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China Mengniu Dairy Company Limited

NATURE-RELATED INFORMATION DISCLOSURE REPORT

*Based on Recommendations of the Taskforce on
Nature-related Financial Disclosures*





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About the Report

Living in a complicated and interconnected global ecosystem, human beings depend on and exert influence on nature. On the other hand, the social and economic prosperity, together with sustainable development, rely on the health and resilience of nature and its biodiversity.

In December 2022, the 15th meeting of the Conference of the Parties (COP15) to the *UN Convention on Biological Diversity* adopted the *Kunming-Montreal Global Biodiversity Framework* (GBF), specifying the "3030" core goals and 23 action-oriented global targets to be achieved by 2030. Among these global targets, Target 15, which is intended to *regularly monitor, assess, and transparently disclose the risks, dependencies and impacts on biodiversity*, serves as an important basis for decision-makers, large multinational companies, and financial institutions to improve their biodiversity management.

China has incorporated biodiversity conservation into its national strategy by establishing the China National Committee for Biodiversity Conservation (CNCBC) in 2010. In December 2022, China, which chaired COP15, facilitated the adoption of GBF. Later, during the 28th session of the Conference of the Parties (COP28) to the *United Nations Framework Convention on Climate Change* (UNFCCC) in December 2023, China spearheaded a global initiative to implement the GBF, and urged the international community to join hands in addressing the biodiversity loss, climate change and other global challenges, thus ensuring the harmony between humankind and nature for our home planet. In addition, with a view to promoting the biodiversity conservation efforts on all fronts in China. In January 2024, the Central Committee of the Communist Party of China and the State Council issued the *Opinions on Comprehensive Promotion of Beautiful China Initiative*, which clarified the goal of *improving the diversity, stability and sustainability of ecosystem*. Moreover, the Ministry of Ecology and Environment promulgated the *China National Biodiversity Conservation Strategy and Action Plan (2023-2030)*, which was closely connected to the GBF.

China Mengniu Dairy Company Limited ("Mengniu" for short) is well aware of the important values of nature for sustainable development of enterprises, human well-being and health of the planet. While integrating sustainable development into its fundamental strategies, Mengniu holds fast to the vision of "promise a healthier world", takes biodiversity conservation as the key issue for its sustainable development strategy, and formulates special strategies for biodiversity conservation.

In order to realize the action-oriented global targets of GBF, and identify the biodiversity risks, impacts and dependencies in business operation as well as in the upper stream and lower stream of value chain, Mengniu was the first company in the industry to prepare the *Nature-related Information Disclosure Report*. This report, which is based on the *Recommendations of the Taskforce on Nature-related Financial Disclosures* issued by the Taskforce on Nature-related Financial Disclosures (TNFD) on September 18, 2023, refers to the GBF, *GRI Standards* issued by the Global Reporting Initiative (GRI), and other relevant international standards. Mengniu adopted multiple approaches to effectively understand the nature-related impacts and dependencies, identify the ever-changing nature-related risks and opportunities, and prevent and control the nature-related risks, thus elevating the resilience of sustainable development strategy for the company.

According to the *Recommendations of the Taskforce on Nature-related Financial Disclosures*, we took the governance, strategy, risk and impact management, and metrics and targets as the framework. We adopted the LEAP approach (i.e., Locate, Evaluate, Assess, Prepare) to assess 68 factories of Mengniu both at home and abroad, and extend the assessment scope to the sharing and holding pastures supplying raw milk to Mengniu from the upper stream of value chain. By analyzing whether such factories and pastures were located in the biodiversity priority areas, such as the endangered species' habitats, biodiversity conservation area or biodiversity sensitive area, we can get fundamental support for identifying and managing the nature-related risks and impacts.

This report mainly discloses the information regarding the nature-related risk and opportunity management measures and efforts of China Mengniu Dairy Company Limited and its subsidiaries from January 1, 2023 to December 31, 2023. As it's the first time to adopt the *Recommendations of the Taskforce on Nature-related Financial Disclosures* for Mengniu, some of its contents are traced back to previous years or extended to coming years as appropriate. This report is available in simplified Chinese and English. In case of inconsistency, please refer to the simplified Chinese version as it shall prevail.

We hope that this report would disclose to stakeholders the achievements and future plans of Mengniu regarding the identification and assessment of nature-related impacts and dependencies as well as the management of nature-related risks and opportunities. We will improve the transparency and credibility, meanwhile, strengthen the cooperation and communication between Mengniu and its stakeholders. Moreover, Mengniu will keep optimizing its nature-related risk and opportunity management system, contribute its wisdom to promoting the global biodiversity governance and achieving the goals for sustainable development.

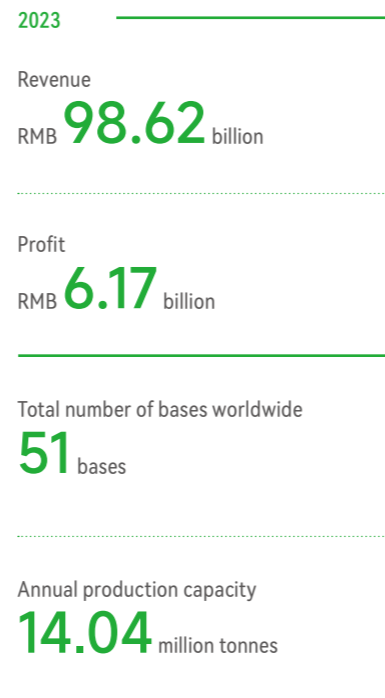


About Mengniu

China Mengniu Dairy Company Limited (Stock Code: 2319) is a leading dairy company, ranking among the top eight dairy companies in the world. Founded in 1999 and headquartered in Hohhot, Inner Mongolia Autonomous Region, China, the Group was listed in Hong Kong, China in 2004 and was a constituent of the Hang Seng Index, Hang Seng China Enterprises Index, and Hang Seng Corporate Sustainability Index.

Mengniu focuses on providing nutritious, healthy and delicious dairy products to Chinese and global consumers, forming a rich product matrix including liquid milk, ice cream, milk powder, cheese and other categories. We have well-recognised brands such as Milk Deluxe, Just Yoghurt, Champion, Yoyi C, Shiny Meadow, Deluxe, Reeborne, Bellamy's, Milkground, and Ai Shi Chen Xi. It has a leading market share in segments such as high-end pure milk, chilled yoghurt, high-end fresh milk and cheese. Mengniu products have also entered more than ten countries and regions in Southeast Asia, Oceania, North America and other regions. In 2023, the Group's revenue reached RMB 98.62 billion, with a profit of RMB 6.17 billion.

Mengniu has established 45 production bases in China and overseas production bases in New Zealand, Indonesia, Australia and Philippines, with a combined annual production capacity of 14.04 million tonnes. Mengniu has also made efforts to integrate high-quality resources and has made strategic investments in large dairy groups such as China Modern Dairy and China Shengmu, etc. Mengniu also actively deploys high-quality milk sources overseas, owning raw milk processor Burra Foods and organic infant food seller Bellamy's in Australia.

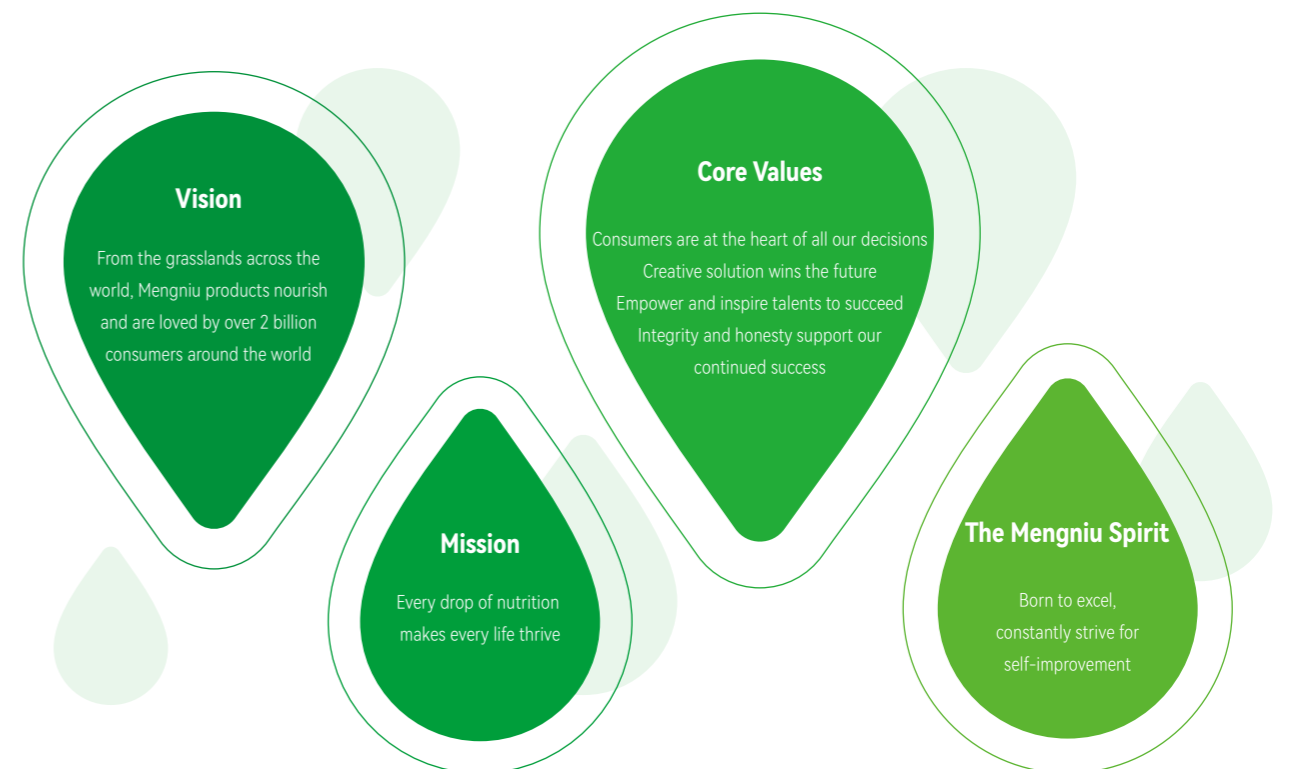


Mengniu has established multinational R&D centers in North America and Europe, and has carried out strategic cooperation with many well-known scientific research institutions at home and abroad to jointly tackle key problems in forage planting, breeding and processing, basic dairy science, product innovation and other fields, and has made great progress in intelligent manufacturing, raw milk preservation, probiotics, Human Milk Oligosaccharides (HMOs), quality control technology and other fields. The Group continuously improves its quality management system of the entire industry chain "from pasture to milk cup", covering breeding, production, processing, logistics and other links with digital and intelligent means, with full closure monitoring of production and dynamic inspection of the whole process, to ensure that every product is of excellent quality and superior quality.

Mengniu's first-class quality and brand value are widely recognized at home and abroad. Mengniu is the global partner of Olympic, the official global sponsor of FIFA World Cup, the strategic partner of China's aerospace industry, the official dairy partner of Shanghai Disney Resort, the official partner of Beijing Universal Resort and the official marketing partner of NBA China.

Mengniu aligns with the United Nations Sustainable Development Goals (SDGs) and has gradually improved its "GREEN Sustainable Development Strategy", focusing on five directions: Governance-Sustainability, Responsibility-Common Prosperity, Environment-Carbon Net-Zero, Ecosystem-Collaborative & Accountable, and Nutrition-Supreme & Inclusive, to comprehensively promote GREEN Sustainable Development Strategy, to boost the revitalization of the dairy industry, to assist rural revitalization and realize common prosperity. Mengniu firstly releases industry-leading dual-carbon strategic goals of achieving carbon peak by 2030, carbon neutrality in the whole industry chain by 2050, and set a target of "zero deforestation" by 2030, actively helps the country achieve its dual-carbon goals, and promotes the sustainable development transformation of the upstream and downstream of the industrial chain.

During the 14th Five-Year Plan period, Mengniu, standing at a new stage of development, will lead in the construction of a new paradigm of development of China's dairy industry and formulate its strategic plan of "Creating a New Mengniu", striving to develop into a Mengniu beloved by consumers, an international Mengniu, a Mengniu with strong sense of responsibility, a Mengniu with strong cultural gene, and a digitalized Mengniu. Mengniu will continuously meet the customers' needs for a better life with high-quality products and services, promote the high-quality development of China's dairy industry and build itself into an icon of Made in China.



Governance

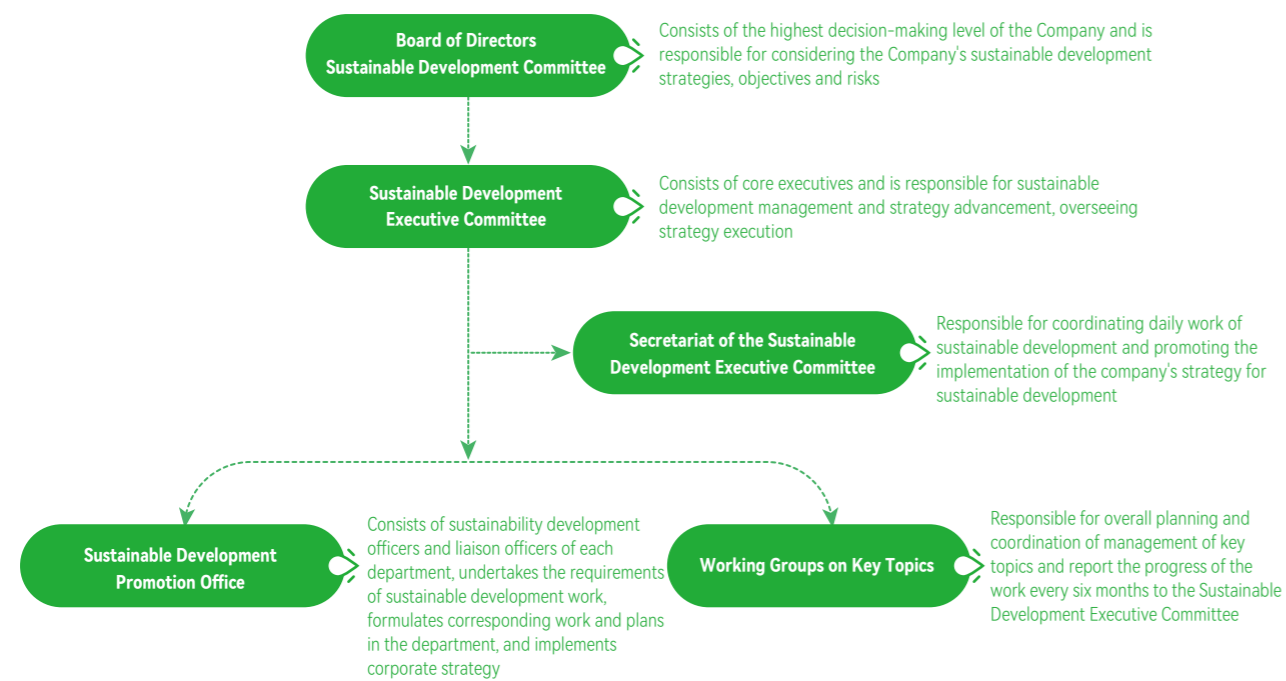
Sound governance structure and clear management responsibility are the foundation that enables a company to manage nature-related risks. Based on the management of sustainable development, Mengniu continuously improves its three-level management system, for which the Board of Directors serves as the top decision-maker, and optimizes its supervision mechanism for nature-related risks and opportunities, thus efficiently ensuring its high-quality and sustainable development.



