

# 2023

Sustainability  
ambitions  
& progress  
update



arla  
foods  
ingredients  
powering nutrition together





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## **About this ambitions & progress update**

This update provides an overview of Arla Foods Ingredients' sustainability ambitions and progress in 2023. The objective is to create transparency around key areas of contribution to the Arla goals and, by extension, the UN Sustainable Development Goals.

Together with the new sustainability section on our website, the update replaces the former Arla Foods Ingredients corporate responsibility supplement.

For information about group-level policies and environmental, social and governance (ESG) metrics, please see the Arla annual report.

# Towards a stronger tomorrow – together

Just a few years ago we committed ourselves to a major challenge – to accelerate our carbon reduction ambition. Our 2030 targets for scope 1 and 2 carbon emissions were aligned with the aim of the Paris Agreement to limit global warming to 1.5°C. Through 2023, extreme weather events all over the world served as stern reminders of the urgent need to meet these goals.

Keeping within the 1.5°C threshold is absolutely a formidable task. But there are reasons to be optimistic. The rise of industrial-scale electrification technology and stable sources of renewable energy mean there are now real solutions to challenges that seemed almost insurmountable at the start of this decade.

## **Investment in the green transition**

Here at Arla Foods Ingredients, we will remember 2023 as the year when we drew up the contract for our biggest ever investment in the green transition of our production. Our large heat pump facility will deliver heat and ice water for many of the energy-intensive processes at our largest plant, Danmark Protein.

By the time it is fully operational in 2025, we expect the facility will run entirely on carbon-neutral electricity. Knowledge and experiences gained will inform similar, future investments within Arla as a whole. This and other initiatives to optimise our processing efficiency have brought our 2030 goals within sight, even as we grow our business.

## **Collaborative focus on advanced proteins**

Our new collaboration with the Denmark-based biotechnology company Novonesis marked another important milestone in 2023. Novonesis is a global leader in precision fermentation. Together, we will explore the possibilities to realise the full health-enabling potential of proteins within the field of medical nutrition. One of the initial focus areas is the nutritional needs of those with metabolic health conditions.

This collaboration continues our long tradition for partnering with other companies, universities and NGOs to conduct research and build new knowledge that can make targeted, sustainable nutrition accessible to consumers all over the world.

## **Spreading knowledge about affordable nutrition**

In 2023, we worked with our partners in the GAIN Nordic Partnership to transfer a scalable supply chain model from Ethiopia to Tanzania and Pakistan. Two of these projects aim to transform dairy side streams and surplus fruit into nutritious, affordable snacks for malnourished children and young women. By involving everyone from primary producers through processors to distributors and retailers, the intention is also to create more jobs and income for people in developing countries.

## **Our new purpose starts with us**

Initiatives like these embody our new purpose statement: Together we discover and deliver powerful nutrition for a stronger tomorrow. We want to ensure our purpose is reflected in everything we do – including how we work inside our organisation, with respect for the differences between us that make us a stronger team.

In 2024, we will continue our efforts to ensure a diverse, inclusive and engaging workplace. When working for a stronger tomorrow, that's the most important brick in our foundation.

## **Henrik Andersen CEO**



# Our sustainability pillars

Together we discover and deliver  
powerful nutrition for a stronger tomorrow



## Stronger Planet

Reduce CO<sub>2</sub>e emissions in our value chain in line with our Group Science Based Targets

Champion circular bioeconomy principles in water management, packaging and raw material utilisation



## Stronger People

Drive innovative R&D for healthier lives

Deliver affordable and specialised nutrition solutions for vulnerable population groups

Secure a safe, inclusive workplace to inspire healthier lives and wellbeing



## Stronger Partnerships

Co-create and enable sustainable value propositions with and for customers

Share AFI knowledge and capabilities with relevant external partners, including universities, research institutes and NGOs

# Energy, climate and water

## Our ambition

Our climate ambition is aligned with the Arla Group ambition to reduce scope 1 and 2 carbon emissions by 63% in 2030, with 2015 as baseline. The Science Based Targets Initiative (SBTI) has approved these goals as relevant contributions to the Paris Agreement target to limit global warming to 1.5°C.

