided support for victims of the war in Ukraine.

Norway

Engaged more than 100 school kids, teaching them how to take responsibility for protecting our planet.

Figure 14. Community engagement projects in 2022 from around the BioMar globe.

Commitment to diversity

In 2022, a new policy was launched to promote diversity, equity, and inclusion across the company. We are committed to ensuring diversity is being promoted across all management levels and among all employee groups.

Diversity includes but is not limited to professional background, seniority, education, age, gender, ethnicity, religion, sexual orientation, and physical/mental ability.

The purpose of the company's targets and efforts on diversity is to ensure a corporate culture that supports diversity.

The policy underlines that BioMar as a socially responsible company must facilitate under-represented talent to thrive, experience development opportunities, and be selected for relevant roles.

Our Principles:

- We strive for diversity, equality, and inclusion at all levels in the organisation.
- We are committed to building a company culture recognising the inherited value of all human beings.
- We strive to be flexible in supporting employee differences.
- We train our people leaders (managers) to understand and act on the importance of diversity.

As a driver of diversity, we strive to achieve equal gender distribution and reach a gender balance that is a minimum of 40% of the under-represented gender in management.[21]

Diversity in action

Disability Inclusiveness

BioMar UK is working to create a work environment where all employees, with visible or non-visible medical needs and disabilities feel supported and valued.

In 2022, our HR team, along with specialist occupational health practitioners, provided advice and assistance to 10% of local employees in a safe environment to enable them to thrive at work.

Cultural Awareness

In 2022, BioMar rolled out an internal global cultural awareness programme to increase the collaborative potential between people with different cultural backgrounds.

The initial participants included managers and specialists with global responsibilities.

Gender Equality

BioMar Norway is addressing unequal gender representation by modifying the recruiting process to make women feel more included and encouraged to apply.

This has led to a much stronger gender balance within our Norwegian operations.

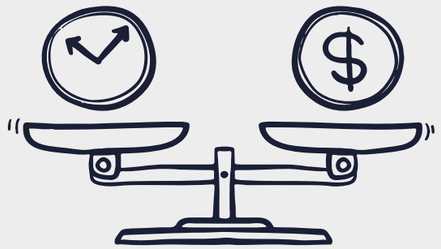
Here's how we did this year

Fulfilling our purpose means looking critically at all aspects of our own business while innovating for a sustainable future, but also engaging in the public debate and enabling customers, employees, communities, and partners to act and contribute.

Lost-Time-Injury Rate

At the company level, our lost-time-injury (LTI) rate increased slightly from 5.3 to 5.6 compared to 2021. Most incidents recorded were of a less serious nature. BioMar is committed to keeping industrial injuries and their resulting negative impacts at a minimum by conducting a root cause analysis and establishing action plans.

For more information please read our Health & Safety Policy on page 50.



Defining Responsible Pay

BioMar is committed to Responsible Pay. We define Responsible Pay as a commitment to living wages and equal pay. With our ambition for Responsible Pay, we raise the bar far beyond what is required by legislation.

We believe every worker should be entitled to a fair wage based upon relevant criteria. A living wage level is what it takes to uphold a decent standard of living in any given country, while equal pay safeguards that all salaries are set without conscious or unconscious bias. In 2022, 98% of BioMar people are on or above living wages.[22]

As the first phase of commitment to Responsible Pay, we have empowered management to analyse and take action locally by direct access to analytics. At the same time we are defining projects to all raise salaries above living wage level.

For more information please read our Salary Policy on page 50.

Gender Diversity Targets 2025

board	management group	other management levels
80%	86%	71%
20%	14%	29%
Target 29%	Target 20%	Target 35%

Capacity Building

In 2022 we reached over 44,200 people with capacity building initiatives

Direct Capacity Building

Direct capacity building takes place when we engage in person with customers, employees, suppliers, community members, and industry stakeholders worldwide. These engagements present opportunities to share knowledge to improve farm management, production methods, animal welfare, or sustainable raw materials to deliver feed and seafood that cater to the responsible consumer.

BioMar Employees	1,721
Participating in formal development activities	
Community Members	4,171
Participating in capacity building activities	
Customer & Supplier Staff	7,719
Participating in capacity building activities	
Conference Participants	5,552
Listening to BioMar speakers at conferences around the world	

Indirect Capacity Building

In many parts of the world, sustainability is often not obtainable until certain basic conditions are met. Many of the world's fisheries and agricultural regions lack the knowledge, resources, and capital to produce more sustainably or responsibly at scale. BioMar can help address these deficiencies by engaging in agriculture and fishery improvement projects in our supply chain. This "indirect" capacity building can facilitate entire industry shifts towards global, responsible and equitable fisheries and agricultural practices.

Development Programme Participants	24,952
Participating in Improvement Programmes with BioMar	

The future is our children

A unique opportunity for 100 children in Norway to learn about the importance of sustainable practices in the aquaculture industry.

Children today are more curious than ever. Raised in the information era and living in a world that has seen significant life events in recent years, kids are eager to know more. This hunger for knowledge is important as they are the future of our society and the aquaculture industry.

At BioMar, we know that today's children are tomorrow's future. That is why in Ecuador and Norway, we decided to enable children from our local communities by educating them about the aquaculture industry and giving them access to an IT and science lab.

Norway

BioMar Norway invited 100 children aged 10 to 12 to visit our BioMar factory at Myre. This visit was not only an educational experience for the children but also a unique opportunity for them to learn about the importance of sustainable practices in the aquaculture industry. By seeing the steps that BioMar takes to reduce its carbon footprint, the children learned about the impact of human actions on the environment and how they can play a role in creating a better future.

The visit allowed the children to gain a deeper appreciation for the diversity of salmon as a food source. They learned about the different flavours and textures of salmon and how it can be prepared in different ways. This not only expanded their palates but also increased their awareness of the nutritional benefits of salmon.

The educational day at BioMar Norway was a wonderful experience for the children, and it helped to create a positive association with the aquaculture industry. By fostering a love for seafood and a respect for the environment, BioMar is helping to shape the future of the industry and the next generation of consumers

Ecuador

At BioMar, we understand education's critical role in shaping children's futures. That is why BioMar Ecuador took the initiative to build an IT and science lab at a primary school in the local community that was in much need of modern educational facilities. This lab aims to allow students to explore the digital world and receive a science-based education that will prepare them for the future.

To furnish the lab, we utilised 3350kg of recycled wood to construct tables, stools, and bookcases. These pieces of furniture were designed with sustainability in mind and were made from recycled materials. By donating these items to the school, we aim to provide students with a comfortable and eco-friendly learning environment.

The lab was equipped with four computer sets, each with a screen, mouse, and keyboard. These computer sets will allow students to access digital resources and enhance their IT skills. Moreover, the lab is equipped with two microscopes and five magnifying glasses, providing students with the tools for hands-on learning and exploring science concepts.

We are proud to be making a positive impact on the education of children in our community by establishing this IT and science lab.

