

Information Disclosure Based on the TCFD Framework

FY2021

NH Foods Ltd.

April 2022

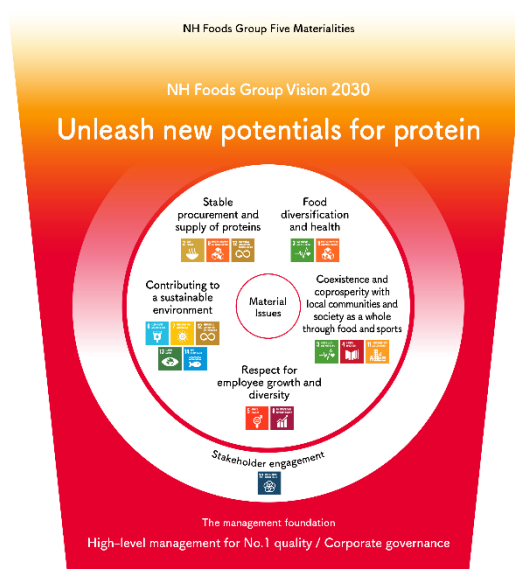
Information Disclosure Based on the TCFD Framework

The NH Foods Group's corporate philosophy is founded on the "Joy of Eating" to contribute to society by creating a culture that marks a new era. In April 2021, the NH Foods Group formulated its Vision 2030, "Unleash new potentials for protein," as a milestone in the pursuit of its corporate philosophy. It depicts what we want to be in 2030, and in addition to our previous values of "safety and reliability" and "deliciousness," we are committed to ensuring initiatives for a stable supply of food with respect to the environment and society, thinking outside the box for new potentials for protein, creating diverse dietary lifestyles, and continuing to deliver happiness through daily eating.

In formulating this vision, we reviewed our previous "Five CSR Material Issues" and identified the social issues as "Five Materialities (key issues)" that should be solved with priority in order to realize Vision 2030.

In addition to realizing our corporate philosophy, responding to climate change is also essential for the realization of a sustainable society. Climate change related measures have become increasingly important following the Paris Agreement in 2015, the 1.5°C Special Report from the IPCC (Intergovernmental Panel on Climate Change) in 2018, and the Glasgow Climate Pact concluded at COP26 in 2021. In light of this, we were ahead of other major companies in the global fresh meat industry in agreeing to the 2020 proposal by the TCFD (Task Force on Climate-related Financial Disclosures), and we are now presenting this disclosure following our interim TCFD disclosure in October 2021.

In fiscal 2022 and beyond, we will further analyze risks and opportunities, consider and promote countermeasures, and disclose related information.