Efficiency optimisation initiatives at our production sites and the shift from fossil to renewable energy sources are key to achieving our ambition. Our greatest challenges in this respect are the increasingly advanced nature of our ingredient portfolio and business growth. These require us to map and optimise our use of resources at each processing step.

Energy and water consumption are closely interlinked. We rely on water for heating and cooling systems and to secure high standards of hygiene. To minimise our reliance on local water sources, we invest in recycling and reusing water extracted from our raw materials.

## Progress

### Carbon emissions

Our carbon emissions calculation covers the direct emissions (scope 1) and indirect emissions from purchased energy (scope 2) of our four fully-owned sites, which are those included in our climate ambition. The fully-owned sites are Danmark Protein, ARINCO, AFISA and, since 2023, AFI Taw Valley – our former joint venture MVI.

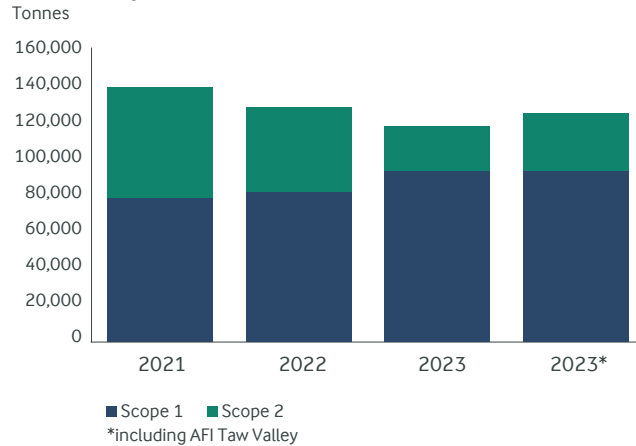
In 2023, overall scope 1 and 2 emissions fell by 8% for our fully-owned sites, with the exception of AFI Taw Valley, which was still being integrated in the business during the year.

At Danmark Protein, emissions fell 18% compared to 2022. This was mostly due to a 62% reduction in scope 2 emissions, achieved through the group-level purchase of green electricity certificates.

Our ARINCO plant reported a 27% increase in overall annual emissions, driven by a 43% rise in scope 1 emissions. The reduced availability of biogas for the plants' boilers was a main contributor to this.

In Argentina, AFISA noted a 4% reduction in scope 1 and 2 emissions. While the plant's whey intake increased, the whey was in more concentrated form. Consequently, less energy was required for processing.

### Annual scope 1 and 2 CO2 emissions across all sites



### Energy mix

The energy mix at our fully-owned sites impacts our CO<sub>2</sub> performance and ability to meet the climate goals.

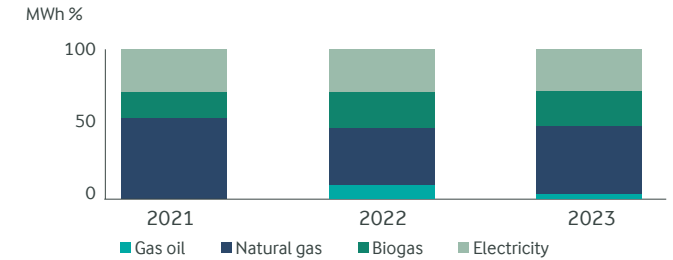
In 2023, Danmark Protein reduced the use of gas oil, which was reinstated as an energy source during the energy crisis of 2022. Gas oil also accounted for 3.7% of the energy mix at ARINCO, primarily due to a continuing limited supply of biogas. Both plants are now phasing gas oil out of the energy mix again.

At AFISA in Argentina, the use of fuel oil fell slightly in 2023 as the plant continues its transition to natural gas.

