



**TOGETHER WE MAKE
LIFE BETTER**

Valio Sustainability Report

2020



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FINLAND'S MOST SUSTAINABLE BRAND FOR THE EIGHTH CONSECUTIVE TIME



The people taking part in the Sustainable Brand Index survey consider the Finnish origin of Valio's products, its animal welfare and environmentally sustainable packaging as important.

This Sustainability Report describes Valio's activities in 2020 and early 2021. It covers operations in Finland and, in part, in other countries. The figures in brackets are from 2019.

VALIO'S SUSTAINABILITY WORK PROGRESSED IN THE PANDEMIC YEAR

The exceptional pandemic year showed us that food security and sustainability are issues that are more important than ever.

During the pandemic, sustainable food and the security of food supply became even more important. Many in Finland began to notice the kind of strength it is to have vibrant domestic agriculture and food companies during a crisis.

Valio is a co-operative-based company that is owned by 4,300 Finnish dairy farmers. We want to be a part of the solution to global challenges: we are aware of our environmental and climate impacts and take active measures to reduce them through regenerative carbon farming, manure-based biogas, and other production plant- and farm-specific emission reduction measures. At the same time, we are purposefully improving animal and human welfare.

It was a great honour to be chosen as the most sustainable brand in Finland for the

eighth consecutive time in the Sustainable Brand Index survey. We are sincerely thankful for that and we will continue our efforts.

PART OF THE CLIMATE CHANGE SOLUTION

We have an ambitious goal to reset milk production's carbon footprint to zero by 2035. The exceptional year did not influence the progress of our work, on the contrary.

We set Science Based Targets on climate. The target is to reduce by half the greenhouse gas emissions from milk production per litre of raw milk taken in, by 2030 compared to 2019.

We launched an environmental calculator for dairy farms; already more than 600 farms have calculated their carbon foot-

print and are working to reduce it. Did you know that the carbon footprint of milk in Finland is more than 50% smaller than the global average?

The first milk truck using biogas produced at a farm commenced milk collection at the beginning of 2021 at the Vuorenmaa dairy farm in Haapavesi.

We started a three-year project together with the Natural Resources Institute Finland to study cultivation methods that reduce emissions from peatlands.

IMPROVING ANIMAL WELFARE

As of the beginning of 2021, all 4,300 Valio dairy farms have committed to the sustainability criteria for animal welfare and receive a sustainability bonus for

their work. The requirements include, for example, preventive health care for the cows. We are continuing to develop the sustainability programme.

HOME COOKING INCREASED

The coronavirus pandemic affected Valio's operations in all markets. People stayed at home and cooked for themselves, boosting retail sales. Eating in restaurants and staff canteens fell away, so hotel, restaurant and catering (HoReCa) sales decreased.

In spite of the challenging year, we were able to secure our employees' health and well-being, and we were able to maintain normal production and excellent delivery reliability.

Valio's financial success is measured with a milk margin and a milk return. Despite the coronavirus pandemic, we recorded a good financial performance and the milk return continued to grow. The milk margin amounted to EUR 861 million (EUR 838 million), and the milk return was 41.5 cents per litre (41.2 c/l).

Valio Group net sales were EUR 1,808 million (2019: EUR 1,787 million), up 1.2% on the previous year. Domestic net sales decreased by 0.9 percent, and international net sales rose 4.3 percent.

[Read more in the Financial Statements >>>](#)

NEW STRATEGY AIMS FOR GROWTH

We updated our strategy in 2020. Business operations focusing on milk in the domestic market continue to be our strongest area, and we will continue its further development.

Raw materials and solutions that generate added value for our industrial customers is an important new focus area, whereby we are seeking growth globally, for example in Asia. We also see potential for growth in plant-based products, where we are further developing our offering as well as looking to export markets. In addition, we are continuously evaluating new business opportunities and partnerships.

CONTRACT PRODUCTION SECURES THE FUTURE OF DAIRY FARMS

Valio and the milk procurement co-operatives switched to contract production at the beginning of 2021. Contract production means that the milk procurement co-operatives supply a pre-agreed volume of raw milk to Valio. Better predictability of the total milk volume is necessary so that we can adjust production capacity to market demand.

The goal of contract production is to secure the future of dairy farms in both the

medium and long term and to maximise the price paid for raw milk to the co-operatives and, consequently, to the dairy farmers. Throughout the 2000s, Valio has been able to pay Finnish milk producers a higher price for milk than the European average.

YEAR 2021

The first half of the year has started with a continuation of the coronavirus pandemic. In line with strategic focus areas, we will continue to invest in new growth, operational efficiency, and improved profitability in 2021.

Looking after the wellbeing of our personnel and our dairy farmers remains our priority so that we can continue our efforts towards carbon-neutral milk and our other sustainability targets.

I want to thank all Valio people, dairy farms, our customers, and partners for the good collaboration and the solution-focused, forward-looking spirit! We can be proud of the Finnish food chain.



Annikka Hurme
CEO

CORNERSTONE OF SUSTAINABILITY



2020

STRATEGY

Valio's vision is to be the leader in innovative dairy and food solutions. 4,300 Finnish dairy farms own Valio through cooperatives. We buy the milk we use in Finland from our owners, and we pay all our operating profit to them.



Valio's values are Consumer and customer focus, Responsibility, Renewal, and Collaboration. We consider things from the perspective of consumers and customers. We operate responsibly as part of society, and we take personal responsibility. We are open to change, and we act in an agile way. We help each other to achieve the best results in a solution-oriented way.

Our mission is "Together We Make Life Better".

Our vision is to be the leader in innovative dairy and food solutions. Innovativeness is visible not only in product development, but also in all the other activities we do.

Our strategic target is to have among the best profitability in the industry and to be the most wanted partner for our customers. We engage in our customers' world and we offer the best customer experience.

Our most important asset is our **committed and capable people** who turn innovations into solutions and implement the strategy

in their daily work. We have the ability to develop high-quality solutions for our customers' needs. The spirit of Nobel Laureate **A.I. Virtanen** lives on in our corporate culture and encourages renewal.

Our strategic target is based on **our owner strategy**. Our priority is to ensure the livelihood of dairy farmers in the different parts of the country. Our target is to pay a producer price that is at the level of the best cooperative dairies in Europe. We exceeded the EU average producer price throughout the 2000s.

OUR STRATEGY



WHAT DOES SUSTAINABILITY MEAN TO VALIO?

Food consumption and food production have globally significant impacts on the environment, society, animals, and people's lives.



We produce healthy food to fuel every-day life and to enjoy, and we bring people together around food.

Food production is based on the resources nature gives us. We are aware of our environmental and climate impacts, and it is our responsibility to reduce them. We reduce emissions, grow carbon sinks, and create circular economy solutions. We work to increase biodiversity. At the same time, we improve animal welfare. We create thousands of jobs, and we ensure the preservation of profitable food production in Finland.

We want to do our part in solving global challenges. Responsibility for the environment, the economy, people, and society is embedded in everything we do.

Combating climate change is one of our focus areas.

SUSTAINABILITY MANAGEMENT

Valio' sustainability is led by the head of Sustainability and Stakeholder Relations, who is also a member of the Executive Board. Sustainability is part of everything we do, in all our market areas.

Our goal is
TO CUT THE CARBON FOOTPRINT OF THE MILK CHAIN TO ZERO BY 2035



A cooperative approach and Valio's shared values, mission, and vision are the cornerstones of our operations. Valio's Code of Conduct and other policies, such as our Marketing and Environmental policies, guide our operations.

In 2020 we created a clear sustainability management model: decision forums and operative teams for environmental, economic, and social responsibility issues. We set focus area targets that were approved by the Valio Executive Board. The new governance model streamlines the decision-making and follow-up related to overall sustainability. The realisation of sustainability is regularly reported to Valio Executive Board in the sustainability forum.



FOCUS AREAS OF SUSTAINABLE BUSINESS

We have identified the topics that are especially important to Valio's stakeholders and through which we create wellbeing for society. We also pursue business benefits from these areas. We want to be a frontrunner in promoting wellbeing and sustainable lifestyles, in advancing the target of a carbon-neutral milk chain, and in securing nature's vitality. We have set targets for each focus area, and we monitor the progress.

INNOVATIONS FOR WELL-BEING

- Nutritious & healthy choices

ENVIRONMENTALLY SMART PACKAGING

- Reduce, Replace, Recycle
- Our commitments for sustainable packaging
- Food waste

SUSTAINABLE SOLUTIONS FOR OUR CUSTOMERS AND SOCIETY

- Superior expertise & reliability
- Skills and capabilities of our people
- Food Safety & Food Security



THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS FOR 2016–2030

aim at eliminating poverty and improving wellbeing with the environment in mind.

<p>2 ZERO HUNGER</p> <p>Use of grasslands and milk production are necessary to feed growing population, food security</p>	<p>3 GOOD HEALTH AND WELL-BEING</p> <p>Healthy products that promote wellbeing</p>	<p>8 DECENT WORK AND ECONOMIC GROWTH</p> <p>All profit to the milk producers</p>
<p>10 REDUCED INEQUALITIES</p> <p>Promotion of equality and preventing discrimination</p>	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> <p>Energy efficiency, resource efficiency, food waste reduction, circular economy, packaging</p>	<p>13 CLIMATE ACTION</p> <p>Work towards carbon-neutral milk (e.g. carbon farming, reducing fossil fuels in production and logistics)</p>
<p>14 LIFE BELOW WATER</p> <p>Circular economy in primary production, reducing effect on water system (COD)</p>	<p>15 LIFE ON LAND</p> <p>Animal welfare, promoting biodiversity at dairy farms</p>	<p>VALIO'S SUSTAINABILITY ACTS ARE ESPECIALLY LINKED TO THESE EIGHT TARGETS</p>

KEY TARGETS OF SUSTAINABLE BUSINESS

THEME	TARGET	PROGRESS IN 2020
<p>INNOVATIONS TO PROMOTE HEALTH AND WELLBEING</p>	<p>Nutritional commitments:</p> <ol style="list-style-type: none"> Nutritionally recommended, climate-friendly recipes for the home cook: 10 recipes by 2021. Double the Heart Symbol recipes for professional kitchens: 12 new recipes by 2022. Valio.fi recipe service's everyday recipes: encourage more vegetables in the diet. 20 recipes by 2022. 	<ol style="list-style-type: none"> Recipes are ready. Progressing as planned: six Heart Symbol recipes published. 10 everyday recipes shown in plate model format.
<p>ENVIRONMENTALLY SMART PACKAGING</p>	<p>Packaging commitments:</p> <ul style="list-style-type: none"> Eco-smart packaging in 2025. Towards a circular economy and minimising climate impacts. <p>Valio Finland</p> <ol style="list-style-type: none"> Minimising food waste Reducing the amount of product spoilage. Indicator: Number of microbiological product remarks/ million products sold 1.0 ppm. 2019: 4.7 ppm. 20% less plastic. 2019: 6.5 million kg. Plant-based packaging materials. 2019: 69%. Circular economy – packaging suitable for collection systems 	<ol style="list-style-type: none"> Microbiological product remarks from consumers 3.4 ppm (-1.3 units) Amount of plastic 6 million kilos (-8%) Share of plant-based packaging materials 72% (+3 percentage points) All packaging sold in Finland is suitable for collection systems that allow recycling. Plain-language recycling instructions on packaging: started in 2020
<p>CLIMATE TARGETS FOR VALIO AND DAIRY FARMS</p>	<ol style="list-style-type: none"> Get approval from the Science Based Targets initiative for Valio's emissions reduction targets set by Valio in 2020 to limit climate warming to 1.5 degrees. Cutting the milk chain's carbon footprint to zero by 2035. 	<ol style="list-style-type: none"> Science Based Targets approved in April 2021: Milk's carbon footprint emissions reduction target at the farm level -50%, energy used by production plants -47%, milk collection logistics -28% by 2030 from 2019 level. Progress in several measures in the milk chain, Valio's climate impacts are calculated annually in accordance with the international Greenhouse Gas Protocol.

<p>REGENERATIVE AGRICULTURE</p>	<p>Increase emissions-reducing actions, like carbon farming, increasing the grass harvest, improving animal welfare, and improving feed use.</p>	<p>The reduction of dairy farm GHG emissions is monitored with the CARBO® environmental calculator. In April 2021 more than 600 dairy farms have calculated the carbon footprint, 1,000 farmers trained in using the calculator.</p> <p>Average carbon footprint of dairy farms is 0.8–1.3 kg CO₂e/kg energy-corrected raw milk (ECM). Global average is about 2.5 kg CO₂e/kg ECM (FAO).</p>
<p>CIRCULAR ECONOMY</p>	<p>Increase the use of manure in the circular economy by using it in the production of biofuel, phosphorous and nitrogen fertiliser fractions and bedding.</p>	<p>Biogas plant at 15 Valio farms, 14 of which provide energy for the farm's own needs. The biogas plant at the Vuorenmaa dairy farm in Haapavesi also functions as a biogas refuelling station. Finland's first manure biogas-powered milk truck fills up at the farm.</p> <p>Three new biogas trucks were acquired for milk collection. Now a total of 5 biogas trucks in the logistics.</p>
<p>BIODIVERSITY</p>	<p>Map our impacts on biodiversity and reduce the adverse impacts, as well as increase actions supporting biodiversity.</p>	<p>We mapped our impacts on biodiversity. We started planning a biodiversity roadmap in spring 2021. It will be completed in 2021 and contains measures for recognising the biodiversity of Valio dairy farms and Valio's production and procurements.</p>
<p>ANIMAL WELFARE</p>	<p>Get all Valio dairy farms to commit to the sustainability bonus criteria by the end of 2020.</p> <p>Verifying the welfare of dairy cattle.</p>	<p>The target was achieved. All Valio dairy farms have committed to the sustainability bonus criteria. A sustainability bonus of 2 cents per litre is paid. Development of the sustainability bonus programme will continue.</p> <p>We have started a project that is planning a welfare index for dairy cattle and its adoption.</p>
<p>RESPONSIBILITY IN CUSTOMER AND STAKEHOLDER COLLABORATION</p>	<p>To ensure responsible business, we work in collaboration with our customers, various organisations and experts. We monitor trends and listen to consumers.</p>	<p>Examples of actions in 2020:</p> <p>Carbon farming training with Baltic Sea Action Group continued. 300 farms trained.</p> <p>We helped to develop BSAG's E-College for regenerative agriculture. The free, science-based online course on regenerative farming practices was opened in spring 2021.</p> <p>In the Valio-led CARBO project, we worked with top research groups and grass chain experts: Finnish Meteorological Institute, Natural Resources Institute Luke, University of Eastern Finland, Yara, and Atria Tuottajat. The research and development projects focused on the carbon binding of grass and the efficiency of grass farming. Several thematic events and webinars.</p> <p>Sustainable sourcing experts, e.g. NGOs, involved in human rights impacts assessment.</p>

OPERATING ENVIRONMENT AND TRENDS

Valio's roots are in Finland, and our products are exported to about 60 countries around the world. Changes in the operating environment impact the choices consumers make and the operations of professional kitchens and our industrial customers. At the same time, changes create new opportunities – and risks – for Valio's business.

FOOD TRENDS AND OPERATIONAL ENVIRONMENT CHANGES

appear as behavioral patterns that form the base for our strategic choices

					
					
<p>Dairy products will remain in consumers' diet but milk consumption declines in our home markets and consumption will move towards developing markets</p>	<p>Sustainability will further increase its importance</p>	<p>Plant-based diets will increase their role in consumers' diet especially in the western markets</p>	<p>Purchasing power in developing countries is growing, and especially in Asia dairy products will become part of the diet of more and more people</p>	<p>Rapid and unexpected changes will set further requirements for flexibility</p>	<p>Consumption and delivery of food will increasingly move to new channels</p>

Consumer behavior is evolving towards more flexible, sustainable and convenient consumption

THE PANDEMIC STARTED A COOKING BOOM

Our annual analysis of consumer trends gives us insight into the factors that impact food and eating. We develop products and services to meet people’s changing hopes, needs, and emotions.

The coronavirus pandemic impacted food habits in many ways. People stayed home, cooking and baking a lot. Eating at restaurants and workplace canteens decreased. You can read about the impacts the coronavirus had on Valio’s business in the [CEO’s review >>>](#)

Key pandemic effects on consumer food habits and preferences

GAINED IMPORTANCE

IN-HOME COOKING & BAKING

More than anything else, the pandemic has brought about a surge in in-home cooking, with for instance one US study indicating that more than 60% of consumers reporting cooking more at home as a result of the pandemic, driving global demand for everything from baking goods to fresh fruits and vegetables

HEALTH, WELLBEING & IMMUNITY

In addition to putting health-issues higher on the agenda for consumer in general, the COVID-crises has put the risk of obesity and diabetes front and center, all in all resulting in increased demand for healthy food in general, as well as food boosting everything from the immune system to gut- and mental health.

PLANT-BASED FOODS

Perceived as a source of natural health, sales of plant-based foods, in everything from fresh fruit and vegetables to plant-based meat have grown, with one study finding that 20% Europeans reporting buying more fruit and vegetables as a result of the pandemic.

COMFORT & INDULGENCE

As a means of bolstering overall mood and alleviating the mental toll of the pandemic, consumers have increasingly turned to food and snacks that provide sense of comfort and indulgence

LOCAL & DOMESTIC

Whether due to local food feeling safer, healthier and more trustworthy, or due to a wish to support national food self-sufficiency, the pandemic has increased demand for locally produced food goods, with for instance almost

40% of Nordic consumers reporting valuing food produced in their own home country higher now than prior to the pandemic

ONLINE SHOPPING

Whether in the form of online grocery shopping, online food ordering or consumer buying directly from branded channels (D2C), the pandemic has accelerated the shift to digital channels with for instance Swedish grocery e-commerce sales up 79% in H1 2020.

BIG, SAFE AND FAMILIAR BRANDS

Particularly evident during the beginning of the pandemic but with signs of persisting, consumer preferences (regardless of CPG-category and including food and drinks) has shifted to bigger and more familiar brands and the expense of smaller and less well-known

Key pandemic effects on consumer food habits and preferences

GAINED IMPORTANCE

SNACKING

The shift to a stay-at-home lifestyle has resulted in a mixed overall effect on the snacking category as whole: on the one hand, on-the-go snacking and snacking out-of-home is down, on the other snacking (and indulgence) at home during the day are generally up

SUSTAINABILITY

So far, research suggest a mixed effect of the pandemic on consumers concern for sustainability. On the one hand, more than one survey suggest that overall sustainability concerns have not decreased (and might even have increased). On the other hand, consumers

facing economic hardship will likely be less willing to pay a premium for sustainability, and concern over packaging and plastic waste could (temporarily) be set on hold, as hygiene grow in importance

PRICE SENSITIVITY

Unlike a general recession, the economic effects of the pandemic have so far been unevenly distributed in society. As a result, the price sensitivity of consumers tends to be polarized, with both low-end budget and high-end premium food segments able to grow simultaneously

REDUCED IMPORTANCE

OUT-OF-HOME AND ON-THE-GO

With consumers forced to stay home more as well as avoiding or limiting time in public spaces, consumption in the out-of-home and on-the-go category decreases, as do all type of food consumption related to hostility experiences (restaurants, hotels, bars etc.)

Novelty & Experimentation Faced with chaotic and uncertain times, as well as (for many) economic hardships, consumers in general are less likely to seek out new, novel and unfamiliar experiences, brands or products



OWNED BY FINNISH DAIRY FARMERS

Finnish dairy farmers own Valio. We pay all of our operating profit to them through regional cooperatives. When you choose a Valio product, you can be sure that money goes to the producer.



In Finland, we source milk from our owners; in Estonia and Russia, we make products from local milk according to strict quality requirements.

[Read more here >>>](#)

4,300 Finnish dairy farmers own Valio through 14 cooperatives. The number of dairy farms decreased in 2020 by nine per cent, but the milk volume increased slightly to 1.8 billion litres. In Finland, milk is produced on relatively small farms: in 2020, Finnish dairy farms had 44 cows (42), on average. In Sweden, for example, the average was 93 cows per farm, in Denmark 227, and in Holland 102. (Source: ProAgria Output monitoring results 2020).

WE CREATE JOBS AND LIVELIHOODS FROM SOUTHERN FINLAND TO THE ARCTIC CIRCLE

Milk production is the only form of agriculture that is possible everywhere in Finland. The majority of our dairy farms are located in Ostrobothnia and in eastern and northern Finland at latitudes where only a few food crops cultivated directly for people grow well. One farm employs an average of three people in a year. In addition to farmers, also needed are veterinarians, relief workers, machine servicing technicians, barn builders, and excavating contractors.

