Environment

Striving for the ideal of a global environment that supports lives of vibrancy.

'Shiseido' comes from a phrase in the classical Chinese text, I Ching: "Praise the virtues of the Earth, which nurtures new life and brings forth significant value." This praise for the Earth, which continuously gives birth to new things, is consistent with Shiseido's goal of sustainability, which aims to create and circulate new value in society. Since Shiseido was founded in 1872, we have developed a business model that combines business success with respect for people, society, and the planet.

In everything we do, we cooperate with our stakeholders across our entire value chain – from procurement of materials and product development through to production, use and disposal – to create value through our products and services and enable the coexistence of people and the environment. This is how we create new sustainable value for the world.

Reducing Our Environmental Footprint

The impact of climate change, including extreme weather events caused by global warming, is becoming more apparent each year. Shiseido has set long-term targets for addressing environmental issues and engages in various company-wide activities to achieve the targets, with the aim of preserving the natural environment and its biodiversity while simultaneously ensuring the sustainable growth of society, economy, and its businesses.

Shiseido has adopted an Environmental Policy as its requirements for addressing environmental issues and has defined the reduction of CO_2 emissions, the reduction of water consumption, and waste reduction as priority domains in actions for reducing the environmental footprint of its business activities. We will continue to work with stakeholders throughout our value chain to create sustainable impact within each of these actions.

■We are reducing the environmental footprint of our activities by taking actions in three key actions.

- CO_2： By 2026 Carbon neutral*1
  By 2030 Reduce CO_2 emissions by 46.2% (SBTi, Scope1 and 2).*2
  By 2030 Reduce CO_2 emissions by 55% (SBTi, Scope 3).*3
- Water： By 2026 Reduce water consumption by 40%.*4
- Waste： By 2022 Zero landfill.*5

*1 ：At all our sites (compared with 2019, including offsets)
*2 ：At all our sites (compared with 2019)
*3 ：Throughout our value chain, excluding Shiseido sites, economic intensity target, compared with 2019.
*4 ：For all our sites, intensity per sales, compared with 2014.
*5 ：For Shiseido owned factories (achieved in 2022, continued in 2023)

Developing Sustainable Products

We are facing a crisis stemming from the finiteness of resources, a result of economic activities exceeding the limits of the planet's receptiveness and resilience. We also face issues including climate change, biodiversity, other environmental issues, and population explosion. Manufacturers are expected to follow green chemistry principles towards the development of a circular economy, which is premised on both making effective use of resources to reduce their environmental footprint throughout the product lifecycle and recycling resources.
Shiseido positions Sustainability INNOVATION as an important research area and one of the three pillars of its R&D strategy for 2030. To achieve this, we have adopted Premium/Sustainability as a research approach under DYNAMIC HARMONY, our unique R&D philosophy, based on our compliance with high safety and quality standards that we have had in place for more than a century. We will step up to the challenge of creating sustainable innovations, which balance satisfaction stemming from the results, high-quality design, and feel of our products with respect for and coexistence between people, society, and the global environment.

■We are developing sustainable products through the following global actions.

- Formula/Ingredients： Reduce our environmental and social impact by using sustainably sourced raw materials that are selected in consideration of safety, the environment and ethics.
- Packaging： By 2025 100% Switching to sustainable packaging.*6
  By 2030 30% of plastic packaging per product will be made from either post-consumer recycled (PCR) or bio-based plastics

*6 ：For sale of products with plastic packaging.

Promoting Sustainable and Responsible Procurement

Value chain, or procurement in particular, involves various sustainability issues including CO_2 emissions, water resources, biodiversity, and human rights at suppliers. Companies are required to check for problems in operating their businesses and to strengthen cooperation not only internally but also with suppliers to ensure the traceability of raw materials.
At Shiseido, we utilize the world's natural resources, which are finite, to develop products and operate our business. To our suppliers, we present a policy, standards, and guidelines, the links to which are indicated below. Shiseido Group Procurement Policy defines our expectations to suppliers in terms of environmental and human rights, outlining a strict and objective process for identifying and correcting supplier risk through third-party audits and supplier sustainability evaluations.

■We work with suppliers to procure raw materials in consideration of environmental protection, biodiversity and human rights.