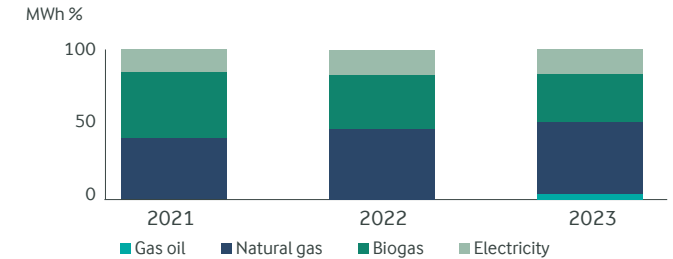
AFI Taw Valley relies on district heating as its primary energy source.

Across the four sites, electricity accounts for just less than a quarter of energy consumption.

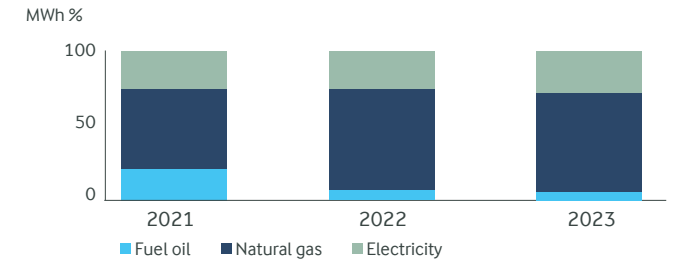
### Danmark Protein



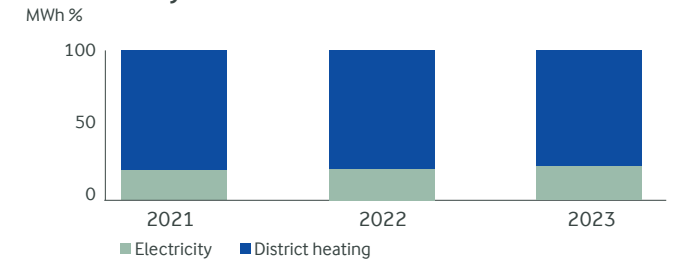
### ARINCO



### AFISA



### AFI Taw Valley



# Energy, climate and water

## Energy efficiency

The energy consumption of our fully-owned and joint venture production plants varies each year according to product mix and volumes. In 2023, our total energy consumption increased by 0.7%. Energy consumption per tonne increased by 1.4%.

At our largest plant Danmark Protein, annual energy consumption was up 4.3% compared to 2022. This was due to a 4% increase in production volumes. Preparations are underway for the installation of an electric boiler in 2024 and heat pump facility in 2025. These major investments are designed to help keep energy consumption in check as production capacity expands up to 2030.

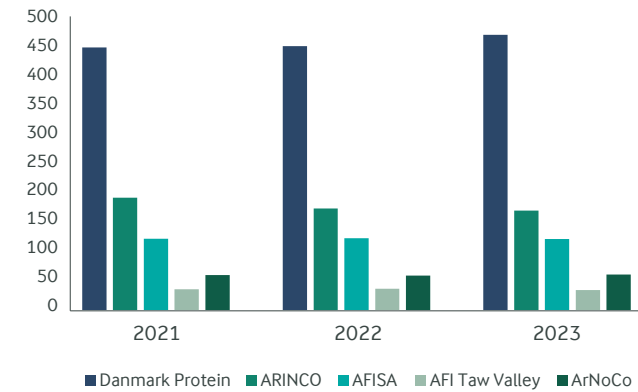
At ARINCO, smaller, more varied production batches resulted in lower overall energy consumption compared to 2022 but a 12.1% increase in energy consumption per tonne. Our AFISA plant reduced overall energy consumption by 1.3%, despite a 5% increase in production volumes. Consequently, energy consumption per tonne of product fell by 5.9%.

A previous site sustainability programme at AFI Taw Valley identified focus areas for energy reductions. These are currently being revisited since the site came under full Arla Foods Ingredients ownership.

All sites continue to work with supplier-driven assessments to improve energy efficiency in production.