4,300 FINNISH DAIRY FARMERS OWN VALIO THROUGH 14 CO- OPERATIVES



HOW IS THE MILK PRODUCER PRICE DETERMINED?

Valio's Board members are dairy farmers themselves. They assess how much Valio can afford to pay the cooperatives for the milk. The milk price depends on how well Valio's various products, from yoghurt to cheese, are selling and on how profitable sales have been.

In 2020, the average price Valio paid for milk was 40.9 cents per litre (39.9). Valio was again able to pay a price higher than the average European price. The cooperatives pay the producer price to the farms.

A VARIETY OF SERVICES FOR DAIRY FARMS

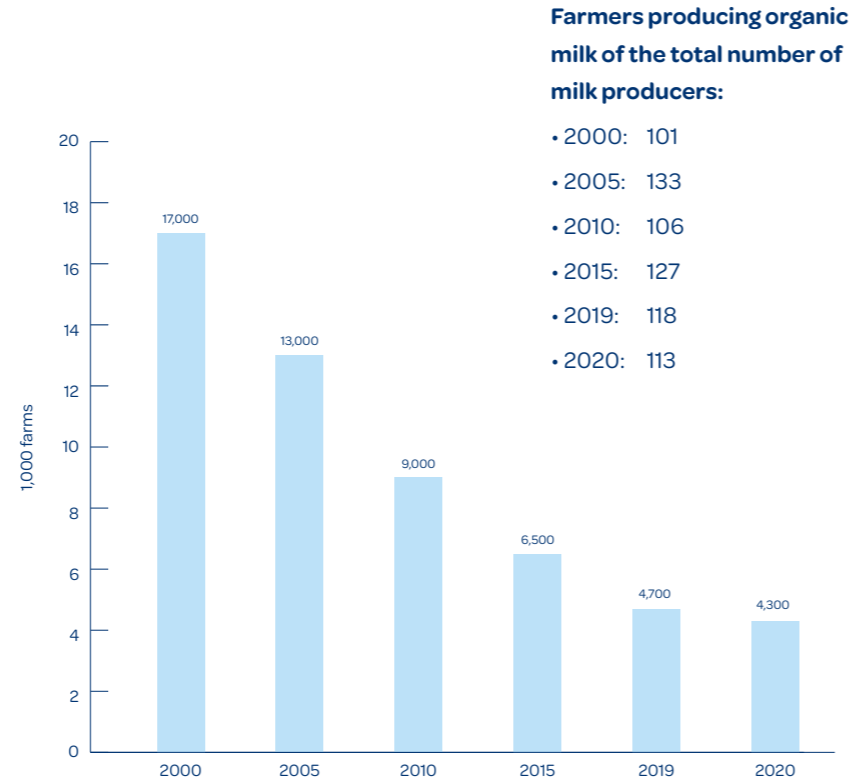
Dairy farmers are real multitaskers. Their work includes growing fodder crops, taking care of animal welfare, ensuring milk quality, financial planning for the business, farm development, and more. Valio's primary production services offer the farms advice and training on these issues. In 2020, there were 190 trainings held.

In January 2020 we celebrated Valio's 115-year journey with a Baltic Sea cruise including 730 dairy farmers as well as employees from Valio and the cooperatives.

Valio and the health care company Mehiläinen have an agreement that gives the dairy farmers easy access to Mehiläinen's occupational health care network. The health care service for agricultural entrepreneurs helps and provides advice in maintaining and improving health, working capacity, and resilience.

Employment pension insurance for dairy farm workers has been possible since the beginning of 2020 through Valio's pension fund. The pension fund generates benefits for its members, i.e. the dairy farmers, with competitive insurance premiums. For the insured workers, having their own pension fund is a convenient service with a century of experience in the sector.

NUMBER OF DAIRY FARMERS IN FINLAND AND AVERAGE FARM SIZE (YEAR END)

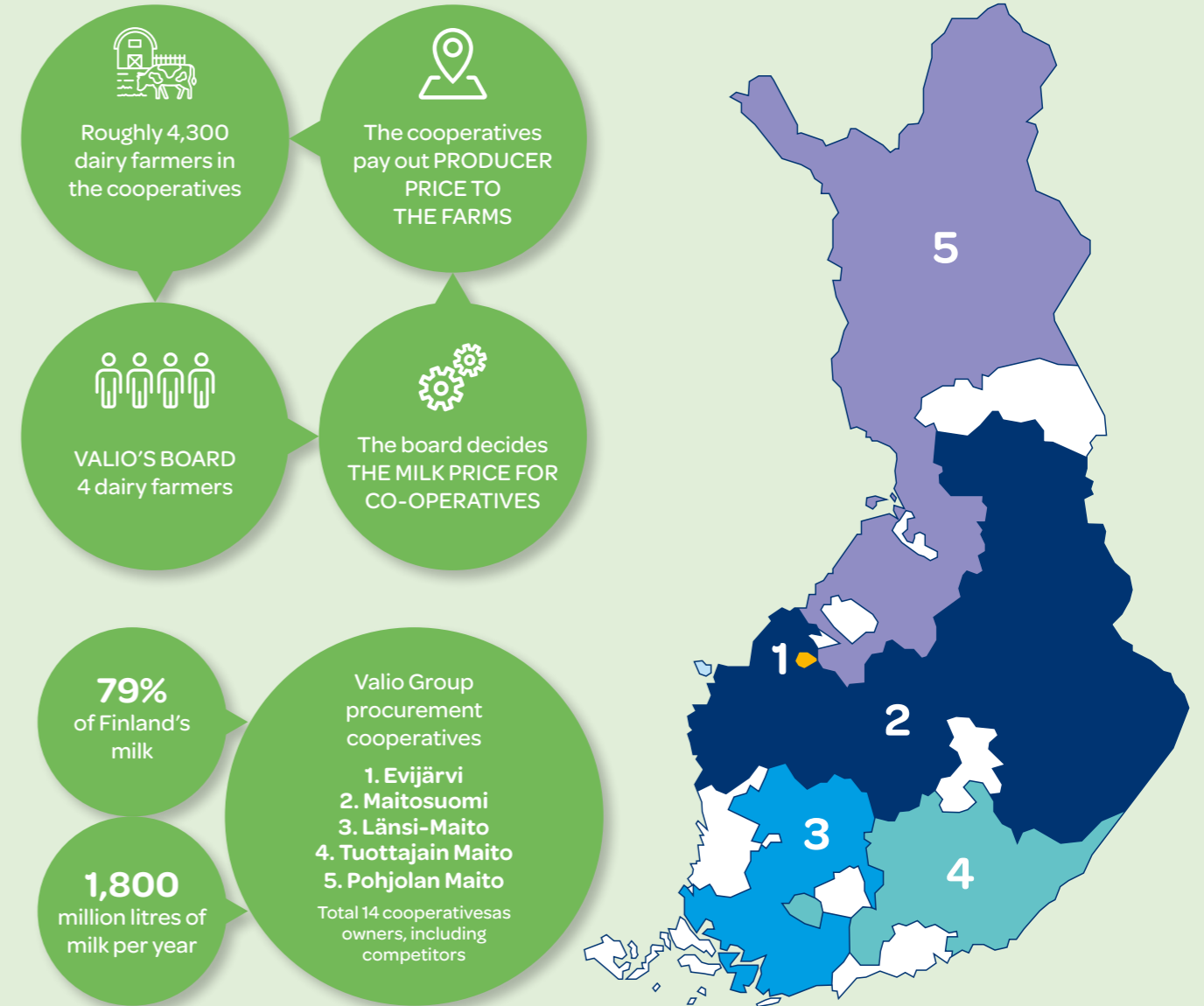


Farmers producing organic milk of the total number of milk producers:

- 2000: 101
- 2005: 133
- 2010: 106
- 2015: 127
- 2019: 118
- 2020: 113

	2000	2005	2010	2015	2019	2020
Cows / farm	16	20	26	35	43	44

DAIRY FARMERS ARE MEMBERS OF COOPERATIVES THAT IN TURN OWN VALIO



FRONTRUNNER IN SUSTAINABILITY



2020

RESPONSIBILITY IN CUSTOMER AND STAKEHOLDER COLLABORATION

Valio's most central stakeholders are dairy farmers, i.e. Valio's owners, personnel, customers, consumers, goods and service providers, as well as societal decision-makers and influencers. Identifying different expectations and taking them into account are the cornerstones of Valio's stakeholder work. We interact with local and national stakeholders and learn from each other.

We want to be transparent and we communicate widely with various stakeholders through in-person meetings and events, Valio's online service and social media channels, our consumer service, customer and owner magazines, and newsletters. Additionally, we participate in various research and cooperation projects with universities, research institutes, and other companies.

In 2020, Valio's reputation rose to an all-time high level of 3.86 (3.65 in 2019) in T-Media's annual Reputation & Trust survey. Valio was Finland's most sustainable brand in the corporate responsibility survey Sustainable Brand Index™ for the eighth consecutive year. People consider Valio's Finnish origin, animal welfare, and sustainable packaging as important.

VALUED PARTNER FOR CUSTOMERS

Valio's customers include grocery store chains, restaurants, service stations, the food industry, nutritional service providers, and bakeries. Valio Food Solutions serves professional kitchens and the food industry in Finland and around the world.

For us, it is important to be a reliable partner to our customers. We succeeded in keeping the delivery reliability to our

WE INTERACT WITH DIFFERENT STAKEHOLDERS and learn from each other

Finnish customers at over 99 per cent also during the exceptional year. We communicate about product defects or errors, recalls, and distribution disruptions openly and quickly.

Our customers gave us high ratings in surveys:

- **Grocery store business:** In 2021 we were number one in Factum's Grocery Central Buying survey, both in our peer group and among 32 fresh-product suppliers. Responsibility, reliability, security of supply, decision-making ability, and competence are aspects our customers value.
- **Foodservice:** In 2020 we were the best in our peer group, and we ranked

second amongst all 25 Foodservice suppliers assessed. Customers consider our products as important and of high quality. Product development is valued and we are trusted. The reaction and communication during the coronavirus pandemic was also appreciated.

- **Professional kitchens and food industry:** In Onway's 2020 survey, Valio's Net Promoter Score (NPS) was excellent and further improved from the previous year to 84 (82). Customers especially value the professionalism and good service of Valio employees and the products.

MILLIONS OF ENCOUNTERS WITH CONSUMERS

Valio.fi is one of Finland's most popular food sites. It sees more than 500,000 unique visitors every week. We answer questions about our products and our company through the contact form, in phone calls, and on social media.

- In a continuous quality survey, Valio's consumer service was rated 9/10. Respondents appreciated the speed, friendliness, and expertise of the service.

- We responded to more than 20,000 consumer contacts. These contacts were nearly evenly split among product remarks and questions, wishes, and ideas. Consumers were especially interested in product-related matters.

RESPONSIBLE MARKETING COMMUNICATIONS

We are committed to the responsible marketing of our products, our services, and our operations. Our marketing communications are compliant with applicable laws and regulations, and are

decent, honest, and truthful. Valio’s Responsible Marketing Policy sets forth the principles for all Valio markets.

VALIO AKATEMIA SUPPORTS YOUTH SPORTS

Valio Akatemia® supports youth physical exercise hobbies and wellbeing by awarding stipends and by promoting healthy life-styles. Since 2013, about 1.1 million euros have been granted to 2,200 stipend recipients. Cash stipends are intended to pay for participation fees and the like. Nutritional stipends include nutritional

coaching. Product stipends provide snacks for training or game travel. Event stipends can be granted for, e.g., a sports tournament.

VALIO’S ADVISORY BOARDS AROUND FINLAND

We are increasing transparency in our operations and engaging in dialogue with communities in Valio’s operating areas: what is deemed as important in the role of Valio and its milk production, what should we develop, and what expectations do our stakeholders have? We invite regional MPs as well as leading officials, customers, and

CASE

NEW LOOK FOR YOGHURT SERIES

The product packaging illustration on Valio’s “Turkish” yoghurt sparked public debate and media attention in spring 2020.

Already prior to this debate, the need to update the packaging had been recognised at Valio because the packaging wasn’t consistent with Valio’s renewed marketing policy. In accordance with the marketing policy renewed in spring 2020, Valio’s marketing doesn’t disseminate national, racial, or religious discrimination or harassment. Therefore, the decision was made to renew the packaging. The updating of the marketing policy is related to the human rights assessment we started in 2019. Harassment and discrimination, among other things, were reviewed in the assessment.



experts from various fields to Valio's advisory boards. No events were held in 2020, due to the coronavirus pandemic. We aim to continue them in autumn 2021.

YOUNG PEOPLE LEARN WORKING LIFE SKILLS IN YRITYSKYLÄ

Yrityskylä is a Finnish learning concept that has been recognised as the world's best education innovation. Its aim is to offer students in grades six and nine positive experiences with working life, the economy, and society. Yrityskylä students have the opportunity to head companies, and the experiences have been very positive. There are Yrityskylä learning environments in eight regions in Finland. Valio is one of the participant companies among dozens of partners.

In Estonia, Valio's plants opened their doors to employees and their children as part of an Estonian Chamber of Commerce initiative. The goal was for children to learn about the working life of their parents.

DEVELOPMENT OF RESPONSIBILITY EXPERTISE AND SHARING OF PROFESSIONAL EXPERTISE

Through our membership in FIBS Pro, the largest corporate responsibility network

in the Nordics, we promote responsibility expertise and collaboration.

Valio is a member of the Finnish Association of Purchasing and Logistics LOGY. Through the expert network, we receive information, training, experiences, contacts, and good practices for responsibility development related to logistics and procurement. We are also involved in many other similar professional networks of experts.

NATIONAL AND INTERNATIONAL ADVOCACY

Valio is involved in both European and international dairy industry advocacy. The aim is that decision-makers have a sufficient understanding of industry-specific aspects and the facts needed to support decision-making. Valio is registered in the transparency register maintained by European Parliament and Commission, and is committed to compliance with its code of conduct.

Valio's international and Finnish advocacy is handled by the Milk Refiner and Dairy Wholesaler Association (MML). MML is a member of the European Dairy Association (EDA) and the International Dairy Federation (IDF). IDF participates in making international standards and promotes sustainable milk production.

Valio is a corporate member of EUCOLAIT (European Association of Dairy Trade) and EWPA (European Whey Producers Association). EDA and EUCOLAIT have influence in European Union decision-making related to the dairy sector. EDA is focused on the dairy industry, and EUCOLAIT focuses on trade.

In Finland, Valio is a member of the Finnish Food and Drink Industries' Federation (ETL), the Finnish Organic Food Association (Pro Luomu ry), and the Animal Health ETT association. ETL shapes the operating environment for food industry companies, so that the companies have good prerequisites to succeed in Finland and internationally. Through the ETL membership, Valio participates in the activities of the Confederation of Finnish Industries (EK). Pro Luomu promotes the goal-oriented development and growth of the organic sector. Animal Health ETT promotes the health and welfare of production animals. It coordinates the health care services for cattle and maintains the national health care register for cattle farms Naseva, which documents the data on quality.

CASE

AIMING FOR JUST FOOD

Valio is a partner in the six-year Just Food research project funded by the Strategic Research Council of the Academy of Finland.

Project participants include the Finnish Environmental Institute, the Natural Resources Institute Finland, the Finnish Institute for Health and Welfare, the University of Jyväskylä, e2 Research, and the University of Bern, Switzerland. The project is examining how the changes needed in the food system could be implemented fairly for everyone; the goal of the research is to produce information to support decision-making.

Within the framework of the project, 18 Valio dairy farmers, advisors from the milk procurement cooperatives, and Valio employees were interviewed in 2020. The interviews provided important information about what dairy farmers think about climate change, its mitigation in the milk chain, and the fairness of the suggested climate actions and the entire climate discussion.



TOWARDS CARBON-NEUTRAL DAIRY BY 2035

We are aware of the environmental impacts of milk production and we are actively reducing them. Our goal is to cut the carbon footprint of Valio's milk chain to zero by 2035. A carbon-neutral milk chain means that at least the same amount of emissions is reduced and removed from the atmosphere as is generated on dairy farms, in transportation, at the plants, in the manufacturing of packaging, and elsewhere along milk's journey from the farm to the grocery store. Our work focuses on reducing emissions, not offsetting them.



While it is an ambitious goal, it is reachable through collaboration between Valio and its dairy farms, agricultural and energy sector companies, and research institutes. We carry out research collaboration with, e.g., VTT Technical Research Centre of Finland, Natural Institute Finland Luke, and the University of Helsinki.

MILK PRODUCTION IN FINLAND IS BASED ON SUSTAINABLE GRASSLAND FARMING

A substantial part of Finnish fields are suitable only for producing grasses. Cultivating protein crops and bread grains is economically feasible mainly in the southern and south-western part of Finland. In a large part of the country, grasses yield a more reliable harvest than grains and protein plants, and they yield a more abundant harvest per hectare of arable land.

With cattle it's possible to produce high-quality food products in areas where food crops do not thrive. As ruminants, cows convert grass and other fibrous fodder crops into milk and beef.

About 75 per cent of the fresh weight of the fodder eaten by cows is pasture grass

or grass silage. The fibrous side streams from grain refining and the food industry – side streams that otherwise would have no use – are also used in feeding. A commonly used protein feed is canola or rapeseed meal, which are also by-products of the plant oil industry. The use of imported soy as feed is forbidden in the Valio Group.

With grass-based milk production, it is possible to bind carbon from the atmosphere into the land, i.e. into the mineral soil of fields that have less organic material. Perennial grass can be used also to reduce greenhouse gas emissions caused by cultivating organic lands, like peatlands, compared to cultivating annual crops like grains. Additionally, perennial grassland effectively binds nutrients into arable soil and thus reduces nutrient runoff into water systems.

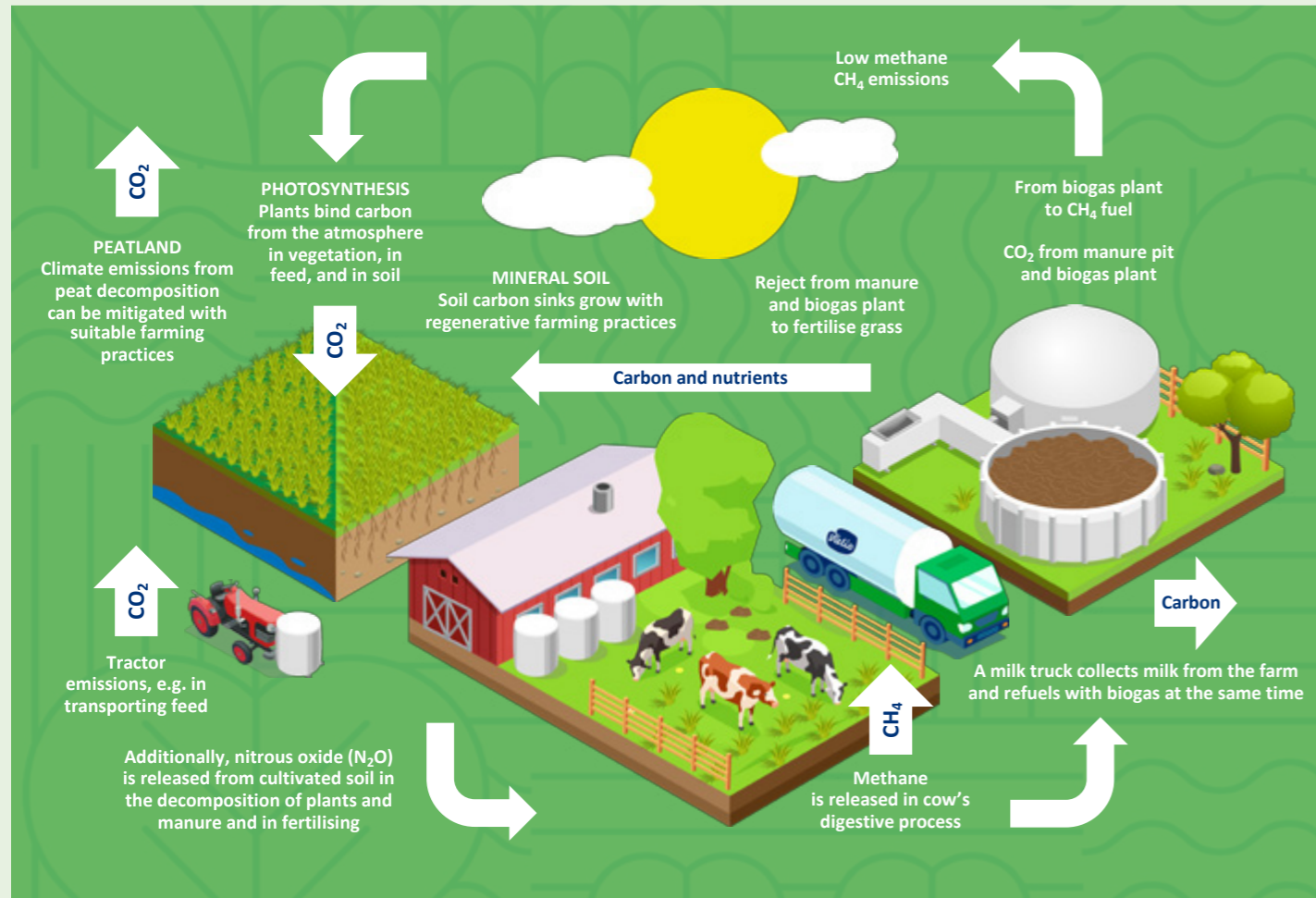
MILK PRODUCTION AS PART OF THE CARBON CYCLE

Climate change means an increase in the greenhouse gases that warm the climate in the atmosphere. Carbon plays a key role, as it cycles between the atmosphere, plants, organisms, and land.