Sustainable Development Governance System

Mengniu has set up the Sustainable Development Committee, the Sustainable Development Executive Committee and its Secretariat, the Sustainable Development Promotion Office and Working Groups on Key Topics, which are responsible for decision-making, supervision and promotion, coordination and implementation of the Company's nature-related strategies respectively, ensuring that the nature-related strategies are effectively promoted and the Company's nature-related performance is gradually improved. Mengniu has constantly improved its three-level management system for sustainable development, thus efficiently adapting to Mengniu's requirements for strategic development, operation and management.

Sustainable development governance structure of Mengniu



Board of Directors

Mengniu's Board of Directors is responsible for the final review of its sustainable development strategies, goals and risks (including the nature-related strategies, goals and risks), and the supervision of effective operation for its risk management system and internal monitoring system.

Mengniu has set up the Sustainable Development Committee at the level of the Board, which comprises 3 executive directors (including Mr. Jeffery Minfang Lu, Mr. Gao Fei, and Ms. Wang Yan), 1 non-executive director (Mr. Simon Dominic Stevens), and 1 independent non-executive director (Mr. Li Michael Hankin), Mr. Simon Dominic Stevens acts as the chairperson of the Sustainable Development Committee.

The Sustainable Development Committee reviews Mengniu's performance for sustainable development strategies, goals and risks (including nature-related strategies, goals and risks) and checks the disclosures regarding sustainable development twice a year.

The Management

The Sustainable Development Executive Committee is responsible for evaluating and managing nature-related impacts and dependencies, risks and opportunities, as well as their impacts on the company's business, strategy, and financial planning, and timely adjusting the company's nature-related commitments, goals, and plans to enhance strategic resilience, and report the supervision status to the Board of Directors on a regular basis.

For the purpose of realizing its sustainable development goals, Mengniu has, while considering the characteristics of businesses supervised by the Management, set specific sustainable development assessment targets (including nature-related topics) for the Management and incorporated such assessment targets into the annual performance contract.



Sustainable Development Executive Committee discussed issues relating to forest protection

In early 2023, Mengniu held a meeting of the Sustainable Development Executive Committee. During the meeting, the committee members listened to the 2022 Work Report on Sustainable Development and the 2023 Work Plan for Sustainable Development, and mainly discussed the risks, targets, work plans and budgets relating to forest protection. Moreover, they set the goal of "zero deforestation" by 2030, and established a special working group to carry out relevant work.

Stakeholder Participation

Mengniu firmly believes that its decisions and actions would not only exert influence on its business operation and employee's welfare, but also bring about impacts on relevant stakeholders such as government departments, investors, consumers, employees, communities, and social organizations. While keeping its foothold in the industry chain, Mengniu establishes relevant channels for the timely and transparent communication with stakeholders, and evaluates the important issues for sustainable development, so that the stakeholders are able to comprehend and, if necessary, participate in nature-related risk management activities organized by Mengniu.

Governments

In 2022, Mengniu joined China Business and Biodiversity Partnership (CBBP), which was jointly founded by the Foreign Environmental Cooperation Center of the Ministry of Ecology and Environment and relevant partners. As a strategic member of CBBP, Mengniu provides its schemes for global biodiversity governance.

Investors

Mengniu takes the initiative to interact with its investors, and pays due attention to the suggestions of investors on the sustainable development management of Mengniu. Moreover, Mengniu exchanges ideas with its investors on its sustainable development strategy and milk source strategy for the whole industry chain, thus facilitating the recognition of Mengniu's sustainable development practices in the capital market.



Mengniu invited 50 institutional investors, analysts from securities companies, ESG rating agencies, and media to visit its Dengkou Desert Organic Pasture and Bayannur Plant

Consumers

Sticking to its core values of "Consumers are at the heart of all our decisions", Mengniu issues questionnaires on the satisfaction of distributors and consumers. In addition, by means of its consumer hotline, official Weibo account, official WeChat account and other diversified communication channels, Mengniu constantly follows up the attention of consumers to nature, and tries its best to provide the consumers with more eco-friendly products and consumption experiences.

CASE **Mengniu launches the "Mengniu FoRest" environmental protection program**

On September 3, 2023, Mengniu officially launched the "Mengniu FoRest" environmental protection program in "Mengniu-NBA Party" at Aranya, Qinhuangdao City, Hebei Province, for the purpose of responding to the national policies on making ecological progress, undertaking its corporate environmental responsibilities, and promoting the positive effect of forest. By cooperating with NBA and China Aerospace Science and Technology Corporation (CASC), Mengniu planted trees to record and commemorate the wonderful moments of sports and space explorations, thus making valuable contributions to promoting the forest restoration and protection, regional biodiversity, and desertification control.



"Mengniu FoRest" environmental protection program was officially launched in "Mengniu-NBA Party"

Employees

Mengniu actively urges its employees to follow the sustainable development strategy, keep improving their awareness of green living, and adopt the green and low-carbon lifestyle, thus safeguarding the health of human beings and the earth with concerted efforts.

CASE **Mengniu launches the "Creative Milk Carton" campaign among employees**

During the World Environment Day on June 5, 2023, Mengniu launched the "Creative Milk Carton" campaign via "Action of Mengniu Employees", a WeChat mini program inside the company, and invited its employees to turn the used milk cartons into creative handicrafts, so as to uphold the concept of resource recycling among all employees.



Excellent handicrafts made of used milk cartons by Mengniu employees

Communities

While sticking to the "2025 Value Sharing" strategy, Mengniu enhances its economic ties with farmers and herdsmen by expanding the fodder grass planting, increasing the scale of breeding, strengthening the coordination with industrial parks, and promoting the business cooperation and exchange. Therefore, it's able to promote the industrial participation of and economic benefits for cooperative pastures and surrounding communities, and increase the income of residents in such communities by building high-quality milk source bases.



Mengniu holds the sustainable development conference for partners of dairy industry chain

Social organizations

Mengniu actively coordinates with domestic and overseas social organizations to develop innovative solutions, and cooperates with such social organizations to cope with the global nature-related challenges by means of responsible operation.

- Mengniu joined the United Nations Global Compact (UNGC) to support and comply with the ten principles of the Global Compact, to achieve greater public benefit with business.
- Mengniu joined the Pathways to Dairy Net-Zero (P2DNZ) global climate initiative jointly launched by the Food and Agriculture Organization of the United Nations (FAO), the International Dairy Federation (IDF) and the Global Dairy Platform (GDP). Mengniu is committed to accelerating action on climate change and reducing greenhouse gas emissions in the dairy industry.
- Mengniu participated in the China action of "One Trillion Trees Initiative" launched by the World Economic Forum (WEF), so as to cope with the challenges caused by climate change by means of afforestation.
- Mengniu became a member of the Roundtable on Sustainable Palm Oil (RSPO), and gradually increased the procurement proportion of palm oil products certified by RSPO, so as to continuously reduce the deforestation risk in its supply chain.
- Mengniu joined the Supplier Ethical Data Exchange (Sedex) platform, aiming to build a responsible supply chain by reference to international concepts and practices.
- Mengniu joined the initiative of Business for Nature, and explored and formulated corresponding science-based goals and indicators, so as to reduce the natural loss.
- Mengniu launched the initiative of "supporting the forestation to protect the earth, and powering China's contribution to global environmental governance" in coordination with China Environmental Protection Foundation, All-China Environment Federation and other Chinese social organizations and enterprises, so as to jointly respond to the challenges caused by climate risks.

Strategy

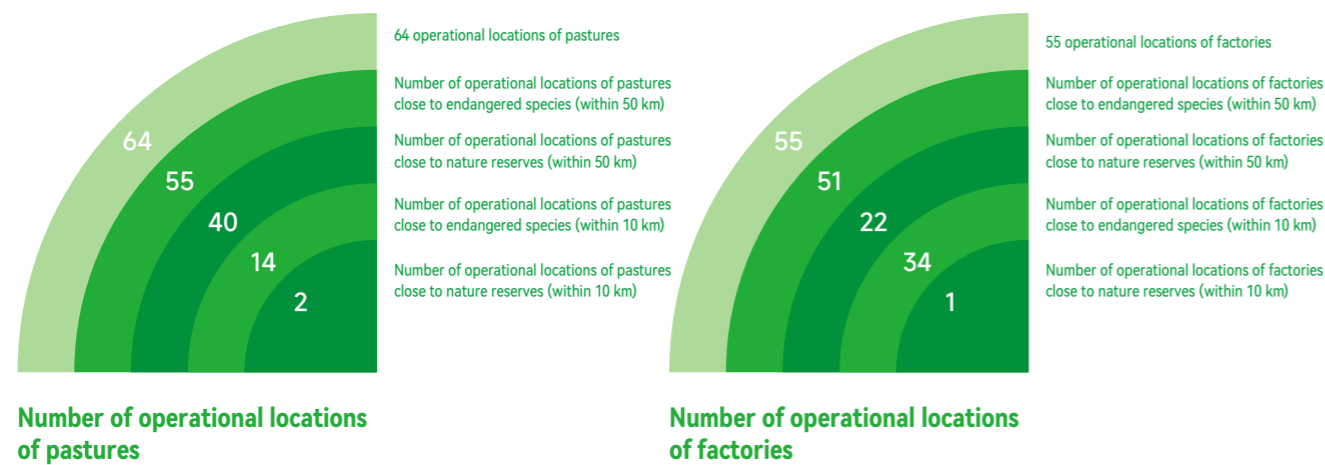
Mengniu's business operation activities, full life cycle of products, and each link in the value chain are closely connected with the natural ecosystem. Mengniu adopts the LEAP analysis method recommended by TNFD to identify and assess its nature-related impacts, dependencies, risks and opportunities. Moreover, Mengniu considers nature in its strategy, and takes strenuous effort to cope with potential risks and improve its strategic resilience.



Identifying the Relation with Nature

By referring to the positioning analysis in LEAP approach, Mengniu has, by using the Biodiversity Impact Assessment Tool (BIA)* and Integrated Biodiversity Assessment Tool (IBAT)*, conducted pilot assessments on the direct or indirect relation between nature and the operational locations of its 68 domestic and overseas factories as well as nearly 90 sharing and holding pastures, thus laying a solid foundation for itself to identify, assess and manage the nature-related risks and opportunities.

Biodiversity impact assessment results for operational locations of factories and pastures



- Due to the duplication of some factory and pasture operation locations, a total of 55 factory operation locations and 64 pasture operation locations were actually analyzed.
- On the scale of 10 km and 50 km, the impacts and risks brought about by the operational locations of factories and pastures are analyzed.
- Species in the endangered category of IUCN* or RCB*, or species protected by the *Law of the People's Republic of China on the Protection of Wildlife* are included in the statistical scope of endangered species. Areas adjacent to national nature reserves, national parks, world heritages, and global reserves are included in the statistical scope of nature reserves.
- In the peripheral areas of Mengniu's factories and pastures located within the 10 km radius of endangered species and nature reserves, there are endangered species with large activity scope, including emberiza aureola, white crane, white-headed duck, white-tailed eagle, relict gull, great bustard, mergus squamatus, oriental white stork, brown-eared pheasant, and crested ibis.

Biodiversity Impact Assessment Tool (BIA): A tool developed by Shan Shui Conservation Center and Peking University Center for Nature and Society for assessing the impacts on biodiversity.

Integrated Biodiversity Assessment Tool (IBAT): As a tool developed by the IBAT Alliance (including BirdLife International, Conservation International (CI), the International Union for Conservation of Nature, and the United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC)), it provides access to data from the world's three major biodiversity databases for assessing the proximity of project sites to key conservation areas for endangered species.

International Union for Conservation of Nature (IUCN) is the world's largest and oldest global non-profit environmental organization, as well as a permanent observer to the United Nations General Assembly in the field of natural environment conservation and sustainable development. *IUCN Red List of Threatened Species* divides species into nine categories: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), and Not Evaluated (NE).

China's Red List of Biodiversity: Vertebrates (RCB) is a directory compiled jointly by the Ministry of Ecology and Environment of the People's Republic of China and the Chinese Academy of Sciences for the conservation of animals. It divides endangered species into five categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), and Data Deficient (DD).

Mengniu is well aware of the importance of ecological environment for endangered species. With regard to the planning and operation of its factories and pastures, Mengniu exerts its best efforts to reduce the impact on endangered species and their habitats by optimizing the site selection, improving the production process, reducing the waste discharge, and restoring and protecting the ecosystem in an all-round way. By the end of December 2023, no environmental violation event had happened in all factories and cooperative pastures.

In the long run, Mengniu's factories and cooperative pastures located within the 10 km radius of biodiversity sensitive areas still face great nature-related risks. For instance, if the local government adjusts or implements stricter policies on, the list of endangered species and the scope of biodiversity sensitive areas, the factories and cooperative pastures of Mengniu will face compliance risks. In the future, Mengniu will exercise more rigorous and systematic supervision and management for the operational locations of its factories and cooperative pastures with higher nature-related risks and impacts.

Operational locations are relatively concentrated as for Mengniu factories and cooperative pastures in Inner Mongolia Autonomous Region. Therefore, taking the analysis on Inner Mongolia Autonomous Region as an example, it can be found that: within the 50 km radius of such factories and pastures, there are several nature reserves (including Inner Mongolia Daqingshan National Nature Reserve and Inner Mongolia Western Erdos National Nature Reserve and several endangered species (including common kestrel, red-footed falcon, little owl, black stork, black tern, Mongolian lark, and Daurian jackdaw). By analyzing the spatial and interactive relation between nature and Mengniu factories and cooperative pastures, we have identified the nature-related risks and opportunities faced by Mengniu, helped Mengniu to define the priority areas and locations in responding to nature-related risks, and provided important support for Mengniu to formulate the actions to manage relevant risks.



CASE Management of nature-related impacts and risks in Mengniu Wuhan Factory

Mengniu Wuhan Factory is located in Dongxihu District, Wuhan. Several endangered species exist within the 10 km radius of the factory, including 1 species included in IUCN's list of critically endangered species, 1 species included in RCB's list of critically endangered species, and 6 Grade-I animals protected by the *Law of the People's Republic of China on the Protection of Wildlife*.