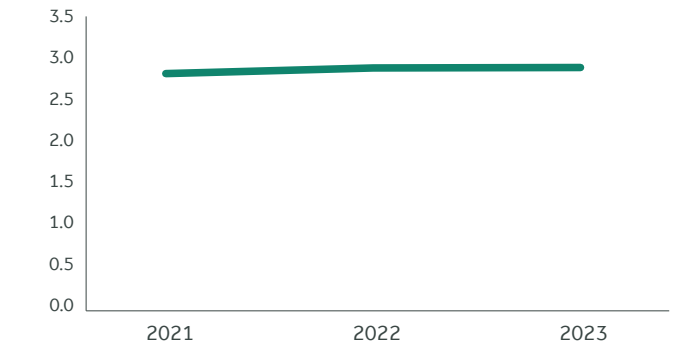
## Total annual energy consumption at all sites

Thousand MWh



## Annual energy efficiency across all sites

MWh/tonne



## Water efficiency

Total annual water consumption at our fully-owned and joint venture plants refers to water drawn from municipal water supplies and well water.

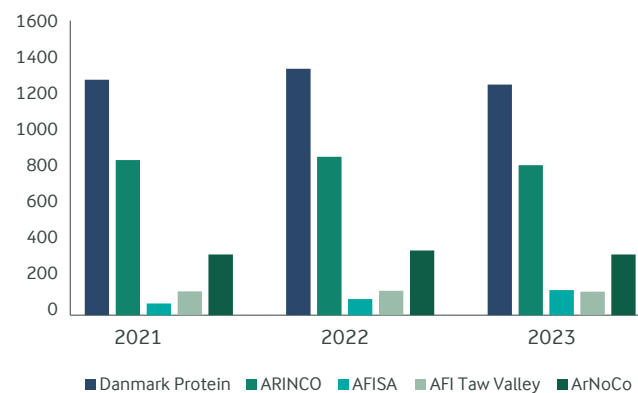
In 2023, our water consumption was 4% lower than in 2022. Over the year, water-saving activities at Danmark Protein contributed to a relative 10% reduction in water consumption per tonne of product.

At ARINCO, water consumption per tonne rose by 8% over the year. This is related to smaller batches, trials and a wider variety of products, which required more process line cleaning.

Water consumption at AFISA increased by 55%. The primary explanation is the transition from thin to pre-concentrated whey intake. While this is a positive development due to the reduced need for raw material transport, it also means less water can be extracted from the whey for use in processing. More water must then be drawn from external mains.

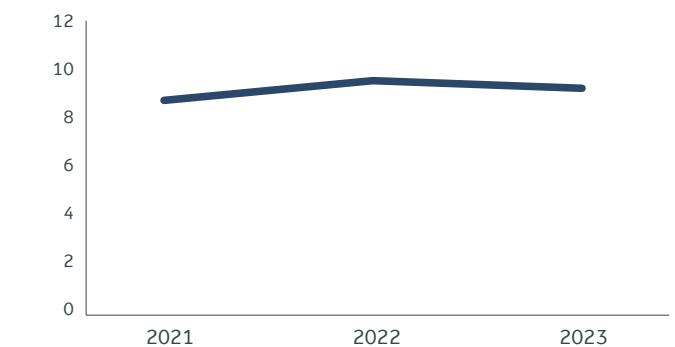
## Total annual water consumption at all sites