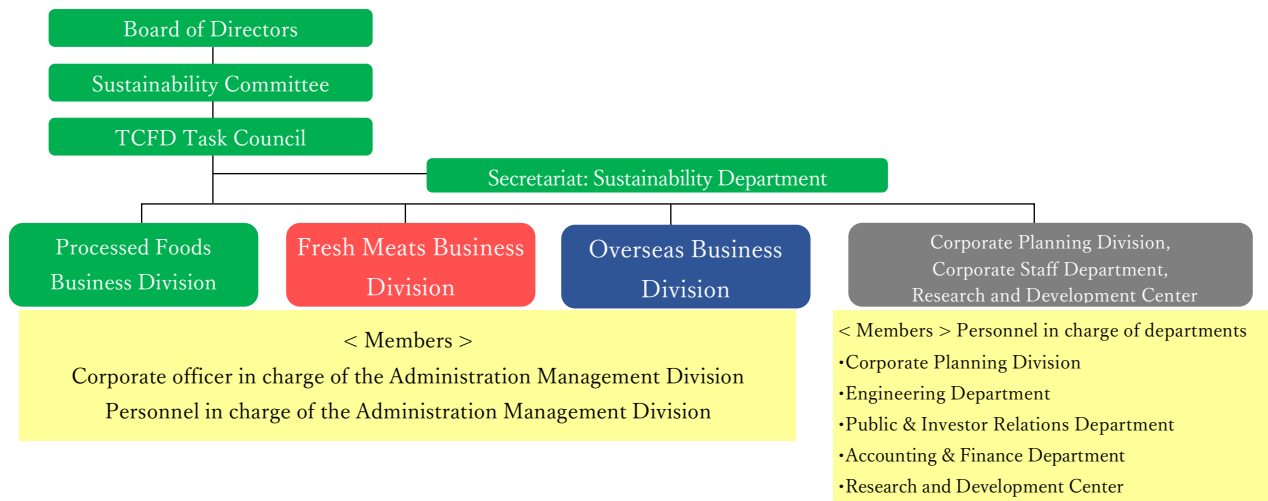
Governance

The NH Foods Group holds Executive Board Meetings to discuss and make decisions on important matters, such as sustainability policies and identifying Materialities including climate change. Prior to these Executive Board Meetings, discussions are held by the Sustainability Committee (an advisory body of the Board of Directors), chaired by the President and Representative Director and composed of Directors and Business Division General Managers. The Sustainability Committee meets four times a year to discuss a wide range of topics including global trends, based on the opinions of outside directors and outside experts.

We have established the TCFD Task Council with regard to climate change related risks and opportunities, which are among the Materialities. It is a cross-departmental organization subordinate to the Sustainability Committee and it consists of Director in charge of sustainability and the corporate officer in charge of the Business Division Administration Management Division, the personnel in charge of the Corporate Planning Division, the Corporate Staff Department, and the Research and Development Center. The council identifies risks and opportunities, conducts scenario analysis, and examines business impacts and countermeasures on a company-wide level.

In April 2021, we established the Sustainability Department within the Corporate Planning Division to serve as secretariat for the administration of the organization, and a member of the Board Directors oversees the sustainability issues as the General Manager of the Corporate Planning Division.

In fiscal 2022 and beyond, this organization will continue to analyze risks and opportunities related to climate change, and to review and promote measures to address the identified risks and opportunities.



Review process

In May 2021, we established the TCFD Task Council, which consists of representatives from all business divisions and corporate divisions, to study the TCFD. We conducted detailed analysis and studies not only within the meetings but also with individual meetings working in collaboration with the secretariat and business divisions. The results of the studies were reported at the Sustainability Committee meeting, where a series of discussions were held by the President, directors, general managers of business divisions, and outside experts.

< Overview of studies >

May 2021: Established the TCFD Task Council

(Announced the meeting frequency and participating members from across divisions and business divisions)

Chair: Corporate officers in charge of Sustainability, Corporate Planning Division

Participating members: Representatives from the business divisions, Corporate Planning Division, corporate divisions, and Research and Development Center



Topics of Sustainability Committee meetings

Main opinions:

- In addition to risks, the Task Council should also consider opportunities to motivate the field personnel working on the TCFD.
- If corn prices are expected to rise steeply in the future, we should a review how to overcome price shifting.

Time	Meetings	Main topics of discussion
Feb. 2021	Sustainability Committee	Review future plans and schedules
May	TCFD Task Council	Share awareness of TCFD initiatives
	Sustainability Committee	Outline of the TCFD Task Council, reporting selected members
Jun.	TCFD Task Council	Share the outline of TCFD and schedules
Aug.	TCFD Task Council	Share and review the risks and opportunities identified by business divisions
	Sustainability Committee	Finalize the analyzed areas and review the draft interim report
Sep.	Board of Directors	Assess the importance of risks and opportunities
	TCFD Task Council	Review scenarios (compile an image of the society of 2050)
Oct.		(Disclose the interim report)
Nov.	TCFD Task Council	Share the status of impact assessment (1)
	Sustainability Committee	Report and review the details of scenario analysis, and report the background of impact assessment
Dec.	TCFD Task Council	Share the status of impact assessment (2)
Jan. 2022	Board of Directors	Report the scenario analysis results and impact assessment
	TCFD Task Council	Organize risk measures
Feb.	Sustainability Committee	Review the overview of the disclosed information
	TCFD Task Council	Review the disclosure details (1)
	Board of Directors	Review the disclosure details
Mar.	TCFD Task Council	Review the disclosure details (2), and share future issues
	Board of Directors	Confirm and revise the proposed disclosure amendments
Apr.	Board of Directors	Approve the proposed disclosure

Strategy

As a value meeting the needs of the era, the NH Foods Group provides foods that consist mainly of protein, one of the important elements making up the human body.

In relation to climate change measures, which are a particularly important part of our sustainability strategy, we conducted scenario analysis on the climate change related risks and opportunities for key businesses in the Group, taking into account the Paris Agreement in 2015 and the 1.5°C Special Report from the IPCC in 2018. As a result, we identified the possibility of significant changes in the business environment of breeding and livestock meat over the medium to long term as follows.