We used 3,350 kg of recycled wood for the classroom furniture.

THE UNITED NATIONS
SUSTAINABLE GOALS

We are changing our feed for a future

World leaders have envisioned aquaculture must double production by 2050, without increasing pressure on wild fish and agricultural land*. A seemingly impossible task, but if there is going to be a sustainable future, aquaculture must not fail. Being producers solely of aquaculture feed, BioMar stands in partnership with you. That is why we are constantly searching for alternative nutrient sources and partnering with those whose innovations can drive us further. We will not rest.

* World Resources Report: Creating a Sustainable Food Future, World Resources Institute, December 2018

SUSTAINABLE DEVELOPMENT GOALS

Global Strategy linked to the UN SDGs

Sustainable businesses operate in healthy, resilient societies. This is the logic that connects business objectives with the UN Sustainable Development Goals (UN SDGs).

The UN SDGs have been shaped primarily for country-level adoption, but the goals can and should be adapted at the company level. There is a clear role for businesses in supporting the goals for sustainable development, contributing alongside other stakeholders to addressing the challenges that the goals seek to achieve.

For BioMar, like any organisation with activities and supply-chains spanning the globe, attention must be paid to the large regional differences when addressing, and in the likelihood of achieving, the SDGs. This tells any global organisation where the biggest challenges lie, but also where any activities would have the greatest impact.

As a forward-thinking organisation, we are continuously building this knowledge into our strategy and innovating solutions in response to a changing world – sustainability is at the very core of our business strategy.

For more information please watch our BioSustain Masterclass video on the UN SDGs.

Global Strategy

Above & Beyond

BioMar has launched a new global strategy reaching towards 2028+. The name Above & Beyond was chosen for a reason as we strive to impact the industry and the planet beyond what we have ever done before.

BioMar Strategy 2028+

The new strategy was created based upon input from customers across the globe, BioMar staff, external experts, research, and consultants from Kearney, a world-leading strategy consultancy company. In total, around 100 people have been involved in the process.

Based upon financial assessments, peer comparison, customer assessments, and belief audits, BioMar has chosen to take the position of industry collaboration partner, taking responsibility for our common future:

"The new strategy will be a shift of paradigm for BioMar and for our customers, truly embedding innovation and sustainability into the commercial value proposition, while developing our business into new geographies and areas. Our new strategy is not only ambitious, but also courageous: Thinking out of the box, moving the limits, and going above and beyond customer expectations", explains Carlos Diaz, CEO of BioMar Group.

The strategy has three core ambitions. The first is to protect the core of the company through commercial and operational excellence while taking responsibility for delivering on sustainability for purpose-driven industry growth. The second ambition is to accelerate our global growth, becoming a truly relevant player in all geographies, and the third is to move into related business areas, innovating for next-generation product solutions.

"BioMar is a collaboration partner, taking responsibility for our common future. It will not be an easy journey and it will require a lot of leadership, effort, and change. But it is the right thing to do!" Carlos Diaz, CEO BioMar Group.

In the new strategy, we will enhance focus on strategy deployment, business development, and M&A, strengthen global alignment, and improve collaboration as well as strengthen our core business. We are embarking on a commercial excellence journey. We have committed to creating value through sustainability as well as increasing our focus on data-driven business decisions and digital data solutions.

It will not be an easy journey and it will require a lot of leadership, effort, and change.

Breaking new ground

Our first venture into non-feed business is taking shape. When acquiring AQ1, BioMar announced this investment as the first step into feeding technology, moving towards becoming a true solution provider.

Sustainable aquaculture will be driven by low-impact feed solutions and intelligent feeding technology, enabling efficient farm management. We believe there is huge potential for sustainable growth at the intersection between feed and technology.

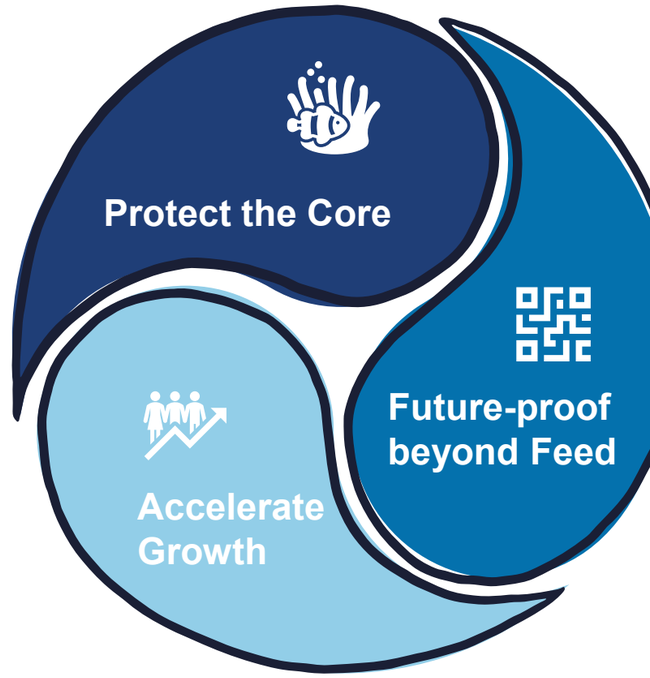


Figure 15. The new Above & Beyond strategy has three core ambitions. The first is to protect the core, the second is to accelerate our global growth, and the third is to move into related business areas, innovating for next-generation product solutions.

Company Timeline

1962

BioMar is established in Denmark by a group of Danish fish farmers under the name Dansk Ørredfoder A/S.

BioMar is among the first in Europe to introduce pelletised dry feed.

1988

BioMar pioneers extruded fish feed.

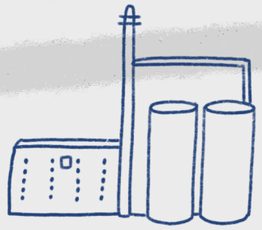
Ecoline is the first environmentally declared fish feed in the world and wins prestigious Danish Environmental Award for improved eco-performance.

1990's

Dansk Ørredfoder A/S takes over Aqualim S.A. in France and BioMar AS in Norway and consolidates under BioMar A/S.

1995

BioMar establishes a factory in Scotland.



1996

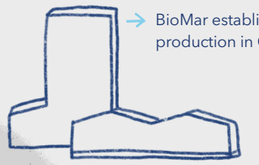
BioMar establishes production in Karmøy, Norway.

2000

BioMar acquires 50% of two factories in Chile, achieving full ownership in 2002.

2001

BioMar establishes production in Greece.



2005

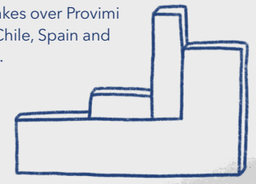
Schouw & Co. becomes majority stakeholder in BioMar A/S.

2007

BioMar launches the sustainability concept and improvement programme, BioSustain™

2008

BioMar takes over Provimi Aqua in Chile, Spain and Denmark.



