

Information Disclosure Based on the TCFD Framework

FY2022

NH Foods Ltd.

June 2023

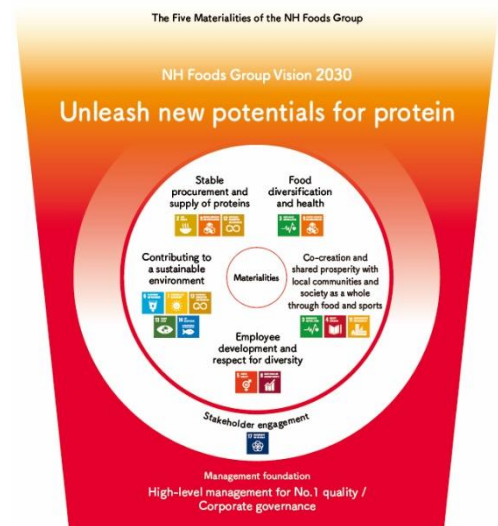
Information Disclosure Based on the TCFD Framework (FY2022)

The NH Foods Group’s basic theme is *Joy of Eating*, and one of our corporate philosophies is to create a culture that marks an epoch and contributes to society. With Vision 2030, “unleash new potentials for protein,” which was formulated in 2021, we are expressing our desire to continue working to ensure a stable supply of environmentally and socially conscious products, as well as our desire to continue providing consumers with enjoyable day-to-day diets by harnessing free and innovative ideas to expand the potential of protein, leading to the creation of diverse ways to enjoy food.

In 2020, we endorsed the proposal presented by the Task Force on Climate-related Financial Disclosures (TCFD), and in May 2022, we disclosed information such as the results of our scenario analyses.

In fiscal 2022, based on the results of the analyses, we examined and promoted specific measures to adapt to the effects of climate change.

In fiscal 2023 and beyond, we will continue to disclose information, reassess future risks and opportunities tailored to the social environment, and promote further responses to important issues.

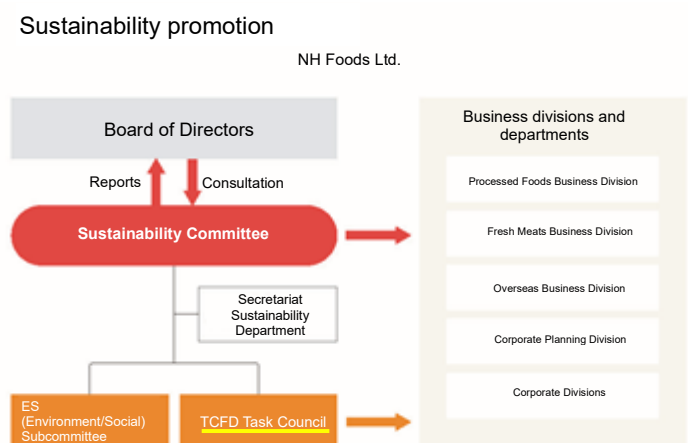


Governance

The NH Foods Group has identified “contributing to a sustainable environment” as one of our materialities. Policies on sustainability and measures regarding climate change, etc., are discussed by the internal Sustainability Committee. The committee is chaired by the President and consists of directors, general managers of business divisions, outside directors, and outside experts, who are all open in widely sharing their opinions. The results of discussions held by the Sustainability Committee are then reported to the Board of Directors for deliberation and decision.

Established in fiscal 2021 as a subcommittee of the Sustainability Committee, the TCFD Task Council is composed of the director in charge of sustainability, officers in charge of overall management at each business division, the person in charge of the corporate staff unit, and the person in charge of the Research and Development Center. The TCFD Task Council identifies risks and opportunities related to climate change, analyzes scenarios, and examines the effects of business impacts and the status of responses on a company-wide level.

Furthermore, the Sustainability Department, which serves as secretariat for these committees, is located within the Corporate Planning Division, and the director in charge is responsible for overseeing the sustainability field.



Review Process

In fiscal 2022, seven TCFD Task Council meetings were held, and seven meetings were held between the business divisions and the secretariat for further deliberation, examining and discussing measures for risks and opportunities. The progress of deliberations are reported to the Sustainability Committee, etc.