As an important physical risk, we identified the possibility that rising temperatures may have a major impact on feed grain yield and livestock raising over the medium to long term. To address this, we will improve the feed conversion ratio* (the amount of feed required for weight gain) based on our accumulated knowledge and will also improve technologies for controlling the breeding environment, including temperature and humidity control for livestock housing. For disasters and water stress, we will promote the establishment of a supply system that will remain stable even in a disaster.

* Feed conversion ratio: Compound feed is blended with suitable amounts of grains for growth to efficiently promote weight gain.

We identified the important transition risk of increased energy costs if a carbon tax is introduced. In order to realize a low-carbon/decarbonized society in the future, we will strive to achieve our medium- to long-term environmental targets and review raising these targets. We also recognize that reducing greenhouse gas emissions from livestock is an important issue for the livestock industry. To reduce emissions, we will promote research and development work in collaboration with external research institutions. Measures that are confirmed to be effective will be implemented on our own farms.

We have identified the market growth of the next-generation proteins as an important business opportunity, in addition to livestock meat. This growth is driven by an increase in demand for protein due to the growing global population, as well as changes in consumer awareness and technological innovations in line with the transition to a decarbonized society. The NH Foods Group positions this as one of our medium- to long-term strategic issues, and we will verify the potential of applications in food for next-generation proteins, including cultured meat produced with mass-cultivated livestock cells and those derived from microorganisms, in addition to soy and other plant-based proteins.

Going forward, we will closely review the above strategies internally for reflection in the Materialities and medium-term management plan.

Risk management

We consider identifying and managing climate related risks to be an important issue in contributing to a sustainable global environment. In the fiscal 2020 evaluation of effectiveness, the Board of Directors defined three priority topics for fiscal 2021, including "sharing social issues that need to be resolved for the SDGs and issues that need to be addressed for sustainability, and formulating and implementing medium- to long-term strategies in relation to the Five Materialities," and sustainability was discussed in detail by the Board.

Risk management related to climate change is one of the initiatives aligned with the above priority topic, which is "understanding the risks to the NH Foods Group as a whole and continually enhancing discussions on risks that the Board of Directors need to understand." It is also reviewed by the Sustainability Committee, an advisory body of the Board of Directors, before it is discussed and finalized by the Board of Directors.

In order to identify and assess climate change related risks and opportunities, the TCFD Task Council collects information from the departments concerned, comprehensively selects scenarios of climate change related risks and opportunities, and analyzes and reviews them before the results are studied in detail by the Sustainability Committee.

The responses that are determined for climate change related risks and opportunities are reported and managed by the Sustainability Committee.

Indicators and targets

In order to realize the initiative of “contributing to a sustainable global environment,” which is one of the Materialities, the NH Foods Group has set up medium- to long-term environmental targets to be achieved in fiscal 2030, defined a management policy of "shifting to a sustainable business model with profitability" in the Medium-Term Management Plan 2023, and is working on initiatives to this end.

In order to accelerate these initiatives, we will visualize the fossil fuel CO₂ emissions in our overseas operations and develop specific reduction measures, in addition to realizing our medium- to long-term environmental targets for fiscal 2030.

In parallel with the above initiatives, we will raise our targets for greenhouse gas reduction among the medium- to long-term environmental targets for future decarbonization and we will promote low-carbon/decarbonization initiatives.

As one of the largest protein suppliers in Japan,* the NH Foods Group considers it our mission to pursue a more environmentally friendly livestock industry. As part of our initiatives to this end, we will strive to visualize the amount of greenhouse gas emissions from livestock in our overseas operations, in addition to our domestic operations for which information is already disclosed.

To reduce emissions, we will promote research and development work in collaboration with external research institutions. Measures that are confirmed to be effective will be implemented on our own farms.

* Estimated from our internal weight data and external data

Indicators	Targets (FY2030)	Sites
Fossil fuel CO ₂ emissions	Reduced by 46% or more (compared with FY2013)	All domestic sites
Waste emissions per unit (kg/t)	Reduced by 5% (compared with FY2019)	55 domestic processing and manufacturing sites
Recycling rate relative to waste emissions	92% or more	All domestic sites
Water consumption per unit (m ³ /t)	Reduced by 5% (compared with FY2019)	55 domestic processing and manufacturing sites