During its operation, the factory might generate solid wastes and wastewater. If the factory fails to properly treat the solid wastes and wastewater, the soil and water sources nearby will be polluted, and the survival of endangered species will in turn be threatened. Along with increasing environmental awareness, the government departments constantly strengthen the supervision on environmental protection, and promulgate more rigorous regulations and policies in this regard. If the factory fails to meet the relevant environmental protection standards, it will face severe penalty imposed by local government department and suffer the loss of reputation.

In order to address such challenges, the factory has, at the beginning of its design and construction, aimed to reduce the impact on surrounding environment in each stage of operation. According to the national Level-I discharge standard, the factory designed and built a sewage treatment station named "Clear Water Center" with daily sewage treatment capacity of 5,000 tonnes. Due to this station, the treated sewage can be used for greening and irrigation. Every year, the factory is able to save the water by 40,000 tonnes, which is equivalent to the annual water consumption for 550 households. In addition, the factory can recycle the biogas generated during its production. Every year, the factory is able to save natural gas by 632,000 m³ and reduce carbon emissions by 1,380 tonnes. Every year, many egrets, which indicate good environment, will stop by the factory. According to the design principle of "restoring the green scenery by the power of nature", the factory introduces natural lighting for the roof of all pretreatment workshops, packaging workshops, raw materials warehouses, and auxiliary materials warehouses. Without using electric lighting in daytime, it can save the electric power by 146 MWh annually. In the factory, solar power is adopted for its road lamps, and solar panels are adopted to replace the ordinary roof for parking shed and generate 1.16 GWh of photovoltaic power annually, thus reducing the carbon emission by 1,150 tonnes.

Daily sewage treatment capacity	Amount of water savings each year	Amount of natural gas saved by recycling biogas every year	Annual generating capacity of photovoltaic power
5,000 tonnes	40,000 tonnes	632,000 m ³	1.16 GWh



Sewage treatment station of Mengniu Wuhan Factory

Assessing the Nature-related Impacts

By using the ENCORE database* recommended by TNFD, Mengniu assesses the impacts and dependencies of its business activities on nature. Moreover, based on the materiality analysis standards specified in the *Natural Capital Protocol* released by the Capitals Coalition, Mengniu assesses the importance of identified nature-related impacts and dependencies, thereby helping to formulate corresponding management measures for nature-related risks.

Heat map of nature-related impacts and dependencies for Mengniu

Legend of dependencies: ● High importance ● Medium importance ● Low importance ● Unimportance
 Legend of impacts: ● High importance ● Medium importance ● Low importance ● Unimportance

Impact / dependency factor*	Upstream pasture			Upstream raw and auxiliary materials	Midstream production & processing		Downstream sales
	Feed planting	Pasture building	Pasture operation		Plant building	Plant operation	
Terrestrial ecosystem use	High	High	High	High	High	High	High
Fresh water ecosystem use	High	High	High	High	High	High	High
Water use	High	High	High	High	High	High	High
Greenhouse gas emissions	High	High	High	High	High	High	High
Non-greenhouse gas emissions	High	High	High	High	High	High	High
Soil pollutants	High	High	High	High	High	High	High
Water pollutants	High	High	High	High	High	High	High
Solid waste	High	High	High	High	High	High	High
Disturbances (noise and illumination, etc.)	High	High	High	High	High	High	High
Fibres and other materials	High	High	High	High	High	High	High
Ground water	High	High	High	High	High	High	High
Surface water	High	High	High	High	High	High	High
Soil quality	High	High	High	High	High	High	High
Bio-remediation ability	High	High	High	High	High	High	High
Climate regulation	High	High	High	High	High	High	High
Disease control	High	High	High	High	High	High	High
Filtration	High	High	High	High	High	High	High
Flood and storm protection	High	High	High	High	High	High	High
Water flow maintenance	High	High	High	High	High	High	High
Water quality	High	High	High	High	High	High	High
Buffering and attenuation of mass flows	High	High	High	High	High	High	High
Dilution by atmosphere and ecosystems	High	High	High	High	High	High	High
Mass stabilisation and erosion control	High	High	High	High	High	High	High
Mediation of sensory impacts	High	High	High	High	High	High	High
Pest control	High	High	High	High	High	High	High
Genetic materials	High	High	High	High	High	High	High
Pollination	High	High	High	High	High	High	High
Ventilation	High	High	High	High	High	High	High
Animal-based energy	High	High	High	High	High	High	High
Maintain habitats	High	High	High	High	High	High	High

Notes: Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE), jointly developed by the Natural Capital Finance Alliance (NCFA) and the United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC), is a key tool to assist financial institutions in assessing their dependencies and impacts on nature at a portfolio level. All impact / dependency factors in the above table are sourced from the ENCORE database. The upstream and downstream business activities of Mengniu's value chain do not involve the two impact factors of "marine ecosystem use" and "other resource use"; therefore, the two factors are not currently listed in the above table.

CASE Mengniu cooperates with China Shengmu to pilot the quantitative evaluation on nature-related impacts and dependencies

Since 2009, Mengniu, together with China Shengmu has carried out large-scale ecological governance in Ulan Buh Desert, established the world's first organic cycling industrial chain for the whole process of sand grass for Ulan Buh Desert, and developed the large-scale circular economy model featuring "wind prevention, sand fixation, grass planting, cow breeding, and cow dung compost", thus realizing outstanding ecological values. In 2021, Mengniu innovatively launched a natural capital assessment of the oasis pasture in Ulan Buh Desert as a pilot base. The combination of qualitative, quantitative, and monetary methods was used to evaluate the material impacts and dependencies of the development of sand grass industry and biodiversity conservation practices in Ulan Buh Desert on natural capita, thus providing a basis for the biodiversity management of pastures. As of the end of 2023, ecological governance project of Ulan Buh Desert investment exceeding RMB 7.5 billion, Mengniu planted over 97 million trees, transforming the desert of more than 200 km² into forage grass farms. Moreover, Mengniu built up 11 storage reservoirs with an average area of 50,000-60,000 m² in Ulan Buh Desert.

Improving the Strategic Resilience

Being aware of the great impact of natural loss on pasture operation and enterprise productivity, Mengniu has always paid due attention to risks and impacts it might face at present and in the future, such as the biodiversity risk, climate change risk, water risk, and deforestation risk. By doing so, Mengniu is able to improve the flexibility and adaptability of its strategies, and perform better in coping with the nature-related risks and opportunities, thus realizing the harmonious coexistence between itself and nature.

Dual-carbon strategy

Under the background of increasing severe situation of global climate change, Mengniu actively responds to the national strategy of carbon peaking and carbon neutrality goals, establishes its own dual-carbon strategic planning, and clarifies its strategic goals of achieving "carbon peak by 2030 and carbon neutrality by 2050". Moreover, Mengniu carries out the carbon inventory and identifies the climate risks and opportunities to manage the greenhouse gas, and plans and implements its key carbon reduction paths, thus making positive contributions to its sustainable development and global climate governance.

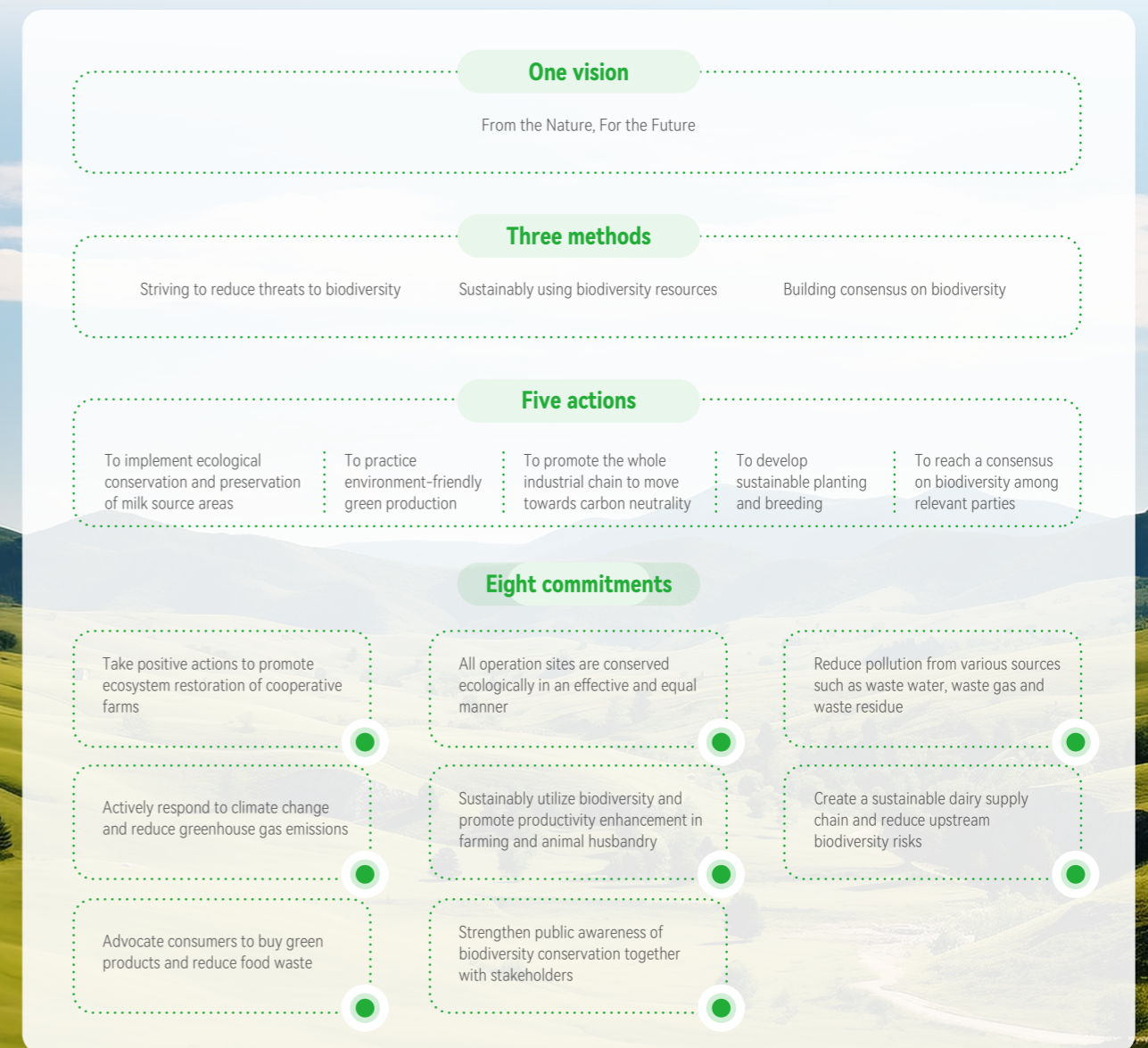
Mengniu's dual-carbon strategic planning

Phase I	Phase II	Phase III
<p>2023-2025</p> <p>Combining the Company's 2025 strategic planning, Mengniu calculates the phased carbon peak value, focuses on scope 1 and scope 2 GHG emissions reduction, and explores and deploys scope 3 GHG emissions reduction measures, thus laying solid for carbon dioxide peaking.</p> <p>In 2025, the GHG emission intensity of a single tonne of dairy products should be within 165kgCO₂e/t.</p>	<p>2025-2030</p> <p>In line with the Group's phase I strategic planning and industrial structure adjustment, Mengniu continues to promote the reduction of scope 1 and scope 2 GHG emissions, and deepen the implementation of the scope 3 GHG emissions reduction measures.</p> <p>In 2030, the absolute value of the scope 1 and 2 GHG emissions reaches the peak, and the GHG emission intensity of a single tonne of dairy products should be within 160kgCO₂e/t.</p>	<p>2030-2050</p> <p>With the target of carbon neutrality, Mengniu maintains the GHG emission reduction measures and achievements in scope 1 and 2, and promotes comprehensive GHG emission reduction in scope 3. The proportion of renewable clean energy increases and the product carbon footprint decreases year by year.</p> <p>In 2050, Mengniu achieves carbon neutrality in scope 1, 2 and 3.</p>

Biodiversity Conservation Strategy

The coordinated development of dairy production and ecosystem has become one of the important goals for the sustainable operation of Mengniu. In 2019, Mengniu elevated "sustainable development" into a strategy for the Group, and took biodiversity conservation as one of the key issues for its sustainable development strategy. According to the draft of *Kunming-Montreal Global Biodiversity Framework* and its actual operation status, Mengniu formulated the special strategies for biodiversity conservation (including 1 vision, 3 methods, 5 actions, and 8 commitments) in 2021, promoted the biodiversity conservation on all fronts, and cooperated with upstream and downstream partners to build an ecosystem for the sustainable development of dairy industry.

Mengniu Biodiversity Conservation Strategy



Water risk management strategy

As a leading enterprise in Chinese dairy industry, Mengniu constantly strengthens the water resources management, formulates the water resources distribution map, and establishes the "3U water saving strategy". Moreover, according to the guideline of "Save Use", "Recycle Use" and "Common Use", Mengniu promises that by 2025, its water consumption per tonne of dairy products would be reduced by 6% in comparison to that of 2020, thus significantly promoting the water resource utilization efficiency.

Forest protection strategy

Mengniu, by taking forest protection as a key action for implementing its strategies relating to natural conservation, has formulated and issued the *Mengniu Forest Protection Policy* and managed the operational locations of its factories and pastures, so as to prevent the deforestation risk caused by its business operation. In addition, it has monitored and managed the wood, palm oil and soybean products involving the deforestation risk in its industry chain, promised to realize "zero deforestation" by 2030, and worked to eliminate the deforestation risk in its supply chain, thus make contributions to forest protection.