2009

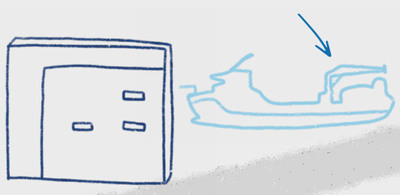
BioMar launches the SMARTfeed™ concept in Norway.

BioMar launches the first fish feed in the EU with probiotics.

2012

BioMar establishes a JV with Aquacorporacion Internacional in Costa Rica.

MS Høydal is the world's first cargo ship powered by liquefied natural gas (LNG).



2015

BioMar establishes a JV with Tongwei, in China.

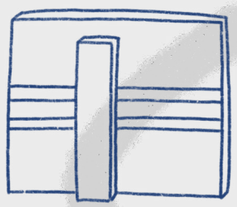
BioMar partners with the Antarctic Wildlife Research Fund to facilitate and promote research on the Antarctic ecosystem.

2016

BioMar establishes a JV with Sagun Group in Turkey.

BioMar's JV in China acquires the fish feed company Haiwei.

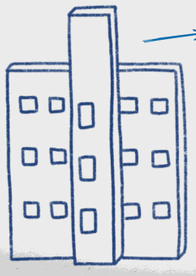
BioMar is first to use novel omega-3 from microalgae in feed at commercial scale.



2017

BioMar acquires shrimp feed factory, Alimentsa in Ecuador.

BioMar establishes a global hatchery unit in France.



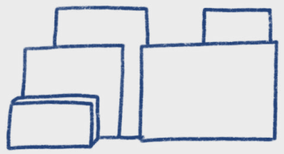
2018

BioMar first to launch consumer facing transparency tool.

Redesigned targeted global health strategy and concept, SmartCare™.

2019

BioMar becomes full owner of the Joint Venture factory in Chile.

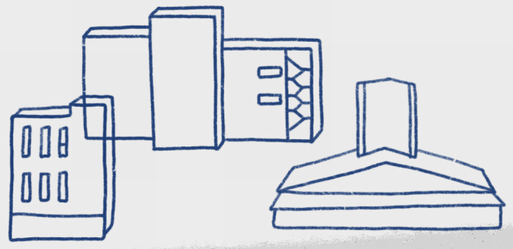


2020/2021

BioMar establishes production in Australia.

BioMar establishes a new factory in China.

BioMar acquires the majority of shrimp feed factory, Viet-Uc, in Vietnam



2022

BioMar acquires shrimp feeding technology Company AQ1.

Table 5. Top species where BioMar supplied the most feed in 2022 **20.22**

Title: **Species distribution fed by BioMar**

Year: 2022

1	**Atlantic Salmon** *Salmo salar*	62%
2	**Shrimp** *Penaeus vannamei*	11%
3	**European Sea Bass** *Dicentrarchus labrax*	8%
4	**Gilthead Sea Bream** *Sparus aurata*	
5	**Rainbow Trout (saltwater)** *Oncorhynchus mykiss*	6%
6	**Rainbow Trout (freshwater)** *Oncorhynchus mykiss*	
7	**Coho** *Oncorhynchus kisutch*	3%
8	**Tilapia** *Oreochromis niloticus*	2%
9	**Japanese Seabass** *Lateolabrax japonicus*	2%
	Other Species (+40 species)	
10	**Meagre** *Argyrosomus regius*	6%
11	**Yellowtail Kingfish** *Seriola lalandi*	
12	**European Eel** *Anguilla anguilla*	
13	**Siberian Sturgeon** *Acipenser baeri*	