Scenario analysis

The sources of the NH Foods Group's business are the gifts of the earth and its expansive natural environment as well as the vast bounty of nature, and climate change may impact us in any number of ways. We conducted scenario analysis in order to understand the impacts of climate change related risks and opportunities on the business and to review countermeasures. This analysis was based on two climate change scenarios: the 1.5°C/2°C warming scenario, in which the trend of decarbonization gains strength and the impact of transition risks and opportunities is intensified, and the 4°C warming scenario, in which climate change progresses significantly and the physical risks are intensified. Specifically, when the 1.5°C target was announced at COP26 in November 2021, we immediately reviewed it company-wide and incorporated it into the 2°C warming scenario that was already set up for analysis. The analysis was conducted in reference to the RCP 2.6 scenario (less than 2°C) and the RCP8.5 scenario (4°C) from the IPCC (Intergovernmental Panel on Climate Change), and the Net Zero by 2050 scenario (1.5°C) from the IEA (International Energy Agency).

For scenario analysis, we collected information from the business divisions about climate change related risks and opportunities and made a comprehensive list of the risks and opportunities. We then sorted and narrowed down such risks and opportunities based on their degree of impact on the business and identified the following climate change risks and opportunities that are critical to the business of the NH Foods Group.

Critical risks and opportunities		Expected impacts	Countermeasures
Physical risks	Increased and destabilized feed prices	Large	<ul style="list-style-type: none"> Improve the feed conversion ratio Improve feed through in-house formulations and by enhancing collaboration and feed companies Review new meat procurement sources from low-risk areas
	Impacts of rising temperatures on livestock growth	Medium	
	Higher risk of disasters at sites	Small	<ul style="list-style-type: none"> Enhance facilities against flood risks Enhance product supply systems against disasters Efficient use of water resources at sites with high water stress risk
	Higher water stress at sites	Small	
Transition risk	Higher energy costs due to the introduction of carbon tax	Large	<ul style="list-style-type: none"> Efficient energy use and fuel conversion in the processing and manufacturing processes Expand use of renewable energy Reduce emissions in logistics by switching to low-emission vehicles and improving logistics efficiency
Opportunities	Increase environmentally conscious consumption	Medium	<ul style="list-style-type: none"> Develop products with high sustainability value Product development with next-generation proteins Research and development of next-generation proteins
	Expand the next-generation protein market	Large	

Increased and destabilized feed prices

It is expected that supply and demand of feed grains will become tight in the future due to concerns about expanding food demand due to population growth and stagnating feed grain yields due to climate change. It has been pointed out that the increased frequency of local droughts due to climate change may be a major destabilizing factor in the feed grain supply. We conducted a survey on corn, which accounts for the largest share of feedstock for livestock, and found that corn prices will likely increase up to about twofold in 2050 compared with 2010.

In addition, analysis of water stress in the United States and Brazil, which are home to the majority of Japan's feed corn suppliers, has revealed that while water stress should be at low levels both now and in the future in Brazil, it is expected to deteriorate in the United States in major feed producing states. The United States is also a major supplier of beef and pork, and the meat supply may be affected increasingly in the future by failures of feed grain crops due to water stress in the country. We believe that such changes in the environment may pose a long-term risk for feed procurement costs and the cost of livestock meat procured from outside the Group.

【Countermeasures】

The increase in and instability of feed prices may have a significant impact on the cost of livestock meat production within the Group, and we are taking countermeasures to address this.

The NH Foods Group has been working to improve the feed conversion ratio (the amount of feed required for livestock weight gain) for some time and we will continue to develop technologies that can improve the feed conversion ratio.

While continuing our initiatives to improve the feed conversion ratio, based on the results of this analysis, we will also enhance in-house feed formulation and our collaboration with feed companies to build a mechanism to secure feed stably and at low cost, thereby mitigating impacts. We will also make efforts to counter the impact on the cost of procurement from outside the Group.

The NH Foods Group has been expanding the business by taking advantage of our robust livestock meat procurement network domestically and overseas, and we will be incorporating the climate change perspective in the review of our livestock meat suppliers to reduce risks by expanding and diversifying suppliers over new regions.

Impacts of rising temperatures on livestock growth

Environmental factors like temperature and humidity are known to affect the growth of livestock. We conducted analysis in regions where the NH Foods Group has production and breeding sites, and the results suggested a summertime deterioration in daily weight gain of several percent in Japan, Australia, and Turkey due to rising temperatures caused by climate change. It also suggested a summertime deterioration in daily weight gain of several percent in the following regions that are major meat suppliers of the NH Foods Group: the United States (beef and pork), Brazil (chicken), and Thailand (chicken).