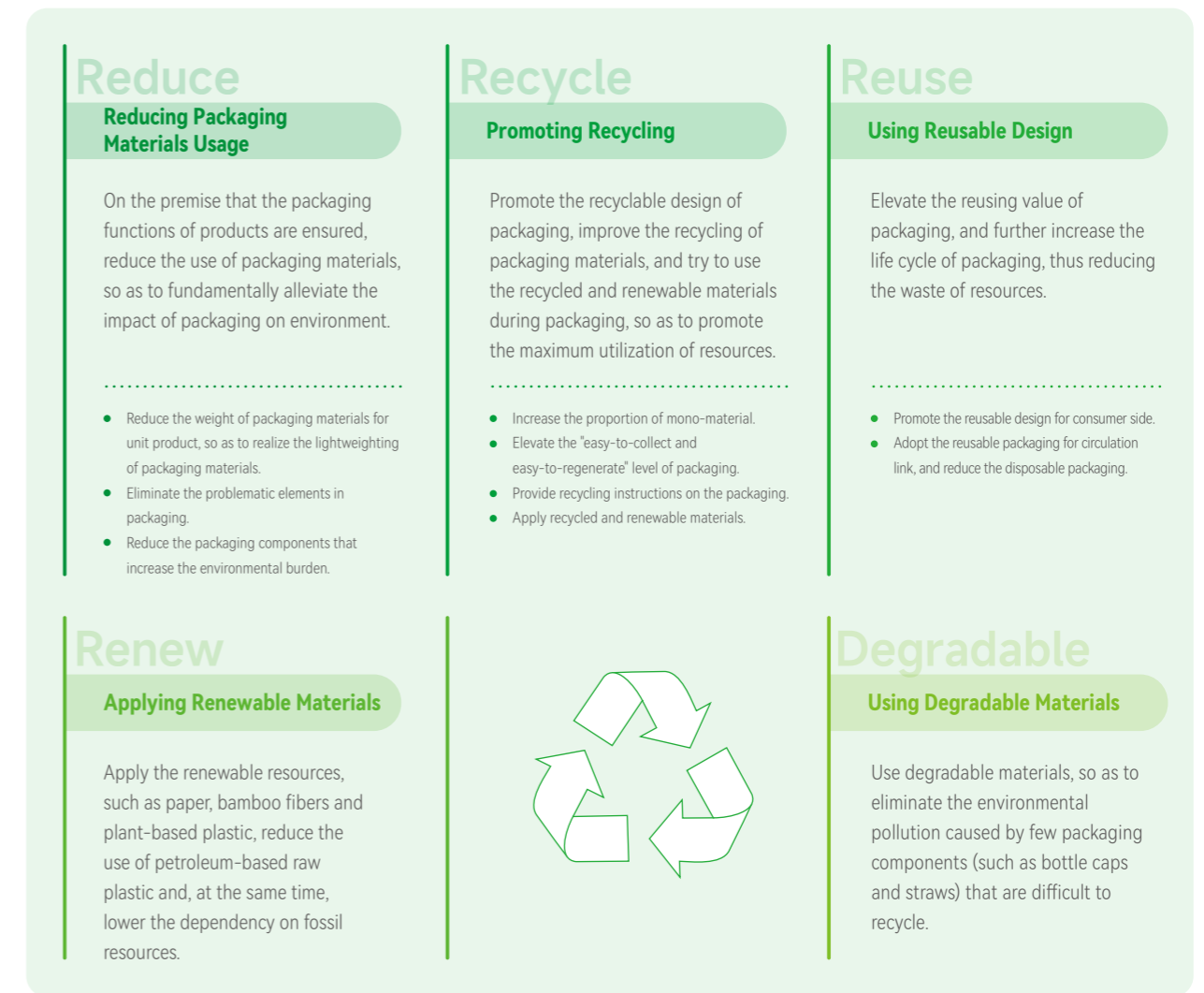
Mengniu's special management strategy for green procurement



Green packaging strategy

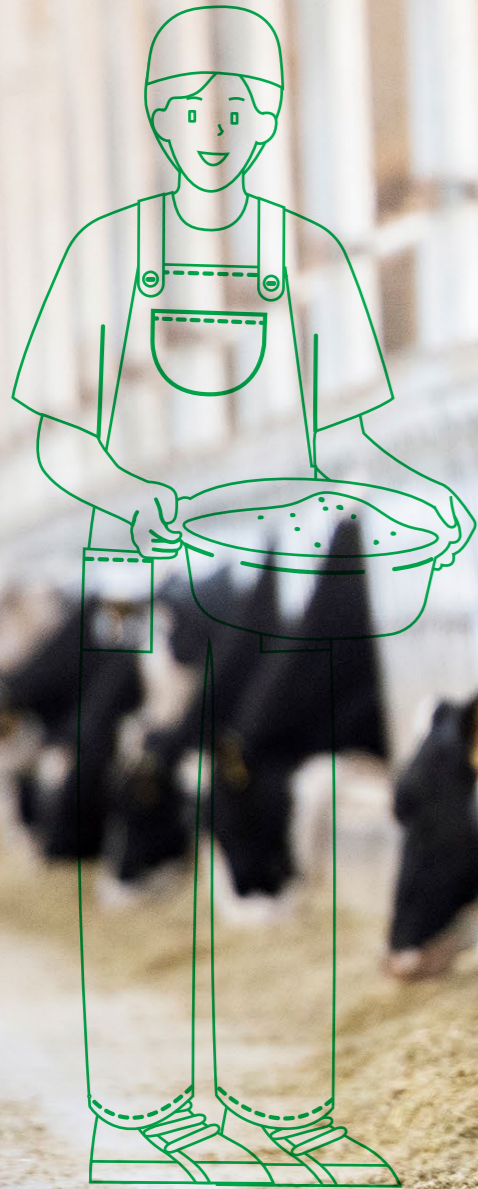
Mengniu has formulated the "4R1D" packaging strategy by upholding the concept of circular economy, focusing on the goal of "managing environmental pollution, protecting earth resources, and facilitating the realization of net zero", and referring to the CGF golden design rules. By reducing the use of packaging materials, Mengniu aims to alleviate the burden on environment from the source. Moreover, by adopting the recyclable and reusable designs, Mengniu promotes the recycling of packaging materials, and extends the life cycle of packaging. In addition, Mengniu promotes the protection of earth resources by exploring and applying the renewable resources and, at the same time, adopts the degradable materials to thoroughly solve pollution of few packaging components that are difficult to recycle. We promise to achieve 100% environmentally friendly packaging materials technically ready for application by 2025, and lead the way in the industry to achieve low-carbon packaging solutions across all product lines.

"4R1D" green packaging strategy of Mengniu



Risk and Impact Management

By identifying and effectively managing nature-related impacts, dependencies, risks and opportunities, it's able to help a company to make more rational and prudent decisions, and finally make contributions to the natural capital on which the protection and recovery of global economy depend. Mengniu takes the initiative to analyze the nature-related risk points across the value chain, identifies the nature-related risks and impacts, and determines the priority of such risks and impacts. Moreover, Mengniu formulates appropriate risk response strategies, so as to reduce and avoid the impact of important risks on its business, strategy, financial planning, and sustainable development.



Identification of Nature-related Risks

Mengniu specifically analyzes and assesses the type of short-term, medium-term and long-term nature-related risks and opportunities and, at the same time, makes adjustments and allocates relevant resources in terms of business, strategy and financial planning, so as to guarantee effective management of nature-related risks and realize stable business growth in the long run.

Nature-related risks and opportunities of Mengniu

	Risk	Time range	Impacts on Mengniu's business, strategy and financial planning	Response strategies	
Physical risks	Acute risks	Short-term	<ul style="list-style-type: none"> Pastures: Extreme weather events, such as typhoon, heat wave, drought, heavy rainfall, flood and windstorm, might not only damage the pasture facilities and buildings (including the cow houses, feedstuff storage facilities, and milking equipment), but also result in reduction of output, insufficient supply or price rise of soybean, corn and other cow feedstuff. These events will also give rise to stress reaction of cows, lower the quantity and quality of milk, and therefore affect the stable supply of milk sources. Moreover, such events will add to the construction costs of Mengniu on the design of protection against rainstorm and typhoon, and the costs relating to the wear, tear and maintenance of facilities. Factories: Extreme weather events and sudden natural disasters might affect the supply of water and electric power for factories. For instance, the indoor and outdoor temperature rise caused by heat wave might result in increased energy consumption of cooling system and air conditioning system in the production space, and cause the rise of operating cost. It might also damage the factory facilities, cause the suspension of some production lines, and result in supply disruption. Product sales: Extreme weather events and sudden natural disasters might cause the disruption or delay of freight transport route, disturb the normal transportation, and result in supply disruption. 	<ul style="list-style-type: none"> Mengniu provides the emergency supplies, establishes the emergency response mechanism, and carries out emergency drills on regular basis to prevent and mitigate the impact of extreme weather events and sudden natural disasters on pastures, factories and transportation. 	
			Land use	<ul style="list-style-type: none"> Pastures and factories: The construction of pastures and factories might result in the occupation of more land, affect the original functions of ecosystem, and increase the governance costs of Mengniu. 	<ul style="list-style-type: none"> Mengniu abides by relevant national regulations on land use.
	Chronic risks	Long-term	Greenhouse gas emissions	<ul style="list-style-type: none"> Pastures: Livestock has been regarded as a distinct and important source of greenhouse gas emissions. To reduce the greenhouse gas emissions caused by livestock, Mengniu needs to take comprehensive countermeasures in terms of feedstuff management, feeding mode, selection of animal breed, and fecal treatment, which will result in the price rise of raw milk. Factories: In order to reduce the greenhouse gas emissions during production, Mengniu needs to improve the energy efficiency, and develop cleaner production methods, which will increase the operating cost. Product sales: Transportation has been a main source of greenhouse gas emissions. Mengniu needs to optimize the transport structure and promote low-carbon transport, which will increase the transportation cost. 	<ul style="list-style-type: none"> Promote the construction of low-carbon pastures Develop carbon reduction measures in production links Promote the green logistics
			Pollutants	<ul style="list-style-type: none"> Pastures: Feces and pollutants generated by cow herds might bring about Soil, groundwater, air and other pollution. Mengniu needs to develop resource utilization, thus increasing the governance cost. Factories: Sewage, soil pollutants and solid wastes generated in the production process of factories might contain organics, heavy metals and chemicals. If such sewage, soil pollutants and solid wastes are discharged without proper treatment, it might affect the environment and damage the balance of ecosystem. Therefore, Mengniu needs to strictly control and manage the discharge of sewage, soil pollutants and solid wastes, which might, to certain extent, increase its pollution reduction and control cost. 	<ul style="list-style-type: none"> Green operation of pastures Manure resource utilization Carry out waste discharge management and waste water management
			Soil quality	<ul style="list-style-type: none"> Pastures: Large amount of feces accumulated for a long time might result in excessive nitrogen, phosphorus and other nutrients in soil surrounding the pasture, and cause the soil degradation, which will in turn decrease the productivity of land and reduce the output of feedstuff. 	<ul style="list-style-type: none"> Urge the pastures utilize the manure resources

Notes: Details about the nature-related risk management action and progress are described in the chapter of "nature-related risk management" in P29-P43.

	Risk	Time range	Impacts on Mengniu's business, strategy and financial planning	Response strategies
Physical risks	Chronic risks	Long-term	<ul style="list-style-type: none"> Pastures: Dairy farming and forage planting is highly dependent on water resources. Water is mainly used to provide drinking water for cows, clean cow houses, dairy equipment, adjust the body temperature of cows, and forage irrigation. Therefore, shortage of water might affect the health and productivity of cows and forage quality, reduce the milk yield and raw milk supply. Factories: A large amount of water is required during the production of dairy products. Water is mainly used in raw material processing, cooling and cleaning. Shortage of water will affect the normal operation, and require Mengniu to take extra measures to acquire and guarantee the water resources, such as purchasing external water resources at higher price, building up water treatment facilities or exploiting water resources, which will increase its operating cost. 	<ul style="list-style-type: none"> Promote the sustainable water management, and implement the "3U" water-saving strategies for pastures and factories
Transition risks	Policy risks	Mid-term	<ul style="list-style-type: none"> Pastures: The government adjusts the list of endangered species and the scope of biodiversity sensitive areas. For instance, when stricter policies are imposed on the Yellow River Basin, Yangtze River Basin, Beijing, Tianjin, and Hebei Province, Mengniu's pastures will face the risk of closedown or relocation. At present, some countries plan to impose the carbon tax on methane and nitrogen oxide (N₂O) generated from agricultural activities. In the future, more countries might follow suit, thus increasing the production and operation costs of Mengniu. Factories: In order to protect the natural capital, the government formulates stricter laws, regulations and policies (on limitation of land use, scale of water use, discharge standards for solid wastes and water pollutants, etc.) to regulate the operating activities of factories. As the national and international laws, regulations and policies on carbon emissions become stricter, and the coverage of carbon trading market keeps expanding, the carbon emission cost of Mengniu rises gradually, which might increase its regulatory risk and operating cost. Commodities with forest risk procured and put into production might be regulated by relevant laws, regulations, tariff, market, and social factors. In addition, due to the limit and ban on free plastic bags, zero deforestation, and other policies, people become more aware of forest risks caused by the use of paper packaging and palm oil. Therefore, such policies might affect the purchase decisions of consumers, and in turn cause a drop in the sales of Mengniu's products. 	<ul style="list-style-type: none"> Pay attention to policy changes and carry out green operation of pastures and factories to avoid the policy compliance risks.
	Market risks	Long-term	<ul style="list-style-type: none"> Climate change and biodiversity loss might cause changes in regional or global supply and demand. For instance, the changes of supply that affect the quantity and price of raw materials necessary for Mengniu, in particular the potential price rise of agricultural and forestry products (such as milk) and other raw materials, might cause the price rise and affect the market sales environment of Mengniu's products. Consumers become more aware of low carbon and ecological protection, and pay more attention to the impact of dairy products on the environment of whole value chain. For instance, the demand on plant milk, non-animal milk or other milk substitutes is rising rapidly among consumers. If Mengniu fails to grasp the changes in consumer preferences, it might result in the loss of consumers as well as the decrease of market share and product sales. 	<ul style="list-style-type: none"> Mengniu conducts the market demand and preference analysis, consumer survey, and industrial trend research to comprehend the market trend for eco-friendly products, and assist relevant technical R&D and decision on market expansion.
	Technical risks	Mid-term	<ul style="list-style-type: none"> The government encourages and promotes the dairy processing industry to adopt the low-carbon and energy-efficient technologies. If Mengniu fails to effectively develop and adopt the new technologies, such as the technologies for packaging, improvement of energy efficiency, utilization of renewable energy (i.e., biomass energy) and waste management, its competitiveness might be impaired, and it might bear more costs on environmental protection, such as paying more environment taxes. 	<ul style="list-style-type: none"> Mengniu continuously carries out the technical R&D and innovation, such as innovating the "4R1D" green packaging design, producing the green products, and promoting the green logistics.
	Reputation risks	Short-term	<ul style="list-style-type: none"> Investors pay more attention to the Mengniu's performance in corporate social responsibilities and environmental protection. If Mengniu fails to achieve better performance in environmental benefit, it might affect the trust and support from investors, and cause the loss of investment funds. The society pays more attention to the eco-friendly and sustainable operation of a company. If Mengniu fails to manage the environment and ecological protection effectively, it might lose the trust from stakeholders, impair its corporate credibility and reputation, lower the brand value of Mengniu, and reduce the purchase intention of consumers. 	<ul style="list-style-type: none"> Strengthen communication with investors and consumers to enhance the transparency of corporate environmental governance.
	Liability risks	Long-term	<ul style="list-style-type: none"> If the activities carried out by Mengniu result in the reduction of natural capital, Mengniu will bear related liabilities and consequences, such as compensation or legal expense. Under the global background of increasing severe situation in biodiversity loss and ecosystem breakdown, the society pays more attention to the supervision of duties performed by the enterprises in agri-food industry. If Mengniu fails to disclose the information regarding its performance of corporate duties, the public might doubt the performance of Mengniu. 	<ul style="list-style-type: none"> Mengniu identifies, assesses and manages the nature-related impacts, and performs its social responsibilities to minimize the adverse impact but increase the positive impact on nature.