CARBON CYCLE OF A CLIMATE-SMART DAIRY FARM

Greenhouse gas emissions from milk production can be reduced by sequestering carbon more efficiently into land, by reducing the gases released from peatlands, and by producing biogas from manure. Healthy and productive animals are the cornerstone of climate-smart dairy farm operations.



Carbon is everywhere. Milk production both releases carbon into the atmosphere and sequesters it. Plants sequester atmospheric carbon through photosynthesis. Some of the carbon is sequestered in the underground roots and microbes, and the rest in the above-ground vegetation that cows eat as feed. Some of the carbon contained in the feed is released into the atmosphere as methane, a by-product of the ruminant digestive process; some of the carbon is transferred through manure and urine to manure pits, and ultimately back to the fields as fertiliser. The rest of the carbon remains in the cow's organs, with some transferring into the milk.

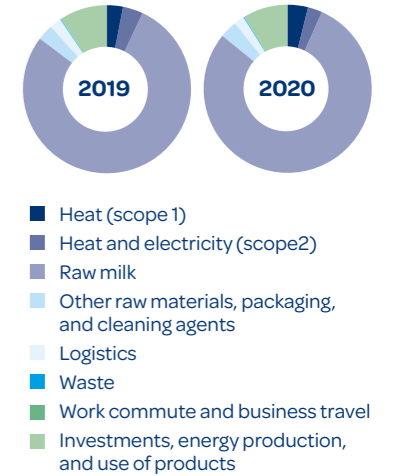
Utilising cow manure in biogas production reduces greenhouse gases released from

manure pits and reduces the need for fossil fuels in society. By strengthening the circular economy and utilising technology, the carbon cycle of milk production becomes more efficient and the environmental impacts decrease.

VALIO'S CLIMATE IMPACTS IN 2020

Greenhouse gas emissions from Valio's operations in Finland in 2020 were about 2.3 million carbon dioxide equivalent tonnes (Mton CO₂e). Received raw milk accounted for 79% of this, energy use at plants accounted for 7%, and logistics for 2%. The rest of the emissions were related to other raw materials used in product production, packaging, waste processing,

GREENHOUSE GAS EMISSIONS, VALIO FINLAND: 2.3 MTON CO₂e/KG



GREENHOUSE GAS EMISSIONS FROM VALIO'S FINNISH OPERATIONS IN 2019 AND 2020

Reporting method >>>

Unit	HEAT (SCOPE 1)	HEAT AND ELECTRICITY (SCOPE 2)	RAW MILK	OTHER RAW MATERIALS, PACKAGING, AND CLEANING AGENTS	LOGISTICS	WASTE	WORK COMMUTE AND BUSINESS TRAVEL	INVESTMENTS, ENERGY PRODUCTION, AND USE OF PRODUCTS
2019* (ton CO ₂ e)	74,600	84,600	1,792,000	69,900	47,000	3,700	4,600	204,600
2020 (ton CO ₂ e)	91,200	63,900	1,812,400	70,400	46,600	2,000	3,600	195,300

*2019 is the official baseline year for Valio's emissions reductions.

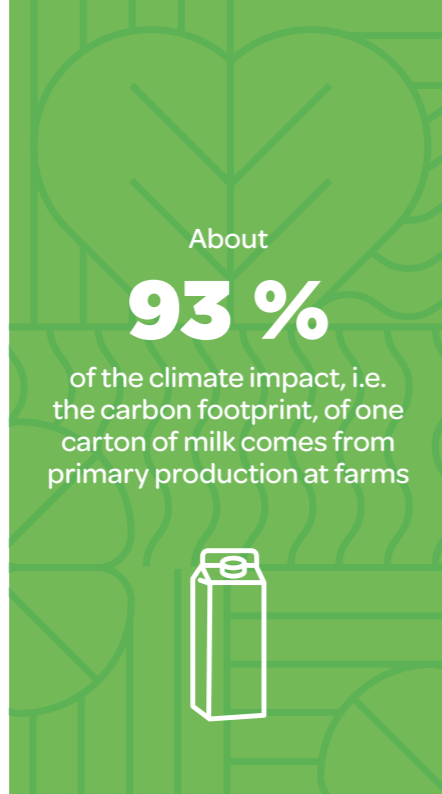
personnel travel, and product storage and handling at the grocery store and in the consumers' homes. The emissions inventory has been made using the international Greenhouse Gas Protocol.

[Read more >>>](#)

The share of renewable energy sources in the heat production at Valio's Finnish sites in 2020 was about half, and purchased electricity produced with guarantee of origin renewable energy was 20%.

About 93% of the climate impact, i.e. the carbon footprint, of one carton of milk comes from primary production at farms. About half of this is methane (CH4) released from the digestive process of animals and manure handling. The rest of it is nitrous oxide (N2O, 25–35%) generated in the nitrogen fertilisation of fields, and carbon dioxide from liming fields, energy use at farms, and fertiliser production (CO₂, 15–25%).

Raw milk's carbon footprint currently doesn't take into account the sequestering and releasing of carbon between the soil and atmosphere. International guidelines on calculating carbon balance are under preparation, and the topic is currently being studied also at Valio in multiple projects in collaboration with the Natural Resources Institute Finland and the Finnish Meteorological



logical Institute, among others. Additionally, we are mapping the amount of organic peatlands with a higher-than-average climate load at Valio farms. Modern, emissions-reducing practices for cultivating peatlands are currently under development.

CARBON-NEUTRAL MILK CHAIN 2035

We will move towards our 2035 goal primarily along three routes: We will bind more carbon dioxide into grassland than we currently do, we will use manure to produce biogas, which is a replacement for fossil fuels in transportation, and we will reduce emissions from peatlands drained from wetlands. Towards the end of the chain, the climate impacts are reduced through energy-efficiency improvements at plants, an increased share of renewable energy, optimised transport routes, eco-friendly packaging, and reduced waste in production, at the grocery store, and in the consumer's home. [Read more >>>](#)

Source: Valio

THE CARBON FOOTPRINT OF MILK, FROM FIELD TO TABLE



PRIMARY PRODUCTION AT FARM



- 4,5 % Fertiliser production
- 4,5 % Manure handling: methane and nitrous oxide
- 6 % Energy use at farm: fuels and electricity
- 26 % Feed cultivation: nitrous oxide
- 49 % Cows rumination: methane
- 3 % Other inputs

LOGISTICS AND FACTORIES



- 1,5 % Logistics
- 3,5 % Energy use at factories

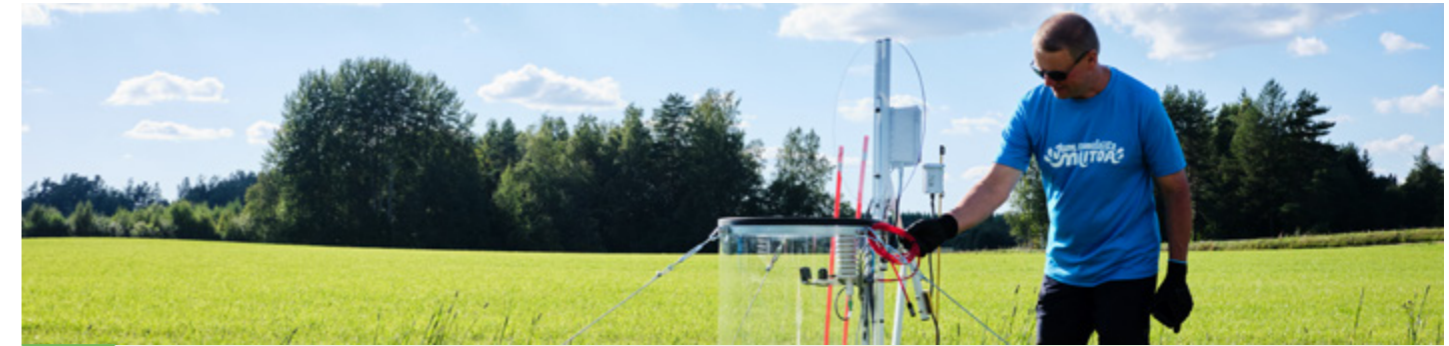
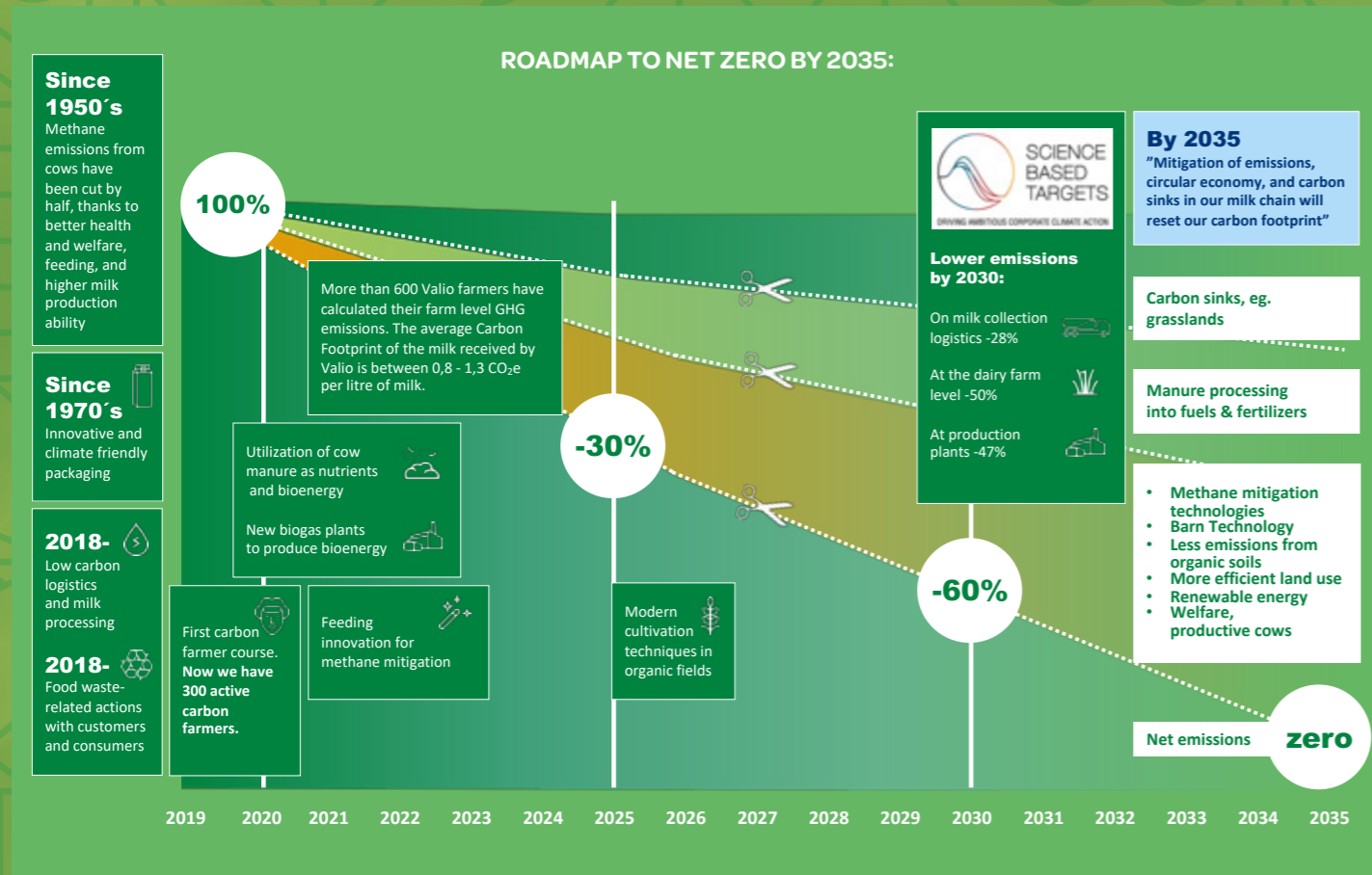
PACKAGING



In calculating the carbon footprint, the different greenhouse gases are converted to a common format, carbon dioxide equivalent (CO₂e). The lifecycle calculation model of Valio's raw milk was certified in 2019 (Carbon Trust).

TOWARDS CARBON-NEUTRAL daily 2035

We want to cut milk's carbon footprint in Finland to zero by 2035. The target is very ambitious, but it's achievable through cooperation. The primary means for reducing greenhouse gases are better carbon binding in grasslands, use of manure as biofuel, as fertiliser, and as bedding, and reducing emissions from peatlands drained from wetlands. Also the welfare of the cows and the correct feeding reduce emissions per litre of milk.



CASE

VALIO SET ENVIRONMENTAL TARGETS ALIGNING WITH THE PARIS AGREEMENT

In 2020, Valio set environmental targets based on the Science Based Targets* (SBT) initiative; SBT accepted the targets in early 2021. We are committed to limiting the climate emissions of our production chain to meet the Paris Agreement goal of limiting global warming to an increase of no more than 1.5 degrees Celsius.

This involves significant reductions in emissions throughout Valio's production chain, from the dairy farm to the grocery store: the emissions reduction target at the farm level is 50% (cutting raw milk's carbon footprint in half), 47% for energy use at the plant level, and 28% at the milk collection logistics level by 2030, compared to the levels in 2019. In the Science Based Targets initiative, Valio's climate work is reviewed to 2030. However, Valio's climate targets extend beyond that:

Valio is aiming to cut the carbon footprint of its milk chain to zero by 2035.

*The Science Based Targets initiative provides a tool for companies to plan their climate activities to meet the targets of the Paris Agreement. The aim is for companies to have environmental targets that are based on science and that create significant emission reductions. Science Based Targets assesses and approves the targets in a science-based, independent manner



[Read more >>>](#)

REGENERATIVE AGRICULTURE MEASURES IN 2020

RESEARCH ON CARBON BINDING IN FIELDS



In the Valio headed CARBO® project we are working with top research groups and other grass chain expert companies. Participants include the Finnish Meteorological Institute, the Natural Resources Institute Luke, the University of Eastern Finland, Yara, known for its fertiliser solutions, and Atria Tuottajat. Research and development projects are focusing especially on carbon-binding grass and efficient pasture cultivation. Based on the research results, we created carbon farming recommendations and a method for which we are seeking independent Gold Standard certification.



2

WE ARE TRAINING FARMERS IN CARBON FARMING



Farmers can improve carbon sequestration by rotating crops, by increasing grass species diversity, and by keeping their fields green year-round.

Together with the Baltic Sea Action Group, we are training dairy farmers in carbon farming. In early 2021, we had provided training to some 300 farms, i.e. about 7 per cent of all Valio farms. We are the main partner in BSAG's E-College for regenerative agriculture. The free online course offers farmers and students information about regenerative agriculture and improving the soil. The E-College opened in February 2021.

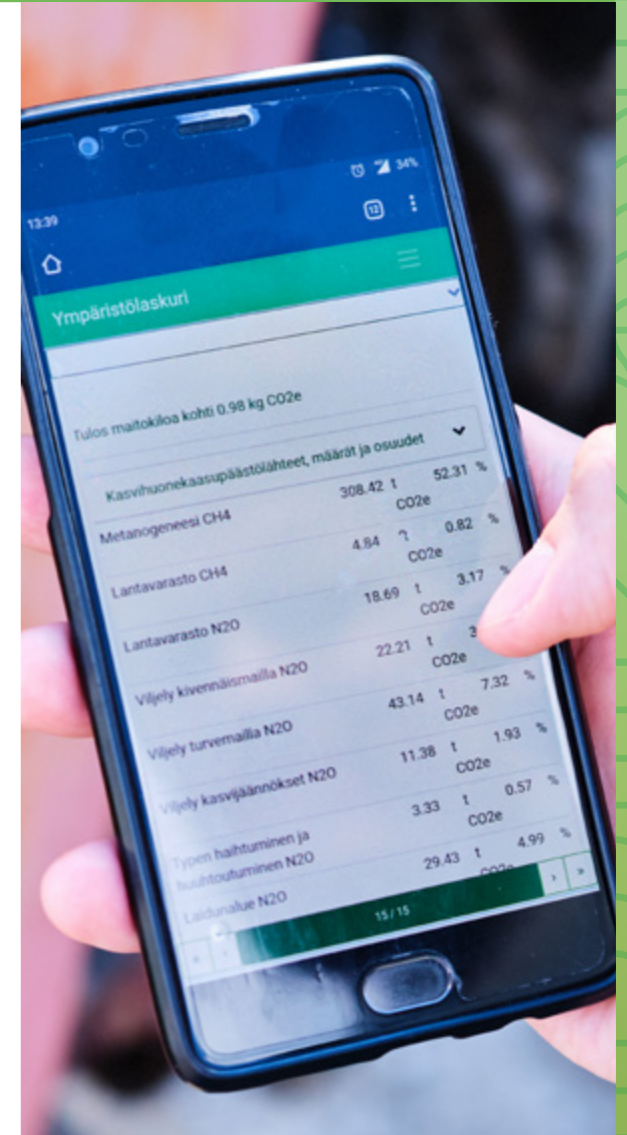
3

VALIO CARBO® ENVIRONMENTAL CALCULATOR: DAIRY FARMS ARE REDUCING THEIR CARBON FOOTPRINT



The Valio CARBO® environmental calculator we developed for Finnish dairy farms was launched in October 2020. The calculator gives dairy farmers precise information about the climate and environmental impacts of the farm's raw milk. The calculation model has been certified by the Carbon Trust organisation and is based on the Intergovernmental Panel on Climate Change's (IPCC) recommendations, the European Commission's Product Environmental Footprint Category Rules (PEFRCR), and Valio's own scientific work that started as animal nutrition research 15 years ago. The technology platform was created by the Finnish Biocode.

We have held weekly trainings for farms since October 2020. More than 80 training events are planned for 2021. Since the beginning of 2021, we have trained 1,000 dairy farms; of these, more than 600 have reported their own raw milk carbon footprint to Valio. That covers about 25 per cent of the milk received by Valio. When the farm-specific baseline and emissions sources are known, the measures to reduce emissions can be targeted more accurately. Our goal is to decrease farm-level emissions by 30 per cent in five years.



4

WE ARE TURNING FARM MANURE INTO ENERGY



Manure can be used to make biogas. This not only brings financial gain to a dairy farm, it also reduces the farm's emissions. Biogas production at dairy farms reduces milk's carbon footprint and enables emissions reductions in transportation, if the biogas is refined into traffic fuel. If both emissions reductions are taken into account in milk's carbon footprint, the footprint would be about 25% smaller.

To promote biogas production, it's important to understand which areas in Finland have sufficient amounts of manure, whether it's feasible to produce the biogas at the dairy farm or in a bigger biogas plant, and where the biogas will be used. In 2020 we estimated the annual manure volume of all our dairy farms, and we developed a biogas production model.

We promoted biogas production in practice in Haapavesi. The first manure-powered milk truck fills up with biogas at the Vuorenmaa dairy farm when it picks up milk for the Haapavesi dairy. [Read more >>>](#)



5

CLIMATE-SMART CULTIVATION OF PEATLANDS



The biggest challenge in cutting milk's carbon footprint to zero is related to fields drained of wetlands or peatland forests over decades. These account for about 10 per cent of Finland's arable land, but they produce about half of the agricultural environmental emissions. The drainage, tillage, liming, and fertilising accelerates the decomposition of peat and releases carbon dioxide into the atmosphere.

Greenhouse gas emissions from peatlands must be significantly reduced if we are to achieve our target of a carbon-neutral milk chain. Valio is actively involved in projects studying peatland climate impacts and ways to reduce their emissions. In 2020, the release of greenhouse gases from the peatlands at four Valio dairy farms was measured in the Climate change mitigation in organic soils on cattle farms (OMAIHKA) project. Grass forms a perennial crop on the surface of peatland, which reduces emissions compared to an annual grains. We are working with researchers and farmers to develop climate-smart farming practices for peatlands.