Thousand m<sup>3</sup>



## Annual water efficiency across all sites

m<sup>3</sup>/tonne



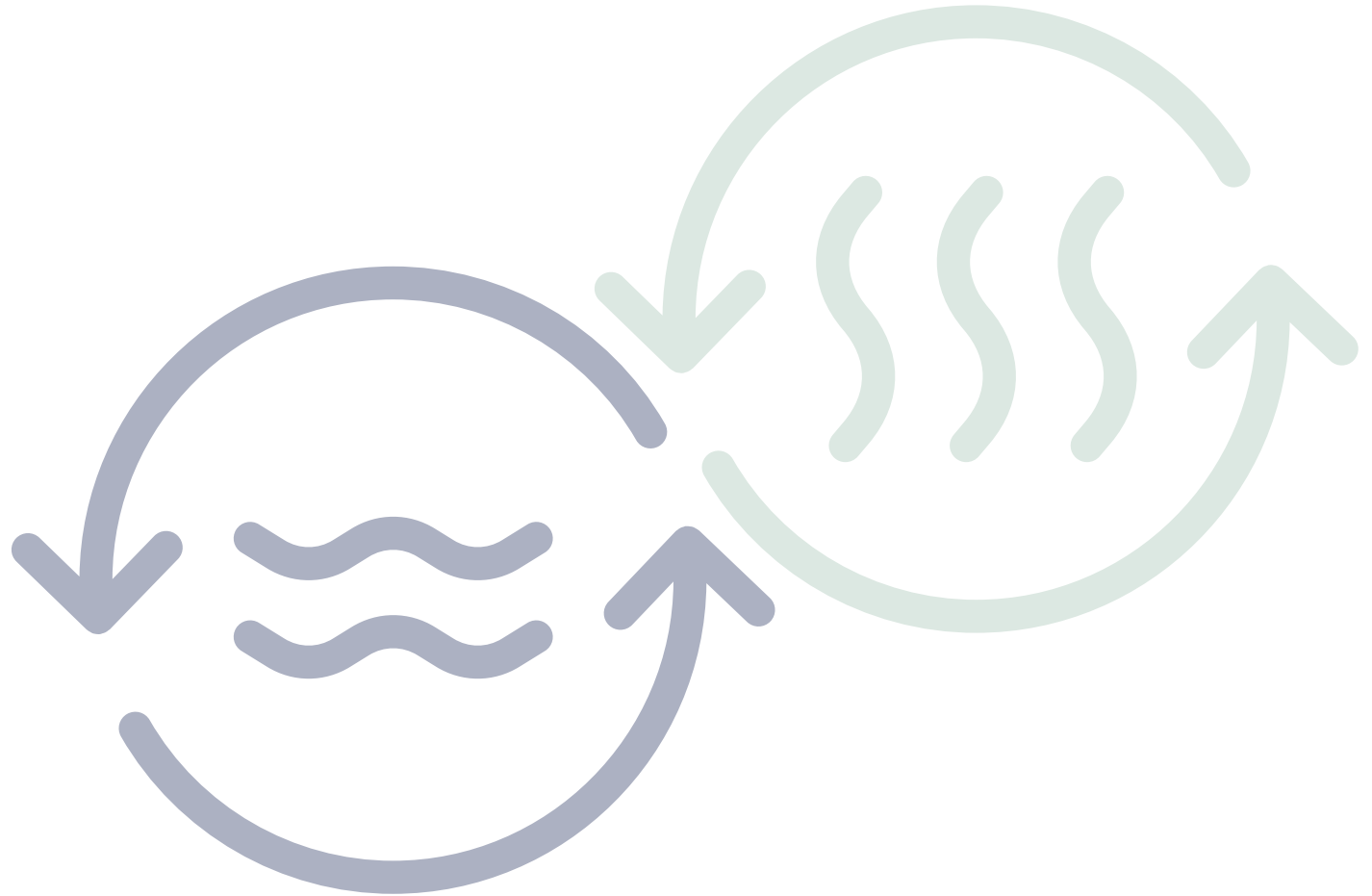
# Energy, climate and water

## Focus areas in 2024

Major investments are underway at our biggest processing site in Denmark to reduce environmental impacts while expanding production in preparation for anticipated future demand.

Key initiatives include:

- Construction of a large heat pump facility will begin at Danmark Protein. The facility will provide heat and cooling, reducing CO<sub>2</sub>e emissions by an anticipated 14,500 tonnes a year.
- Installation of an electric boiler at Danmark Protein will reduce reliance on boilers fired by natural gas. Anticipated reduction in annual CO<sub>2</sub>e emissions: 1,700 tonnes a year.
- A site sustainability program at ARINCO and AFISA will identify big levers for optimising energy consumption and cutting CO<sub>2</sub>e emissions.
- Optimisation and expansion of the technical water plant at Danmark Protein will increase current wastewater recycling capacity from 500m<sup>3</sup> a day to 900m<sup>3</sup> a day.