Risk	Time range	Impacts on Mengniu's business, strategy and financial planning	Response strategies
System risks	Ecosystem stability risks	Long-term	<ul style="list-style-type: none"> Land salinization and pasture desertification & degeneration will decrease the supply of forage and feedstuff for cows, and therefore cause the rise of feedstuff procurement cost.
			<ul style="list-style-type: none"> Mengniu closely cooperates with professional research institutions to carry out the timely monitoring and take measures to restore the functions of pastures and other ecosystems.
Opportunity	Time range	Impacts on Mengniu's business, strategy and financial planning	Response strategies
Opportunities	Resource efficiency	Mid-term	<ul style="list-style-type: none"> By effectively conserving the energies, and developing and adopting the new technologies (such as new packaging technologies and technologies for improving the energy efficiency), it might help Mengniu to save the costs in energy use, purchase of packaging materials and transportation and, at the same time, meet the expectations of consumers and investors, thus promoting its business performance. In order to reduce its operating cost, Mengniu needs to adopt the "3U water saving strategy", and explore and introduce new technologies, methods and processes to systematically tap the water saving potentials, improve the utilization efficiency of water resources, and lower its operating cost.
	Reputation	Short-term	<ul style="list-style-type: none"> In order to forge the green and sustainable brand image, Mengniu promotes the certification of sustainable product packaging, eliminates the deforestation risk in supply chain, and launches tree plants activities and others, thus further improving its corporate reputation and image.
	Market	Long-term	<ul style="list-style-type: none"> As people pay more attention to climate change and ecological protection, the new generation of consumers tends to choose more natural and organic food, vegetable protein, and simpler, healthier products. In response, Mengniu has constantly expanded its product range and launched a variety of products, including organic, low-fat, low-sugar, alternative protein, and small portion ones, thus contributing to its sustained revenue growth. By advocating the value of sustainable development among consumers, Mengniu will create new market opportunities and win the favor of more consumers.
			<ul style="list-style-type: none"> Mengniu improves the resource utilization efficiency to reduce operating cost. Mengniu carries out biodiversity protection activities to promote brand influence. Mengniu pay attention to consumer demand, and provides sustainable products and services to bring about new market opportunities.

CASE Mengniu identifies and alleviates the risk of extreme weather imposed on supply of raw milk

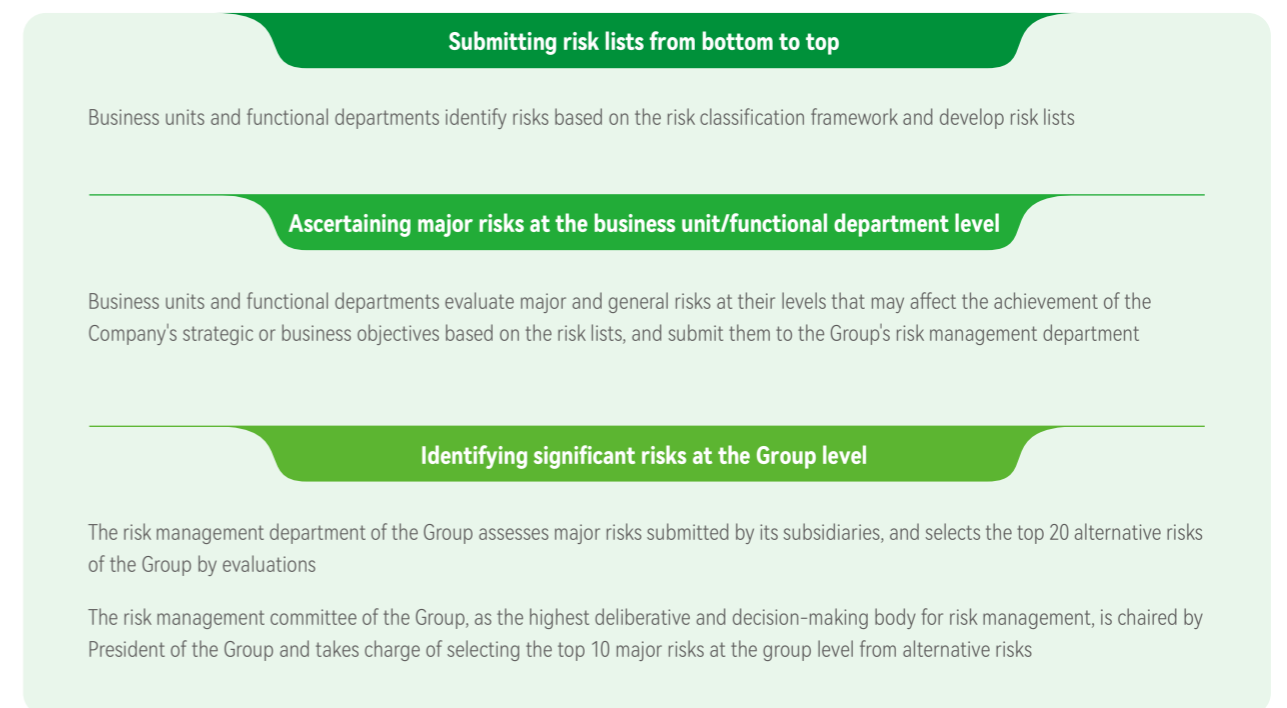
Extreme weather events will greatly affect the upstream pasture operation and supply of raw milk for Mengniu. Drought, hail and other extreme weather events might directly cause the output reduction and even destruction of corn, soybeans, forage and other feedstuffs, thus resulting in the short supply of feedstuffs. These events might also increase the stress reaction of cows, and decrease the quantity and quality of raw milk. In addition, such events might increase the construction cost of pastures and maintenance cost of facilities and, at the same time, result in longer transportation time for raw milk, and reduce the stability of raw milk quality.

Under this backdrop, Mengniu has taken multiple emergency and prevention measures, such as providing the emergency supplies, establishing the emergency response mechanism, formulating the *Working Instructions for Flood Prevention and Control*, and carrying out regular emergency drills, so as to reduce and avoid the risks and guarantee the supply of products. At the same time, we have actively monitored risks of pastures, promptly controlled the implementation and effect of risk response actions, and analyzed and judged the risk control status. When relevant indicators deviate from the goals or the events might affect the quality or food safety, Mengniu will promptly issue the risk early warning, formulate relevant countermeasures, and monitor the early warning items.

Evaluation of Nature-related Risks

Management of nature-related risk and its impact is a key component of comprehensive risk management for enterprises. The identification and assessment process of nature-related risk and its impact in Mengniu is consistent with its assessment process for other risks. From bottom to top, Mengniu carries out risk assessments by the way of "business self-assessment identification, risk prediction by professionals, and coordinated evaluation by executives".

Major risk assessment process



Major risk assessment standards of Mengniu

Based on the risk assessment results, Mengniu divides the risk into three levels: major risk, higher risk, and general risk. The major risks of each subsidiary are served as inputs for major risks at the Group level.

- In case of risk level > 15 points, it is determined as a major risk;
- In case of 6.25 < risk level ≤ 15 points, it is determined as a higher risk;
- In case of risk level ≤ 6.25 points, it is determined as a general risk.

Regarding key issues related to nature, Mengniu has developed a series of risk assessment and management tools as an important means of identifying nature-related risks and impacts, including environmental protection risk map, LEC safety assessment method, watershed water risk map, and palm oil traceability.

Environmental risk map

Mengniu continues to pay attention to nature-related risks in direct operations. In 2013, it developed a nature-related risk management tool – environmental risk map, and incorporated key environmental protection risks identified during the annual review of each business unit and Safety and Environmental Protection Department into the environmental risk map which is subject to dynamic management. In 2023, the environmental risk map identified 13 risks, including multiple categories such as compliant operation of pollution control facilities and environmental testing and management.

LEC safety evaluation method

The environmental pollution sources in pastures are important risk points in the upstream link of Mengniu's value chain. Based on the national environmental protection policies and the actual nature-related risk management process of pastures, Mengniu has identified 12 pollution sources, including medical waste, domestic solid waste, construction waste, cow manure, cow urine, biogas slurry, and atmospheric pollutants from coal-fired boilers, with the risk semi-quantitative LEC evaluation method, from four aspects – the likelihood of accidents (L), the frequency of personnel exposure to the risk environment (E), the consequences of accidents (C), and the level of danger. The cooperative pastures have been required to carry out differentiated management according to the risk level.

Watershed water risk map

Mengniu's direct operational activities are highly dependent on freshwater resources. Considering the uneven distribution of water resources and the scarcity of water resources in some regions, Mengniu has introduced the WWF Water Risk Filter. Based on three aspects of physical risk, regulatory risk, and reputation risk, as well as 12 risk items including biodiversity importance, ecosystem service status, water shortage, floods, and water quality, a water risk assessment has been conducted on 63 factories in China. The assessment found that higher physical risks are faced by the Mengniu factories located near high-risk river basins of the Yellow River, Yellow Sea and East China Sea, and Liao River, etc. Mengniu determines priorities and places of water risk response by identifying and evaluating the water risks faced by each factory under its umbrella, thereby better addressing water risk challenges and laying a solid foundation for its sustainable development.

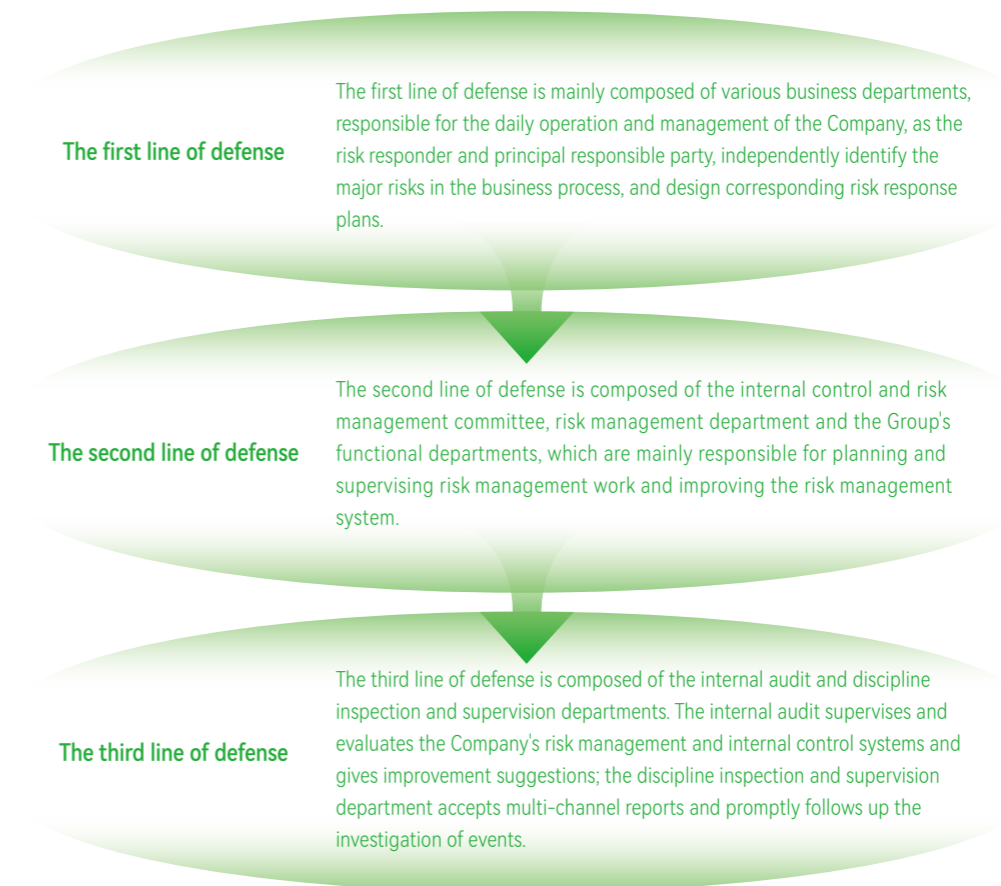
Tracing map of palm oil

To identify and reduce the risk of deforestation caused by palm oil procurement, Mengniu collaborates with Earthworm Foundation to carry out origin tracing of palm oil. In 2023, Mengniu identified that the origin of its purchased palm oil was Malaysia and Indonesia, and the proportion of purchased palm oil that can be traced back to refineries, palm oil factories, and plantations was 100%, 80%, and 73%, respectively. In the future, we will continue to improve the transparency of palm oil procurement activities and commit to achieving nearly 100% traceability of purchased palm oil products to plantations by 2030.

Management of Nature-related Risks

Mengniu has established a top-down, systematic and standardized risk management system, built a risk management organizational structure under the leadership of the Board of Directors – the "three lines of defense", and formulated systems such as the Manual for Risk Management of the Group and Mengniu Risk Management System. With six implementation rules (i.e., risk identification, risk assessment, risk response, risk monitoring, risk response evaluation, and risk management reports) and risk management tools, Mengniu has provided a unified standard for its risk identification, assessment and management.

Organizational structure of risk management featuring "three lines of defense"



The risk and impact management of Mengniu's nature-related issues follows the requirements of its overall risk management system. In response to nature-related risk points, functional departments and business units of Mengniu join hands with upstream and downstream partners in the value chain, follow the management concept of "Mitigation Hierarchy", and takes corresponding actions in terms of "avoidance", "reduction", "restoration" and "transformation" at various levels, to build a more resilient green value chain.

Notes: "Mitigation Hierarchy" management idea (which is used to mitigate nature losses): Science Based Targets Network (SBTN) proposed an AR3T Action Framework based on the mitigation hierarchy outlined in the IFC performance standards. The action framework covers a range of actions aimed at avoiding future impacts, reducing current impacts, regenerating and restoring ecosystems, and transforming the systems in which companies are embedded.

Building ecological pastures

Risks and impacts of the upstream pastures of Mengniu on the nature mainly include land occupation for pasture construction, as well as soil and water pollution caused by manure discharge during pasture operation. We have established a perfect mechanism for access, standardized operations and green operation and management of pastures, and an environmental protection exit mechanism for cooperative pastures, in order to strictly control the impacts and risks of cooperative pastures' operation on the nature.

Strict pasture access

Mengniu has formulated systems such as the *Detailed Rules for Pasture Access Review* and the *Farm Environmental Protection Management Regulations*, and set up uncompromising items, high-risk items, medium risk items, rectification items, etc., so as to strictly regulate farm access. It also requires that newly admitted pastures must operate within the non-prohibited grazing areas designated by the state, and have no major environmental pollution accidents or pollution exposure incidents in the past three years. Additionally, prevention and control facilities against environmental pollution, such as manure treatment facilities, must be installed. By promoting standardized construction of pastures, risk management is prioritized to avoid or reduce nature-related risks from the source.