6

CARBO® SEED MIXES TO IMPROVE CARBON BINDING OF GRASSLANDS



Launched in February 2019, Valio CARBO® grass seed mix improves carbon binding in soil. The mix includes clovers, which help pollinators, as well as grass species that are more resistant to changing weather conditions and improve the soil structure. The selection was expanded in October 2020, and now there are five different CARBO® seed mixtures targeting various needs.

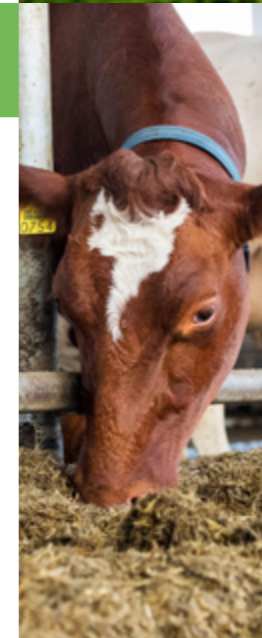


7

FEED ADDITIVES CAN REDUCE METHANE EMISSIONS FROM COWS



The Dutch company DSM has developed a new additive that can reduce methane emissions from cattle by about 30%. Valio and DSM started collaboration in 2020 to find opportunities to utilise the new solution at dairy farms as part of the target to cut the milk chain's carbon footprint to zero.



8

FROM HEALTHY CALVES TO CLIMATE-WISE COWS



The aim of the Climate-wise Cow project is to improve the health of calves, the longevity of cows, and the milk loss caused by illnesses. Dairy farms can use the SimValiokarja calculator to simulate the correlation between the health of cows and the renewal of cattle to the farm's finances and the amount of methane generated per kilo of milk. Valio also participated in research looking at cow mortality. Additionally, we created the Climate-wise calves training concept and materials for farmers.

Climate-wise calves workshops were held under the leadership of partner veterinarians, cooperatives, and ProAgria advisors. 24 dairy farms participated in the workshops in 2020. New practices to improve the welfare of calves were piloted at the farm level, and the results of work done at other farms were also reviewed. Good practices on raising calves are shared with more than 1,200 professionals in the Climate-wise calves Facebook group.



CASE

PRECOOLING MILK SAVES ENERGY IN THE BARN

Efficient and quick cooling of milk to below +4 degrees immediately after milking is a crucial part of the milk quality chain. Cooling accounts for a large part of the barn’s energy consumption, typically about 20 MWh per litre.

Based on our measurements, 50–70 per cent of the milk’s cooling need can be done with precooling using tap water before the farm’s tank. The water flowing through the precooling equipment is usually recovered for use as drinking water for the cows.

We encourage farms to invest in milk precooling equipment. Valio experts have actively developed precooling solutions suitable for our farms.

Kaj Nyman, Development Manager, Valio



PROMOTING BIODIVERSITY AT DAIRY FARMS

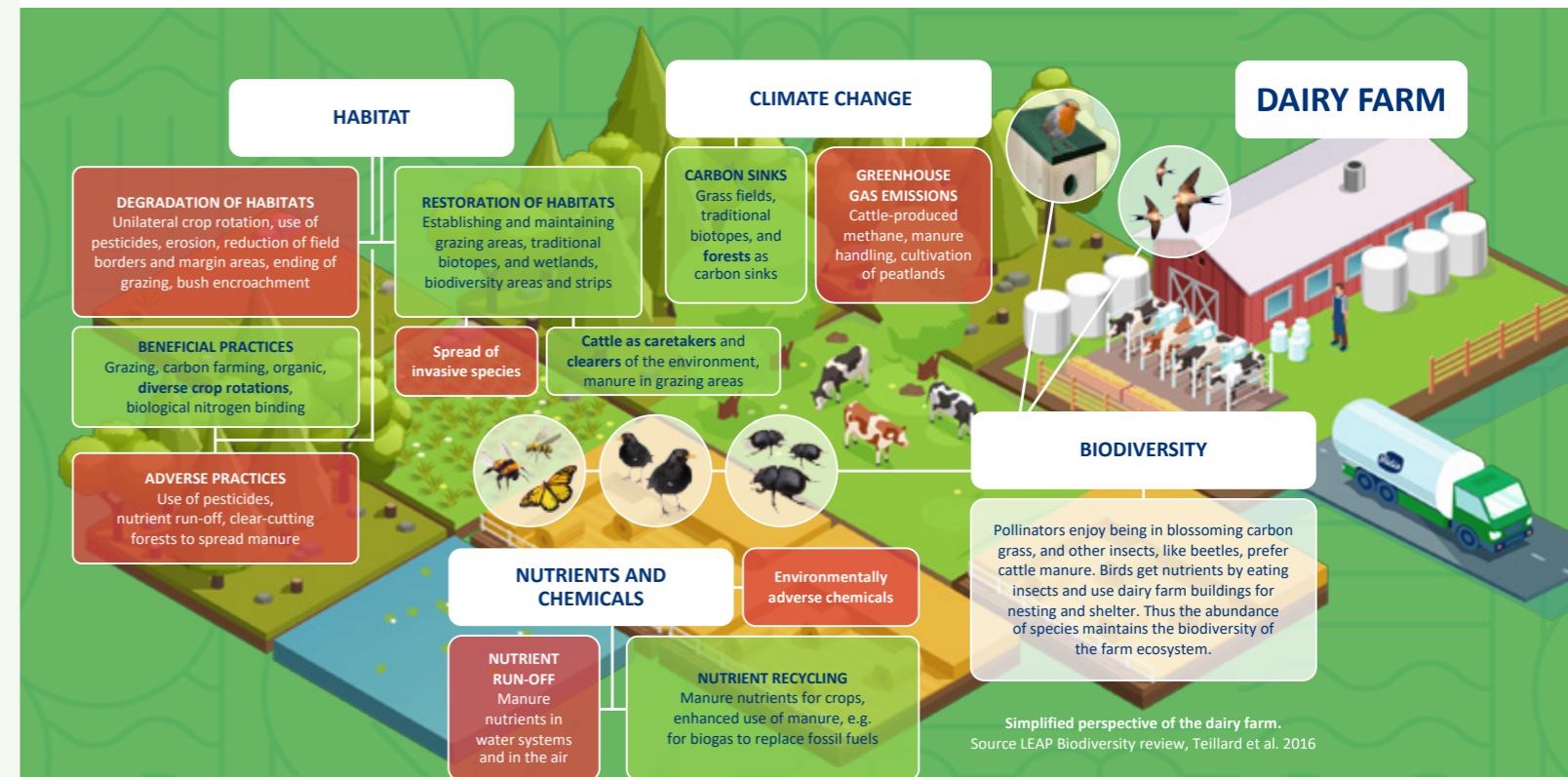
In 2020 we worked with experts to study milk production’s impacts on biodiversity and examined opportunities for ecological compensation. Valio’s dairy farmers are a significant land owner group in Finland, and farms have both positive and negative impacts on nature.

The best ways to secure biodiversity are related to carbon farming practices,

organic milk production, and the grassland grazing of dairy cattle. Several of Valio’s climate programme measures, such as CARBO® seed mixtures, secure biodiversity. We communicated to consumers about the significance of biodiversity in food production in 2020 on the packaging of organic products and in a [video about the biodiversity work](#) being done at dairy farms.

In summer 2020 we monitored indicator species in agricultural environments with the Finnish Biodiversity Information Facility.

Some twenty dairy farms around Finland participated in the observation efforts. In addition, we surveyed valuable natural locations at 30 dairy farms together with landscape experts from the Rural Women’s Advisory Organisation. The advisory service has received excellent feedback, and magnificent areas of a high natural value have been discovered at the farms.



ANIMAL WELFARE IS CONTINUOUS DEVELOPMENT WORK

Animal welfare is the foundation of our operations. Valio is a company owned by dairy farmers; taking care of animals is daily work for them.



HOW IS ANIMAL WELFARE MONITORED?

We can't ask a cow directly about its experience, but studies show that animal welfare is shaped by four areas:

- 1 **good conditions**
- 2 **proper feeding**
- 3 **health**
- 4 **opportunity for species-appropriate behaviour**

In Finland, Naseva, the Centralised Health Care Register for Finnish Cattle Herds, maintained by Animal Health ETT, is used to monitor and assess welfare from many of the same starting points as in the international Welfare Quality® assessment protocols. Information about the occurrence of infectious diseases, disease protection, and analyses results are collected in Naseva and the use of veterinary pharmaceuticals is monitored. One condition for the Valio sustainability bonus is that the farm is included in Naseva.

ALL FARMS INCLUDED IN THE SUSTAINABILITY BONUS PROGRAMME

Valio pays a sustainability bonus to the dairy farms that commit to taking voluntary

actions to improve animal welfare. About 98 per cent of the milk received by Valio in 2020 came from farms receiving a sustainability bonus. Since the beginning of 2021, all dairy farms supplying milk to Valio have committed to meeting Valio's sustainability criteria. The sustainability bonus is two cents per litre of milk.

SUSTAINABILITY BONUS REQUIREMENTS:

- A veterinarian makes a healthcare visit to the farm at least once a year to assess the animal welfare and practices at the farm. The healthcare plan is recorded in Naseva, the Centralised Health Care Register for Finnish Cattle Herds
- Regular hoof health tracking and treatment
- Anaesthetics, pain relief, and sedation during disbudding, i.e. removal of a calf's horn buds
- New barns must be built as freestall barns, allowing the cows to move about freely

NO ANTIBIOTIC RESIDUES

Production animals in Finland are given medication in moderation compared to, e.g., southern European countries, and critically important antibiotics for human medicine are not used for production animals.

In Finland, cows are not given antibiotics as a preventive measure. If a cow is sick, a veterinarian will examine it and prescribe the appropriate medication. A record of the medication must also be kept. When we use medicines only for a diagnosed need, we prevent the increase of antibiotic-resistant bacteria strains.

We verify milk purity by testing for trace antibiotics. If a cow is treated with antibiotics, its milk is tested clean after a waiting period before milking into the farm's tank. The milk is tested three times: first at the farm, then at the dairy before the milk is unloaded and, finally, before the milk is moved to production.

COWS MOVE FREELY IN FREESTALL BARN

In a freestall barn, cows can move about freely year-round and they can eat and rest when they choose to. Milking is done at a

milking station or by an automatic milking system. About 40 per cent of the Valio farms' barns are freestall barns, and more than two thirds of the cows live in them.

AIMING FOR MORE GRAZING AND OUTDOOR ACCESS IN WINTER

About 70 per cent of the cows and young cattle at dairy farms enjoy grassland grazing during summer and about 18 per cent of the dairy farms provide year-round outdoor access. We advise farms to take into consideration grazing and exercise opportunities whenever planning a new barn.



CASE

CONDITIONS THAT PROMOTE WELFARE IN THE BARN

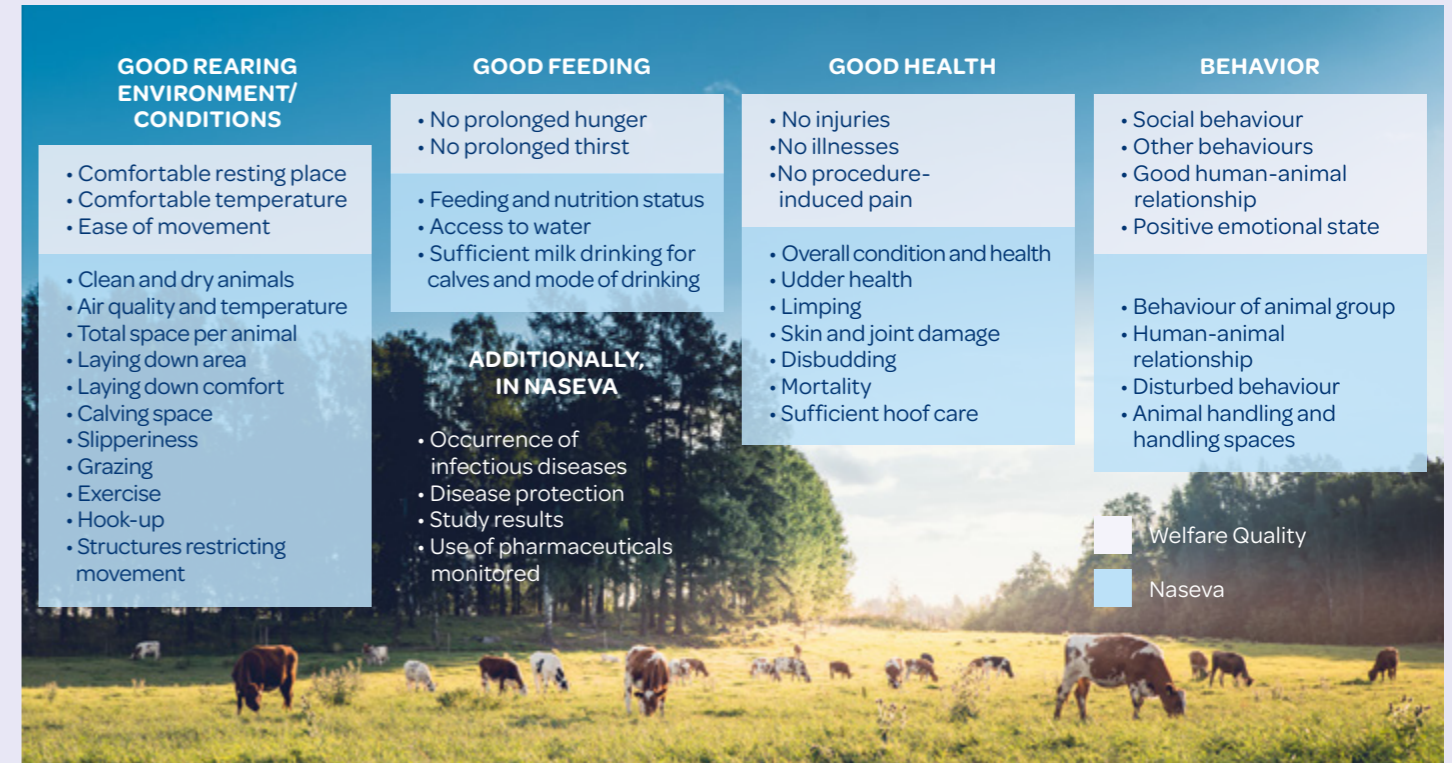
Our aim is for our dairy farmers to plan and construct new freestall barns and their surroundings based on current best knowledge, with consideration to animal and people welfare and to responsible ways of operating. In 2020 we started compiling the recommended specifications of a Valio freestall barn. We factored in the sector's latest research and product development, as well as implementation of proven good practices.

In addition to welfare and responsible ways of operating, barn design must take into consideration financially sustainable solutions, milk quality, and the Carbon-neutral milk 2035 targets. We encourage dairy farmers to use these guidelines when implementing future freestall barns. These also serve as guidance in the development of existing barns.

Kristiina Sarjokari, Herd health veterinarian



HOW IS ANIMAL WELFARE ASSESSED?



In Finland, the bovine health register Naseva is used to monitor and assess welfare from the same starting points. Naseva also collects information about the occurrence of infectious diseases, disease protection and research results, and monitors the use of pharmaceuticals. One condition for the Valio sustainability bonus is that the farm is included in Naseva.

KEY FIGURES ON COW EXERCISE AND OUTDOOR ACCESS IN 2020:

- About 40% of the barns are freestall barns. Since freestall barns are usually bigger than stanchion barns, more than 2/3 of the cows live in freestall barns.
- Cows or young cattle at some 70% of the dairy farms graze for at least three months and at least six hours per day. Additionally, cattle at some of the farms move about in exercise yards during summer.
- At Valio's organic dairy farms, all animals graze on grass and live in freestall barns.
- About 18% of the dairy farms have arranged the opportunity for cows to get regular year-round outdoor access.

FEWER STANCHION BARNs

In a conventional stanchion barn, each cow has its own stall where it eats, drinks, and rests; it is also milked there. Feed is brought to the cow, and drinking water is provided next to the food. With stanchion barns, it's important that the stanchions



are big enough, and the laying down area is cushioned with a stall bed and a sufficient amount of litter. In summer, cows that are housed in stanchion barns are statutorily required to graze or move about outdoors for at least 60 days. About 11 per cent of cows in stanchion barns spend time outdoors also in the winter.

Stanchion barns are gradually disappearing because most of the dairy farms going out of business – particularly the smaller farms – are farms with stanchion barns. Valio's requirement that new barns must be freestall barns is contributing to the decreasing number of stanchion barns. About 30 per cent of all the milk supplied to Valio is produced in stanchion barns.

IN SEARCH OF NEW WEANING METHODS

Calves are weaned from their mothers so that we can begin milking the cows and a safe environment can be ensured for the calves. In modern freestall barns, cows move about freely. That's why calf safety among adult cows usually cannot be adequately ensured.

In freestall barns, soon-to-be-calving cows are moved to calving pens. Calves are often kept in individual pens initially so that they learn to drink from a nursing bucket. The calves are then moved in with other calves of the same age.

We are part of a study looking at alternative ways to wean calves at dairy farms, asking dairy farmers for their thoughts on weaning practices, and reviewing obstacles to why weaning is not implemented more. 295 Valio dairy farmers responded to the research survey. The results of the study will be published in a scientific article in 2021.

PAIN RELIEF FOR DISBUDDING

Calves are disbudded for safety reasons: caretakers and other animals are safer in freestall barns when the animals don't have horns. Disbudding a calf is a less

harmful procedure to the animal than de-horning an adult animal.

One of the Valio sustainability bonus criteria is that if a calf is disbudded, it must be given sedation, an anaesthetic, and enough pain medication also after the procedure. This way, the procedure causes the animal as little stress and pain as possible.

FARM SUPPORT AND MONITORING

Dairy farmers are supported in their work by Valio's own veterinarian, by some 20 experts that work for the cooperatives, and by a laboratory service that produces data on the quality of the feed and the milk. The cooperative experts offer free consultation and support in issues related to milk quality, milk processing equipment, feed production, new investments, and more.

Valio and its cooperatives also arrange a variety of training courses for dairy farmers and dairy farm workers. In addition, Valio is involved in research and development work that aims for better animal health and welfare.

Sometimes animal care can be jeopardised, e.g. due to a dairy farmer's illness. An expert from the local cooperative will visit a farm

if the milk quality drops or a disruption in production occurs. We are also constantly developing our collaboration with healthcare and supervisory veterinarians.

Our goal is to audit 20% of our farms per year. In 2020 an audit was conducted at 13.6 per cent (29.5) of the farms. Because of the coronavirus pandemic, there were fewer in-person meetings and thus fewer audit visits. During a farm visit, a production advisor from the cooperative observes how well the farm's milk production process aligns with Valio's approach: how milk quality, animal welfare, feeding, and general



cleanliness are managed at the farm. If a shortcoming is found, the dairy farmer receives instructions on remedying the issue. In the most serious cases, milk collection is suspended until the issue is in order.

MILK QUALITY AT ITS BEST

In 2020 the share of the best milk (E-rated) remained on a good level at 97.1 per cent (97.60). Like the previous year, less than 0.01 per cent of the milk was in the weakest quality rating, 2. Excellent milk quality requires continuous monitoring by the dairy farmer and a quick response to deviations. Milk quality is verified before the milking of every cow. In the daily quality verification of the farm tank milk, temperature and one's own senses are important tools. Additionally, the dairy farmer monitors the milk's cell and bacterial counts and the milk composition analysis results of every milk collection.

At every milk collection visit, milk truck drivers inspect the farm tank's milk temperature, smell, and appearance. Only milk that meets the requirements can be pumped into the truck's tank. The drivers also test the milk for microbial traces of pharmaceuticals before it is delivered to the dairy's silo.

RESOURCE-EFFICIENT PRODUCTION PLANTS

The most significant environmental impacts of Valio's plants are a result of their use of energy and water. Our production process also generates a wastewater load. We are reducing the environmental impacts by using best available technology and through the efficient use of raw materials and energy.

In this section we review energy efficiency measures and fuel use. Read about water use, waste, and chemicals at the [end of the report](#).

ENERGY EFFICIENCY

Our goal, consistent with the Finnish food industry's energy efficiency agreement started in 2017 and ending in 2025, is to improve energy efficiency in Valio's own operations by 7.5 per cent from the 2015 level. So far, the combined impact of the energy efficiency actions accounts for about five per cent of our 2015 energy consumption, i.e. an annual energy savings totalling 35.4 GWh. We will reach our goal, if we can keep up the same pace.