Aquaculture Species fed by BioMar

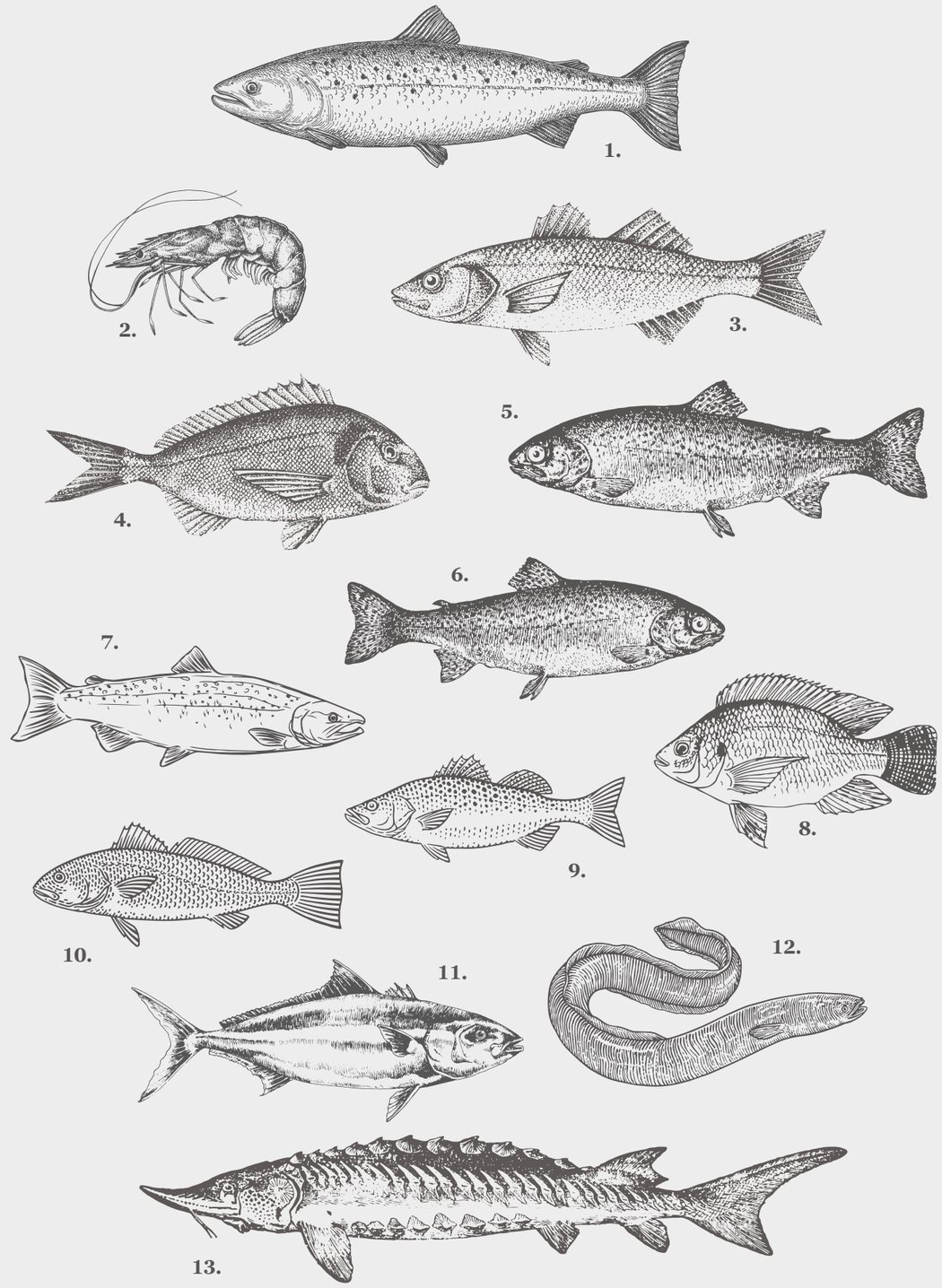
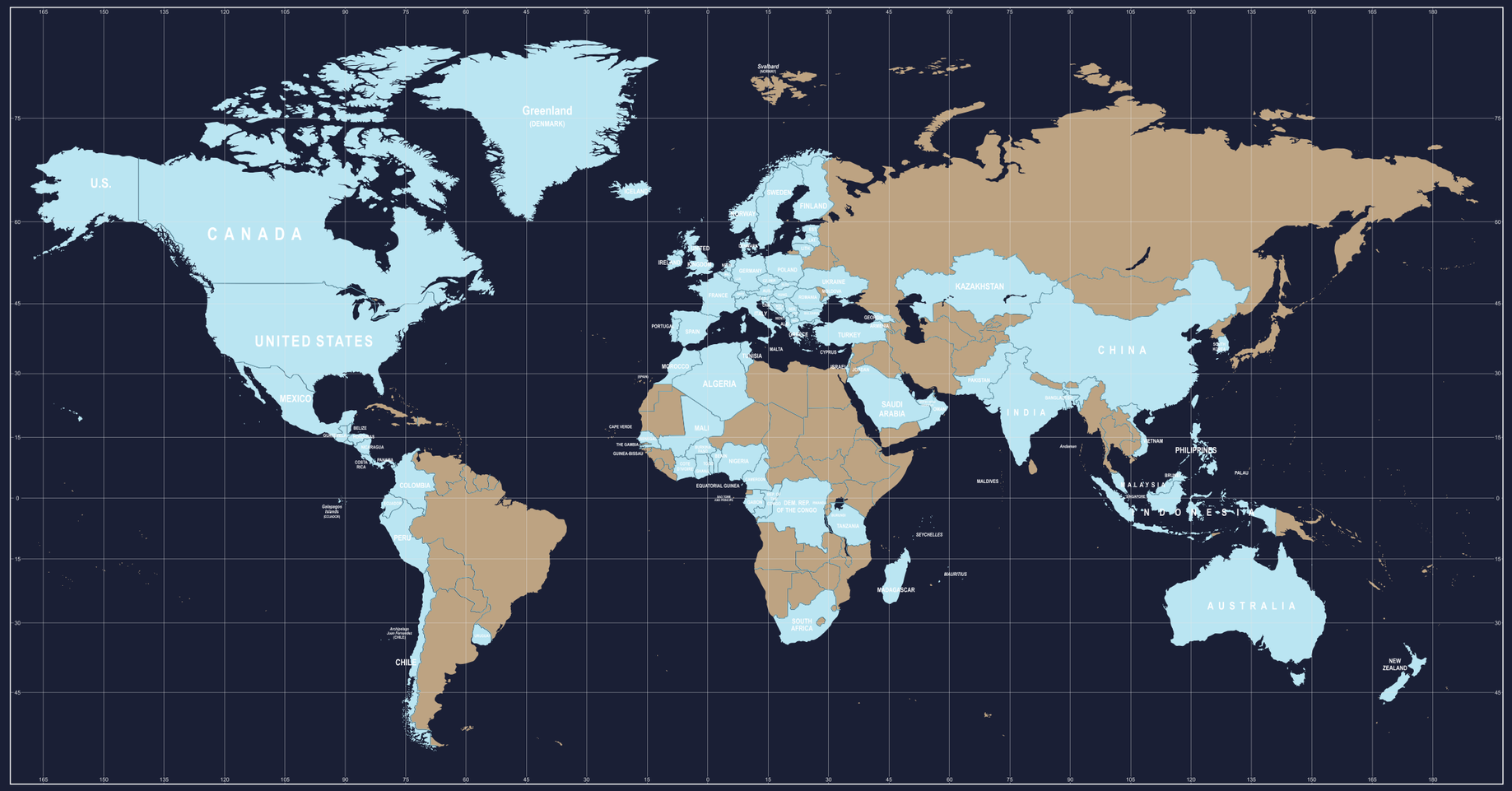


Figure 16. Top species where BioMar supplied the most feed in 2022



Country	Name	
Australia	Wesley Vale	Factory
	AQ1	Technology
Chile	Castro	Factory
	Ercilla	Factory
	Pargua	Factory
	Patagonia	ATC
China	Wuxi	Joint Venture
	Zhuhai	Joint Venture
Costa Rica	Cañas	Joint Venture
Denmark	Brande	Factory
	Aarhus	Headquarters
	Hirtshals	ATC
Ecuador	Durán	Factory
	Ecuador	ATC
France	Nersac	Factory
Greece	Volos	Factory
Norway	Myre	Factory
	Karmøy	Factory
	Trondheim	R&D
	LetSea	ATC
Scotland	Grangemouth	Factory
Spain	Dueñas	Factory
Turkey	Söke	Joint Venture
Vietnam	Ben Tre	Joint Venture

Table 6. BioMar factories, offices, ATCs and Joint Ventures by country. ATC = Aquaculture Technology Centre

Markets & Operations

BioMar is one of the world's largest manufacturers of high-performance, sustainable feed for the global aquaculture farming industry.

Our core aquafeed business area are feeds for salmon, trout, shrimp, sea bass, and sea bream. Innovation is an integral part of BioMar's business model, coupled with a focus on sustainability, which forms a key aspect of global aquaculture today.

Seafood is a central element of global food production, but increased demand due to population growth and uncontrolled fishing has put fish stocks under severe pressure in many parts of the world. Projections indicate that the global population will exceed 10 billion by 2050, and global food production would have to almost double to keep up with the corresponding expected income development, particularly in developing countries.

Aquaculture plays a key role in the future food supply, as aquaculture farming is the only way to secure a more sustainable approach to increasing the supply of seafood and avoid overfishing the oceans. There is a global need for healthy and sustainable sources of protein, and according to FAO, the UN Food and Agriculture Organization, the global production of fish in 2030 is expected to be 15% higher than the current output. Already, more than 50% of the world's fish and shrimp are raised in aquaculture, which is the fastest growing food production industry in the world.

For many years, BioMar has been a leader in product development and in particular the inclusion and promotion of new innovative ingredients. With its customised products for a broad range of species, combined with a presence in Europe, Latin America, and Asia, BioMar has a strong, central position in the marketplace.

Structure & Operational Model

To serve global customers, we will continue adjusting our approach, optimising our product portfolio, and prioritising customer support. Our structure reinforces BioMar's strategy of combining global excellence with local agility.