Green operation of pastures

Mengniu has actively guided cooperative pastures to carry out green operations, continuously promoted water resource recycling and manure resource utilization, and minimized their influences on the nature. At the same time, it has innovatively implemented the development strategy of "determining planting by breeding, combining planting and breeding, providing supporting pastures for suitable livestock, and combining pastures and enterprises", and strived to create an ecological pasture.

Mengniu has unified the control of cow faeces, cow urine, and biogas slurry as manure, and regularly monitored the manure treatment in its pastures. Mengniu identifies and provides targeted guidance for high-risk pastures in the first quarter of each year. Starting from the second quarter, all major pastures are inspected quarterly. As for other pastures, they are inspected every six months. If any problem is found during an investigation of manure in a pasture, written rectification opinions will be immediately proposed and rectification measures will be urged and supervised by Mengniu. In addition, Mengniu increases its technical support for the utilization of manure in pastures, and guides cooperative pastures to reduce the amount of manure through fermentation, dry and wet separation, and other treatments. The manure is then used as a resource to produce cow farm padding, organic fertilizer, or biomass fuel for biogas power generation, thereby improving the utilization rate of resources.

2023

Utilization rate of manure resources for all cooperative pastures of Mengniu

100%

The number of water-saving projects completed by Mengniu's cooperative pastures

64 projects

Proportion of cooperative pastures covered

12%

Amount of water savings

2.8 million tonnes of water per year

The number of varieties of ryegrass independently developed by Mengniu during its efforts for R&D of high-quality forage

3 varieties

The number of alfalfa varieties

6 varieties



China Modern Dairy achieves both economic and ecological improvement through innovative forage planting

Since 2019, China Modern Dairy has organized technical teams to collaborate with the Institute of Grassland Research of CAAS to carry out high-quality forage technology research projects. The quality of its produced alfalfa has met the international standard for premium forage, and some high-quality alfalfa has reached the standard for special-grade forage. The use of pointer sprinklers and drip irrigation equipment in alfalfa cultivation is conducive to achieving integrated water and fertilizer management, saving 40% - 60% water compared to traditional flood irrigation. Alfalfa can be harvested for 5-6 years once sown, without the need for continuous plowing of the soil. Rhizobia that coexists with its roots also have effect of fixing nitrogen, which can effectively improve soil conditions and achieve a win-win result of cost saving and ecological protection. Helin Yimu Pasture of China Modern Dairy has been using alfalfa planted in its base as a substitute for imported forage for a long term. As of December 2023, its proportion of using alfalfa has exceeded 90%, and each dairy cow has saved about RMB 770 in annual feeding costs.



Alfalfa



Green cycle, a new ecological model in the industry developed by China Modern Dairy

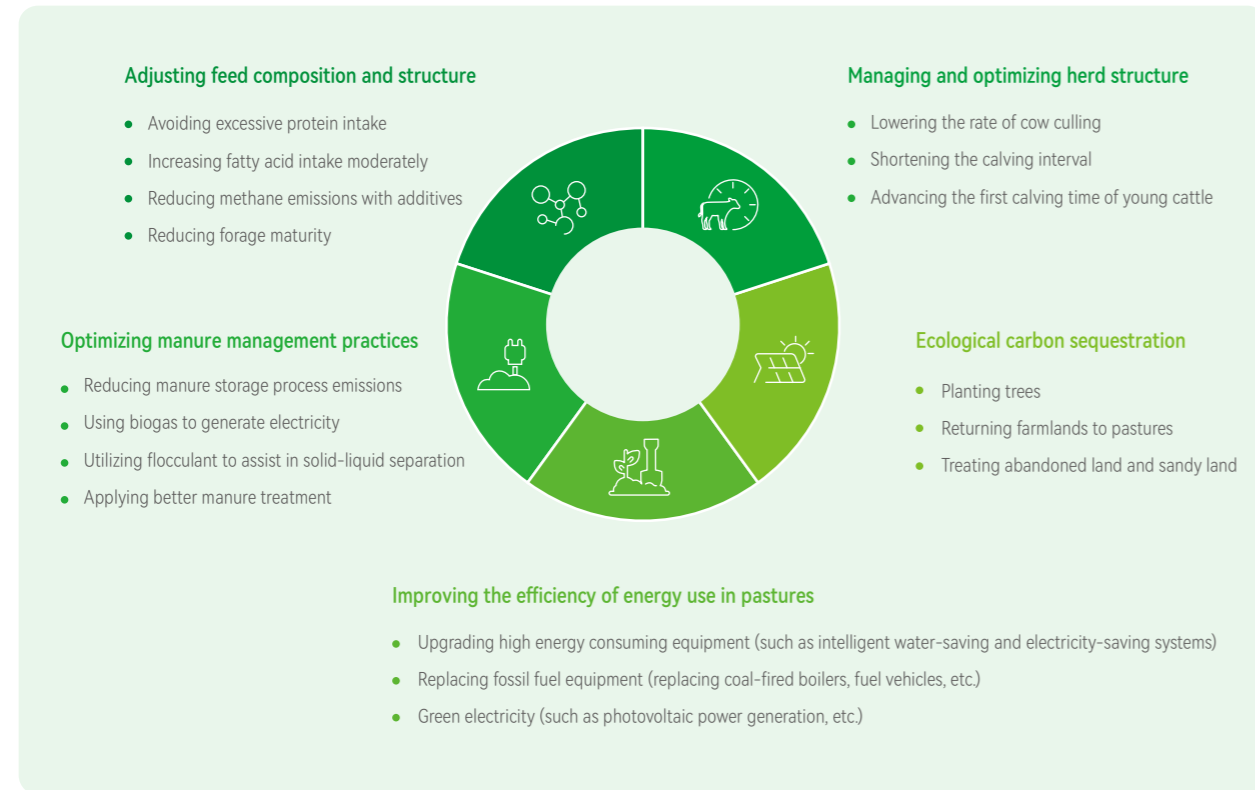
China Modern Dairy adopts a faecal treatment process which achieves ecological energy. The process features reduced amount of manure at the source, fully-quantified process collection, harmless fecal treatment, and mechanized resource utilization at the end, by which China Modern Dairy has built a green circular industry chain of "forage planting - dairy cow breeding - cow manure treatment - biogas power generation - biogas fertilizer returning to the field". The anaerobic biogas fermentation system adopted can reduce carbon emissions by more than 40% in manure management and energy utilization compared to the vast majority of similar systems. In 2023, the anaerobic biogas fermentation system of China Modern Dairy was selected as an excellent case of low-carbon emissions reduction in the United Nations Global Compact (UNGC) report, and was granted the "Typical Case of Green Development" award by the China Dairy Industry Association for its low-carbon, environmental protection and green, sustainable development in production methods.

Management of greenhouse gas emissions in pastures

Mengniu has developed a carbon management planning and designed carbon reduction paths for pastures, which include adjusting feed composition and structure, managing and optimizing herd structure, optimizing manure management and improving energy utilization efficiency of pastures. Mengniu has also provided carbon reduction-related support for pastures.



Low-carbon pasture management measures of Mengniu



2023

Mengniu steadily promoted the construction of low-carbon pastures, and continuously advanced the replacement of coal-fired boilers, water & electricity conservation, and use of new energy vehicles

The number of carbon reduction measures **260+** items

Amount of carbon dioxide emissions reduced (an approximate number) **185,000** tonnes

CASE China Modern Dairy passes the verification for carbon emission reduction

China Modern Dairy adheres to the path toward ecological industrialization and industrial ecology-oriented development, and promotes the transformation of the industry towards low-carbon, energy-saving, efficient, circular, and sustainable development. By improving soil management of planting land, researching and developing intestinal fermentation technology, establishing faecal collection and anaerobic fermentation systems, introducing photovoltaic energy, and efficiently breeding cows, China Modern Dairy has made a series of breakthroughs and achieved emission reduction in each process, thus creating an environmentally friendly pasture that integrates green manure, green electricity, and green pastures. In April 2023, China Modern Dairy passed the carbon emission reduction verification by China Classification Society Certification (CCSC) at a high level, setting a benchmark for energy conservation and carbon reduction in the industry. In 2023, except for newly acquired pastures, the carbon emissions per kilogram of raw milk and per kilogram of corrected milk from pastures of China Modern Dairy decreased by 3% and 4% year-on-year, respectively.

Conducting green procurement

Risks and impacts of the upstream procurement processes of Mengniu on nature mainly include environmental pollution risks during supplier operations, as well as deforestation risks that may arise from purchasing goods such as paper, palm oil, and soybean meal. Mengniu focuses on nature-related risk management in the value chain, implements green procurement by incorporating environmental management requirements into supplier management, and promotes supply chain partners to jointly reduce nature-related risks and protect biodiversity.

The Company conducts risk response analysis for sustainable development of supply chain on a regular basis to clarify major risk response strategies and plans. In 2023, the Company conducted environmental and social risk audit on all suppliers during the supplier admission, and required all suppliers to sign the *Supplier Code of Conduct* at the contract signing. We included factors closely related to natural risks such as water, energy, waste treatment, safety and environmental protection, cross contamination, and pest control in the on-site evaluation process for supplier admission. During the daily audit of suppliers, we assessed the environmental qualifications such as environmental impact assessment acceptance, pollution discharge permit, and water intake certificate by one-vote veto system. For strategic suppliers of raw material, Mengniu required them to fill out or update the Sedex SAQ questionnaire, classified their sustainable development capabilities and risk levels, and conducted supplier spot-check audits or on-site third-party audits based on the classification results, so as to reduce the adverse impact of value chain links on nature.

For the procurement of forest-related products, Mengniu has formulated and released the *Mengniu Forest Protection Policy* committing to achieving "zero deforestation" by 2030 and eliminating the risk of deforestation in the supply chain. Mengniu actively practices the concept of green procurement of raw materials, and continuously reduces the potential risk of deforestation by tracing the origin of raw materials, prioritizing the procurement of raw materials with sustainability certification, and purchasing raw material substitutions.

2023

- 89.1%** of Mengniu products' inner packaging papers obtained FSC certification, representing an increase of **7.1%** compared to 2022, and all outer packaging cartons of Mengniu products were made of recycled paper.
- 100%** of soybean meal feedstuff of China Shengmu came from organic soybean growing areas with no risk of deforestation or land conversion.
- Mengniu joined the Roundtable on Sustainable Palm Oil (RSPO) and purchased **200** tonnes of RSPO certified palm oil.

CASE China Modern Dairy and China Shengmu collaborate with COFCO International to purchase "zero deforestation" soybeans

During the 6th China International Import Expo in November 2023, China Modern Dairy and COFCO International reached an intention order for over RMB 200 million for "zero deforestation" soybean trading, which was also the first Brazilian soybean order in China with a clear "zero deforestation" clause. In January 2024, China Shengmu reached a cooperation agreement with COFCO International to purchase Brazilian soybeans with "zero deforestation and zero vegetation deterioration". According to the agreement, China Shengmu will purchase at least 12,000 tonnes of Brazilian soybeans or their by-products from Brazil annually through COFCO International. The procurement of "zero deforestation" soybeans, which is one of the important actions for Mengniu to achieve its commitment to "zero deforestation" by 2030, will help Mengniu build a greener global supply chain. These soybeans will be required to pass the certification standards for sustainable agricultural product established by COFCO International and third-party certifications, to ensure that they do not damage Brazil's tropical rainforest or original vegetation, thus promoting bulk agricultural product trade that conforms to the concept of sustainable development, green and low carbon.

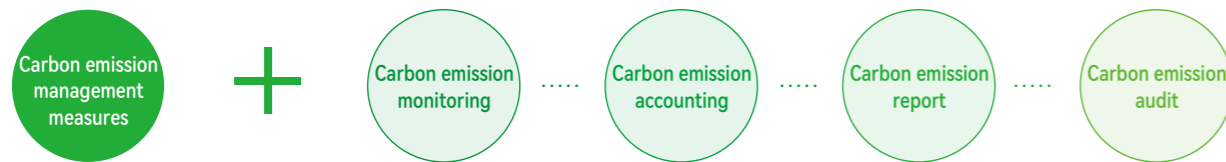
Notes: COFCO International is a main soybean meal supplier of China Modern Dairy's Ai Yang Niu Platform. COFCO International has achieved traceability of all directly harvested soybeans from Matopiba, an important soybean producing area in Brazil, to corresponding farms through cooperation with large multinational grain merchants in the industry. It is committed to establishing a soybean supply chain with "zero deforestation and zero vegetation deterioration" in environmentally sensitive areas of Latin America such as Amazon, Cerrado, and Gran Chaco by 2030 with measures such as traceability of agricultural products to farms and monitoring of grain transactions.

Promoting green production

Nature-related risks faced in the production process of Mengniu products mainly include sudden natural disasters and water resource shortages, and the greenhouse gas emissions, sewage, soil pollutants, and solid wastes generated during the production process may lead to increased compliance costs. Mengniu has established a "1+N" ecological and environmental protection management system, continued to promote environmental management system certification, and identified environmental risks existing in the enterprise. It has also made targeted measures for improvement to prevent and control the impact of various pollutants such as exhaust gas, wastewater, and solid waste on biodiversity, ecosystem function, and human health as much as possible.

Management of greenhouse gas emissions in factories

With the vision of "promise a healthier world" in mind, Mengniu set the strategic goal of achieving "carbon peak by 2030 and carbon neutrality by 2050" within the framework of its GREEN Sustainable Development Strategy. For the production process, we established a "1+4" (carbon emission management measures, plus carbon emission monitoring, accounting, reporting and auditing) carbon emission management system, made thorough carbon footprint verifications, and implemented energy-saving & emission reduction and renewable energy utilization project for optimization of the energy mix, as part of our efforts to promote carbon reduction in the production process, and of our ongoing efforts to explore action plans to address climate change.



Management measures for greenhouse gas emissions in the production process

Improving the utilization rate of production capacity

Improving the utilization rate of production capacity by shortening process transfer time, optimizing material pipeline transportation, and investing in automated and intelligent production equipment.

01

Improving energy utilization efficiency during production

Maximizing energy efficiency throughout the production process installing intelligent control equipment, reducing equipment idling, reducing transmission loss, optimizing equipment parameters, and upgrading energy-saving equipment.

02

Recycling surplus energy

Continuing paying close attention to and implementing the management and technical measures of condensate water recovery, forms of heat recovery and other effective recovery of surplus energy and its reutilization.

03

Optimizing energy structure

Collaborating with supply chain partners in purchasing biomass steam; upgrading Light Map 2.0 and promoting distributed photovoltaic projects in factories operating in areas with suitable light intensity and sufficient grid access capacity; advancing photovoltaic power generation and direct procurement of green electricity.