FUEL AND EMISSIONS

Dairies need electricity to run equipment and for cooling. Heat is needed in drying milk powders, in heat-treating fresh products, in washing, and in facility heating. The quality and volume of emissions depend on the fuel used.

- Share of renewable fuels in heat production in Finland 51% (55)
- Share of domestic fuels in Finland 84% (83)
- Wind power accounts for 20% of electricity procurement in Finland

We shifted to the use of biopellets as the main fuel at our juice plant. This reduces our use of natural gas. We have decreased the use of peat by investing in a grate-fired boiler and steam accumulator in Seinäjoki. We aim to reduce the use of peat also at other sites by replacing it with biofuels. However, the availability of biofuels in 2020 was challenging, and we didn't reach our peat reduction target. We monitored a test combustion with energy willow in 2020, and we will continue test combustion in 2021.

ENERGY-EFFICIENCY ACTIONS IN 2020:

- Improving efficiency of heat recovery networks
- Improving heat pump efficiency
- Improving process efficiency with filtering technology
- Improving heat recovery ventilation efficiency and adjustments
- Installation of LED lighting
- Optimising refrigeration compressors' condensing pressure

ENERGY CONSUMPTION BY SOURCE IN FINLAND

	Yksikkö	2016	2017	2018	2019	2020
Consumption of electric energy	GWh	237	225	239	238	243
Consumption of heat	GWh	505	485	499	499	494
Peat	%	37	42	36	27	35
Heavy fuel oil	%	12	4	0	0	0
Light fuel oil	%	3	3	6	6	5
Natural and liquid gas	%	13	10	12	10	10
Renewable fuels	%	34	40	47	55	48
Domestic fuels	%	72	81	83	83	83
Consumption of energy altogether	GWh	741	710	738	730	737

ENERGY CONSUMPTION AT VALIO'S PRODUCTION PLANTS, 2020 (MWH/A)

	FINLAND	ESTONIA	RUSSIA	TOTAL
Electricity (renewable)	47,389			47,389
Electricity (non-renewable)	193,411	17,773	4,974	216,158
Electricity (total)	240,801	17,773	4,974	263,548
Heat (renewable)				
Heat (non-renewable)	247,597			247,597
Heat (total)	244,592	30,293.2	6,137	281,022
	492,189	30,293.2	6,137	528,619
Renewable total				
Non-renewable total	294,986			294,986
All total	718,093	44,768	12,821	775,682

ENERGY CONSUMPTION AT VALIO'S PRODUCTION PLANTS, 2020 (TJ/A)

	FINLAND	ESTONIA	RUSSIA	TOTAL
Electricity (renewable)	170.6			170.6
Electricity (non-renewable)	696.3	64	17.9	778.2
Electricity (total)	866.9	64	17.9	948.8
Heat (renewable)	891.3			891.3
Heat (non-renewable)	880.5	109.1	22.1	1,011.7
Heat (total)	1,771.9	109.1	22.1	1,903
Renewable total	1,061.9			1,061.9
Non-renewable total	1,576.8	173	40	1,789.9
All total	2,638.8	173	40	2,851.8

Direct and indirect greenhouse gas emissions as well as other significant air emissions are available in the section [Environmental information >>>](#)

EFFICIENT LOGISTICS MEANS REDUCED EMISSIONS

We optimise our milk collection and product transportation routes, we avoid excess trips, and we fully load trucks. An unbroken refrigeration chain ensures tasty and safe products.



The collecting of milk from dairy farms in Finland is carried out by roughly 55 contractors and 75 trucks. On average, the trucks were on the road for 20.4 hours per day, every day, in 2020. The average age of the trucks is about two years. All trucks meet the latest EURO 6 emissions standards.

The size of the trucks is growing. This means that more litres can be transported at one time, thus reducing the emissions per litre. 100% of the trucks engaged in tank transfer traffic between plants and more than 50% of the trucks in milk collection have a permissible laden mass of 68-76 tonnes.

The environmental load of product distribution is reduced also by sharing distribution efforts with other companies. Annually, we distribute over one third of Finland's temperature-controlled food product volume.

KEY FIGURES OF LOGISTICS IN FINLAND:

- Milk's average trip from farm to dairy, 76 km
- Milk's average trip from dairy to grocery store, 88 km
- Delivery reliability of products to grocery stores, 99%

Biogas enabled an

85%

reduction in transport related greenhouse gas emissions, compared to diesel-powered trucks



EXPORTING A CONTAINER LOAD OF PRODUCTS EVERY 20 MINUTES

Our products are exported from Finland to roughly 60 countries. When we choose partners, we verify the EURO emissions rating of their vehicles. In 2020, about 95 per cent (95) of our export cargo was shipped as full units.

In maritime transport, the IMO 2020 restrictions took effect in 2020. They require shipping companies to use low-sulphur fuel or take other actions to reduce emissions.

BIOGAS-POWERED MILK COLLECTION

In February 2019, Valio rolled out the first milk collection truck powered by liquid biogas, or LBG. Two new LBG-powered collection trucks were acquired in 2020. Biogas-powered trucks racked up a total of some 650,000 kilometres in 2020. That's approximately three per cent of total milk collection kilometres. Biogas enabled an 85 per cent reduction in transport-related greenhouse gas emissions, compared to diesel-powered trucks. (Source: Gasum).

February 2021 brought the rollout of the first milk truck running on compressed biogas (CBG) made from manure.

ENVIRONMENTALLY SMART PACKAGING

The most important task of packaging is to protect the product and prevent food waste.



Our goal is environmentally smart packaging that minimises climate impacts and utilises various circular economy solutions. The carbon footprint of Valio’s packaging is about two per cent of the product’s entire carbon footprint.

VALIO’S PACKAGING COMMITMENTS

- **Product protection:** We ensure that the packaging protects the product from spoiling and from food waste.
- **Reduce and avoid:** We avoid over-packaging, and we reduce the amount of plastic and other packaging material.
- **Replace:** We replace fossil-based plastics with plant-based solutions.
- **Circular economy:** We ensure that the packages are increasingly better suited for recycling and collection systems. We increase the use of recycled plastic.

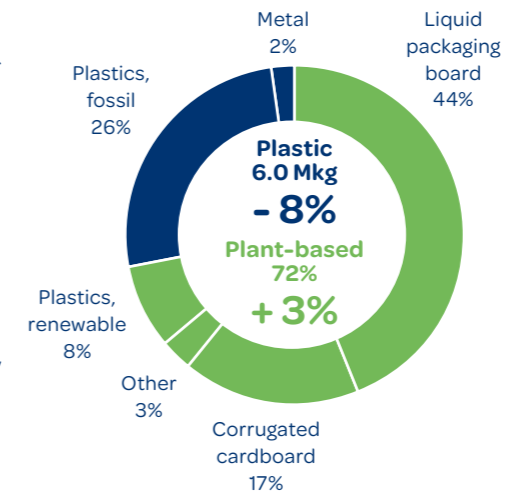
WE ARE REDUCING THE USE OF PLASTIC

Our goal is to reduce our use of plastic by 20 per cent from the 2019 level by 2025. We reduced our plastic use in 2020 by a total of 485 tonnes, or eight per cent

PACKAGING IS GOOD, WHEN IT’S RECYCLED PROPERLY



VALIO FINLAND SINGLE-USE PACKAGING MATERIALS 2020 (17.6 MKG)



compared to the previous year. Among other things, we eliminated all single-use plastic spoon lids from packaging. This reduced the amount of plastic by 44 per cent in containers, and the amount of plastic we use in a year decreased by 170 tonnes.

PLANT-BASED PLASTIC REPLACING FOSSIL RAW MATERIALS

In 2020, 24 per cent of Valio’s plastic packaging was plant-based. 72 per cent (69) of our single-use packaging materials were plant-based. All of our house-shaped, i.e. gabled, milk, sour milk, cream, and yoghurt cartons sold in Finland are 100% plant-based. We use 250 million of them in a year.

WE ARE INCREASING THE USE OF RECYCLED PLASTIC

The amount of packaging produced from recycled plastic was 250 tonnes in 2020. We renewed the Valio MiFU® products and triangular gourmet cheeses packaging: now the majority of their packaging material is recycled plastic. We also renewed the cheese slice packaging: over 55 per cent of the packaging material is produced from plastic bottles recycled in Finland. By making the packaging thinner, we also save 70 tonnes of plastic in a year (-14% per package).

PACKAGING IS GOOD, WHEN IT'S RECYCLED PROPERLY

All our packaging is 100% compatible with recycling collection systems. In transporting milk, yoghurt, and other products, we use recyclable plastic milk crates, dollies, and trays (40.5 million times/year). Units that

are worn out or broken end up in plastic recycling (about 80,000 kg).

Export products are packaged in cardboard transportation and wholesale packages. Their recyclability is compliant with EU guidelines. The recyclability in the target countries depends on the local recycling arrangements.

PLAIN-LANGUAGE RECYCLING LABELS ON PACKAGING

Pursuant to consumers' wishes, in 2020 we added plain-language recycling labels to our packages to facilitate everyday life. The labels will be found on all our packaging sold in Finland, in the upcoming years.

SUSTAINABLE PACKAGING ACTIONS ALMOST FOR 50 YEARS

1970's: Started a system for reusable transport packaging in Finland

1990's: Co-founder in Finland's package recycling programme – these days, all of our packaging is recyclable, even the plastic ones

2000: Cup made of cardboard and a thinner plastic
2003: Reusable cup trays

2010: All Valio's packaging collectable for recycling systems. Gave up the use of PVC, no hormone disruptor plastics in use.

2015: The world's first 100 % plant-based milk carton

2018: All gable-top milk, sour milk, cream and yoghurt cartons made of plant-based material

2019: Giving up black plastic, cheese package made of >90% recycled plastic, Increasing use of plant-based packaging material in juices and export milks

2020: Pursuant to consumers' wishes, in 2020 we added plain-language recycling labels to our packages to facilitate everyday life.

PACKAGING COMMITMENTS

TOWARDS CIRCULAR ECONOMY AND MINIMISING CLIMATE IMPACTS

- 1. Product protection** Minimising food waste
- 2. Reduce and avoid** Less plastic and packaging material
- 3. Replace** Plant-based packaging
- 4. Recycle** Suitable for recycling

ENVIRONMENTALLY SMART PACKAGING > FOCUS AREAS

PLASTIC'S MANY LIVES

MINIMUM % OF RECYCLED PLASTIC

- 90 %** Soda bottles and other plastic waste collected from consumers
- 50 %**
 - Artisan cheeses
 - MiFU® strips, mince, patties
 - Cheese slice packages

Decking boards

Various recycled plastic products

INNOVATIONS TO PROMOTE HEALTH AND WELLBEING

Valio's product development is based on listening to the consumer, and on products that taste delicious and have good nutritional value. When Nobel Laureate A.I. Virtanen headed the Valio laboratory, the concept of using innovations to improve wellbeing became our guiding principle.

With close to 5,000 recipes, Valio.fi is one of Finland's most popular food sites. We also offer recipes for professional kitchens and catering services, as well as nutrition information, calculators, and menus for home cooks, professional chefs, and nutrition professionals. The calculators can be used to estimate the intake of iodine, calcium, and vitamin D, for example. We also offer nutritional tips through our social media channels.

There were 132 Heart Symbol products in Valio's retail and professional kitchen portfolio in Finland in 2020. A product with the Heart Symbol is a better choice in terms of fat content and quality, sugar, and salt, compared to the average of the product category.

THREE NEW NUTRITION AGREEMENTS

In 2020 we committed to three new nutrition agreements to support the wellbeing of Finns. The Nutrition Agreement Model of the Finnish Government's Nutrition Committee encourages food industry operators to promote high nutritional quality in diets.

We want to encourage Finns to eat healthier and in line with

NUTRITIONAL RECOMMENDATIONS



1 Valio will develop nutritionally recommended, climate-friendly recipes for home cooks

We want to offer consumers nutritionally recommended recipes that are easy and suitable for home cooks and that are also more climate-responsible alternatives. We use the Heart Symbol meal criteria as an indicator of nutritional quality. As climate-responsible criteria, we use the more climate-friendly diets introduced in FoodMinimum, a research project of the Natural Resources Institute Finland and the Finnish Environmental Institute. By 2021 we achieved our goal: we published 10 recipes on Valio.fi that were created on the basis of the criteria mentioned above.

2 Valio will double the number of its Heart Symbol recipes for professional kitchens

We want to offer to professional kitchens and catering services more recipes that are aligned with nutritional recommendations. Our goal is to double the number of Heart Symbol recipes targeting professional kitchens by 2022.

3 Valio's everyday recipes as plate model pictures encourage more vegetables in the diet

We want to encourage Finns to eat healthier and in line with nutritional recommendations. We are committed to creating plate model-based pictures of 20 of our everyday food recipes by 2022, and we will communicate on our website how to turn a main course into a well-balanced meal by adding a side of salad or other vegetables, for example.

RESPONSIBILITY OBLIGATIONS



RESPECT FOR HUMAN RIGHTS IS AN IMPORTANT PART OF OUR WORK

Valio is committed to respecting human rights, ethical business operations, and ensuring a fair, equal, supportive, safe, and healthy workplace for personnel. The Code of Conduct (Our way to operate – One Valio) guides our work.

In 2020 we renewed our Code of Conduct. It more comprehensively covers the principles we respect and by which we operate. The principles are valid for Valio employees in all countries. We also updated our Code of Conduct online training. It contains a wider variety of everyday situations. 82% of those who completed the training noted that human rights are not a distant issue, but are an intrinsically linked to our operations.

In 2020 we also renewed the Supplier and Distributor Code of Conduct. As part of the supplier approval process, our suppliers and partners commit to following Valio's sustainability principles.

VALIO HAS IDENTIFIED ITS HUMAN RIGHTS IMPACTS

We carried out an extensive human rights impact assessment in 2019. Read more about the assessment on [Valio's website](#).

We continued the human rights-related work in 2020.

Based on the assessment, the most significant risks were identified and, if materialised, would be serious, although the probability of them is low. These are:

- Shortcomings related to employment and working conditions
- Discrimination and harassment
- Negative impacts on people health and safety
- Use of child labour and young workers
- Forced labour
- Restricting freedom of association
- Restricting freedom of expression
- Large-scale use of water in producing of agricultural raw materials

In 2020 we included in the assessment work the groups impacted by Valio. We collected feedback from our own personnel and from the cooperatives. Additionally,

we listened to human rights and responsible sourcing experts, e.g. NGOs. They provided insight on impacts related to supply chain employees in particular. Based on these considerations, we sharpened the focus of the assessment. We will continue reviewing it in collaboration with stakeholders.

Based on the personnel discussions, it was very clear that occupational safety-related processes are very good at Valio, and the employees have plenty of channels to make their voices heard. They are also sufficiently heard.

WE ARE REDUCING RISKS THROUGH PRACTICAL MEASURES

Based on the human rights impact assessment, we improved our due diligence process and reduced our risks through practical measures. The main actions taken in 2020 are listed on the next page.

If these risks materialise, Valio can impact on the following human rights:

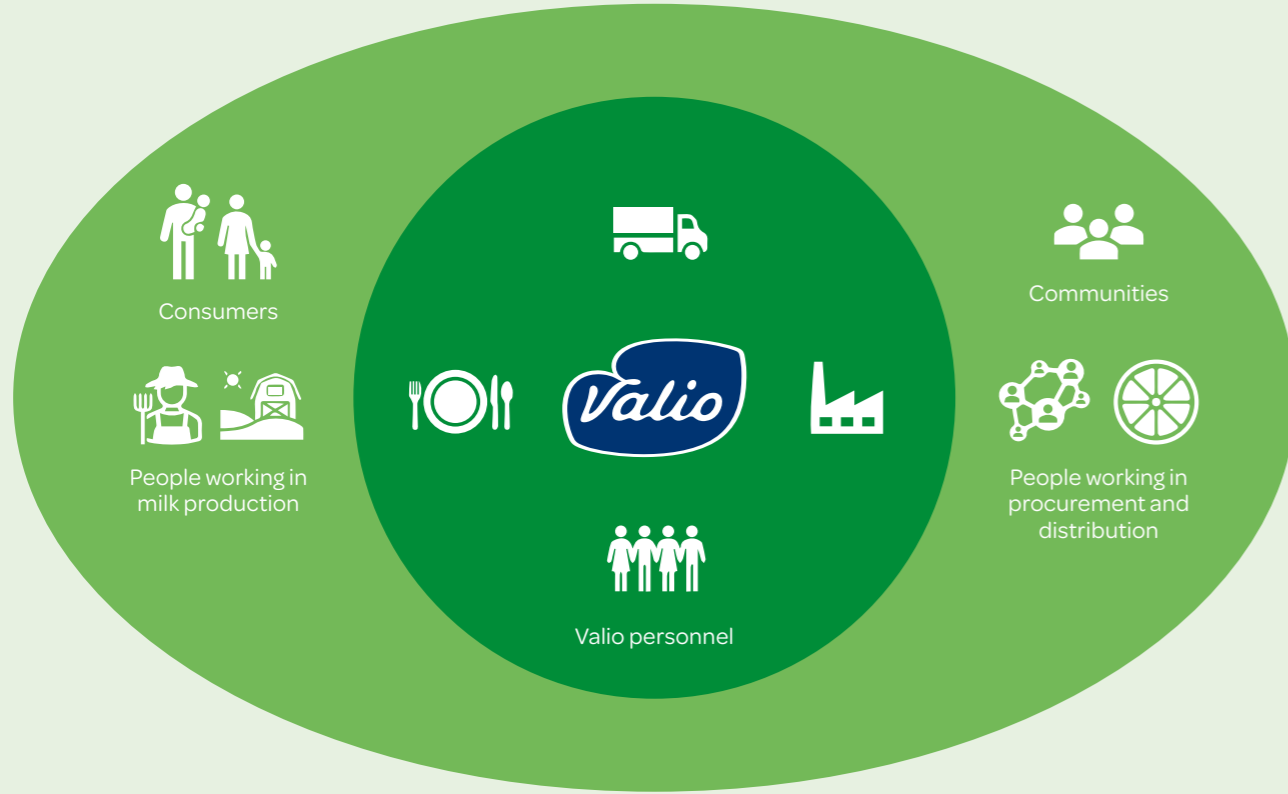
Directly in our own operations
Human right to health, safe working conditions, as well as non-discrimination and non-harassment

Indirectly, e.g. in its procurement and supply chain

Rights related to working conditions, the freedom of assembly and association, the freedom of opinion and expression, children's rights and the ban on forced labour. Additionally, we identified risks that may have a wide-ranging impact on a number of human rights. These include, e.g., unfair competition, bribery, corruption, and the environmental impacts of milk production.

[Read more about the environmental impacts of milk production >>>](#)
[Read more about supply chain risks >>>](#)

VALIO HAS IDENTIFIED ITS HUMAN RIGHTS IMPACTS



Valio's internal ways of operating and the mutual interaction of Valio employees have a direct impact on our employees. The outer perimeter shows the people who are indirectly impacted by Valio's own operations or its supply chain.

WE ARE REDUCING RISKS THROUGH PRACTICAL MEASURES

Based on the human rights impact assessment, we improved our due diligence process and reduced our risks through practical measures. **The main actions taken in 2020 are listed below.**

Code of Conduct update	<ul style="list-style-type: none"> Human rights policy as part of the Code of Conduct Renewal of Code of Conduct online training
Supplier and Distributor Code of Conduct update	<ul style="list-style-type: none"> Code of Conducts for suppliers and distributors were combined: more broadly covers supply chain risks, used globally
Global food safety requirements for suppliers published	<ul style="list-style-type: none"> First official, global guidelines were approved and published on Valio's website Strict food safety requirements always apply to our suppliers
Control process for high-risk raw materials approved and launched	<ul style="list-style-type: none"> We identified raw materials with particularly high amount of risks in terms of their production We created a process to outline the utilisation targets for high-risk ingredients, and we take them into consideration in our product development process Read more about responsible sourcing >>>
Children at dairy farms	<ul style="list-style-type: none"> We recognised that children work with their families at dairy farms without it being actual child labour, i.e. work that violates children's rights We added consideration of the principles of children's safety at dairy farms to the good Valio milk production guidelines
Preliminary study on the foreign labour recruitment process at dairy farms	<ul style="list-style-type: none"> There are multiple higher human rights risks related to foreign labour We looked at the kinds of risks related to recruiting foreign labour. We interviewed a few dairy farmers and their foreign workers We identified that human rights risks in the recruitment process in Finland are rather small because the hiring of individual people for dairy farms is usually for long-term employment. The entry process into Finland is comprehensively under the control of the authorities
Improving occupational safety and wellbeing	<ul style="list-style-type: none"> We improved occupational safety and wellbeing in line with our global development programme Read more about occupational safety >>>
Reducing environmental impacts	<ul style="list-style-type: none"> We identified several environmental impacts that also impact people Read more about environmental impacts >>>

WE IMMEDIATELY ADDRESS HUMAN RIGHTS RISKS THAT HAVE MATERIALISED

We monitor the materialisation of human rights impacts as part of daily work (meetings, discussions, etc.) and through internal and external reporting channels. Internal findings and incidents (e.g. hazards and accidents) related to food and occupational safety are reported at our Finnish sites to the relevant observation programme. In other topics, Valio uses a global Whistleblowing channel.