BioMar's organisational and management structure will reflect our strategy and global focus across divisions. BioMar is currently setting a new strategic course, emphasising protecting the core and simultaneously accelerating and future-proofing the business. The structure and model will adapt accordingly.

BioMar's operations are divided into divisions. The Salmon Division covers salmon feed from feed factories in Norway, Scotland, Chile, and Australia.

The remaining feed operations are divided geographically into the EMEA Division with factory sites in Denmark, France, Spain, Greece, and Turkey; the LATAM Division with factory sites in Ecuador and Costa Rica; and the Asia Division with factory sites in China and Vietnam.

Our model serves different customer profiles and market conditions and has proven to be efficient in facilitating global synergies and effective collaboration with customers.

BioMar Group management ensures operational and financial focus as well as alignment on important areas managed by group functions to ensure alignment and sharing best practices.

Board

Chairman
Jens Bjerg Sørensen

Board Member
Asbjørn Reinkind

Board Member
Jørgen Wisborg

Board Member
Marianne Kirkegaard

Board Member
Anders Wilhjelm

Management Group

CEO
Carlos Diaz

CFO
Claus Eskildsen

CEO, AQ1
Andrew Campbell

VP Salmon
Paddy Campbell

VP LATAM, Shrimp & Hatchery
Henrik Aarestrup

VP EMEA
Ole Christensen

VP People, Purpose & Communications
Sif Rishoej

VP Strategy, Business Development & M&A
Wasiem Husain

VP Asia
Francois Loubere

Global Sustainability Director
Vidar Gundersen

Global R&D Director
Simon Wadsworth

Global Marketing Director
Katherine Bryar

Global Manufacturing & Technology Director
Roger Hendry

Global Business Development Director
Michael Gammelgaard

Global Data & AI, Director
Helle Sørensen

Global IT Director
Henrik Frøsig

Global Sourcing Director
Morten Møjbæk

Group Finance Director
Carsten Nielsen

BioMar is committed to high standards of corporate responsibility, sustainability, + ESG.

Sustainability Committee

The Sustainability Committee (SC) is responsible for BioMar's sustainability strategy and performance.

The SC is crucial for good governance and for integrating business and sustainability priorities so the company can deliver on expectations and further develop.

Our Global Sustainability Director leads the SC and core members include the CEO, CFO, VP People, Purpose and Communication, the Global Sourcing Director, the Global Manufacturing and Technology Director, and the R&D Director. Other active participants are global functions responsible for delivering on initiatives and KPIs related to sustainability performance.

Part of our role as a multinational company that sources raw materials in the global market is to ensure that our suppliers meet the standards detailed in our Code of Conduct and other applicable policies. In addition, we require our employees and business partners to comply with our Code of Conduct and make it the foundation for how we drive our business.

In all our activities, we must comply with the laws, rules, and regulations of the countries in which we operate, including, but not restricted to, labour and environmental issues.

Figure 17. Overall structure of BioMar operational activities and global functions, and complementary interaction between the Executive Committee and the Sustainability Committee.

Code of Conduct

Our Code of Conduct describes our position regarding the ethical behaviour we must uphold if we are to truly live up to our ambition as a leading innovator in aquaculture. We are always ready to engage in dialogue with our employees and stakeholders to discuss our current practices.

Code of Conduct for Suppliers

The BioMar Code of Conduct for Suppliers sets out requirements corresponding to our fundamental principles of responsible sourcing: conducting business lawfully and with integrity, ensuring product quality and food safety, protecting natural resources, and upholding human and labour rights.

Environmental Policy

BioMar strives to meet its customers' needs in an environmentally responsible and sustainable way. We are committed to operating responsibly in the direct operations we control and throughout the wider supply chain that we influence.

Health & Safety Policy

BioMar strives to secure the health and welfare of our people, providing good working conditions so that all employees can return home to their families without injuries or health-related issues caused by factors inherent in the workplace.

Quality & Food Safety Policy

Compliance with agreed requirements for quality and food safety is a responsibility of all employees throughout BioMar and is integrated into local management systems involving every stage of the manufacturing and supply process.

Diversity Policy

BioMar is committed to increasing and safeguarding value creation in the company through encouraged collaboration between people with different backgrounds. The purpose of the company's targets and efforts on diversity is to ensure a corporate culture that supports diversity.

Salary Policy

At BioMar, we have a responsibility to protect and promote human rights. Our commitment to ethical salary standards means we are enabling our employees and their families to live a dignified life. At the same time, we promote and demonstrate fair and equal remuneration across geographies and cultures.

Responsible Employment Policy

We are committed to fair contracting of the workforce, assuming employer responsibility, equality and diversity, fair and transparent employment terms, upholding dialogue, and integrating and training of all staff. To deliver on our commitment, we are working with local authorities, unions, and employee representation, adopting leading market standards for the employee experience, while safeguarding our BioMar way of working.

Microplastics Position Statement

BioMar is committed to continuously monitoring the knowledge development of micro- and nano-plastics, especially those aspects associated with production of fish feed and which carry over from feed to farmed fish, and taking actions in relation to its contribution to food safety and sustainability in the food chain.

BioMar Responsible Sourcing Policy

The Responsible Sourcing Policy specifies the five fundamental principles that all suppliers must comply with when supplying raw materials to BioMar globally. Our local companies might apply additional local sourcing policies and processes, however always within the frame of the global policy.

Vegetable ingredients Position Statement

BioMar is committed to sourcing vegetable ingredients that meet the needs of our customers certified to best-practice industry standards , such as GlobalG.A.P., Best Aquaculture Practices (BAP), and Aquaculture Stewardship Council (ASC).

Marine ingredients Position Statement

BioMar is committed to sourcing vegetable ingredients that meet the needs of our customers certified to best-practice industry standards , such as GlobalG.A.P., Best Aquaculture Practices (BAP), and Aquaculture Stewardship Council (ASC).

Global Policies

BioMar Group employees are responsible for providing operational, administrative, and strategic support to all local business units.

Global policies covering a diverse range of customer- and country-specific regulatory requirements have replaced dozens of factory-specific documents.

In 2022, BioMar Group created or updated several policies and statements, including ISO, BAP, GLOBALG.A.P., and ASC certification requirements.

These global policies apply to all companies under BioMar Group operational control. They will be periodically reviewed by the BioMar Executive Committee for alignment with current and future objectives. Revisions will be published and brought to the attention of all employees and relevant parties.

Through clear and transparent principles, we want to contribute actively and consciously to the developments within our supply chain

Responsible Sourcing

Sustainable and high-performance feeds begin with the sourcing of high-quality raw materials. The responsible sourcing of raw materials is essential for our product portfolio.