04

2023

The number of energy-saving and emission reduction items implemented from the source of the production process

160 items

The number of industrial coordinated carbon reduction items implemented

55 items

Annual electricity savings

21.6 GWh

Amount of steam savings

29,000 tonnes

Amount of carbon emissions reduced over

21,000 tonnes

Amount of green electricity purchased

10.82 GWh

A year-on-year rise

41 %

Total installed capacity of solar photovoltaics

22.06 MW

51.09 %

increase compared to 2022



Photovoltaic power generation as an enabler for building Mengniu into a low-carbon benchmark in the industry

Valuing reducing carbon emissions from the source, Mengniu actively promotes the application of green energy. It promotes distributed photovoltaic power based on its own operation status and regional conditions by improving installed capacity to optimize its energy mix, and sets a renewable energy utilization target of increasing photovoltaic installed capacity by 40% by the end of 2025 compared to 2022. On June 26, 2023, the 2.42 MW distributed photovoltaic project of Mengniu Beijing Factory under Chilled Product Business Unit was connected to the grid at full capacity for power generation. After the project was put into operation, the annual power generation would be about 2.49 GWh, equivalent to reduction of about 2,067 tonnes of carbon dioxide emissions per year. In 2023, it updated its renewable energy utilization target of increasing photovoltaic installed capacity by 30% by the end of 2025 compared to 2023.



CASE Building a low-carbon factory towards carbon neutrality in a science-based way

Mengniu Beijing Factory under Chilled Product Business Unit has continued to improve and upgrade its carbon neutrality management system, formulated 19 system documents (including the *Management Manual for Carbon Neutrality Management System*, and the *Control Procedures for Carbon Neutrality Performance Parameters and Benchmarks*), and established full-process carbon emission control procedures covering management systems, production and operation, compliance control, and employee training and other dimensions. These actions act as its ongoing efforts to improve the carbon emission management performance and help Mengniu move towards its carbon neutrality goal in a science-based way. In 2023, Mengniu Beijing Factory under Chilled Product Business Unit passed the certification by group standard T/CAS 612-2022 *Requirements of Carbon Neutrality Management System*, becoming the first company in the industry to be certified by this carbon neutrality management system. In addition, Mengniu Qujing Factory under Room Temperature Business Unit was awarded the factory carbon neutrality certification by a third-party certification agency for two consecutive years.

Waste discharge management

Mengniu pays attention to waste reduction from the source and compliant disposal, and continues to promote the construction of waste-free factories in production bases. It also advances zero waste to landfill certification projects, and guides grassroots enterprises to reduce environmental pollution from wastes in terms of waste reduction from the source, process control, and end-of-pipe treatment.

2023

27.45 million
RMB Investment amount in environmental protection and energy conservation

100 %
Up-to-standard rate of all environmental indicators

5 factories
The number of factories obtaining 3-star certification for zero waste to landfill management system

9 companies
The number of companies approved as "waste-free factory" demonstration units

Notes: "Waste-free factories" refer to the activities initiated by local industry and information technology departments to create waste-free factories. The factories are evaluated in terms of industrial solid waste reduction from the source, resource utilization of industrial solid waste, final disposal of industrial solid waste, guarantee capacity, and public sense of gain.

Zero waste to landfill certification, also known as TÜV Rheinland Zero Waste to Landfill Management System Certificate, is a third-party certification service officially registered with the National Certification and Accreditation Administration (CNCA).

CASE 5 factories under Mengniu obtained TÜV Rheinland Zero Waste to Landfill Management System Certificate

In order to improve the level of factory waste discharge management, Mengniu carries out the certification for TÜV Rheinland Zero Waste to Landfill Management System, and implements waste reduction from the source, process reuse, and end-of-pipe recycling. This system evaluates the level of waste management in enterprises from perspectives of management process and quantitative performance, and requires factories to establish a reliable waste management system to maximize the transfer rate of waste to landfills. In 2023, Mengniu Qingyuan Factory, Mengniu Shangzhi Factory, Mengniu Gaoke Factory, and two Mengniu Meishan factories obtained the 3-star certificate (the highest level) for zero waste to landfill management system.



Meishan Factory

CASE 9 factories under Mengniu are approved as "waste-free factories"

"Waste-free factories" refer to factories that, based on the principles of waste reduction from the source, in-house recycling, green and low-carbon development, encourage companies generating industrial solid wastes to continuously promote waste reduction from the source and resource utilization of solid wastes through raw material substitution, process transformation, technological updating, point-to-point utilization and other means, so as to minimize landfill volume and environmental impact of solid waste on the environment. The factories under Mengniu effectively have reduced energy consumption and waste generation in the production process, and achieved waste reduction and resource utilization by taking measures of implementing green manufacturing, optimizing process flows, promoting clean production technology, etc. They have also promoted green supply chain management, and strengthened cooperation with upstream and downstream enterprises to jointly promote waste reduction management. In 2023, 9 factories under Mengniu were approved as "waste-free factory" demonstration units.

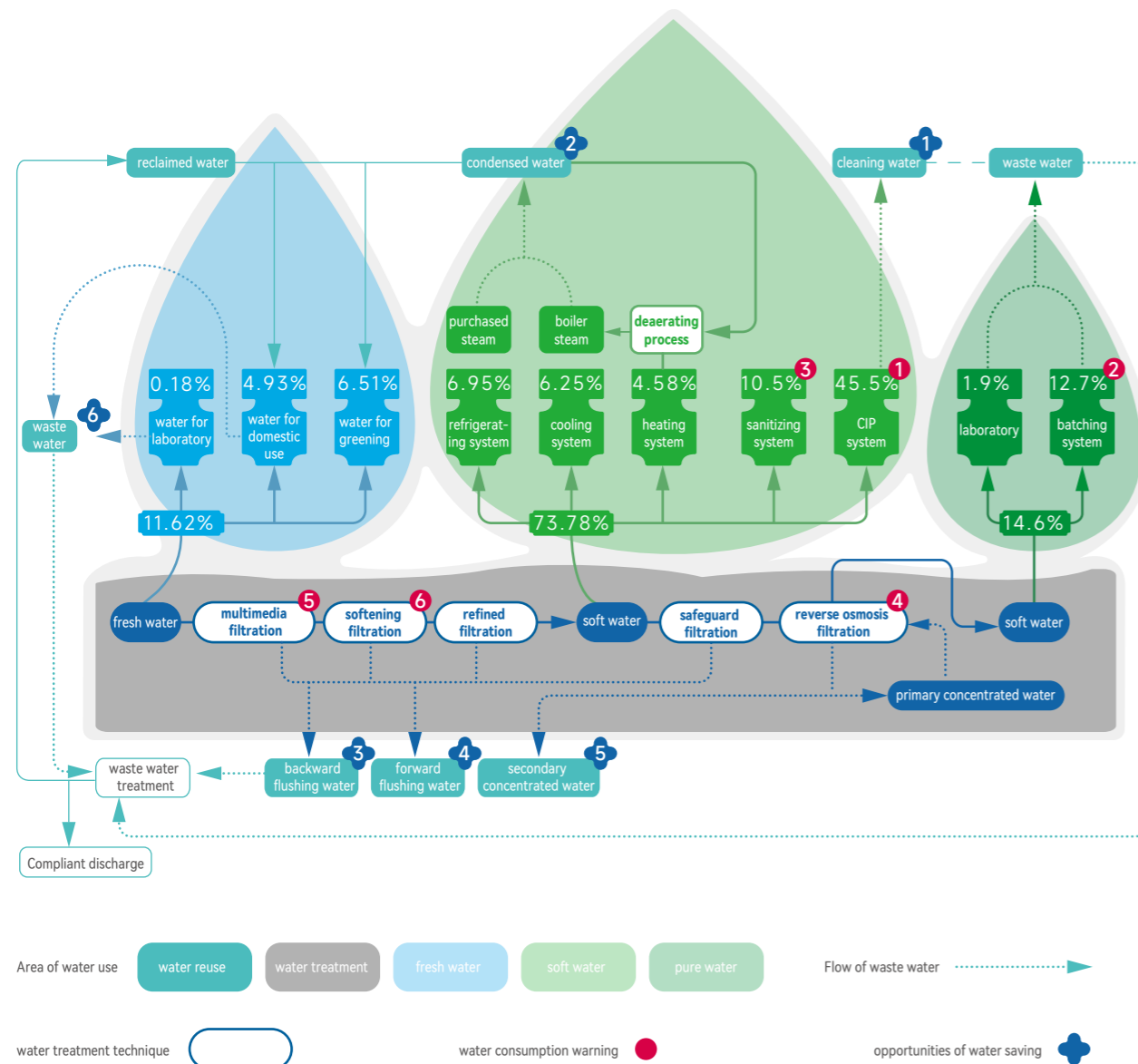


High-tech factory

Water management

As part of its sustainable water management efforts, the Company verifies full lifecycle water footprints, draws a water resource flow map, implements 3U water-saving strategies, and launches activities such as water-saving demonstration programs and sustainable water management programs, so as to minimize water resource supply risks.

Water flow map



2023

Drop of fresh water consumption for producing 1 tonne of dairy products compared to 2020

3.8%

Total water withdrawal
35.2 million tonnes

Water discharge
31.7 million tonnes

Reused amount of reclaimed water
2.04 million tonnes

Recovery rate of reclaimed water
6.44%

Amount of water savings (including 890,000 tonnes of social water savings)
1.062 million tonnes

By the end of 2023

The number of legal entities with the title of "water-saving enterprises"

23 legal entities



Two factories under Mengniu were granted with "golden" certificate for sustainable water management from AWS International

In 2023, Mengniu Helin Third Factory under Room Temperature Business Unit, and Mengniu Tai'an Factory under Chilled Product Business Unit teased out AWS standards, formulated action plans for optimal management of water resource, and implemented a series of water management actions, such as investigation and assessment of supply chain water risks, public commitment to sustainable water management, and internal and external training on AWS water management, to reduce water risks and promote continuous improvement in local water quality. As a result, they successfully passed the AWS certification and obtained the AWS-000584 (gold) certificate issued by TÜV Rheinland. Helin Third Factory became the first enterprise in the dairy industry across China to pass the AWS certification of international sustainable water management standard.

Notes: The AWS standard, as a globally applicable management framework with international influence in water management, can help enterprises strengthen water resource management, reduce water resource consumption, and improve water resource utilization efficiency.

Green packaging management

Mengniu seeks to design 4R1D packaging, expand value chain cooperation and promote recycling, so as to help with environmental performance in packaging from all aspects. Mengniu, as a representative of the dairy industry, participated in the formulation of the *General Rules for Assessing Easy-to-Collect and Easy-to-Recycle Designs of Plastic Products*. Each business unit actively advanced the sustainable transformation of product packaging, carried out sustainable packaging certification, and promoted responsible environmental actions by partners and consumers in the industry chain, thereby reducing enterprise costs and generating significant environmental benefits.

2023

16,588 tonnes

Amount of paper consumption reduced throughout the year (an appropriate number) as a result of measures that Mengniu Room Temperature Business Unit changed the packaging box types of some products sold on e-commerce platforms, and reduced the use of gaskets and turnover boxes

1,300 tonnes

Amount of plastic reduction (an appropriate number) throughout the year as a result of measures that Mengniu Room Temperature Business Unit adopted packaging type re-design to allow plastic reduction in internal packaging of a series of products, including removal of the clasp of the pre-made Yummy Version prefabricated cups and removal of the outer cover of Just Pure Drinking Yoghurt

44.6 %

Proportion of carbon footprint of related product reduced because of measures that Mengniu Chilled Product Business Unit adopted packaging improvement measures such as plastic and ink reduction for the first Yoyi C unlabeled product

11 %

Proportion of carbon emission amount reduced thanks to Mengniu Chilled Product Business Unit's adoption of first recyclable and regenerative shrinkage label rPETG containing 30% recyclable and regenerative PET, which reduced raw plastic by 7.6 tonnes

32 g

Weight of a PET bottle of Little Shiny Meadow 450ml product which was reduced from 36g (weight of the original PET bottle) by innovative bottle design of Mengniu Fresh Milk Business Unit

740,000 boxes

The number of cardboard boxes consumed throughout the year due to the fact that Mengniu launched the "PP Circulation Box" program which was applied to multiple product lines of various business units, including Room Temperature Business Unit, Chilled Product Business Unit, and Fresh Milk Business Unit and significantly reduced the consumption of cardboard boxes



- Mengniu's multiple products won the Outstanding Contribution Award for Best Practice Cases for Golden Design Rules of the Consumer Goods Forum (CGF).
- Mengniu project of Yoyi C 340/330 series packaging optimization was included in the 2023 Jinli Innovation Projects of National Technical Standard Innovation Base (Dairy Industry) and won the 13th MSUCCESS Cup Packaging Innovation & Sustainable Development Award.
- Mengniu's Milk Deluxe desert organic pure milk product won the "13th MSUCCESS Cup Packaging Innovation & Sustainable Development Award - Sustainable Ecosystem Innovation Prize".
- Mengniu's PP Circulation Box program was shortlisted for the 2023 Excellent Circular Economy Cases of BritCham Shanghai.



Recyclable yogurt outer packaging bags made of full polyethylene make closed-loop regeneration of packaging possible

In August 2023, Mengniu worked with its industry chain partner - Dow Inc. to launch a recyclable yogurt outer packaging bag made of full polyethylene, enhancing the recyclability while ensuring packaging protection performance. The commercialization of this project enables closed-loop regeneration of traditional packaging that is difficult to recycle by virtue of physical recycling technology through a responsible recycling system.



Recyclable yogurt outer packaging bags made of full polyethylene

Green products

Mengniu looks at the environmental impact of its products from the perspective of the entire lifecycle. Based on the market demand and its business development needs, it studies and creates green and low-carbon products, carries out sustainable marketing, and collaborate with consumers to protect the environment.



Three products of brand Deluxe under Mengniu obtained neutrality certification

Mengniu's high-end ice cream brand - Deluxe features clean labels, high-quality raw materials, and strictly controlled quantity of product ingredients, providing consumers with healthy, high-quality, and low-carbon green products. In 2023, Deluxe Frozen Cheese Ice Cream, Deluxe Strawberry Ice Cream, and Deluxe Vanilla Ice Cream products achieved carbon neutrality first, and were granted with carbon footprint reports and certificates and carbon offset certificates recognized by professional institutions, and became product carbon footprint benchmarks.