[Read more about the reporting channel's activities and handling process >>>](#)

Valio receives external concerns related to human rights and responsibility primarily through the consumer feedback channel or via email; the way the concerns are handled depends on the type of report. In 2021 we will create a new external reporting channel and a clear process for handling reports and corrective measures.

ASSESSING HUMAN RIGHTS IMPACTS IS NOT A ONE-TIME TASK

We assess the timeliness of human rights impacts and the effectiveness of measures at least every three years by reviewing the existing assessments and the measures implemented. We expand and further



ASSESSING HUMAN RIGHTS IMPACTS

is not a one-time task



specify the assessment systematically as the work advances in the different functions.

We always initiate a human rights impacts assessment review also in connection with the following:

- New functions/new business
- Significant changes in the external operating environment
- Significant changes in Valio's own operations
- A new operationally relevant impact, risk, or perspective that has been brought to Valio's attention

The operating environment changed significantly in 2020 as a result of the coronavirus pandemic. It significantly impacted the wellbeing and livelihoods of people. Read about the coronavirus impacts on Valio's business [in the CEO's review](#) and the impacts on [Valio people](#) as well as on the [supply chain](#).

DIVERSITY AND INCLUSION

SAFETY & WELLBEING

EMPLOYEE RELATIONSHIP

PEOPLE IN SUPPLY CHAIN

SAFE AND HEALTHY PRODUCTS

We monitor human rights work as part of overall social responsibility. Valio's social responsibility team includes experts in various subjects.

SAFE PRODUCTS

Product safety is ensured by the traceability of raw materials and packaging materials and by self-monitoring of production.



Product safety encompasses the following:

- All our plants have a food safety control system in place.
- We continuously develop food safety control systems at the Group and plant level.
- We monitor changes related to food safety globally, and we update the control systems based on this information and on the changes in our own operations.
- The ingredients and materials we use are subject to a strict approval process.

- We carefully monitor production processes and finished products.
 - o Our plants carry out self-monitoring based on the HACCP system. We use self-monitoring to identify and eliminate factors that could jeopardise consumer health and safety.
 - o Raw milk and product safety is ensured through sampling. The sampling and analysis results are within the scope of internal and external audits.

- A product’s most important traceability information is the ‘best before’ date. Information about the raw materials and other materials can be traced based on this.

Production plants and warehouses are approved by authorities and are subject to regular monitoring by authorities. **Valio’s food safety and quality policy** is available online.

CERTIFIED SYSTEMS AND SELF-MONITORING

Product safety is ensured by raw material and packaging material traceability, certified quality and food safety control systems, and self-monitoring of production.

We operate in accordance with the descriptions, procedures, and instructions recorded in the Valio Fact management system. The procedures take into account the requirements of laws, standards, and customers.

CERTIFIED SYSTEMS AND SELF-MONITORING

ENVIRONMENT	<ul style="list-style-type: none"> • ISO 14001 environmental certification at Finnish and Estonian production plants
OPERATIONAL QUALITY	<ul style="list-style-type: none"> • ISO 9001-certified quality system in Valio Finland, Estonia, and Russia
FOOD SAFETY	<ul style="list-style-type: none"> • FSSC 22000-certified food safety control system at Lapinlahti, Seinäjoki, Joensuu, Haapavesi, Suonenjoki, Turenki, Jyväskylä, Riihimäki, Vantaa, Tikkurila, Äänekoski, Oulu, and Ershovo (Russia) plants • BRC-certified food safety control system at the Võru plant (Estonia)
SELF-MONITORING PLANS	<ul style="list-style-type: none"> • Production plants and warehouses have self-monitoring plans compliant with HACCP guidelines • They cover the production process, from the receiving of raw and packaging materials to product, facility and process equipment monitoring, storage, and transportation • Self-monitoring is verified regularly through internal and external audits
ACCREDITED LABORATORIES	<ul style="list-style-type: none"> • Lapinlahti–Seinäjoki regional laboratory: FINAS accredited T169 test lab, accreditation requirement SFS-EN ISO/IEC 17025 • Helsinki chemistry and microbiology laboratory: FINAS accredited T022 test lab, accreditation requirement SFS-EN ISO/IEC 17025
RESIDUE CONTROL	<ul style="list-style-type: none"> • Milk and product purity is verified through stricter residue control than is required by law. We check residue content in raw milk and products for harmful substances, such as heavy metals, pesticides, dioxins, mould toxins, and radioactivity. • All residue levels in 2020 were significantly below the statutory requirements and safety limits.

PERSONNEL WELLBEING IS THE FOUNDATION OF OUR OPERATIONS



The health, safety, and wellbeing of Valio employees and those working in our supply chain are the foundation of our operations. These issues were emphasised in 2020 because of the exceptional conditions caused by the coronavirus pandemic.

The majority of Valio employees work in-person at plants and warehouses where hygiene is very strict also in normal circumstances. We created a hybrid strategy for Valio to manage the coronavirus crisis. Its key elements are anticipating, testing, tracing, and isolation. We managed the crisis effectively. That is reflected in the good feedback from our personnel about the quickly updated operating guidelines.

Some Valio employees worked remotely, which was a big cultural change and required people to adapt to the change. We conducted two wellbeing surveys about remote work. The results indicated that remote work is largely successful. We responded to the hopes for better ergonomics, for instance, by offering to lend out equipment, from work chairs to wireless headphones, for home offices in Finland. Additionally, in other countries webinars related to ergonomics, efficient remote work, and relaxation were offered, and walking meetings were arranged.



PEOPLE BRING THE STRATEGY TO LIFE

Valio's strategy was updated in 2020. Committed and capable Valio people are our most important competitive advantage. Together we create innovative solutions for our customers. Our corporate culture has been built around innovativeness throughout Valio's history. In 2020 we supported Valio employees in implementing the strategy in the following ways, e.g.:

- We started training on solution sales
- We made recruitments to support the value-added powder business

- We arranged IT and remote management trainings for support in the exceptional time
- We piloted virtual coaching on innovation management

MANAGEMENT IS EMPHASISED DURING EXCEPTIONAL TIMES

Development as a manager and a supervisor is a continuous process. During exceptional times, the role of good management is emphasised. In 2020 we started renewing the supervisory learning path. The path includes learning modules related to, e.g., coaching leadership, performance management, and employment law. In 2021 the entire programme will be launched in different operating countries.

We also built an internal coaching network. The role of development managers is to support coaching leadership, readiness for change, and implementation of the strategy targets at Valio starting with the plant organisations.

SENSE OF COMMUNITY DURING THE EXCEPTIONAL TIME

The exceptional time forced us to think about new ways to maintain a sense of community. For example, in the USA, there

was the adoption of Lunch&Learn sessions to share know-how as well as breaks to reinforce a sense of community by playing games and implementing common thematic ideas.

Virtual Christmas parties or other virtual events were organised in all Valio countries to support a sense of community. We awarded teams in four categories: Valio employees voted for the recipient of the One Valio Award, and the Valio Executive Board selected the recipients of the Innovation Award, the Added Value Award, and the Leadership Award. The award recipients included individuals, projects, and teams.

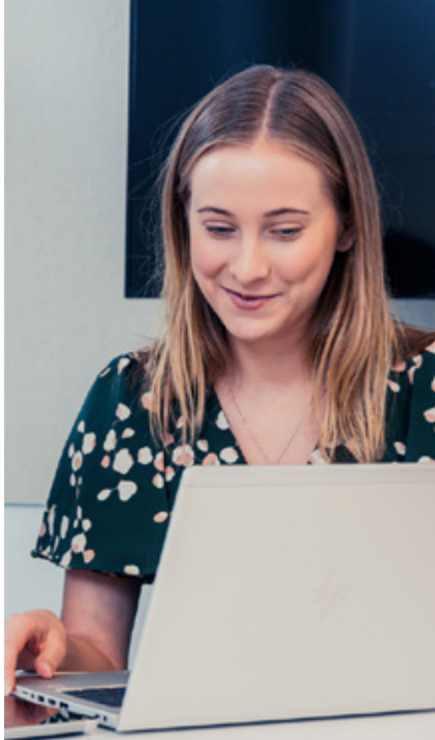
In spring 2021 we are deploying the new Valio Voice employee survey. The tool to measure the employee experience is more comprehensive, more interactive, and more agile than before.

MENTAL WELLBEING A FUTURE FOCUS AREA

During the exceptional time we offered personnel and supervisors support for mental wellbeing. For example, we offered digital coaching on wellbeing, low-barrier services with an occupational psychologist, and supervisor training on team support. In Estonia, for example, new services, including physical therapy and psychological counselling, were added to work wellbeing offering.

In the upcoming years we will focus on supporting mental wellbeing and measures leading to the realisation of our

TARGET: “ZERO WORK BURNOUT”



In the upcoming years we will focus on supporting mental wellbeing and measures leading to the realisation of our “zero work burnout” target. In 2021 we will try the offering of brief therapy, for example.

INDIVIDUAL DEVELOPMENT THROUGH JOB ROTATION

Learning at Valio happens especially through work-based learning. Additionally, we arrange training and coaching. In 2020, there was less in-person coaching than planned. We held virtual coaching on supervisory work and project management. Additionally, Lean Six Sigma training events and projects were carried out in production. We also offered several virtual coaching sessions.

We invested in individual development by offering new opportunities for job rotation or through participation in projects. A large number of the open job positions were filled through internal job rotation. There was also internal job rotation in managerial positions, and there were changes in several managing director positions in the subsidiaries, which offered opportunities for career rotation.

In 2021 there will be a focus on critical training from the perspective of the renewed strategy; the training will be implemented virtually.



EQUALITY AT WORK AND EQUAL OPPORTUNITIES



Equality and non-discrimination are our key values and part of Valio's Code of Conduct principles. We promote equality and non-discrimination purposefully and systematically in all our operations. The measures are included in Valio's Equality and Non-Discrimination Plan, which has been compiled in collaboration with personnel representatives. All Valio employees complete Valio's Code of Conduct training, where these issues are reviewed. Additionally, Valio USA also arranges annual virtual training on anti-harassment.

We immediately address inappropriate behaviour and discrimination. Valio uses a Whistleblowing channel through which our employees can report their observations.

[Read more about the channel on Valio's website >>>](#)

We promote the equitable recruitment of all genders in the various jobs, and we want to create equal opportunities for them for career advancement and job rotation. We develop working conditions to ensure they are suitable for all genders. It is important in the recruitment phase that

**ALL EMPLOYEES
ARE EQUAL
AT VALIO, AND
WE DO NOT
DISCRIMINATE
AGAINST
ANYONE BASED
ON THEIR**

AGE

GENDER

ETHNIC ORIGIN

NATIONALITY

LANGUAGE

RELIGION

CONVICTION

OPINIONS

POLITICAL ACTIVITIES

TRADE UNION ACTIVITIES

FAMILY RELATIONSHIPS

HEALTH

DISABILITY

SEXUAL ORIENTATION

or other characteristic related to their person.

we act in such a way that job vacancies attract applications from all genders. During the employment relationship, we pay attention to work arrangements and thus aim to facilitate the smooth functioning of work life and private life. Additionally, we promote equal working conditions for all genders, especially regarding levels of pay.

56 per cent of the employees are male and 44 per cent female. At the end of the year, Valio's Executive Board had six members, three of them were female. See more personnel key figures in the [Personnel information section](#).



AIMING FOR ZERO INCIDENTS & ACCIDENTS

We do persistent work to improve work safety. Our goal is to eliminate or minimise personnel, operational, and property hazards. The planning, implementation, and operation of safe practices required by the coronavirus pandemic were at the centre of everything.

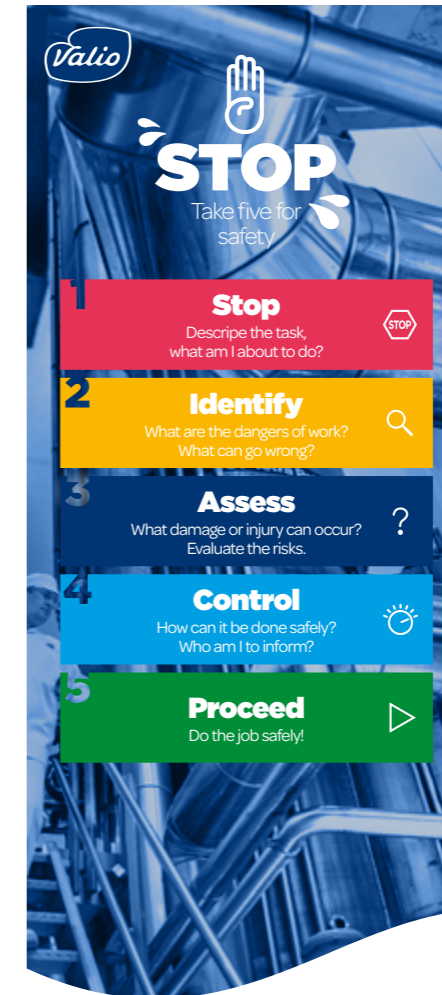


We log and investigate all Valio occupational accidents globally. In Finland, accidents occurring during travel between home and the workplace are also counted as occupational accidents. All employees in Finland can track accident reports.

OCCUPATIONAL ACCIDENTS ARE MOST OFTEN CAUSED WHILE MOVING ABOUT AND ARE MINOR

Globally, there were five per cent more occupational accidents in 2020 than the previous year. Occupational accidents at Valio are mostly very minor and causing only short absences. The accident frequency was 17 accidents per million hours worked. 27 per cent of the accidents in Finland happened during work commutes. Work commute accidents increased by 27 per cent. There was one report of occupational disease in Finland. There were no workplace accidents resulting in death.

The most common occupational accidents in Finland involved falls or slipping (25% of the cases), a sudden load on the individual (22%), and cuts and injuries caused by a rough object (19%).



59% of the occupational accidents resulted in absences of three days or less.

In 2020 we started a project aiming to significantly reduce the number of accidents in the upcoming years. The safety theme in 2021 is Think for a moment – about safety. We want employees to stop for a moment and think about the hazards related to the work, and how they can be prevented. We are also building our procedures to meet ISO 45001 requirements on occupational health and safety systems. Our 2021 priorities also include sharpening our safety management model globally.

Development of occupational safety indicators is in the [Graphs section >>>](#)

TRANSPARENT SUPPLY CHAIN

The most important areas of responsible sourcing are food safety, supply chain transparency, social responsibility, and environmental responsibility.

Together with the product categories, the sourcing team, product development, the food safety team, and packaging development, we verify the quality, safety, and origin of the raw materials, as well as the regulatory compliance of packaging. We require our suppliers and subcontractors to also commit to our responsible way of operating.

Milk accounts for about 95 per cent of the raw material kilos used in the products we make. Finnish milk is used in all products sold in Finland. In 2020, as in the previous year, the domestic share of our procurements in Finland (including raw milk) was over 90 per cent.

The share of Finnish milk in the raw materials of our products globally is about 82%. About 10 per cent of the milk is sourced from partnered producers in Estonia and Russia, and that milk is used in local production. We constantly monitor milk quality. Around eight per cent of the milk is sourced from other suppliers: in the USA, e.g., we sell locally produced cheeses alongside cheeses that are made in Finland. In contract manufacturer products, we always aim for raw materials and end products of a high quality.

Among our other raw ingredients are berries, grains, sugar, and rapeseed oil. In this section we address the sourcing of non-milk ingredients in particular.

WE UPDATED OUR SUPPLIER MANAGEMENT PROCESS IN 2020

You can read about milk sourcing in the section [Owned by Finnish dairy farmers](#) as well as [Animal welfare](#).

ONLY APPROVED SUPPLIERS

To improve the traceability and transparency of our supply chain, we aim to know our suppliers and manufacturers better. We are continuously improving our supplier approval, assessment, and monitoring processes. Our sourcing policy and principles guide our activities.

We ensure the food safety and responsibility of the supply chain through a supplier

approval and management process. Our suppliers must commit to Valio's [Supplier and Distributor Code of Conduct](#). Additionally, the suppliers who supply food- or food safety-related products or services to Valio must commit to compliance with the requirements and guidelines related to them.

We updated our supplier management process in 2020. It is now based on the risk classification of the suppliers' food safety and responsibility. From now on, suppliers must meet the requirements in product and supplier surveys defined for their own supplier category.

Sedex (Supplier Ethical Data Exchange) is a non-profit organisation that helps its members to promote responsible supply chains. Valio is a member of Sedex AB, and we encourage particularly our raw material producers in risk countries to become members of the Sedex organisation. We use the Sedex risk assessment tools to monitor the results of the responsibility assessments and audits of our suppliers. AB membership means that we use Sedex to assess suppliers and to disseminate information to customers.

Less than 0.1 per cent of our raw materials are from countries that [Amfori BSCI](#) has classified as risk countries. We want to ensure

the responsibility of also these products. We audit our suppliers on the basis of risk assessments. Our own audits are focused on ensuring food safety and quality. Additionally, we utilise globally recognised responsibility audits (Smeta, BSCI).

RESPONSIBLY PRODUCED RAW MATERIALS

There are always responsibility risks related to the production of raw materials because the risks may impact the surrounding environment and people. We have identified the responsibility risks of our supply chain as part of the human rights impact assessment and the supply chain risk assessment. The most serious risks target countries where the protection of human rights is inadequate and the labour force largely consists of migrant workers. Violations related to working conditions are globally one of the most serious human rights impacts related to agricultural products.

We strive to manage supply chain responsibility risks through supplier management processes. However, it doesn't always extend deep enough into the supply chain. Therefore, based on supply chain responsibility risks, we have identified the raw materials requiring special attention, as their production involves a particularly high number of globally known risks. These

raw materials are mainly agricultural plant products or animal-based raw materials. In 2020 we decided that next we will create policies on the use of palm oil, cacao, and soy. Read more about our policies on [Valio's website](#).

RAPESEED OIL AND SUGAR FROM FINLAND

The rapeseed oil we use in Finland is one hundred per cent of domestic origin. The sugar has the Hyvää Suomesta [Produced in Finland] label, i.e. it's at least 75 per cent of domestic origin.

FINLAND'S LARGEST BERRY PROCESSOR

Berries and fruits are key raw materials in our products, so they are an important category for us in terms of sourcing. For example, our yoghurts and quarks are flavoured with jams from the Suonenjoki jam plant. The Pitäjänmäki juice plant makes berry sauces and juices.

We favour Finnish berries, based on their quality, availability, and price. To ensure availability, we also buy berries, berry mashes, and concentrates from elsewhere in Europe. We use a lot of Finnish blueberries, but Finnish strawberries, e.g., are sold almost entirely directly to house-

holds and there isn't enough for use as an industrial raw material.

We buy tropical fruit mashes, pieces, and concentrates from, e.g., South America and Asia, orange concentrates from Brazil and Mexico, and pineapple concentrates from Indonesia and Thailand.

RESPONSIBLE SERVICES AND MATERIALS

The sourcing of materials and services that support production and operations, i.e. indirect sourcing, accounts for a big part of our procurements. We have identified the main areas of development in indirect sourcing.

We have thousands of suppliers, so cooperation with key suppliers is critical. Along with supply chain efficiency and competitiveness, we emphasise responsibility already in the tendering phase. This allows us to have a real discussion and develop operations collaboratively.

RESPONSIBLE PRODUCTS FOR PROFESSIONAL KITCHENS AND THE FOOD INDUSTRY

Valio Food Solutions serves professional kitchens and the food industry. We make the dairy products and the juice and berry

CASE

RESPONSIBILITY IS A MUTUAL COMMITMENT TO OPERATIONAL DEVELOPMENT

The reliability and good reputation of the supplier is emphasised in the sourcing of services or materials.

In the sourcing of clothing, protective equipment, and footwear intended to protect our employees, food safety, occupational safety, comfort, and product lifecycle are important. Our employees participate in testing and choosing the products to be used.