・Palm Oil： By 2026 100% Replacement with sustainable palm oil.*7

・Paper： By 2023 100% Replacement with sustainable paper.*8

・Supplier Management：Create a sustainable supply chain.

*7：Certified based on RSPO's physical supply chain model: identity preserved, segregation, and/or mass balance, palm oil equivalent basis
*8：Such as certified paper and recycled paper, paper weight basis

Data

Reducing Our Environmental Footprint

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Reducing CO_2 Emissions

Climate change is leading to numerous issues, including natural disasters caused by temperature extremes, insufficient water resources, and an accelerated loss of biodiversity. There are global moves to hold the increase in global average temperature to below 1.5°C above pre-industrial levels and to achieve net zero emissions by 2050, in accordance with the Paris Agreement and the Glasgow Climate Pact. At COP28*1 held in UAE in November 2023, importance was attached to more effective actions, and dialogues have been in progress toward specific solutions.
While CO_2 emissions from the cosmetics industry are lower than other industries, Shiseido supports the Paris Agreement and the Glasgow Climate pact, and has set response to climate change as its important task. For achieving net zero emissions in 2050 and attaining the 2030 target, we have set CO_2*2 emissions reduction targets, which are in line with the 1.5°C target, by following the Science Based Targets*3 initiative. We obtained certification from SBTi. We are driving initiatives to reduce CO_2 emissions, such as improving energy efficiency by reducing the use of energy and switching to renewable energy.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

*1 : The 28th Session of the UN Climate Change Conference of the Parties
*2 : Greenhouse gases usually refer to CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and NF_3. In this report, unless otherwise specified, these greenhouse gases will be collectively referred to as 'CO_2'.
*3 : Scope 1, Scope 2, and Scope 3 emissions. Certification was obtained from the Science Based Targets initiative (SBTi).

Reducing CO_2 Emissions from Energy Consumption (Scope 1 and 2)

To mitigate climate change, we are committed to reducing CO_2 emissions from the electricity and fuel used in our business activities. As part of our efforts, we use renewable energy where possible and constantly seek to improve energy efficiency in our factories, offices, and other facilities.

Driving Energy Conservation and Energy Efficiency Improvement

At Shiseido, all our factories and distribution centers worldwide set annual targets for reducing CO_2 emissions. For FY2024, we aimed to achieve a 3% reduction in CO_2 emissions compared to FY2023 while working to decrease energy consumption. Progress towards our goals is evaluated monthly based on the Environmental Management System ISO 14001*1, and necessary measures are implemented. Specific initiatives include transitioning to LED lighting, implementing energy-efficient building insulation, and selecting efficient equipment that contributes to energy conservation. Additionally, we are promoting the electrification of forklifts to further reduce CO_2 emissions during operation. At our Osaka Ibaraki factory and the neighboring West Japan Distribution Center—our production and logistics hub in Japan—we installed lightweight sandwich panels with excellent heat insulation properties for the building's exterior walls. This enhancement improves insulation performance within the facility and contributes to reduced energy consumption.
In factories that require a significant amount of energy, implemented an Energy Management System (EMS)*2 to visualize and optimize energy consumption and CO_2 emissions across related equipment, including electricity, steam, and compressed air. At our Kakegawa factory, EMS data analysis revealed heat loss during steam distribution from the central energy building to production buildings. By installing heat pumps in each production building, we successfully reduced heat loss and improved energy efficiency. At our Gien factory in France, we applied heat insulation film to factory windows to mitigate temperature increases during the summer, thereby lowering electricity consumption for air conditioning and contributing to energy conservation.

*1 : We are actively pursuing ISO 14001 certification for all factories and distribution centers, with all factories certified by the end of 2023 and a few distribution centers by the end of 2024.
*2 : The Energy Management System utilizes information and communication technology to visualize energy usage and achieve efficient energy utilization. It has been implemented in all domestic factories and overseas factories (Hsinchu, Val de Loire and Gien), with plans for implementation in other factories worldwide (Country/Region).