Timing	Name of meeting body	Main points of discussion
April 2022	TCFD Task Council	Shared ongoing measures, initiatives, and issues from the previous year and confirmed the promotion system
May	TCFD Task Council	Of the response and adaptation measures, it was decided to limit the increase in production procurement costs and focus on low-carbon and decarbonization measures. It was agreed to hold a separate meeting to discuss specific measures in detail.
July	TCFD Task Council	Shared progress of each measure and potential forms for disclosure
August	TCFD Task Council	Explained the results of analysis of storm surge risks, and confirmed the response and situation for the applicable sites
October	TCFD Task Council	Confirmed progress on measures for feed and livestock growth and reviewed draft disclosure documents (1)
November	Sustainability Committee	Progress report on the status of responses discussed at the TCFD Task Council
January 2023	TCFD Task Council	Confirmed progress on measures and reviewed draft disclosure documents (2)
February	TCFD Task Council	Agreed on a disclosure outline and shared how to proceed with next year's TCFD Task Council
June		Disclose what was discussed and promoted at the TCFD Task Council

Strategy

With regard to climate change, which is a particularly important aspect of our sustainability strategies, we conducted scenario analyses on the risks and opportunities posed by climate change for major businesses of the Group, based on the Paris Agreement of 2015 and the IPCC's Special Report on Global Warming of 1.5°C in 2018. As a result, we found that the business environment for livestock and meat could change significantly in the medium to long term and identified one particularly important physical risk being that rising temperatures could have a significant impact on feed grain yield and livestock growth in the medium to long term.

In response, the NH Foods Group is working to improve the feed conversion ratio (*) by changing feed formulations and improving technology for controlling the breeding environment. We are also building a stable supply system for flood disasters. Regarding water stress, we are setting and promoting environmental targets for water conservation and the effective use of water.

*Adjusting the composition of grains, etc., in a compound feed to be suitable for growth and promote efficient weight gain.

As a key transition risk, we also identified increases in energy costs from the introduction of carbon taxes meant to achieve decarbonization. Furthermore, we recognize the possibility that the recent sharp increases in energy and grain feed prices will continue for an extended period of time, and that the reduction of greenhouse gas emissions from livestock in the livestock industry are also important issues, and we are conducting research and development in collaboration with outside research institutes to reduce these emissions.

On the other hand, considering the impact of increases in demand for protein due to population growth, changes in consumer attitudes, and technological innovations associated with the transition to a low-carbon society, we have identified the growth of the market for new proteins as an important business opportunity in addition to

meat. We are proceeding with research and development regarding protein derived from plants such as soybeans and microorganisms, as well as cellular foods (cultured meat). These will be reflected in our materialities and medium-term management plans.

Risk management

We regard the identification and management of climate-related risks to be an important issue for “contributing to a sustainable environment”. As part of these efforts, the TCFD Task Council identifies risks and opportunities and considers strategies and specific measures. Those items are then deliberated at the Sustainability Committee, which is the next level up, before being deliberated once more and decided upon by the Board of Directors. In addition, in fiscal 2022, company-wide climate change risks were identified by the Risk Management Committee (*) in a risk map, wherein risks were classified by frequency of occurrence, level of impact, etc., and specific measures to address climate change risks were discussed and promoted by the TCFD Task Council.

*A committee established as a forum to comprehensively cover company-wide risks, identifying and assessing various risks, identifying priority risks, and considering response policies. Based on the policies of the committee, each business department and unit conduct risk control activities related to their business areas and duties, and the results of these activities are reported to the Board of Directors through the committee, wherein actions are taken as necessary.

Indicators and targets

The NH Foods Group’s Medium-Term Management Plan 2023 sets forth a management policy of shifting to a sustainable business model with profitability. In addition, in order to realize our materiality of “contributing to a sustainable environment”, we have set a medium- to long-term environmental target of reducing fossil fuel-derived CO₂ emissions with a view to fiscal 2030. In fiscal 2022, we set overseas environmental targets with a goal of fiscal 2030. Going forward, we will further promote initiatives aimed at creating a sustainable society from a more global perspective, aiming to achieve carbon neutrality by 2050.