# Nutrition

## Our ambition

We are committed to driving innovation for healthier lives via our research and development efforts. Using our ingredients and knowhow, we want to play an active role in projects to reduce and prevent malnutrition among children and young women in developing countries. Partnerships with universities and research institutes, NGOs and other organisations are essential to achieving these objectives.

## Progress

Arla Foods Ingredients is sponsoring the following clinical studies:

- The effect of protein-reduced infant formula enriched with alpha-lactalbumin on the growth and metabolism of formula-fed infants
- The safety of two hydrolysates in infant formula
- The effect of partial hydrolysate on the gastro-intestinal comfort of formula-fed infants
- The effect of osteopontin on the immune response of the elderly
- The effect of beta-lactoglobulin on muscle mass maintenance in people with chronic kidney disease
- The effect of whey and casein proteins on non-alcoholic fatty liver disease
- The impact of milk-derived proteins and protein formulations on incretin hormone signaling
- Profiling of human milk for identification of specific components linked to maternal BMI and offspring growth
- Identification of protein and peptide profiles in human milk linked to specific lactation stage and preterm vs term delivery mode of infants
- The impact of milk ingredients in ready-to-use supplementary foods on recovery from moderate acute malnutrition

During 2023, results were published from a clinical study conducted in partnership with Aarhus University, Denmark. This had investigated the optimal whey protein dose for maximum muscle synthesis during an energy-restricted diet.

Through our GAIN Nordic partnership projects, two of the sustainable business models developed in Ethiopia were transferred to Tanzania and Pakistan. This has resulted in the launch of an affordable, fortified yoghurt for Tanzanian schoolchildren and the development of a dried fruit snack made with surplus dates in Pakistan. Another project with GAIN and SUN Business Network is focusing on repurposing whey side streams from dairy production.

## Focus areas in 2024

We are currently reviewing the scope and ambition of our efforts within lifelong nutrition and will develop a new roadmap for this work in the year ahead.

We will continue to focus on partnership projects that support sustainable, affordable and nutritious food systems in developing countries.





# Quality & food safety

## Our ambition

We aim to deliver quality and food safety above and beyond the expectations of customers, consumers and the authorities at all times. As a supplier to the infant nutrition sector, the youngest, most vulnerable consumers define the quality of all our products for the food industry.

## Progress

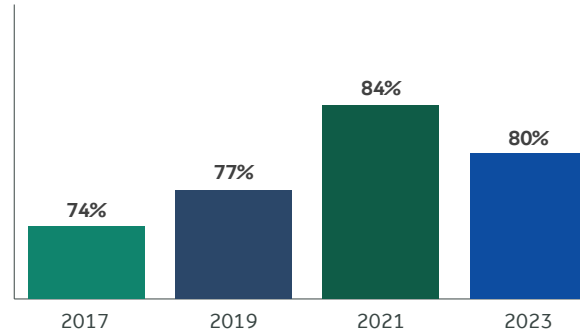
We have a continuous focus on improving the way we work with product quality and ensuring a proactive quality and food safety mindset. To support this, we implement cultural initiatives, both at local and global level, in accordance with our quality and food safety strategy.

In 2023, we initiated the third wave of our Quality and Food Safety strategy. Through this, we are developing new digital systems that improve our ability to utilise data and automate dataflows. This is key to preparing our quality and food safety systems for the future. At the same time, we track market trends with a potential impact on quality requirements.

Our 2023 customer survey found that the level of trust in our product quality remains high. Quality is at the core of our business, so it is important that customers recognise our efforts. One way to look at our quality performance is via our complaint performance. This improved significantly in 2023 compared to previous years.