Osaka Ibaraki factory and neighboring West Japan Distribution Center

Increasing the Use of Renewable Energy

We are constantly working to increase the use of renewable energy at our factories and offices. In 2023, we finished switching 100% of the electricity at all 11 factories and our distribution centers to renewable electricity. In addition, we are advancing the use of renewable energy at all of our sites worldwide, such as switching 100% of the electricity at our offices to renewable energy.
In the China Region, we completed a 100% switchover at all sites. Moreover, at the Beijing Office, which includes the factory of Shiseido Liyuan Cosmetics Co. Ltd. (SLC) in China, we fulfilled requirements under the code for carbon neutrality certification (PAS 2060:2014) and obtained certification.

Solar panels at the Fukuoka Kurume factory (Japan)

Following the completion of switchover of 100% of the electricity at our Shiodome and Ginza offices in Japan to renewable electricity in 2022, we switched 100% of the electricity at all company-owned buildings of Shiseido Japan to electricity from renewable energy in 2023. We are driving the shift to electricity from renewable energy mainly at the Shiseido Global Innovation Center (Yokohama), in Europe, and at our branch offices in Japan.

In addition to promoting the use of renewable energy, we are also proactive in installing solar panels on the premises and in the buildings of our factories

and research centers worldwide. Eight of our factories* in the world are equipped with solar power generation facilities. As a result, renewable electricity now accounts for 85% of all the electricity used at Shiseido Group.

In addition, Shiseido is a member of the RE100 global initiative, which brings together businesses committed to using 100% renewable electricity in their activities. We will continue to accelerate our transition to renewable electricity in our operations to reduce fossil-fuel derived electricity.

*The eight factories are: Kakegawa (Japan), Osaka Ibaraki (Japan), Fukuoka Kurume (Japan), Shanghai (China), Beijing (China), Taiwan factory, East Windsor (US), Gien (France). (Country/Region)

Fukuoka Kurume factory
In 2023, we expanded solar power generation facilities at our Fukuoka Kurume factory, thus increasing the total capacity of the facilities to 1.9MW. The total power-generating capacity of all factories of Shiseido has reached 6.8MW.

Initiatives to Reduce Indirect CO_2 Emissions from the Value Chain (Scope 3) Other Than Our Sites

Our indirect CO_2 emissions also result from our business activities but they are not directly under our control – for example, emissions that derive from the manufacturing and shipping of raw materials or the use and disposal of our products. As part of our work to reduce the impact of our business activities on climate change, we have established science-based long-term reduction targets for our indirect CO_2 emissions, and we are working with our suppliers and other stakeholders to reduce emissions across our entire value chain.

Selection and Use of Raw Materials that Reduce Environmental Footprint

We select raw materials with a special emphasis on reducing our environmental footprint in line with the green chemistry principles*1. For the procurement of palm oil and paper, we support the principles of the No Deforestation, No Peat, No Exploitation (NDPE) and procure raw materials that are not linked to deforestation. Furthermore, we are striving to reduce CO_2 emissions related to the development of containers, by promoting the use of recycled resins.

In addition, in 2022 Shiseido participated in the CDP Supply Chain Program*2. The goal is to reduce CO_2 emissions from the upstream supply chain, which accounts for over 40% of the indirect CO_2 emissions in the value chain. In 2023, we selected suppliers that participate in the program, based on the spend and importance. We requested 50 companies worldwide to report their CO_2 emissions, reduction targets, and other relevant information. We will use this information to calculate and reduce our Scope 3 emissions.
To calculate and reduce Scope 3 emissions, it is crucial that our suppliers understand CDP and Scope 3.
Therefore, in 2023, we held an explanatory session with CDP Worldwide-Japan for our suppliers in Japan. We will continue to support and collaborate with our suppliers to achieve our targets.

*1 : The design of chemical products and processes that reduce or eliminate the use or generation of substances that are hazardous to people or the environment.
*2 : The Carbon Disclosure Project (CDP) Supply Chain Program is an initiative in which member companies use the CDP platform to request that their suppliers disclose information related to climate change, water, and forestry.

Reducing CO_2 Emissions During Transportation

Shiseido transports its products worldwide and is taking steps to reduce CO_2 emissions when shipping its own products. For example, in Japan we conduct joint deliveries with other domestic companies to optimize transportation routes and improve loading efficiency. In February 2023, we introduced an electric truck into our vehicle fleet in Japan on a trial basis. The electric truck is expected to reduce CO_2 emissions by 1 ton per year, and we plan to expand our

fleet of electric vehicles moving forward. At our Beijing factory in China, we replaced the gasoline-driven shuttle bus for employee commuting with an electric one (EV), to reduce CO_2 emissions from the shuttle bus.