We have also identified water stress as a physical risk, have set medium- to long-term environmental targets for fiscal 2030 as indicators for this in the same way as reducing CO₂ emissions in order to effectively utilize water resources.

Indicator	FY2030 target	Subject	FY2021 results
Fossil fuel-derived CO₂ emissions	Reduce by 46% or more (compared to fiscal 2013)	All sites in Japan	Reduction: 70,453 t-CO ₂ Progress rate: 27.8%
	Reduce by 24% or more (compared to fiscal 2021)	All sites overseas	-
Water consumption per unit of production	Reduce by 5% (compared to fiscal 2019) FY2030 target reduction: 0.8 m ³ /t	Processing and production sites in Japan	Reduction: 0.2 m ³ /t Progress rate: 25.0%
	Reduce by 5% (compared to fiscal 2021)	Overseas processing and production sites	-

As one of the largest protein suppliers in Japan (*), we believe it is our mission to pursue a more environmentally friendly livestock industry. The Group visualizes and discloses greenhouse gas emissions from livestock. To reduce greenhouse gas emissions, we plan to promote research and development aimed at reducing emissions from pigs in Japan and cattle overseas in cooperation with outside research institutes, introducing measures that have proven effective on our own farms.

*Estimated by the NH Foods Group using data for the weight of products handled, and external data

Scenario analyses

With regard to previous scenario analyses based on the two climate change scenarios of the 1.5°C/2°C increase scenario and the 4°C increase scenario, we have continued to delve into the content, particularly the status of our response.

In our scenario analyses, we refer to the Intergovernmental Panel on Climate Change (IPCC)'s RCP 2.6 (sub-2°C scenario) and RCP 8.5 (4°C scenario), and the International Energy Agency (IEA)'s Net Zero by 2050 (1.5°C scenario).

The scenario analyses conducted in fiscal 2021 identified the following as key risks and opportunities regarding climate change for the NH Foods Group.

Important risks and opportunities		Impact/ Prospect	Status of response
Physical risks	Increase and instability in feed costs	Large	<ul style="list-style-type: none"> Improving feed conversion ratio Improving feed with in-house formulations and by strengthening cooperation with feed companies Considering new procurement of meat from low-risk areas
	Effect of rising temperatures on livestock growth	Medium	
	Higher risk of disasters at sites	Small	<ul style="list-style-type: none"> Strengthening equipment against flood risks Strengthening product supply systems in times of disaster Efficient use of water resources at sites with high water stress risks
	Greater water stress at sites	Small	
Transition risks	Rising energy costs from the introduction of a carbon tax	Large	<ul style="list-style-type: none"> Efficient energy use and fuel conversion in processing and manufacturing processes Expanding use of renewable energy Reducing logistics emissions by converting to low-emission vehicles and improving logistics efficiency
Opportunities	Increase in environmentally conscious consumption	Medium	<ul style="list-style-type: none"> Developing products with high sustainability value Product development using new proteins Research and development of new proteins
	Growth of the market for new proteins	Large	

Increase and instability in feed costs

In the future, supply and demand for grain feed is expected to become tighter, as the demand for food will increase due to population growth and the yield of grain feed will not increase significantly due to climate change. It has also been pointed out that the increasing frequency of local droughts associated with climate change may become a major destabilizing factor in the feed grain supply. If such destabilizing factors materialize, it could lead to an increase in feed prices, which could have a significant impact on the NH Foods Group's meat production costs. In addition, due to the recent destabilization of the situation in grain exporting countries, grain prices have risen, and feed prices have risen accordingly. This trend is likely to continue into the future, so we have started considering measures.

In addition, Japan's main sources of feed corn are the U.S. and Brazil, and the results of analyses of water stress in both countries indicate that while water stress levels are low in Brazil now and will likely continue to be so in the future, water stress in the U.S. is forecast to worsen in major feed producing states. The U.S. is also a major supplier of beef and pork, and poor feed grain crops could affect the meat supply. We believe that these environmental changes may pose long-term risks to feed procurement costs and to meat procurement costs from outside the Group.