We continuously strive to deliver on our commitment to develop an efficient and sustainable aquaculture, and therefore our five fundamental principles of responsible sourcing are embedded in everything we do – from safeguarding product quality and food safety to upholding human and labour rights to protecting natural resources. We always conduct our business with high integrity and through dedicated collaboration with our stakeholders, acknowledging that we are part of a larger value chain where transparency and collaboration are key.

We prioritise and invest in our close partnerships with suppliers, customers, and others. It is our belief that these partnerships are the best foundation for establishing innovative and sustainable initiatives in our industry. We also believe in exchanging expert knowledge with these skilled and innovative partners, and through committed action plans facilitating speedy implementation of sustainable processes that accommodate customer requirements and value chain development. When we join forces and combine our expert knowledge of raw materials, feed production, and breeding, we can contribute to sustainable progress in aquaculture together.

To view our full Sourcing Policy scan the code below:

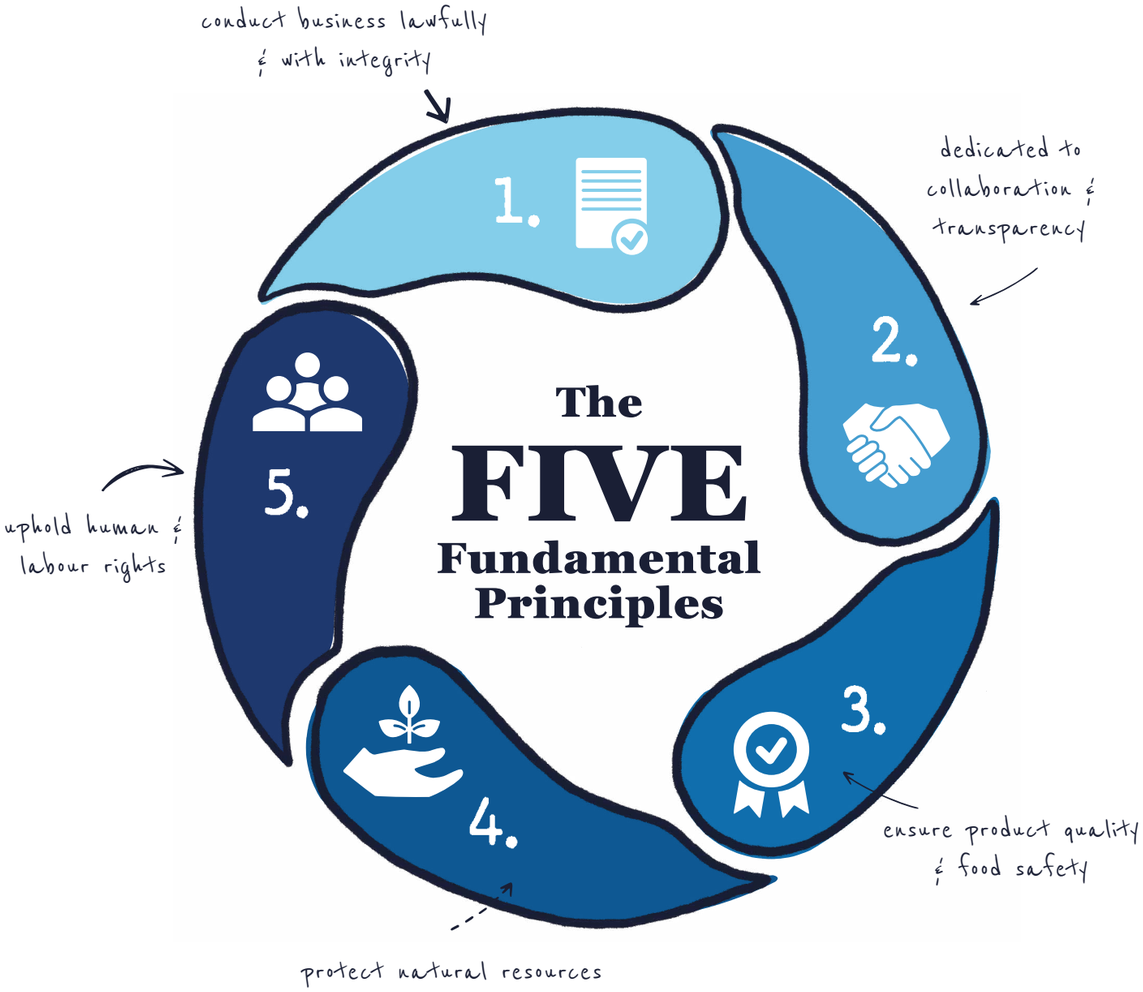


Figure 18. The 5 fundamental principals outlined in our Sourcing Policy.

Quality Systems & Certifications

At BioMar, we focus on quality and food safety to ensure compliance with local regulatory frameworks and mutually agreed customer requirements.

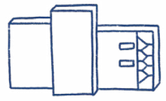
Our customers and local markets provide the requirements for certification across our businesses; we build on base-level ISO 9001 certification at all production locations and include ISO 14001, ISO 22001, ISO 45001, ISO 50001 and ISO 17025 at specific locations depending on the needs. In addition, we follow market-related standards, certify to BAP, GLOBALG.A.P., and other product standards, and are working on deploying the new ASC Feed Standard across all applicable markets.

We consider food safety to be one of our most important priorities and strive to reach the highest possible security. We impose strict internal procedures for all processes at our facilities and apply a level of control that often exceeds official requirements. We thoroughly assess our product portfolio on a global level.

We have a harmonised approach towards food safety, with quality systems that i) monitor performance and compliance and ii) ensure local management plans are aligned with local requirements. Our global quality function supports activities to raise awareness, encourage participation, train employees in quality and food safety matters, and work further with suppliers and customers to align on quality and food safety requirements of our products and services.

In 2022, we found no major health and safety impacts and identified no non-compliance with regulations.

* The Haiwei (China) plant is not included in the overview as it falls out of our definition of Operational Control.



Wesley Vale, Australia

POWER Efico SmartCare®

→ Atlantic Salmon, King Salmon, Barramundi

☑ ISO 9001, ISO 14001, ISO 22000, GlobalG.A.P., BAP, FeedSafe

Myre, Norway

BLUE IMPACT POWER SmartCare®

→ Atlantic Salmon, Rainbow Trout, Atlantic Cod

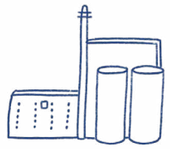
☑ ISO 9001, ISO 14001, GlobalG.A.P.

Karmøy, Norway

ORBIT POWER SmartCare®

→ Atlantic Salmon, Rainbow Trout, Atlantic Cod

☑ ISO 9001, ISO 14001, GlobalG.A.P.