Among the Group farms located in regions where a summertime deterioration in daily weight gain is expected, we have already introduced cooling facilities in livestock housing at domestic farms (NH Interfarm and Nippon White Farm) and at chicken farms in Turkey, so the impact is considered to be minimal. On the other hand, there is the possibility that production efficiency will deteriorate at cattle farms in Australia, and we recognize the need to take measures to mitigate the impact.

These changes in our environment may pose a long-term risk to livestock meat procurement costs from in-house production as well as from outside the Group.

【Countermeasures】

We have installed cooling facilities at some livestock housings and are also installing facilities at other sites. We will also review developing technologies to maintain production efficiency in hot environments. Meanwhile, we will also review the impact of climate change on our livestock fattening process and on livestock suppliers in production regions. As for procurement from outside the Group, we will also proceed with measures similar to our measures against increased and destabilized feed prices.

Higher risk of disasters at sites

The risk of severe disasters is said to be increasing due to increased extreme weather events associated with climate change. We have assessed flood risks for a total of 233 sites (208 in Japan and 25 overseas), including Group farms, processing and manufacturing plants, and logistics centers.

This assessment referenced hazard maps for domestic sites and Aqueduct (flood risks) by the World Resources Institute for overseas sites. The results showed that six domestic sites and nine overseas sites are in areas with a high risk of water crises.

Two of the six domestic sites identified are considered to have minimal risk from the viewpoint of asset value and operation scale. The remaining four sites have BCPs, including systems to receive supplies of major products from neighboring sites in an emergency. They also have insurance to cover damages caused by water crises, and so the risk is considered to be minimal even in the event of a disaster.

Two of the nine overseas sites have experienced disasters in the past and now have anti-flooding equipment that reduces the risk to minimal. For the remaining seven sites, we examined the past disaster conditions and collected information locally to study the risks in detail, which led us to understand that the risk of flood damage is minimal at all sites. It is also expected that the impacts of a flood, if any, on the entire Group will be minimal due to the scale of operations at these sites.

【Countermeasures】

Although the risks are expected to be minimal as stated above, we will continue to monitor risks and enhance our supply system against disaster (for example, measures for product supplies in case major road networks are cut off).

Higher water stress at sites

We conducted a primary assessment of water stress for a total of 233 sites (208 in Japan and 25 overseas), including Group farms, processing and manufacturing plants, and logistics centers, with reference to the World Resources Institute's Aqueduct Water Stress Index. The results show that the risk of impact from water stress is low at all domestic sites. On the other hand, the initial report indicated that there was a high risk of water stress for 10 overseas sites in the 1.5°C/2°C warming scenario and for nine in the 4°C warming scenario.

For these sites, the risk is considered to be minimal due to the viewpoint of the scale of operations at six of 10 sites in the 1.5°C/2°C warming scenario and five of nine sites in the 4°C warming scenario. For the remaining four sites in each scenario, we examined the past impacts of water stress on the business and collected information locally to study the risks in detail, which led us to understand that the risk of water stress is minimal at all sites.

The majority of Whyalla Beef sites, in the cattle fattening business in Australia, have never before been affected by water stress, and according to Aqueduct, have a medium-high level of water stress today and for 2040. There are also ongoing initiatives in place to improve efficient water usage with measures like rainwater storage. Although we believe that the possibility of a significant, urgent risk manifesting in the immediate future is minimal, we are monitoring the conditions in case a risk arises.

【Countermeasures】

In relation to water stress, we are filtering effluent water from pig farms to remove impurities so it can be used as cleaning water, and also reusing cooling water in chicken processing. This is part of our initiatives to reduce water consumption based on "contributing to a sustainable global environment," which has been identified as a Materiality.

Although the risk is expected to be minimal as stated above, we will continue to monitor the risk, develop measures for the efficient use of water resources, and continue our initiatives to achieve our medium- to long-term environmental targets.

Increased costs due to carbon tax

We calculated the business impacts of the introduction of a carbon tax on the fossil fuel CO₂ emissions generated in Group facilities. The emissions are calculated based on two assumptions: emissions in FY2020, and emissions for FY2030 with the reduction targets achieved. Carbon tax prices are calculated assuming USD 130/t-CO₂ for 2030 and USD 250/t-CO₂ for 2050 in accordance with the Net Zero by 2050 scenario of the IEA's World Energy Outlook 2021 (equivalent to the 1.5°C target). The table below shows the results.