[Status of response]

The NH Foods Group has been working to improve the feed conversion ratio (the amount of feed required per unit of animal weight gain) for some time as a countermeasure against the rising price of grain feed, and is working to reduce feed costs through technological development. We will continue our efforts to improve the feed conversion ratio. In addition, we are taking measures together with feed companies to ensure stable feed procurement in the event of shortages or rising imported feed grain prices. Specifically, we are testing measures

to ensure a stable supply of feed by providing feed that expands the use of domestic ingredients, such as brown rice, through joint development of proprietary feed formulations.

Furthermore, in order to respond to the impact of rising costs and shortages in meat procurement from outside the Group, we are working to identify suppliers of meat taking climate change into consideration. In order to maintain a stable supply, we are expanding our procurement sources by developing new suppliers in the same countries and regions, building a more stable meat procurement network.

Effect of rising temperatures on livestock growth

The environment, such as temperature and humidity, greatly affects the growth of livestock. Based on our analyses in Japan, Australia, and Turkey, where the NH Foods Group's production and breeding sites are located, we are implementing mitigation measures in fattening because daily weight gain may deteriorate by several percentage points as temperatures rise due to climate change.

We also continue to believe that rising temperatures will pose a potential long-term risk to meat procurement costs from outside the Group.

[Status of response]

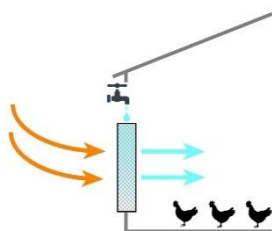
Of the NH Foods Group's farms, domestic pig and poultry farms (Japan Clean Farm and Japan White Farm) and overseas Turkish poultry farms (Ege-Tav) are expected to face risks due to rising summer temperatures. To reduce these risks, we have installed cooling facilities at some of our business sites. Farms in Australia also continue to take measures against the heat by installing sunshades to protect cows from the sun and ultraviolet rays. We will continue to take steps to improve production efficiency.

[Case examples]

To combat the heat in poultry farming, all poultry houses in Turkey are equipped with cooling pads (*1) and all poultry houses in Japan are equipped with measures tailored to the characteristics of the area in which they are located. For example, cooling pads or misting equipment (*2) have been installed in all of the poultry houses in Miyazaki and Niigata prefectures, and in Hokkaido approximately 67% of the poultry houses scheduled for installation have such devices. We plan to proceed with installation for the remaining poultry houses and verify their effectiveness. On the other hand, in Aomori Prefecture, humidity is high in the summer, and in semi-windowless poultry houses, which are the main poultry house structure, the humidity in the house increases when misting equipment is used, which is expected to affect the growth of chickens. For this reason, in the Tohoku region, windows are opened and blowers are used as heat shielding measures.

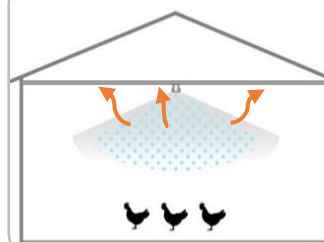
In the future, we will further improve ventilation and breeding management, and study the development of technology to improve production performance under hot conditions.

*1 Cooling pads



Cooling pads are moistened pads placed at the outside air intakes to cool the air using the heat of vaporization as outside air passes through.

*2 Misting equipment



Misting equipment sprays misty water into a poultry house, and by evaporating the misty water, the heat of vaporization lowers the air temperature.

Higher risk of disasters at sites

It is said that the risk of severe disasters will increase as extreme weather increases due to climate change. Of the Group's total of 226 (206 domestic and 20 overseas) farms, processing and production plants, and logistics centers, the NH Foods Group confirmed that 6 domestic and 7 overseas sites are located in areas at high risk of flooding.

In fiscal 2022, we newly confirmed risks associated with storm surges, and found that 2 domestic and 3 overseas sites were located in high-risk areas.

In our evaluations, we refer to hazard maps for domestic sites and the World Resources Institute's Aqueduct tool for overseas sites.

[Status of response]

For the 6 domestic and 7 overseas sites located in areas at high risk of flooding, the impact of flooding was still deemed to be minimal based on the analyses conducted in fiscal 2022 and the results of interviews conducted with the sites. In addition, although in fiscal 2021 our evaluation was that we were responding by providing insurance coverage for domestic flood damage, we found that some of the coverage might not be sufficient. We will once again consider how to handle this issue.