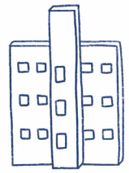


Grangemouth, Scotland

POWER Symbio SmartCare®

→ Atlantic Salmon, Rainbow Trout, Halibut

☑ ISO 9001, ISO 45000, ISO 14001, ISO 22000, BAP

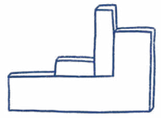


Durán, Ecuador

EXIA LARVIVA INICIO

→ Vannamei

☑ ISO 9001, GlobalG.A.P., BAP

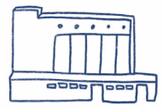


Castro, Chile

ORBIT POWER SmartCare®

→ Atlantic Salmon, Coho, Rainbow Trout

☑ ISO 9001, ISO 14001, ISO 22000, ISO 45001, GlobalG.A.P., BAP

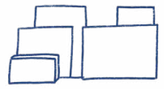


Pargua, Chile

POWER SmartCare®

→ Atlantic Salmon, Coho, Rainbow Trout

☑ ISO 9001, ISO 14001, ISO 22000, ISO 45001, ISO 17025, GlobalG.A.P., BAP



Ercilla, Chile

POWER SmartCare®

→ Atlantic Salmon, Coho, Rainbow Trout

☑ ISO 9001, ISO 14001, ISO 22000, ISO 45001, ISO 17025, GlobalG.A.P., BAP

Volos, Greece

Efico Maxio SmartCare®

→ Sea Bass, Sea Bream, Rainbow Trout

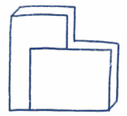
☑ ISO 9001, ISO 14001, GlobalG.A.P.

Brande, Denmark

Efico ORBIT INICIO

→ Rainbow Trout, Atlantic Salmon, Seabream

☑ ISO 9001, Global.G.A.P.

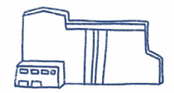


Nersac, France

Efico Maxio LARVIVA®

→ Rainbow Trout, Sea Bass, Sea Bream

☑ GlobalG.A.P.

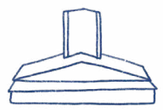


Dueñas, Spain

Efico Maxio SmartCare®

→ Sea Bass, Sea Bream, Meagre, Turbot

☑ ISO 9001, ISO 14001, GlobalG.A.P.



Ben Tre, Vietnam

EXIA LARVIVA®

→ Vannamei, Monodon

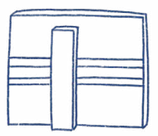
☑ ISO 9001, BAP

BioMar-Tongwei, (JV) China

Efico

→ Sturgeon, Rainbow Trout, Largemouth Bass

☑ ISO 9001



Söke, (JV) Turkey

Efico Maxio SmartCare®

→ Rainbow Trout, Sea Bream, Sea Bass

☑ GlobalG.A.P.

Cañas, (JV) Costa Rica

Efico EXIA

→ Tilapia, Vannamei, Snapper, Cobia

☑ ISO 9001, ISO 50001, GlobalG.A.P., BAP

Outlook & Financial

Financial Performance

The general supply situation improved during the final months of the year in terms of raw materials, energy, and transport, but prices of raw materials remained high. This was the main explanation for BioMar's 23% revenue increase to DKK 4,974 million in Q4 2022, although the underlying volumes sold declined by 8%. As a result, FY 2022 revenue was up by 34% to DKK 17,861 million, while the underlying volumes sold rose only slightly year on year. The full-year increase was primarily driven by the Salmon and LATAM divisions, and exchange rate developments had a positive effect of approximately DKK 700 million.

The Salmon Division reported a drop in volumes for the fourth quarter, in part caused by regulatory restrictions imposed on fish farming in Chile. As a result, total volumes sold were in line with the previous year, while earnings improved as the higher costs were better reflected in selling prices.

The EMEA Division reported a modest improvement in volume sales in the fourth quarter that was mainly driven by positive developments in the Mediterranean region. For the year overall, however, the division's volumes and earnings were impacted by the discontinued trading with Russia.

BioMar (DKKm)	2022 Q4	2021 Q4	2022 FY	2021 FY
Volume ('000 tonnes)	372	405	1456	1446
- of which Salmon	265	293	1016	1012
- of which other divisions	107	112	441	434
Revenue	4974	4044	17861	13300
- of which Salmon	3863	3150	13510	9809
- of which other divisions	1111	894	4350	3491
EBITDA	294	268	1013	889
- of which Salmon	190	157	669	475
- of which other divisions	104	111	343	414
EBIT	149	179	602	540
CF from operations	312	-87	299	241
Working capital	1977	1399	1977	1399
ROIC ex. goodwill	16.1%	15.5%	16.1%	15.5%

Table 7. BioMar Group financial figures for 2022 and 2021 in DKK millions.

The LATAM Division reported a volume decline in the fourth quarter that was mainly due to weakened demand resulting from reduced prices for shrimp. However, volumes sold still improved for the year overall. BioMar continues to strengthen its offering of products, concepts, and services, mainly in the Ecuadorian market where the company is also adding new production capacity.

The consolidated part of the Asia Division, which only covers operations in Vietnam, is still under development with the implementation of a range of high-quality feed products. The business operations have taken somewhat longer to establish than originally expected, and the focus is now on penetrating the important market for shrimp feed in Vietnam in collaboration with the local business partner. Operations in the Tech Division, which was established after the acquisition of AQ1, are also well under way. There has been sound market interest for the technology solution and the division has delivered the anticipated positive earnings contribution.

The reported EBITDA for Q4 2022 was up by 10% to DKK 294 million, for a 14% increase in FY 2022 EBITDA to DKK 1,013 million, which was better than the most recent guidance range. The earnings improvement was derived especially from margin improvements that materialised as selling prices increasingly began to reflect the soaring costs of raw materials, energy, and freight. In addition, the Norwegian research activities and the acquisition of AQ1 were positive contributors to earnings, and the positive effects more than offset the negative effect of the discontinued trading with Russia.

Working capital was up by 41% to DKK 1,977 million as of 31 December 2022, mainly driven by the higher revenue resulting from the higher prices of raw materials and the derived increase in inventories and trade receivables. The use of supply chain financing fell from DKK 1,058 million as of 31 December 2021 to DKK 980 million as of 31 December 2022. ROIC excluding goodwill improved from an already high level to 16.1% as of 31 December 2022, as the earnings improvement exceeded the increase in the average invested capital.

The coronavirus pandemic has posed a challenge to the Vietnamese operations for some time and shrimp farming has faced disease outbreaks and low settlement prices, all of which has severely impacted the anticipated developments following BioMar's acquisition of Viet-Uc. As a result, BioMar has written down the carrying amount of goodwill relating to Viet-Uc by DKK 55 million. At the same time, the expected earn-out payment was reduced by DKK 94 million, which has been recognised as financial income.

Business review

BioMar consistently adapts to changing market conditions. In 2022, this was especially illustrated when the company discontinued trading with Russia in a move that has affected both sales of finished products and sourcing of raw materials. BioMar has thus had to navigate a market characterised by high costs of raw materials, energy, and freight as well as varying availability of important raw materials. It is always a challenge to offset the effects of sharply rising prices of raw materials, but BioMar increasingly managed to do so over the course of the year, and the company now expects that the pressure on the costs of raw materials and freight may begin to subside.