Scenarios	Items	2030	2050
With emissions as assumed in 2020	Impact of carbon tax (100 million yen)	89	172
	Emissions (1000 t-CO ₂)	624	624
	Carbon tax (USD/t-CO ₂)	130	250
With emissions targets achieved in 2030 (Same for 2030 onward)	Impact of carbon tax (100 million yen)	58	111
	Emissions (1000 t-CO ₂)	405	405
	Carbon tax (USD/t-CO ₂)	130	250

* Approximate estimates for CO₂ emissions of overseas sites

We have identified the possibility of large financial impacts if a carbon tax is introduced in the 1.5°C scenario. While the above calculations only take into account fossil fuel CO₂ emissions, we will also consider the

possibility of a carbon tax imposed on livestock CO₂ emissions in the medium and long term, based on the current carbon tax systems in developed countries, and we will continue to review our reduction measures.

【Countermeasures】

To reduce fossil fuel CO₂ emissions, our initiatives include replacing equipment with energy-saving equipment, including updating aging equipment, as well as promoting the use of heat pumps and other waste heat recovery systems to reduce energy requirements, and expanding the use of renewable energy and installing solar panels at our own facilities. We are promoting the use of biofuels that are generated in the manufacturing process, and we are also taking initiatives to operate biogas plants and introduce waste oil boilers in the food processing business in Australia.

We will continue and enhance these initiatives to reduce greenhouse gas emissions. To develop our initiatives to a higher level, we will also review raising our greenhouse gas reduction targets toward future decarbonization.

We are promoting specific measures to reduce greenhouse gas emissions from livestock. In the Australian cattle business, we will verify the use of feed additives to control digestive-track methane fermentation. In Japan, we have initiatives for the energy use of biogas generated in the treatment process for manure and wastewater in pig farms, and we have a collaborative business-academia research program on reducing manure methane emissions. In the chicken business, we are working on power generation using chicken manure as biomass fuel (a joint investment project with agricultural association corporations and enterprises).

Other initiatives of the NH Foods Group to reduce greenhouse gas emissions are disclosed in our Sustainability Report and on our website.

Increase environmentally conscious consumption

In a society with advanced decarbonization efforts, people will most likely select companies and products that are environmentally friendly because of the growing awareness of climate change. We recognize that it will become increasingly important to realize sustainability value and to communicate with consumers.

【Countermeasures】

As part of our initiatives to address environmental issues in our products, we are working on reducing plastic usage. We are expanding our lineups, for example, with new packaging for Schau Essen® to replace the conventional drawstring pouch packaging, new packaging for Eco Tenderloin Ham, and new paper trays replacing the plastic trays used for Kanade® chilled pizzas. The Tasty Microwave series and the Shredded Meats series have long-term shelf stability at room temperature, and they are designed to reduce food loss as part of our enhanced initiatives in Medium-Term Management Plan 2023. We will develop products with clear sustainability value while expanding these initiatives.



Schau Essen®
Old packaging
Drawstring

Schau Essen®
New packaging
Eco pillow packaging
(Plastic consumption
reduced by 28%)



Eco Tenderloin Ham
Changed packaging
to reduce plastic
consumption



Child Pizza Kanade®
Plastic trays replaced
with paper trays

Expanding the next-generation protein market

As the global population increases, the demand for proteins will increase in the long term, and the protein market is expected to expand, including the next-generation protein market as well as the livestock meat market. In particular, the next-generation protein market is expected to grow significantly due to changes in consumer awareness and the introduction of technological innovations accompanying the transition to a decarbonized society. While estimates released by external organizations of the future market size for next-generation proteins, it is expected to be tens of trillions of yen globally as of 2050 in the scenario where the decarbonization transition progresses, and we understand that there will be significant business opportunities in the medium to long term.

【Countermeasures】

In the area of next-generation proteins, we have already developed the Natu Meat series of plant-based products both for consumers and for the food service and logistics industries, and we are expanding sales in Japan.

In order to capture market opportunities that will grow significantly, we will also make efforts in our research and development initiatives with a view to utilizing various proteins in addition to soy and other plant-based proteins. As for cultured meat produced with mass-cultivated livestock cells, we have a joint research project with IntegriCulture and are conducting research for future commercialization. We are also verifying the potential of applying next-generation proteins to foods, including microorganism-derived proteins.

We will expand the potential of next-generation and other proteins, with a foundation of proteins derived from livestock meat, in order to provide a stable supply of protein and a variety of dietary options.