## Product quality

Customers responding 'very good' when rating Arla Foods Ingredients on product quality

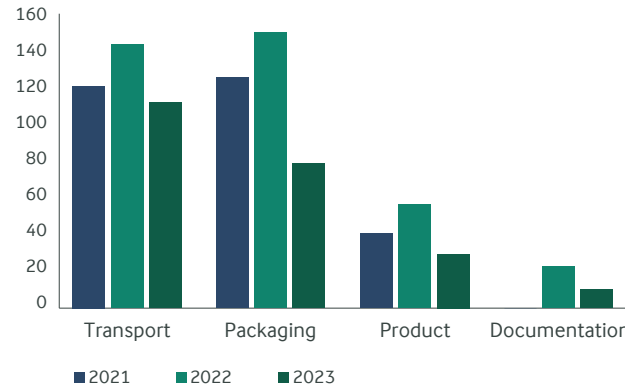


## Focus areas in 2024

The third wave of our Quality & Food Safety (Q&FS) strategy was initiated in 2023. We will stay focussed on the main objectives of the strategy in 2024. Priority actions include:

- Continuing the development of our Q&FS culture
- Reviewing digital solutions for quality management and exploring new options
- Ensuring that we deliver our quality promise in accordance with customer needs

## Categories of accepted complaints



# Health and safety

## Our ambition

The health and safety of the people who work at or visit the Arla Foods Ingredients sites is a top priority. Our target is zero work accidents and a working environment that empowers, engages and never compromises the physical or mental health of any colleague.

## Progress

### Workplace accidents

The Arla behavioural safety programme Cornerstones has contributed to a steady decline in accident frequency (number of lost-time accidents per million working hours) since we began implementation at our sites in 2017. Unfortunately, this downward trend has not continued over the past two years. In 2023, the accident frequency rate rose from 2.8 to 4.

Our ARINCO site recorded 6 lost-time accidents (LTAs), an increase from 2 the previous year. Each of these incidents has been investigated in close collaboration with the local EHS team. This has led to several actions to improve performance and a greater focus on root cause analysis.

At Danmark Protein, LTAs dropped from 3 in 2022 to 2 in 2023. ArNoCo also recorded a single LTA, while AFISA and AFI Taw Valley continued their record of zero accidents.

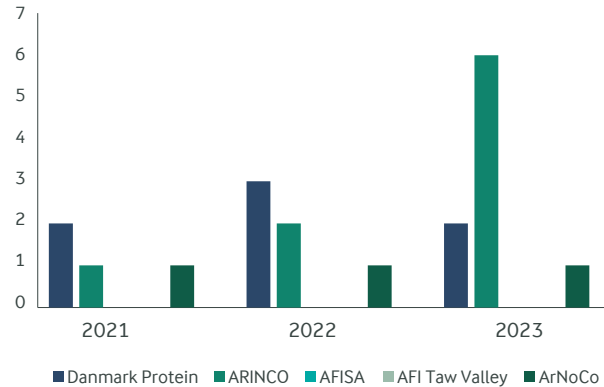
### Near miss/accident ratio

Our near miss/accident ratio (number of near miss and risk observations per accident) is a leading indicator of our proactive approach to improving safety in the workplace.

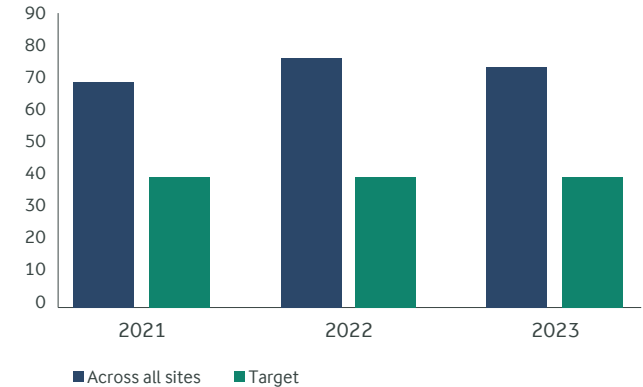
The purpose of the indicator is to increase our focus on observing and removing unsafe conditions, actions and behaviours and, ultimately, to reduce the number of workplace accidents overall.

In 2023, our near miss/accident ratio was 73:1 – well above our target of 40:1, though 3 points lower than in 2022.