Puhdaspalvelu Fi Oy is responsible for workwear procurement, washing, and logistics. We procure protective equipment from Etra Oy. Together we assess the products suitable for Valio, and Etra is responsible for their automatic shelving. This reduces the number of kilometres driven and minimises the number of site visits. At the same time, we facilitate our everyday life.

As a general rule, footwear for our plant employees is sourced from Sievin Jalkine Oy, which sews and manufactures footwear in Finland. We have collaborated on the design of the footwear so that it's functional for our conditions and requirements. We utilise Etra's logistics in footwear logistics.

We value responsible suppliers who stand behind the quality and origin of the products and develop their own environmental responsibility. Developing the different areas of sustainability involves long-term cooperation.

Jussi Koskinen, Head of Indirect Sourcing, Valio



products in-house. We purchase other products, such as frozen foods, from our approved sub-suppliers. The beef, pork, chicken, and lamb used in Valio-branded products are 100 per cent Finnish. All our products containing fish help customers to make responsible fish choices: we use Finnish or MSC- or ASC-certified fish that is sustainably caught or raised in accordance with the green-lighted fish in the [WWF's sustainable seafood guide](#).

PANDEMIC'S IMPACTS ON THE SUPPLY CHAIN

The operating environment changed significantly in 2020 as a result of the coronavirus pandemic, and we restricted physical encounters to only the essential.

We intensified the monitoring of deliveries to ensure delivery reliability. The production plants prepared to increase the inventory levels of critical raw materials and packaging materials, and spare parts were ordered proactively.

There were challenges in the availability of personal protective equipment and hygiene supplies because of the rapid growth in demand.

There were sporadic delivery delays in raw materials. The availability of berries,



among others, caused concern because of the possible shortage of berry-pickers. In packaging procurements, we shifted from large packaging to small, as sales dipped in the professional kitchens sector.

We were not able to audit our suppliers as planned. However, we learned new ways of operating and conducted some remote audits. In the future, we can enhance the audits and use at least some parts of the hybrid model.

Despite the challenges, we were able to meet customers' demands and to keep our supply chain in operation and responsible.

WORK TO ADVANCE RESPONSIBLE SOURCING CONTINUES

We are currently renewing the responsible sourcing programme and its measures and indicators. The aim is that our operations will be more sustainable in terms of environmental, economic, and social responsibility, and we are able to monitor our development and respond to customer expectations even better.

We will continue assessing the human rights impacts of the supply chain and extend it as part of the strategy work of procurement categories. We will develop our competence in identifying risks in our supply chain and deepen our cooperation with our suppliers to mitigate risks.

In supplier cooperation and in tendering and agreements, we strive to recognise Valio's target of a carbon-neutral milk chain by 2035, and we guide our suppliers to support us in our target. We work with our most important suppliers and partners for solutions to reduce the carbon footprint and minimise climate impacts.

VALIO'S PRODUCTION PLANTS

Valio has plants in Finland, Estonia, and Russia

We export products from Finland to roughly 60 countries. The majority of exports are milk and whey powders as a raw material for the food and baby food industries, as well as butter.

-  CHEESES
-  POWDERS
-  FRESH PRODUCTS
-  JAMS
-  JUICES
-  BUTTER AND SPREADS



RISK MANAGEMENT

The aim of risk management is to identify significant events and uncertainties that can affect the achievement of Valio's strategic, operational, and financial targets, and the occurrence of accident events.

Risk management is a part of normal operational management. Proactive risk assessment helps us to prevent the realisation of risks and to see opportunities more clearly.

As an international food sector player, Valio's business is impacted by the operating environment and the milk market situation both globally and in home markets. As a significant receiver of milk and a manufacturer and distributor of food products, the continuity of business operations, processes, and information systems are of key importance to Valio. The goal is to ensure the high delivery reliability to customers every day. As a security of supply-critical company, Valio's operational continuity also has a societal dimension – both in securing the food supply for the everyday life of Finns and also in exceptional situations. Continuity management is carried out from the dairy farm to the customer.

The target set for safety is **zero incidents and accidents**. Risk management is particularly centred on also **food safety and quality**. If these fail, there is a risk of personal injury caused by the products and potential liability risks for consumers as well as for Valio's customer companies. Reputational risks damaging the Valio

brand are also linked to the consequences. Climate change is a significant external risk. Valio has responded by investing strongly in the target of **carbon-neutral milk by 2035** and by bringing more plant-based products to its portfolio.

Since 2020, the global coronavirus pandemic has been the primary realised risk, and we have had a sharp focus on managing that risk. At the start of the crisis, a crisis management model was implemented to ensure service level and the health of employees.

Each function is responsible for risk management of its own operating area. The three focus levels of risk identification are legislative and regulatory risks ("compliance"), operational and project risks, and peak business risks. In 2020 Valio started a Group-wide ERM process that identified 160 risks, 13 of them designated as peak risks. Owners have been appointed for the identified risks and control mechanisms have been defined.

The Risk Management Office supports the risk management work of the organisations by, e.g., developing risk identification and analysis procedures and by participating in risk identification work. The main focus is on the development of preventative

operations. The work also includes the reviewing of risk assessments and various verification rounds.

Accident risks are identified and assessed regularly and their economic impacts are considered in Valio's insurance solutions. The Risk Management Office governs Valio Ltd's non-life insurance policies and the insurance programmes covering the entire Group. It also guides insurance activities in subsidiaries. Insurance policies are hedges against risks of damage that significantly impact Valio Group's ability to operate. Insurance coverage and adequacy of insurance amounts are assessed, e.g., in conjunction with the risk mapping of sites and from a Valio-level perspective. Focus areas in recent years have been cyber threats and business continuity.

GOVERNANCE AND REMUNERATION

Finnish milk producers own Valio through cooperatives. We pay out all of our operational profit to the milk producers. Valio Ltd's decision-making bodies are the Annual General Meeting, the Supervisory Board, and the Board of Directors.

You can read more about Valio's governance model on our [website >>>](#)

The Board of Directors decides on the remuneration, including bonus systems, for the CEO and the Executive Board. Remuneration for the Board of Directors is decided on by the Supervisory Board. Supervisory Board remuneration is the purview of the General Meeting.

SUPERVISORY BOARD REMUNERATION

In 2020, Valio's Supervisory Board was paid a total of EUR 135,936 in monthly and meeting fees.

- Chairman EUR 2,870/month
- Vice Chairman EUR 1,770/month
- Meeting fee for each Supervisory Board meeting EUR 330
- Compensation for lost working time for each Supervisory Board meeting EUR 250

BOARD OF DIRECTORS REMUNERATION

In 2020, Valio's Board of Directors was paid a total of EUR 191,320 in monthly and meeting fees.

- Chairman EUR 3,820/month
- Vice Chairman EUR 2,720/month
- Members EUR 2,220/month
- Meeting fee for each Board of Directors meeting EUR 330
- Compensation for lost working time for each Board meeting EUR 250

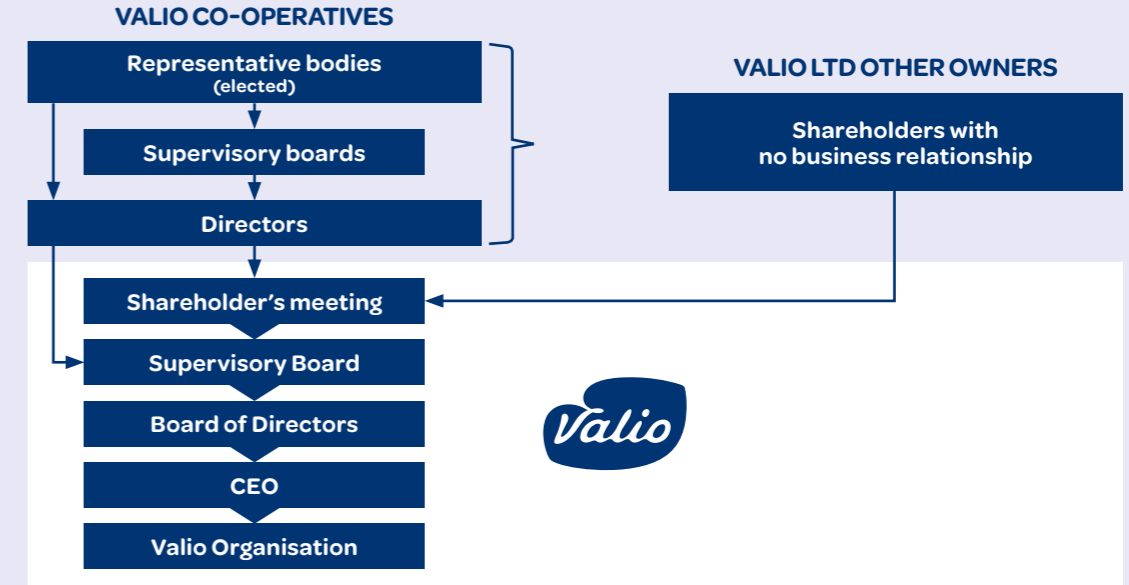
UPPER MANAGEMENT REMUNERATION

In addition to a fixed monthly salary and fringe benefits like a car and phone, Valio's upper management has profit-sharing targets and retirement benefits. Valio Group's Executive Board in 2020 included five members and the CEO. Members of the Executive Board were paid salaries and bonuses as follows:

- Total salaries and bonuses EUR 2,368,000



THE VALIO ADMINISTRATION MODEL



VALIO GROUP EXECUTIVE BOARD IN 2020

- Annikka Hurme**, Chief Executive Officer
- Teresa Laimio**, Executive Vice President, Sustainability and Stakeholder relations
- Juha Penttilä**, Executive Vice President, Operations
- Tuomas Salusjärvi**, Executive Vice President, Growth businesses and R&D
- Elli Sitala**, Executive Vice President, Core businesses and Brand
- Jyri Virrantuomi**, Executive Vice President, Finance and Strategy
- Marianne Tammela**, Chief Human Resources Officer (also included in Executive Board meetings as of 1.9.2020 and officially an Executive Board member as of 1.1.2021)



ENVIRONMENTAL INFORMATION

The calculation practices for environmental indicators vary in Valio's plants in Finland, Russia, and Estonia due to, for example, local authority guidance. In this section, we present the environmental information for 2020 to the extent that we have the information available in a comparable format.

EMISSIONS TO AIR

More information is available in the section Resource efficiency at production plants. [Read more >>>](#)

MAIN GREENHOUSE GAS EMISSIONS IN FINLAND

	Unit	VALIO FINLAND
Heat plants (Valio is the only customer)		
Fossil	tn CO ₂ eq	90,600
Renewable*	tn CO ₂ eq	69,700
Refrigerant leaks	tn CO ₂ eq	600
Scope 1 fossil, total	tn CO₂ eq	91,200

*We comply with the calculation guidelines of the international GHG Protocol. Renewable energy's direct emissions are not calculated as emissions in the inventory, i.e. computationally, they are zero.

Heat plants (Valio and other customers) + district heating

Fossil	tn CO ₂ eq	15,700
Renewable*	tn CO ₂ eq	39,500
Emissions, market based**	tn CO ₂ eq	48,200
Emissions, location based**	tn CO ₂ eq	34,000
Scope 2 fossil, total	tn CO₂ eq	63,900
Raw milk***	tn CO ₂ eq	1,812,400
Other product raw materials, packaging, and cleaning agents	tn CO ₂ eq	70,400
Logistics	tn CO ₂ eq	46,600
Waste	tn CO ₂ eq	2,000
Work commute and business travel	tn CO ₂ eq	3,600
Investments, energy production, and use of products	tn CO ₂ eq	195,300
Scope 3 fossil, total	tn CO₂ eq	2,130,400

NITROGEN OXIDES (NOX), SULFUR OXIDES (SOX), AND OTHER SIGNIFICANT AIR EMISSIONS, 2020

	Unit	VALIO FINLAND	ESTONIA LAEVA	ESTONIA VÖRU	VALIO RUSSIA	TOTAL
Nitrogen oxides	tn	257	8	9	n/a	274
Sulfur oxides	tn	126	26	21	n/a	173
Particles	tn	6	3	6	n/a	15
Powder dryer, dust emissions	tn	14			0	14

MAIN GREENHOUSE GAS EMISSIONS IN ESTONIA AND RUSSIA

	VALIO ESTONIA	VALIO RUSSIA
Scope 1		
	tn CO ₂ eq	tn CO ₂ eq
Heat plants, fossil	8,400	1,400
Heat plants, renewable	1,100	
Scope 2		
	tn CO ₂ eq	tn CO ₂ eq
Electricity ** 1) Market based	13,500	n/a
Electricity ** 2) Location based	6,100	n/a

*We comply with the calculation guidelines of the international GHG Protocol (www.ghgprotocol.org). Renewable energy's Direct emissions are not calculated as emissions in the inventory, i.e. computationally, they are zero.

**Purchased electricity emissions are reported both a market- and location-basis. In combined emissions we use the market-based figure

***The raw milk greenhouse gas emissions calculation for 2020 is based on detailed carbon footprint calculations of 600 dairy farms. It corresponds to about 25% of the received milk. The figure will become more accurate as the carbon footprint of more and more farms is calculated. Calculations are done using Valio CARBO® farm calculator. It is based on certificated life-cycle calculation model (cert. Carbon Trust 2019).

NOISE

Significant noise sources at the plants have been identified and outfitted with noise reduction equipment, when needed, in order to meet the requirements of the sites' environmental permits. If there are targets in the immediate vicinity of the plant that could be disturbed, such as residential areas, the plant's noise situation is reviewed regularly. Valio's investment systematics includes the assessment of the investment's noise impacts, and, if necessary, noise impacts are assessed and controlled by creating modelling to support the design.

Our powder dryer is equipped with dust separation equipment that meets the requirements of the EU's best available technology; the equipment performance is monitored regularly in accordance with the terms of the environmental permit.

WATER CONSUMPTION

A dairy uses a lot of water for cooling and for washing to ensure hygiene. Surface water is used for cooling at certain plants, and that water is returned to the water system after passing through a heat exchanger. The majority of the plants get their domestic water from municipal water utilities.

Milk production also consumes a lot of fresh water. Finland has abundant fresh water resources.

We reduce our water consumption at the plants by using a clean-in-place system for process equipment and by enhancing the efficiency of water use. Today the use of recycled water is significant.

We monitor our wastewater load and volume by comparing them to the milk volume received. In 2018–2020, we aimed to reduce our wastewater load by 0.5% and its volume by 1.2%. Our target for 2021 is to limit the increase of water consumption to 0.5 per cent and to decrease the wastewater load to 1.0 per cent.

In 2020 the most significant single investments impacting environmental impact management were the upgrade to the plant area's wastewater sewer system in Äänekoski and the development of the wastewater treatment plant operations in Võru.

WATER USE IN VALIO'S PRODUCTION PLANTS 2020	Unit	VALIO FINLAND	VALIO ESTONIA LAEVA	VALIO ESTONIA VÖRU	VALIO ESTONIA TOTAL	VALIO RUSSIA	Total
Fresh water withdrawal by source							
Municipal waterworks	m ³	4,358,419					4,358,419
Ground water (own wells)	m ³	395,684	266,679	287,954	554,633	57,637	1,007,954
Surface water (own treatment)	m ³	106,974					106,974
Cooling water from water bodies	m ³	3,333,578					3,333,578
Water recycled and reused	m ³	1,311,644	n/a	65,334	65,334		1,376,978



WASTEWATER

All Valio sites in Finland are connected to municipal sewer networks and their wastewater is routed to municipal wastewater processing plants. The sites in Estonia have their own wastewater treatment plants, and our Russian plant pre-processes its wastewater before releasing it to the municipal treatment plant. We aim to reduce wastewater volumes by reusing water at sites where the use of recycled water does not add to the food safety risk.

In smaller towns in particular, Valio's wastewater load on a treatment plant is significant in proportion to the town's total load. Our large water consumption and the load of product traces in wastewater, if uncontrolled, make the wastewater of dairies a significant environmental risk; we have detailed, continuous processes to control it.

Compared to the previous year, the amount of wastewater increased clearly and the wastewater load remained on the previous year's level. The increase in the wastewater volume is related to the launch of new operations.

WATER DISCHARGE, 2020	Unit	VALIO FINLAND	VALIO ESTONIA LAEVA	VALIO ESTONIA VÖRU	VALIO ESTONIA TOTAL	VALIO RUSSIA	Total
Waste water to the municipal waste water treatment	m ³	5,349,775					5,349,775
Waste water to the own waste water treatment	m ³		249,180	381,208	630,388		630,388
Waste water to own pretreatment and then to the municipal WWTP	m ³					57,637	57,637
Cooling water to water bodies	m ³	3,333,578					3,333,578

MATERIAL EFFICIENCY AND WASTE MANAGEMENT

Our goal is to use raw materials and consumables resource-efficiently. The waste management goal is, in line with local opportunities, to implement the principle of priority, i.e. to direct as much material as possible for reuse and material recycling. Site-specific sorting instructions govern the waste management practices for the ordinary and hazardous waste at the sites. The waste management of the sites in Finland and Estonia are also monitored by environmental authorities.

In Finland and Estonia, by-products from production, faulty batches of products as well as products that are returned from grocery stores are processed in accordance with the by-products regulation of the European Parliament and of the Council. The primary usage is fodder, and the secondary usage is biogas production.

Companies that package products in Finland, and that have a turnover of at least one million euros, have a statutory obligation to arrange and pay for the collection and recycling of their packaging waste. In its agreement with Rinki Oy, Valio has transferred its producer responsibilities for packaging to various material type-specific producer organisations. We participate as a partner in plastics and cardboard producer organisations.

MATERIALS USED IN VALIO'S OWN PRODUCTION PLANTS, 2020	Unit	VALIO FINLAND	VALIO ESTONIA LAEVA	VALIO ESTONIA VÖRU	VALIO ESTONIA TOTAL	VALIO RUSSIA	Total
Raw milk	tn	1,807,400	117,142	103,216	220,358	0	2,027,758
Fruits and fruit preparations	tn	11,300	1,986.716	0	1,986.716		13,287
Other raw materials (sugars, salts, vegetable oils, etc)	tn	23,684	198.787	404.7	603.487		24,288
Use of packaging materials in Finland and for exports	tn	28,005	2,946.28	415.00	3 361		31,366

WASTE BY TYPE AND DISPOSAL METHOD 2020	Unit	VALIO FINLAND	VALIO ESTONIA LAEVA	VALIO ESTONIA VÖRU	VALIO ESTONIA TOTAL	VALIO RUSSIA	Total
Hazardous waste	tn	123	2.667	10	13		135
Re-use & Recycling (plastic, metal, glass, paper etc.)	tn	1 893	384.518	116	501		2,394
Waste to energy	tn	1 326	0	132	132		1,458
Composting and biogas	tn	28,807	7,127.3	2,071	9,199		38,005
Waste to burn	tn	329	40	132	172		501
Waste to landfill	tn	37	21	145	166	388	591



USE OF CHEMICALS

We use chemicals in the washing of pipe systems and equipment as well as in whey refining processes.

The environmental impacts from the acids and bases used in washing and powder plant production are related to wastewater. In a normal situation, the acids and bases neutralise each other in a natural process, or the wastewater is neutralised before the cleaning process. Wastewater that, exceptionally, is too acidic or alkaline may disrupt the wastewater treatment plant's operation.

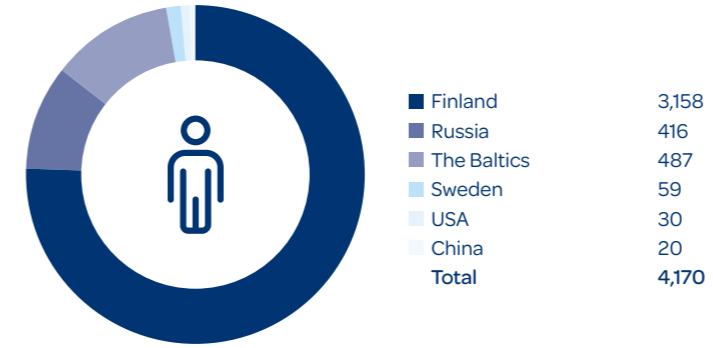
Ammonia is used as a coolant in the cold plants at Valio's production plants. Ammonia is toxic to humans and hazardous to aquatic life, but is commonly used in large cold plants. We have rigorous processes to ensure the safety of our cold plants.