In terms of dealing with storm surges, we confirmed that two of our domestic sites could be supplied major products from other production sites in the event of a disaster, and so it would not pose a major risk. Two of the three overseas sites are at risk of flooding in addition to storm surges, but the impact is judged to be minimal due to past disaster conditions and flood control measures. The other site is a processing plant in Australia. In Australia, the locations of our three processing plants are dispersed, and we believe that if a natural disaster were to affect operations, the impact would be minimal. Flooding and storm surges are expected to be minor risks, but we will continue to monitor them.

Our response status to each is described in the table below.

	Country/region	Number of sites	Number of sites in high-risk areas	Status of response	Risk assessment
Flood risks	Domestic	206	6	<ul style="list-style-type: none"> Review of BCP, including the supply structure of major products Considering how to deal with water damage coverage, as it may not be adequately covered depending on the site 	Minimal
	Overseas	20	7	<ul style="list-style-type: none"> Measures such as raising the floor level of equipment have been implemented (3 sites) Measures are in place at an industrial park (1 site) Local interviews and past disaster situations make the likelihood of occurrence low (3 sites) 	Minimal
Storm surge risks	Domestic	206	2	<ul style="list-style-type: none"> Review of BCP, including the supply structure of major products 	Minimal
	Overseas	20	3	<ul style="list-style-type: none"> Same sites as those with high flood risks, minor due to past disaster situation and flood control measures taken (2 sites) Since the locations of the three processing plants in Australia are dispersed, even if some of them are damaged the impact on operations will be minor 	Minimal

Greater water stress at sites

Using the World Resources Institute's Aqueduct water stress index, we conducted initial water stress assessments at a total of 226 Group farms, processing and production plants, and distribution centers (206 domestic and 20 overseas sites).

[Status of response]

As a result of the initial assessment, all domestic sites were assessed as unlikely to be significantly affected by water stress. That said, it has been found that 9 sites in the 1.5/2°C increase scenario and 8 sites in the 4°C increase scenario are likely to experience high water stress, but we have confirmed that all of these sites will only be minimally impacted. When we checked the situation again in fiscal 2022, there was no change.

With regard to water stress, we have expanded the scope of target setting based on our materiality of “contributing to a sustainable environment” to include overseas countries, and are working to reduce water use and effectively utilize water resources.

We will continue to monitor risks related to water stress. We will also continue our efforts to achieve our medium- to long-term environmental targets.

	Country/region	Number of sites	Number of sites in high-risk areas	Status of response	Risk assessment
Water stress	Domestic	206	0	-	Minimal
	Overseas	20	8 (2°C scenario) 9 (4°C scenario)	<ul style="list-style-type: none"> Minimal impact from the perspective of the scale of operations (4 sites) Based on the business impact of past water stress and on-site interviews, the risk was judged to be minimal (5 sites) 	Minimal

Higher costs due to carbon tax

We calculated the business impact of the introduction of a carbon tax on fossil fuel-derived CO₂ emissions. In terms of CO₂ emissions from Group business sites, we compared the calculation based on emissions in fiscal 2021 with the case where the reduction targets for fiscal 2030 were achieved. The carbon tax price was calculated as \$130 USD/t-CO₂ for fiscal 2030 and \$250 USD/t-CO₂ for fiscal 2050 in accordance with the IEA’s World Energy Outlook 2021 Net Zero by 2050 scenario (equivalent to a 1.5°C target).

As a result, it was identified that a carbon tax introduced in the 1.5°C scenario could have a significant impact on business. In addition, taking into account the current carbon tax systems in developed countries, this assessment covers only fossil fuel-derived CO₂ emissions. However, in the medium to long term, there is a possibility of introducing a carbon tax on emissions from livestock, and we will consider measures to reduce these emissions.

The price of fossil fuels also continues to rise due to the impact of the international situation. If this situation continues to 2030, domestic electricity prices could be affected by about 1 to 2 billion yen per year compared to 2022.