In September 2021, BioMar announced plans to establish four new extrusion lines in Ecuador with an annual capacity of about 200,000 tonnes. The initial phase of the project, involving an investment of about DKK 125 million for two extrusion lines, is now close to completion, and the lines are expected to support production capacity in 2023.

In April 2022, BioMar signed an agreement to acquire AQ1 Systems, an Australian manufacturer of shrimp farming feed systems based on acoustic technology. AQ1 is a relatively small business, but the combination of its advanced technology and BioMar's extensive feed and fish farming know-how is expected to result in the development of more efficient and sustainable feed solutions. The acquisition of AQ1 is part of a planned development of technology operations that is an important element of BioMar's long-term strategy.

In August 2022, BioMar signed a letter of intent with Icelandic company Sildarvinnslan to establish feed production in Iceland. Aquaculture, along with a significant focus on sustainability, has evolved strongly in recent years in Iceland. The ambition is for the facility to have net-zero emissions from own production facilities, and with the agreement, BioMar enters the Icelandic market as the only existing global feed company.

BioMar's original put option to acquire the outstanding 30% of the shares in Alimentsa S.A. expired in the third quarter of 2022, but the parties have jointly agreed to extend the mutual agreement by five years. At the same time, the accounting treatment of the put option has changed, but this has no effect on the recognition of revenue and EBITDA.

Outlook

From an overall perspective, long-term demand for farmed fish and shrimp generally seems sound. While current market conditions with the many practical challenges to international trade and volatile prices of raw materials and energy may well affect developments in the short term, BioMar retains its ambition for continued growth.

BioMar expects to generate full-year 2023 revenue of about DKK 18.0-19.0 billion, but changes in raw materials prices and foreign exchange rates may, as always, impact revenue. Profit for the year may also be impacted by developments in exchange rates and volatile costs of raw materials and energy, but given the current outlook, the company expects EBITDA in the range of DKK 1,080-1,150 million.

Associates and joint ventures are recognised at a share of profit after tax. The main contributors are the feed operations in Turkey, the fish farming company Salmones Austral, and the testing and research company LetSea, although the results rely heavily on prices of farmed salmon. Assuming favourable biological conditions and stable settlement prices on farmed salmon, the share of 2023 profits after tax is expected to be about DKK 130 million.

Joint Ventures and Associates

BioMar manufactures fish feed in China and Turkey through two 50/50 joint ventures with local partners. These activities are not consolidated, but due to their large growth potential, being strongly represented in these markets is very important to BioMar.

The two feed businesses reported combined 2022 revenue (100% basis) of DKK 1,665 million and EBITDA of DKK 120 million, against revenue of DKK 972 million and EBITDA of DKK 60 million in 2019. While BioMar has successfully achieved strong revenue improvements in both China and Turkey, the earnings improvement is attributable to Turkey.

The associated businesses include the Chilean fish farming company Salmones Austral and three minor businesses–LetSea, ATC Patagonia, and LCL Shipping.

The non-consolidated joint ventures and associates are recognised in the 2022 consolidated financial statements at a DKK 130 million share of profit after tax, compared with a DKK 45 million share of profit in 2021. The notable improvement had been expected and was based on substantial contributions both from joint ventures and from associates.

Income Statement - BioMar Group	2022	2021
Revenue	17,861	13,300
EBITDA	1,013	889
Depreciation and impairment losses	410	350
EBIT	602	540
Profit after tax in associations and joint ventures	130	45
Net financial items	-23	-46
Profit before tax	709	539
Tax on profit/loss for the year	-154	-142
Profit for the year	532	373

Cash Flows	2022	2021
Cash flows from operating activities	299	241
Cash flows from investing activities	-447	-336
Cash flows from financing activities	156	50
Balance Sheet	**2022**	**2021**
Intangible assets	1,480	1,317
Property, plant, and equipment	1,743	1,683
Other non-current assets	1,311	1,281
Cash and cash equivalents	299	262
Other current assets	6,864	5,454
Total assets	11,697	9,997
Shareholders' equity	3,181	2,908
Interest-bearing liabilities	3,635	2,820
Other liabilities	4,881	4,269
Total equity and liabilities	11,697	9,997
Financial Data	**2022**	**2021**
EBITDA margin	5.7%	6.7%
EBIT margin	3.4%	4.1%
ROIC excluding goodwill	16.1%	15.5%
ROIC including goodwill	11.7%	11.1%
Working capital	1,977	1,399
Net interest-bearing debt	2,507	1,932

Income Statement - Schouw	2022	2021
Revenue	32,637	24,219
EBITDA	2,282	2,181
Depreciation and impairment losses	994	858
EBIT	1,288	1,323
Profit after tax in associations and joint ventures	130	46
Net financial items	-114	-51
Profit before tax	1,304	1,322
Tax on profit/loss for the year	-311	-288
Profit for the year	960	1,008

Cash Flows	2022	2021
Cash flows from operating activities	319	517
Cash flows from investing activities	-1,499	-924
Cash flows from financing activities	1,377	237
Balance Sheet	**2022**	**2021**
Intangible assets	4,267	3,526
Property, plant, and equipment	6,093	5,078
Other non-current assets	1,854	1,709
Cash and cash equivalents	712	490
Other current assets	15,519	10,685
Total assets	28,445	21,488
Shareholders' equity	11,237	10,649
Interest-bearing liabilities	6,680	3,453
Other liabilities	10,529	7,386
Total equity and liabilities	28,445	21,488
Financial Data	**2022**	**2021**
EBITDA margin	7.0%	9.0%
EBIT margin	3.9%	5.5%
ROIC excluding goodwill	11.2%	13.9%
ROIC including goodwill	9.3%	11.2%
Working capital	6,969	4,566
Net interest-bearing debt	5,790	2,773

Table 8. *(Right)* BioMar Group financial figures for 2022 and 2021 in DKK millions.

Table 9. *(Left)* Schouw & Co. A/S financial figures for 2022 and 2021 in DKK millions.

schouw&co

Ownership

The BioMar Group is fully owned by Schouw & Co., a Danish industrial conglomerate listed on the Nasdaq Copenhagen Stock Exchange that practises ownership through and alongside company management.

BioMar is one of the world's largest manufacturers of quality feed for the fish and shrimp farming industries and it is a global player with a presence in all major shrimp and fish farming regions. Schouw & Co. took an initial ownership interest in BioMar in 2005, and the company became a wholly owned subsidiary through a merger process in 2008. BioMar accounts for about half of Schouw & Co.'s revenue.

Besides aquaculture feeds, Schouw & Co's subsidiaries comprise non-woven textiles for personal care and industrial applications, hydraulic solutions and components, electronics and advanced mechanics, and components for the automotive industry.

Schouw & Co. maintains close dialogues on such issues as strategy, business ethics, financing, accounting, investments, and acquisitions, and it exercises active ownership alongside company management teams.

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