PERSONNEL INFORMATION

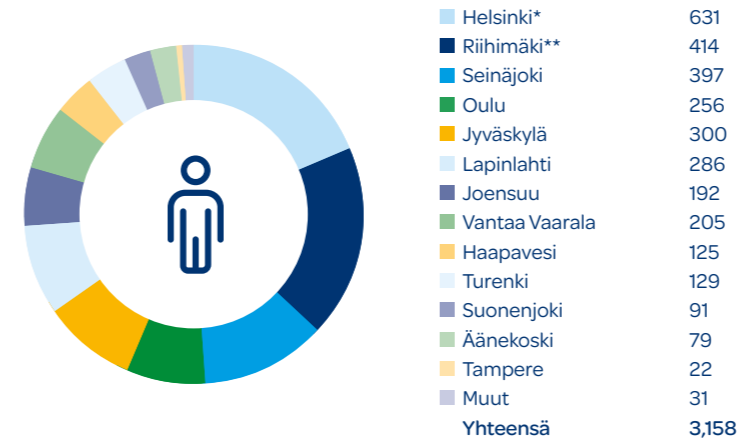


PERSONNEL

EMPLOYEES BY COUNTRY, 31 DEC 2020



PERSONNEL BY SITE IN FINLAND 31 DEC 2020,
INCLUDES PART-TIME AND FIXED-TERM EMPLOYEES

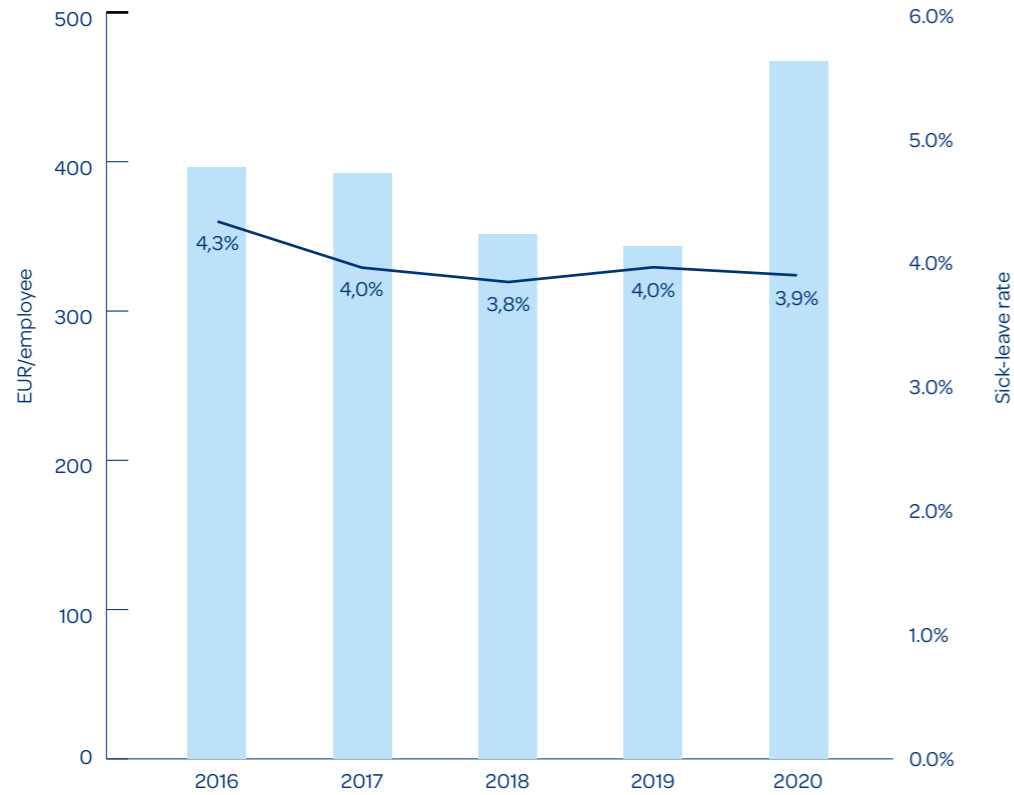


* Figure includes all Helsinki sites

** Figure includes all Riihimäki sites (R1+R2)

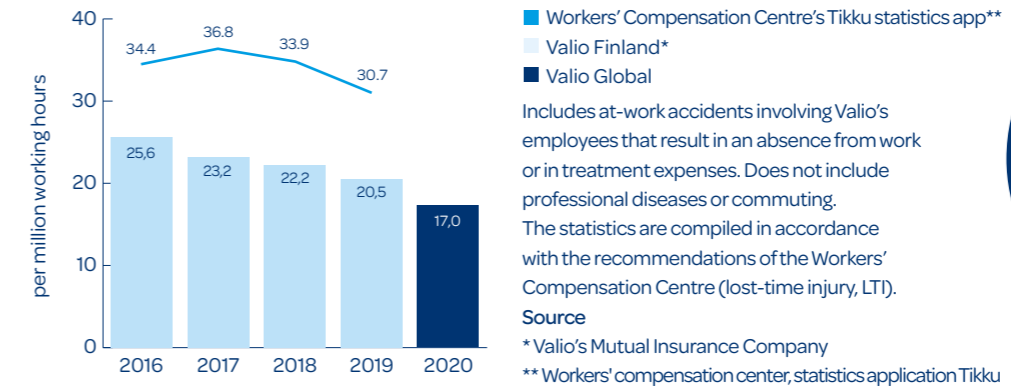


SICK-LEAVES AND COST OF OCCUPATIONAL HEALTH SERVICES IN FINLAND

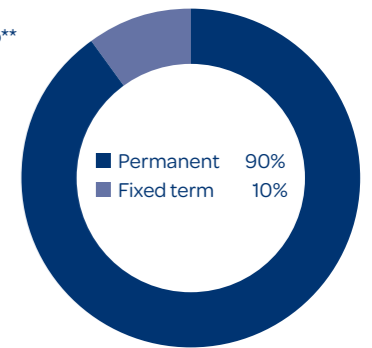


ACCIDENT FREQUENCY AT VALIO PRODUCTION PLANTS, FINLAND

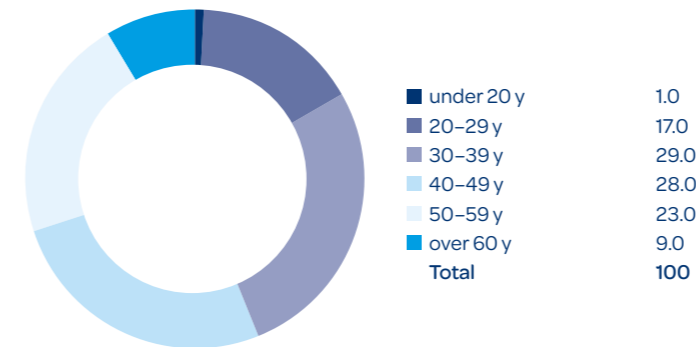
Figures cover Valio Oy's accidents in Finland in 2016-2019. Starting in 2020, we report accidents globally.



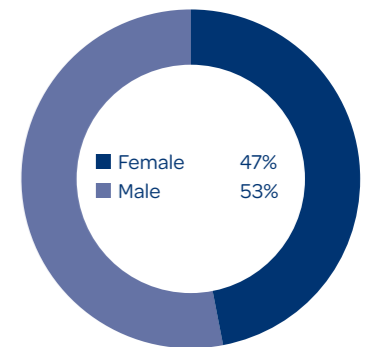
EMPLOYEES BY CONTRACT TYPE, 2020



PERSONNEL BY AGE, %



EMPLOYEES BY GENDER, 2020

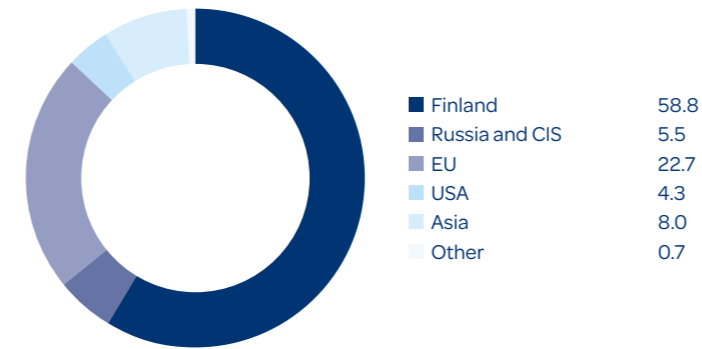


ECONOMIC INFORMATION

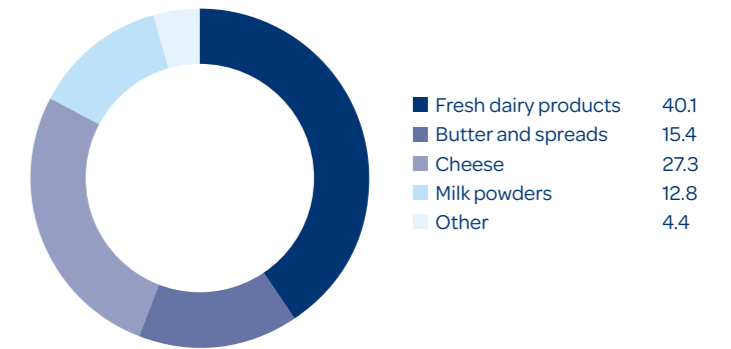


ECONOMIC INFORMATION

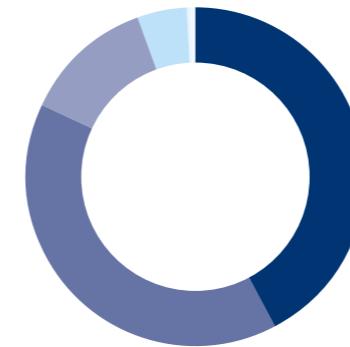
VALIO GROUP NET SALES BY AREA 2020 (%)



VALIO GROUP NET SALES BY PRODUCT GROUP 2020 (%)



DISTRIBUTION OF EXPENSES IN VALIO GROUP 2020



	CASH FLOW, MEUR OF NET SALES	2020 %
Milk producers	747	41.3
Purchases and services	703	38.9
Personnel costs	221	12.2
Depreciations	85	4.7
Financing costs	6	0.3
Taxes	8	0.4

PAYMENTS TO VALIO LTD OWNERS

	2016	2017	2018	2019	2020
Price paid for milk, MEUR	708	717	714	714	739
Dividends paid, MEUR	5	5	5	5	5
Interest on shareholder loans, MEUR	3	3	3	3	3

VALIO GROUP FINANCIAL**KEY FIGURES 2016–2020**

	2016	2017	2018	2019	2020
Milk volume taken in from the owners, mill. litres	1,861	1,837	1,821	1,792	1,807
Net sales, MEUR	1,638	1,708	1,734	1,787	1,808
Balance sheet total, MEUR	1,252	1,193	1,150	1,122	1,171
Investments, MEUR	127	98	62	64	61
Net sales/milk volume taken in, EUR/litre	0.88	0.93	0.95	1.00	1.00

VALIO GROUP NET SALES AND**PERSONNEL BY COUNTRY 2020**

	NET SALES* MEUR	PERSONNEL, AVERAGE	PERSONNEL 31 DEC 2020
Valio Ltd	1,515	3,230	3,158
Valio Ltd's net sales in Finland	1,062		
Valio Russia	87	420	437
Valio Baltic	125	483	493
Valio Sweden	124	58	59
Valio USA	77	30	30
Valio China	92	25	20
Valio Group total	1,808	4,246	4,197

*) Net sales of Valio Ltd and its subsidiaries includes intra-group sale of MEUR 214.

REPORTING SCOPE

We report Valio's operational and sustainability results once per year in our Sustainability Report, applying the guidelines of the GRI Standard.

REPORT CONTENT: This Sustainability Report covers Valio's activities in 2020 and early 2021. It covers Valio's operations in Finland and, in part, in its operating countries. In conjunction with the figures and other information, the relevant operations are specified.

GOVERNANCE: Valio's operations are guided by the Group's base mission, goals, values, strategy, and governance policies. Our governance policies determine the composition of Valio's Supervisory Board and Board of Directors, as well as the decision-making authority of the Valio organisation, such as the General Meeting, the Supervisory Board, the Board of Directors, the CEO, the Executive Board, the business units, group functions, and business processes. Valio's governance model and its administrative remuneration systems are detailed in the **"Governance and remuneration"** section.

The principles and policies guiding Valio's operations are available on Valio's website [read more >>>](#)

GRI TABLE

NUMBER	CONTENT	LOCATION	NOTES
GRI 102: GENERAL DISCLOSURES 2016			
1. ORGANISATIONAL PROFILE			
102-1	Name of the organisation	Valio	
102-2	Activities, brands, products, and services	8, 26, 60, 82	
102-3	Location of headquarters	Meijeritie 6, Helsinki, Finland	
102-4	Location of operations	112	
102-5	Ownership and legal form	Valio's owners and governance >>>	
102-6	Markets served	112	
102-7	Scale of the organisation	99, 103	
102-8	Information on employees	74-81; 98-101	
102-9	Supply chain	82-87	
102-10	Significant changes to the organisation and its supply chain	After cooperation negotiations, temporary layoffs were initiated at Valio Oy from 22.4.-31.12.2020 due to the coronavirus pandemic-related reduced work volume and for financial reasons. The temporary layoffs were mostly short term and affected 265 employees in the head office functions. Adjustment measures were implemented also in other Valio countries.	
102-11	Precautionary Principle	88	
102-12	External initiatives	26, 39	
102-13	Membership of associations	30	
2. STRATEGY			
102-14	Statement from senior decision-maker	4-5	
3. ETHICS AND INTEGRITY			
102-16	Values, principles, standards, and norms of behaviour	9, 65	
102-17	Mechanisms for advice and concern about ethics	68, 79	

NUMBER	CONTENT	LOCATION	NOTES
4. GOVERNANCE			
102-18	Governance structure	90-91	
102-35	Remuneration policies	90	
5. STAKEHOLDER ENGAGEMENT			
102: 40-44	List of stakeholder groups	26-31	
6. REPORTING PRACTICE			
102-45	Entities included in the consolidated financial statements	Annual Report and Financial Statement 24	www.valio.com/sustainability/reports-and-financial-statements/
102-46	Defining report content and topic boundaries	3	
102-47	List of material topics	12	
102-48	Restatements of information	Global data collection and calculation have been harmonised since the previous report. The report still contains some information for Finland only; that information is clearly marked in conjunction with the reported information.	
102-49	Changes in reporting	The reporting of greenhouse gas emissions was further refined in 2020 with the addition of scope 3 categories 10, 11, and 12. Reporting follows an international protocol (ghgprotocol.org).	
102-50	Reporting period		
102-51	Date of most recent report	15.5.2020	
102-52	Reporting cycle	calendar year	
102-53	Contact point for questions regarding the report	mediadesk@valio.fi +358 10 381 2118	
102-54	Claims of reporting in accordance with the GRI Standards	The GRI Standards are applied in the report	
102-55	GRI content index	106	
102-56	External assurance	The report is not assured externally	

NUMBER	CONTENT	LOCATION	NOTES
GRI 103: MANAGEMENT APPROACH			
103-1-3	Explanation of the material topic and its boundary	3, 105	
GRI 200: ECONOMIC TOPICS			
GRI 201 ECONOMIC PERFORMANCE (GENERAL DISCLOSURE 2016)			
201-2	Financial implications and other risks and opportunities due to climate change	88-89	Valio does not report financial estimates or outcomes.
201-3	Defined benefit plan obligations and other retirement plans		www.valionelakekassa.fi/yritys/
GRI 203: INDIRECT ECONOMIC IMPACTS (GENERAL DISCLOSURE 2016)			
203-1	Infrastructure investments and services supported	20-23, 103	
203-2	Significant indirect economic impacts	20-23, 103	
GRI 204: PROCUREMENT PRACTICES (GENERAL DISCLOSURE 2016)			
204-1	Proportion of spending on local suppliers	82-87	
GRI 205: ANTI-CORRUPTION (GENERAL DISCLOSURE 2016)			
205-2	Communication and training about anti-corruption policies and procedures	11, 65, 83	In 2020, 16 reports ranging from inappropriate behaviour to violations of the Code of Conduct and sustainability were received through the whistleblowing channel.
GRI 206: ANTI-COMPETITIVE BEHAVIOUR 2016			
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices		Nothing noteworthy in 2020.

NUMBER	CONTENT	LOCATION	NOTES
GRI 300: ENVIRONMENTAL TOPICS (GENERAL DISCLOSURE 2016)			
GRI 301: MATERIALS			
301-1	Materials used by weight or volume	96	Valio does not report raw material usage in renewable/non-renewable terms, as the information is not relevant to Valio's operations (food production from various ingredients).
GRI 302: ENERGY 2016			
302-1	Energy consumption within the organization	53	
302-4	Reduction of energy consumption	53	Valio reports the reduction of energy consumption as a percentage of consumption.
GRI 303: WATER (GENERAL DISCLOSURE 2016)			
303-1	Water withdrawal by source	94	
303-3	Water recycled and reused	95	
GRI 304: BIODIVERSITY (GENERAL DISCLOSURE 2016)			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.		Valio's production plants are not located in or nearby areas that have an official environmental protection class.
304-2	Significant impacts of activities, products, and services on biodiversity	45	Based on the observations included in the environmental permits, it can be estimated that Valio's production plant operations have no significant impacts on nature. Dairy farm operations have a significant impact on preserving the biodiversity of agricultural environments. Valio's guidelines for responsible milk production include guidance on taking biodiversity into consideration.

NUMBER	CONTENT	LOCATION	NOTES
304-4	Endangered species		There are nesting areas of Siberian flying squirrels in the vicinity of two sites in Finland, and there are Siberian flying squirrel migration routes in the vicinity of the headquarters.
GRI 305: EMISSIONS (GENERAL DISCLOSURE 2016)			
305-1	Direct (Scope 1) GHG emissions	35	
305-2	Energy indirect (Scope 2) GHG emissions	35	
305-7	Nitrogen oxides (NOX), sulphur oxides (SOX), and other significant air emissions	93	
GRI 306: EFFLUENTS AND WASTE (GENERAL DISCLOSURE 2016)			
306-1	Water discharge by quality and destination	95	
306-2	Waste by type and disposal method	96	Valio Oy itself does not treat waste that is classified as hazardous. Valio has a contract with Fortum Waste Solutions Oy, which has the required permits to take care of the treatment of hazardous waste.
306-6	Water bodies affected	95	All Finnish production plants are connected to municipal wastewater treatment plants. Satisfying the emission conditions set for them ensures that the condition and quality of water systems does not deteriorate. The Estonian sites have their own dedicated wastewater treatment plants that are overseen by the environmental protection authorities.

NUMBER	CONTENT	LOCATION	NOTES
GRI 307: ENVIRONMENTAL COMPLIANCE			
307-1	Non-compliance with environmental laws and regulations		In the second and third quarters of 2020, Valio Oy Jyväskylä's dairy did not meet the environmental permit requirements regarding the BOD load of wastewater. As a result of corrective actions, the permit conditions have been met since the fourth quarter of 2020. Otherwise, there were isolated emissions with momentary adverse impacts to wastewater treatment. The incidents were reported to the environmental protection authorities in compliance with the environmental permit conditions.
GRI 400: SOCIAL TOPICS			
GRI 401: EMPLOYMENT (GENERAL DISCLOSURE 2016)			
401-1	New employee hires and employee turnover		The number of new/changed employment relationships in Finland was 892. The number of ceased employment relationships was 789. The figures include temporary and permanent employment relationships.
GRI 403: OCCUPATIONAL HEALTH AND SAFETY (GENERAL DISCLOSURE 2016)			
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	81,101	Valio does not report country- or gender-specific information.
GRI 404: TRAINING AND EDUCATION (GENERAL DISCLOSURE 2016)			
404-2	Programs for upgrading employee skills and transition assistance programs	74-77	
GRI 419: SOCIO-ECONOMIC COMPLIANCE (GENERAL DISCLOSURE 2016)			
419-1	Non-compliance with laws and regulations in the social and economic area		Nothing noteworthy in 2020.

DAIRY AND FOOD COMPANY OWNED BY FARMERS

We create wellbeing and taste experiences, sustainably. Our products are made from clean Finnish milk and other ingredients. We have exports to around 60 countries.



THE MOST INNOVATIVE DAIRY AND FOOD COMPANY IN THE WORLD

- Valio** logo
- FOUNDED IN **1905**
- NOBEL PRIZE IN CHEMISTRY
- 4,300** DAIRY FARMS OWN VALIO
- ALL PROFITS **FOR THE FARMS**
- MILK THAT'S AMONG THE CLEANEST IN THE WORLD
- ZERO TRACES OF ANTIBIOTICS IN MILK
- EMPLOYEES AROUND THE WORLD **4,000**
- 12 PLANTS IN FINLAND, 2 IN ESTONIA, 1 IN RUSSIA
- 1.8 BN** TURNOVER
- EXPORTS TO OVER **60** COUNTRIES
- TOGETHER WE MAKE life BETTER**