Scenario	Item	2030	2050
Assuming 2021 emissions	Carbon tax impact (hundred million yen)	107	206
	Emissions (thousand t-CO ₂)	633	633
	Carbon tax amount (USD/t-CO ₂)	130	250
Assuming 2030 reduction targets are achieved (horizontal reduction from 2030)	Carbon tax impact (hundred million yen)	68	132
	Emissions (thousand t-CO ₂)	405	405
	Carbon tax amount (USD/t-CO ₂)	130	250

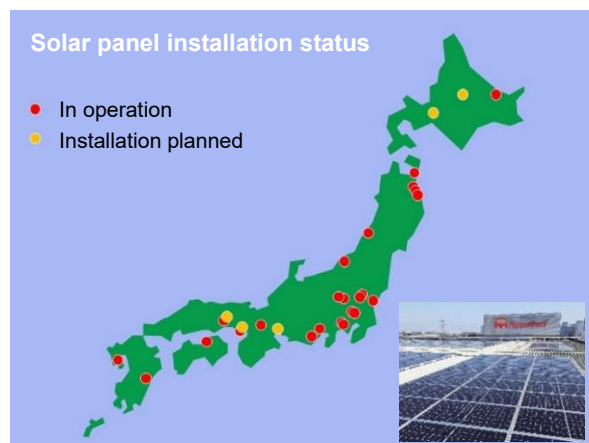
1 USD = 130 yen

[Status of response]

To reduce fossil fuel-derived CO₂ emissions, the NH Foods Group is introducing energy-saving equipment, including replacing aging facilities, and increasing the use of renewable energy. For example, we have focused on the installation of solar panels on our own premises and the utilization of biomass resources generated from the production process, and a wastewater biogas plant is operating in Australia. In Japan, waste oil boilers that

use waste oil from deep fryers in the processed food business and oil recovered from wastewater as fuel are expected to reduce CO₂ emissions by about 2,600 tons per year.

As of April 2023, solar power generation systems were installed at 24 sites in Japan, and annual power generation is expected to be approximately 6,400 MWh. In addition, plans are underway to install a solar power facility in the town of Nanporo, Hokkaido, which will generate approximately 3,000 MWh of electricity annually, and the electricity generated by the facility will be supplied to the Group's pig farming facilities. We are also planning to install a solar power facility that will generate approximately 1,100 MWh in Asahikawa, Hokkaido. Furthermore, since fiscal 2023, our Group has adopted the concept of Internal Carbon Pricing (ICP) when installing and updating equipment above a certain amount.



Waste oil boiler/solar panel installation status

Initiative	Number of sites for installation	CO ₂ reduction
Solar panels	Operating: 24 sites (6,400 MWh)	2,400 t-CO ₂
	Operation planned: 5 sites (5,500 MWh)	2,000 t-CO ₂
Waste oil boilers	6 sites	2,600 t-CO ₂

We are also promoting specific measures to reduce greenhouse gas emissions from livestock. In the Australian cattle business, we are verifying the suppression of fermentation methane in the digestive tract by adding additives to feed, as well as the effects on cattle fattening and meat quality. The domestic pig farming business also uses biogas generated from waste and wastewater treatment as energy. In addition, we are collaborating with Hokkaido University, Osaka University, and Tokushima University on research that will help reduce methane emissions from livestock.

Partner	Research theme
Hokkaido University	Development of methane emission suppression method in bovine lumen
Osaka University	Study of porous organic salts with specific adsorption ability for methane
Tokushima University	Research on greenhouse gas emissions in pigs

Increase in environmentally conscious consumption

In a decarbonized society, concern over climate change is expected to increase, making it easier to select companies and products that are more environmentally friendly. The NH Foods Group recognizes the growing importance of realizing sustainability values and communicating them to consumers.

For this reason, we aim to provide sustainable products and services by promoting initiatives throughout the Group aimed at creating a sustainable society. Furthermore, in order to meet consumer expectations, we are actively working on sustainable packaging and developing products with a low environmental impact.