Lost-time accidents (more than one day of absence)

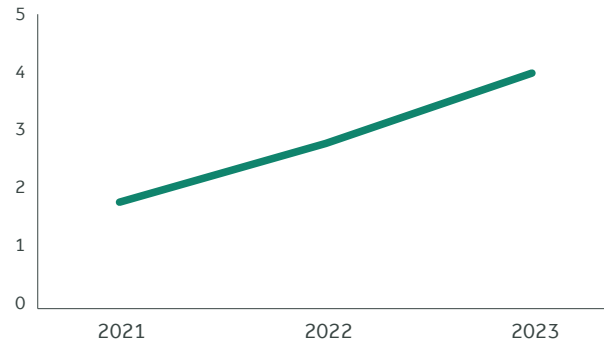


Near miss/accidents ratio across all sites



Accident frequency

(number of accidents per million working hours across all sites)

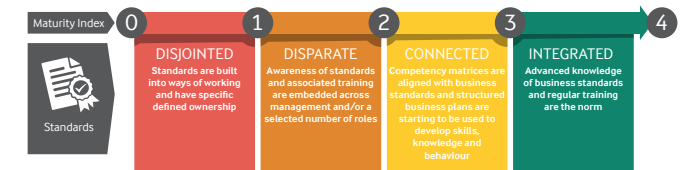


## Focus areas in 2024

All our fully-owned sites will work on consolidating level 3 of the Cornerstones behavioural safety programme during 2024. This will include improving root cause analysis and risk assessments to reverse the small upward trend in accident frequency and reach our goal of zero accidents at all sites. Other initiatives will focus on health and safety compliance assessments of lockout-tagout procedures, permit to work systems and asset protection.

ArNoCo will continue the TIGER behavioural safety programme of our joint venture partner, DMK.

## Cornerstones behavioural safety programme - maturity index



# Caring for people

## Our ambition

People are our most important resource. At Arla Foods Ingredients, we strive to nurture a safe, inclusive and engaging culture that promotes diversity of thought and provides equal opportunities for personal and professional growth.

## Progress

In 2023, 94% of colleagues chose to participate in our annual engagement survey, which measures performance on a wide range of parameters and identifies areas to nurture and strengthen. Strong favourability scores across the survey confirm that 90% of colleagues consider Arla Foods Ingredients a good and satisfying workplace, which they would recommend to others.

Since the previous survey, we have worked intensely to maintain and improve scores in areas that we know have the greatest impact on employee engagement and which are crucial to the business. These include cross-functional collaboration, leadership and a strong culture.

## Focus areas in 2024

We have identified three areas that are key to maintaining the high engagement level across our organisation in 2024. These will be the focus of workshops and other internal initiatives in the year ahead:

- Cross-functional collaboration
- Culture: purpose, values and diversity & inclusion
- Organisational effectiveness

Selected scores from the engagement survey:

Category	Favourability score (%) 2023
Employee engagement	90
Future vision	90
Empowerment	90
Overall leadership index	87
Work environment	87
Well-being	86
Diversity, inclusion & belonging	89
Unacceptable behaviour	4.5



# Our contribution to the UN sustainable development goals



Standard	UN SDGs
<b>Energy &amp; climate</b>	
CO <sub>2</sub> e emissions – scope 1 and 2 (baseline: 2015)	9.4, 13.1
<b>Water</b>	
Water consumption (thousand m <sup>3</sup> )	6.4
<b>Nutrition</b>	
Nutrition research & development	2.1, 3.4, 12.3, 17.17
Affordable nutrition partnerships	
<b>Social data</b>	
Quality & food safety	2.1
Accident frequency (per million working hours)	8.8
Decent work	8.5



Arla Foods Ingredients is a global leader in improving premium nutrition. Together with our customers, research partners, suppliers, NGOs and others, we discover and deliver documented ingredients and products that can advance lifelong nutrition for the benefit of consumers around the world.

We serve leading global brands in early life nutrition, medical nutrition, sports nutrition, health foods, and other foods and beverages.

Five reasons to choose us:

- We're passionate about improving nutrition.
- We innovate by connecting the best.
- We master both discovery and delivery.
- We build strong, long-lasting partnerships.
- We are committed to sustainability.

Headquartered in Denmark, Arla Foods Ingredients is a 100% owned subsidiary of Arla Foods.

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