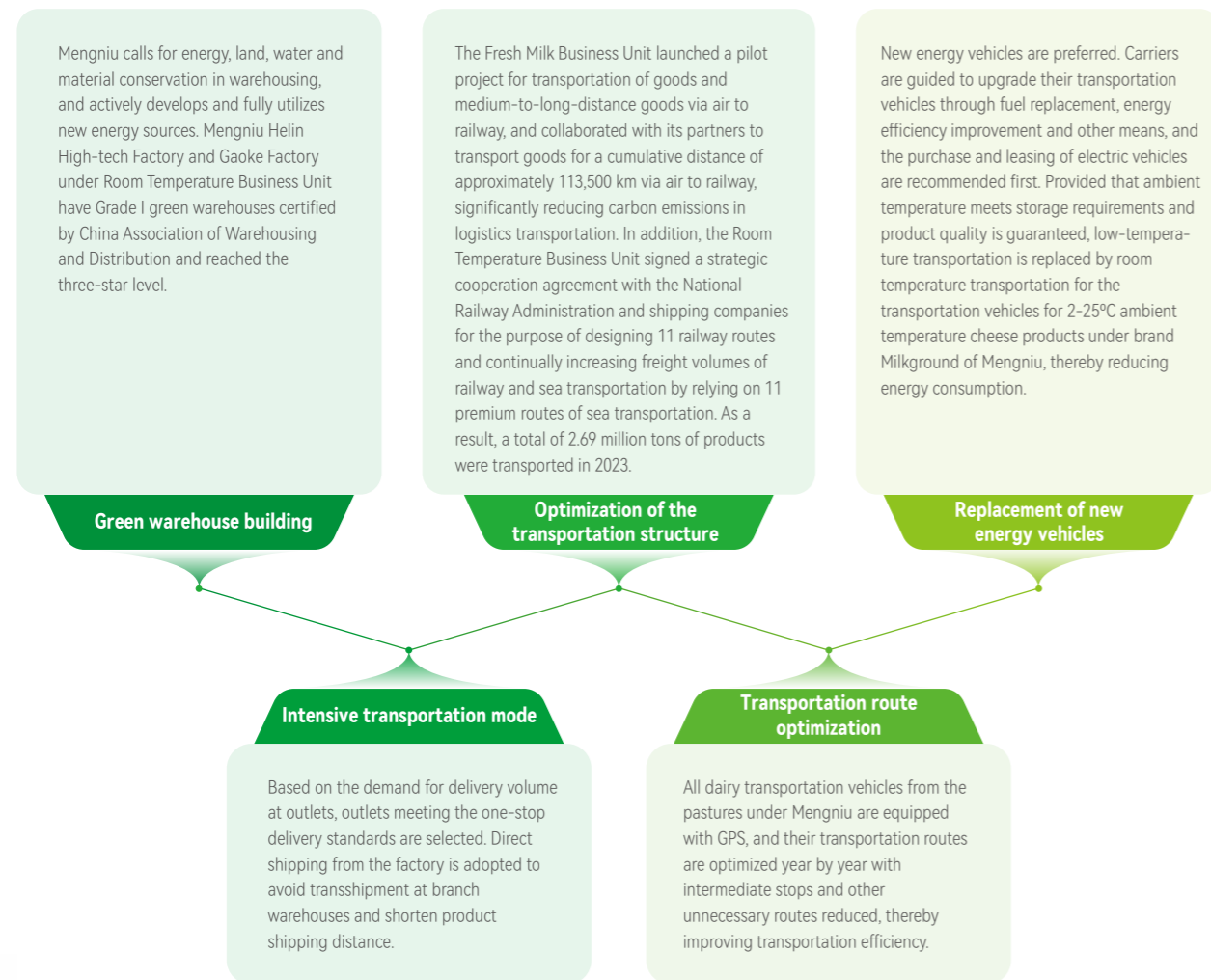


Deluxe ice creams achieving carbon neutrality

Promoting green logistics

Mengniu's downstream value chain that has a negative impact on nature comes from the carbon emissions generated during warehousing and logistics transportation. With carbon emission reduction in logistics high on its agenda, Mengniu has built green warehouses, implemented intensive transportation, optimized the transportation mix and routes and used new energy vehicles as part of its efforts to establish a more efficient and low-carbon logistics system, thus reducing the negative impacts of product transportation on nature.

Green logistics initiatives



60 routes

The number of transportation routes optimized by the Chilled Product Business Unit

4,690 km

Amount of mileage shortened (an appropriate number)

35 vehicles

The number of new energy vehicles upgraded for urban delivery

79 vehicles

The number of new energy vehicles used by the Room Temperature Business Unit

38 forklifts

The number of forklifts replaced with lithium-ion electric ones by the Ice Cream Product Business Unit

28 trucks

The number of fuel-powered dairy trucks replaced with gas trucks by Mengniu's cooperative pastures

3 trucks

The number of fuel-powered dairy trucks replaced with electric trucks by Mengniu's cooperative pastures

37 trucks

The number of fuel-powered pick-up trucks replaced with electric trucks by Mengniu's cooperative pastures



Fresh milk transportation project powered by green and low-carbon new energy

In May 2023, Mengniu was the first to use green and low-carbon new energy vehicles to transport fresh milk in the industry. For example, for a pasture that produces 30 tonnes of milk per day, the use of new energy transportation vehicles for transporting fresh milk for 200 km per day can reduce carbon emissions by about 63 tonnes and save transportation costs by about RMB 84,000 compared to fuel-powered dairy vehicles throughout a year.



Green and low-carbon new energy vehicles for transporting fresh milk

Metrics and Targets

Acting in line with the concept of Nature-positive, Mengniu has established the targets and metrics for managing nature-related risks and impacts across the value chain, and evaluated their potential impacts on finance. It has also managed the impact of its operational activities on nature with a focus on the management of targets and metrics to promote sustainable business development.



Metrics for Nature-related Risks and Opportunities

By reference to the core global disclosure metrics for risks and opportunities outlined in the TNFD Recommendations, Mengniu has preliminarily estimated the potential impacts of the nature-related risks and opportunities confronted by it on its future financial condition and sustainable development based on its actual situations.

Category	Metrics	Risk description	2023
Risks	Value (total and proportion of the total) of the assets, liabilities, income, and expenses vulnerable to nature-related transition risks as evaluated	<p>Policy risks: The government has implemented stricter regulations and policies to protect natural capitals, leading to increased environmental protection costs for enterprises. For instance, stricter regulations on the change of land use type, water usage level, greenhouse gas emissions, and discharge standards for solid and water pollutants will result in increased operational and compliance costs for the Group.</p> <p>Market risks: Consumers and non-governmental organizations pay increasing attention to forest risks caused by the use of soybeans, paper packaging, palm oil, etc., and Mengniu takes actions to reduce forest risks by means of sustainable procurement. However, Mengniu's adoption of sustainable procurement will increase its related procurement costs, including costs for procurement of soybean meal without deforestation risks and palm oil certified by RSPO and for preferential procurement of wood products with FSC certifications.</p>	<ul style="list-style-type: none"> In 2023, an investment of RMB 27.45 million was made in environmental protection and energy conservation, mainly aimed at promoting the implementation of such projects as sludge drying, rainwater and sewage separation, chemical treatment for phosphorus removal, phase-out of high-energy consumption facilities, and sewage pipeline network renovation. In 2023, the green electricity purchased by Mengniu amounted to 10.82 GWh, its photovoltaic power generation project reached a scale of 7.46 MW. Mengniu practices the concept of green procurement of raw materials, and continuously reduces the potential risk of deforestation by tracing the origin of raw materials, prioritizing the procurement of raw materials with sustainability certification, and purchasing raw material substitutions. The revenue from the products with palm oil accounted for about 1% of the total annual revenue of Mengniu.
	Value (total and proportion of the total) of the assets, liabilities, income, and expenses vulnerable to nature-related physical risks as evaluated	<p>Chronic risks: Drought-induced water shortage may lead to increased water costs and difficulty in access for factories located in water-stressed areas, resulting in business interruptions and affecting the normal operations of Mengniu.</p> <p>Chronic risks: Within a 10 km radius of some factories, there are endangered species or natural reserves. As efforts to protect endangered species and natural reserves are being intensified, it may increase the related governance costs of these factories.</p>	<ul style="list-style-type: none"> In 2023, Mengniu continued to analyze watershed water risks of its factories and made a conclusion that higher physical risks are faced by the Mengniu factories located near high-risk river basins of the Yellow River, Yellow Sea, East China Sea, and Liao River, etc. By the end of 2023, some endangered species or natural reserves had been located within a 10 km radius of 38 factories under Mengniu.
	Description and value of major fines/penalties/legal actions resulting from nature-related adverse impacts received in the year	Fines, penalties or litigations are imposed by the government due to environmental violations.	<ul style="list-style-type: none"> Mengniu had no environmental violations in 2023.
	Growth and proportion of revenue from products and services with demonstrable positive impacts on nature, along with a description of the impacts	The new generation of consumers is increasingly inclined to choose natural organic foods and hopes to play a positive role in social and environmental issues. In response to this trend, Mengniu is actively researching and launching various new nutritional products, and reducing deforestation risks by means of sustainable procurement. These actions will help Mengniu form competitive advantages in the future.	<ul style="list-style-type: none"> The revenue from organic products accounted for about 8% of the total annual revenue of Mengniu.

Notes: As this report is the first nature-related information disclosure report issued by Mengniu, some metrics lack complete quantitative data. We will gradually improve the disclosure of indicators for nature-related risks and opportunities in future reports.

Metrics for Nature-related Dependencies and Impacts

By reference to the TNFD core global and sector metrics for impacts and dependencies as specified in TNFD Recommendations, Mengniu has outlined the impact drivers and dependencies on nature and disclosed relevant progress based on its actual situations.

Driver of nature change	Indicator	Metric	Unit	2023
Climate change	Greenhouse gas emission	Total greenhouse gas emissions	10,000 tonnes	142.33
		Emissions in scope 1	10,000 tonnes	27.04
		Emissions in scope 2	10,000 tonnes	115.29
		Greenhouse gas emissions per tonne of product	kg/t	166.17
Changes in land/freshwater usage	Extent of changes in land/freshwater usage	Number of cooperative pastures	Nos	approximately 600
		Total number of bases	Nos	51
		Number of trees planted by cooperative pastures	10,000 trees	5.1
		Area of grassland transformed from desert by cooperative pastures	10,000 mu	1.8
		The total water withdrawal	million tonnes	35.2
		The saved water (including the social water savings)	million tonnes	106.2
		Recovery rate of reclaimed water	%	6.44
Upstream pastures with equity investments are constructed in line with relevant national land use policies	%	100		
Wastewater discharge	Wastewater discharge	Total sewage discharge	million tonnes	29.66
		COD discharge	tonne	1,106.82
		COD reduction	tonne	42,118.04
		BOD discharge	tonne	238.40
		Ammonia nitrogen	tonne	335.81
Pollution/depollution	Generation and disposal of waste	Total hazardous waste	tonne	406.09
		Total non-hazardous waste	tonne	55,888.60
		Compliance disposal rate of solid waste	%	100
Air pollutants from non-greenhouse gas	Air pollutants from non-greenhouse gas	Total exhaust emissions	million cubic meters	1,119.31
		Air pollutants categorized by type		
		Soot emissions	tonne	22.39
		SO ₂	tonne	27.98
NO _x	tonne	100.74		
Resource consumption/supply	Number of high-risk natural commodities from land/sea/freshwater	Proportion of Mengniu's products using FSC-certified primary internal packaging paper	%	89.1
		Proportion of China Shengmu's (a subordinate to Mengniu) soybean meal that originates from organic soybean planting areas with no deforestation risk and no land conversion risk	%	100
		Volume of RSPO-certified palm oil purchased by Mengniu	tonne	200
		Volume of plastic packaging materials used	tonne	177,455.94
		Volume of wood and paper materials used	tonne	1,070,575.33

Notes: As this report is the first nature-related information disclosure report issued by Mengniu, some metrics temporarily lack quantitative data. We will further improve the disclosure of indicators for nature-related dependencies and impacts in future reports.

Targets for Nature-related Dependencies, Impacts, Risks and Opportunities

Mengniu has continued to strengthen the implementation of its GREEN sustainable development strategies regarding nature-related issues, and disseminated its responsibility concept and methods for the natural environment to upstream and downstream industry chain partners. For nature-related issues such as climate change, utilization of water resources, and utilization of forest resources, it has set specific and quantifiable targets and regularly followed up on the progress of these targets.

Metric	Target
Climate change	Achieving carbon peak by 2030 and carbon neutrality by 2050
Water resources utilization	By 2025, the water consumption per tonne of dairy products is expected to decrease by 6% compared to that in 2020
Green packaging	We promise to achieve 100% environmentally friendly packaging materials technically ready for application by 2025, and lead the way in the industry to achieve low-carbon packaging solutions across all product lines
Forest protection	Striving to achieve "zero deforestation" by 2030 Ensuring 100% inner paper packaging with sustainable forest certification and 100% cyclic utilization for outer paper packaging in 2030. Achieving 100% responsible procurement of palm oil by 2030 Realizing 100% "zero deforestation" in the raw milk supply chain procurement by 2030
Renewable energy utilization	Increasing our solar photovoltaic installed capacity by 30% by the end of 2025 compared to 2023

Notes: Relevant performance related to the above goals is listed in the metrics for nature-related dependencies and impacts on the previous page.



Appendix

LEAP Assessment Methodology

LEAP approach aims to support enterprises and financial institutions in assessing nature-related risks and opportunities, thereby providing decision-making reference for governance, strategy, risk management, and capital allocation. LEAP analysis method consists of four core phases: Locate your interface with nature; evaluate your dependencies and impacts on nature; assess your nature-related risks and opportunities; and prepare to respond to nature-related risks and opportunities, and report to investors.

Steps for LEAP nature-related risk assessment



Index of Recommendations of the Taskforce on Nature-related Financial Disclosures

TNFD framework		Page
Governance	<p>A. Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.</p> <p>B. Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.</p> <p>C. Describe the organization's human rights policies and engagement activities, and oversight by the board and management, with respect to Indigenous Peoples, Local Communities, affected and other stakeholders, in the organization's assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.</p>	P6-P11
Strategy	<p>A. Describe the nature-related dependencies, impacts, risks and opportunities the organization has identified over the short, medium and long term.</p> <p>B. Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organization's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place.</p> <p>C. Describe the resilience of the organization's strategy to nature-related risks and opportunities, taking into consideration different scenarios.</p> <p>D. Disclose the locations of assets and/or activities in the organization's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for priority locations.</p>	P12-P21
Risk and Impact Management	<p>A.i. Describe the organization's processes for identifying, assessing and prioritizing nature-related dependencies, impacts, risks and opportunities in its direct operations.</p> <p>A.ii. Describe the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s).</p> <p>B. Describe the organisation's processes for monitoring nature-related dependencies, impacts, risks and opportunities.</p> <p>C. Describe how processes for identifying, assessing, prioritising and monitoring nature-related risks are integrated into and inform the organization's overall risk management processes.</p>	P22-P43
Metrics and Targets	<p>A. Disclose the metrics used by the organization to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.</p> <p>B. Disclose the metrics used by the organization to assess and manage dependencies and impacts on nature.</p> <p>C. Describe the targets and goals used by the organization to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.</p>	P44-P48



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