[Status of response]

The NH Foods Group continues to focus on flagship brands that use large amounts of packaging. In fiscal 2021, *SCHAU ESSEN* was changed from having drawstring pouch packaging to Eco-Pirotype packaging, and in fiscal

2022, the Group introduced non-tray packaging for *Chuka Meisai*. Through the reduction of plastic use, this is expected to reduce CO₂ emissions by approximately 4,380 tons. Furthermore, we will continue our efforts to reduce CO₂ emissions by switching to Eco-Pirotype packaging for our sausage products such as *Houjun*, switching from plastic to paper containers with our *Ísey SKYR* series, and reducing the amount of plastic we use for other products by reviewing packaging sizes, reducing plastic trays, and switching to paper trays.

We are also expanding the use of plastics made from biomass as part of our raw materials in some packaging for processed foods as well as in some packaging for our *Sakurahime* chicken.

In order to reduce food loss, we are also stepping up our efforts regarding products that can be stored at room temperature for extended periods, such as the *Ajiwai Range* series, as a focus area under the Medium-Term Management Plan 2023. In addition to expanding these initiatives, we will work to develop products with clearer sustainability value.



Chuka Meisai

Eliminated trays from packaging and reduced the weight of packaging materials by approximately 19% (*)
 *Based on in-house research and 2021 shipment volumes of *Chuka Meisai* sweet and sour pork, babaocai, pepper steak, and twice cooked pork.



Houjun

Switching to Eco-Pirotype packaging reduces plastic use by 22% (*)
 *Compared with conventional products



Ísey SKYR

Switching to paper containers reduces plastic use by 94.1% (*)
 *Compared with conventional products



Sakurahime

Biomass material used for part of the packaging

Growth of the market for new proteins

In the future, the market is expected to expand, including new proteins in addition to the meat market, against the backdrop of increasing demand for protein due to global population growth. More specifically, the market for new proteins is expected to grow significantly due to changes in consumer attitudes and technological innovations associated with the transition to a decarbonized society. Although estimates of the future market size for new proteins published by external organizations vary, in a scenario where the ongoing transition to decarbonization continues, the global market is expected to exceed several tens of trillions of yen. As such, we continue to engage in research and development as we expect large business opportunities to arise in the medium to long term.

[Status of response]

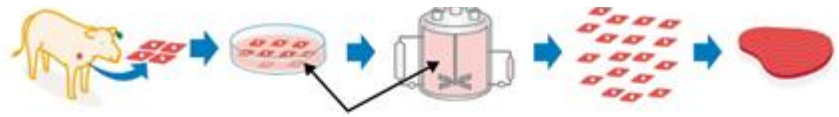
The NH Foods Group has already expanded its *NatuMeat* range of plant-based products to consumers, restaurants, and distribution companies, and is promoting sales in Japan. It is also sold overseas as PBF (Plant-Based Food) originating from Japan.

As for new proteins, we are not only developing alternatives for livestock meat, but also for marine products in light of the depletion of marine resources, and we are marketing fish-style fried foods to the food service industry and consumers in Japan. In light of the recent situation regarding the procurement of raw materials from overseas, we are also advancing research and development of products using domestic materials. The NH Foods Group is developing and expanding sales of plant-based protein products with the goal of achieving sales of 10 billion yen by fiscal 2030.

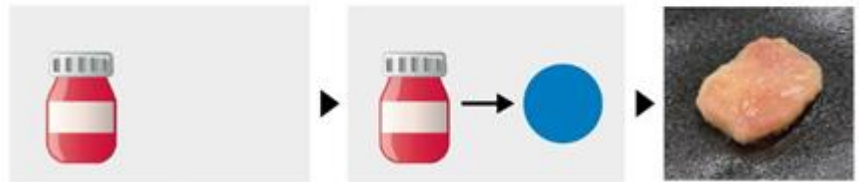


The NH Foods Group is pursuing research and development with a view to utilizing a diverse range of proteins, not limited to just those derived from plants. We are conducting joint research with IntegriCulture Inc. regarding cellular foods (cultured meat) made from a large number of livestock-derived cells. We are also pursuing research for future commercialization, including the development of a cheaper method to grow cells using food-based culture media instead of costly animal serum. Moreover, we are testing the potential of applying new proteins, including those derived from microorganisms, to food products.

Production image of cellular food



We will expand the potential of proteins, including new proteins based on meat-derived proteins, in order to provide a stable supply and diverse range of food options.



the realization of cultured meat

technology