We also optimize the use and design of packaging materials according to the shape and volume of the products shipped and actively promote the reuse of protective materials used in transportation, as part of our efforts to reduce waste and CO_2 emissions. We take these initiatives mainly for bottle suppliers that deliver frequently. In Japan, we are also progressively reducing packaging materials used in the process of transporting products from factories to each retailer, as these materials have an impact on waste and CO_2 emissions. Furthermore, in order to reduce CO_2 emissions of the bottle delivery, we are collaborating with a bottle supplier that has multiple production sites to conduct production at the site closest to our production facility.
In our exports from Japan to overseas destinations, the double stack palletization*, which we introduced in 2022, further improved the loading efficiency in 2023.

*A logistics process consisting of placing goods together on top of a pallet to consolidate the load at the warehouse.

Shiseido's EV truck

EV shuttle bus for employees commuting to and from our Beijing factory

Actions for Scope 3 Emissions by Category

Category	Explanation	Internal data	Emission factors
1. Purchased goods and services	Emissions generated from upstream of the supply chain, such as raw materials, advertising service, land use change due to palm- and paper-derived material production.	Raw material procurement volume POSM procurement volume, Advertising expenses Palm- and paper-related raw material procurement	IDEA v3.1 Ecoinvent 3.9 Reference-1 Reference-2
2. Capital goods	Emissions generated from making capital goods.	CAPEX	Reference-1
3. Fuel and energy related activities	Emissions generated in the process of mining, extraction, refining, transportation of energy and fuels.	Amount of energy consumption	IDEA v3.1
4. Upstream transportation and distribution	Emissions generated from procurement transportation and shipping transportation.	Raw material procurement volume Product volume Distance between our factories and sales sites Means of transportation	IDEA v3.1 Ecoinvent 3.9
5. Waste generated in operations	Emissions generated in the process of transportation and waste treatment from our operations.	Waste generated by material type and disposal method	IDEA v3.1
6. Business travel	Emissions from employee business-related travel	Travel expenses Number of trips by destination Transportation distance	IDEA v3.1 Reference-1
7. Employee commuting	Emissions from employee commuting between home and Shiseido's site	Commuting expenses	IDEA v3.1 Reference-1

8. Upstream leased assets	Not applicable.		
9. Downstream transportation and distribution	Emissions generated in storage and stores	Sales volume Product bottom area	Reference-4
10. Processing of sold products	Not applicable. The products sold do not need to be processed for consumer use		
11. Use of sold products	Emissions from product use, such as rinsing, drying up.	Energy, water, and consumable goods consumed in product use	IDEA v3.1
12. End-of-life treatment of sold products	Emissions generated in decomposition of ingredients, and the process of transportation and waste treatment from products sold	Amount of carbon derived from fossil resources in the molecules that make up the ingredient and packaging components Waste generated by material type	IDEA v3.1
13. Downstream leased assets	Not applicable.		
14. Franchises	Not applicable.		
15. Investments	Emissions from unconsolidated affiliates and stock investees	Scope 1 and scope 2 emissions of unconsolidated affiliates and stock investees Shareholding Ratio	—

Calculation methods of Scope 3 emissions

1) Emission factor database for calculating GHG emissions of an organization through its supply chain v3.2
2) Germer, J. et al. (2008) Environment, Development and Sustainability, 10, 697-716
3) Calculation method and Emission Factors for Reporting of Act on Promotion of Global Warming Countermeasures
4) The Chain Store Industry's Vision toward Carbon Neutral by 2050

Climate/Nature-related Financial Disclosure Initiatives

Given the seriousness of the impact of climate change issues on business growth and social sustainability, Shiseido has been disclosing information with reference to TCFD/TNFD and ISSB's frameworks. We conducted qualitative and quantitative analyses of the risks and opportunities associated with the transition to a decarbonized society and changes in the natural environment due to climate change for both the 1.5/2°C and 4°C scenarios, as well as our major actions, over the short, medium, and long term. Regarding the natural environment, we identified quantitative long-term risks in consideration of biodiversity loss and dynamic states of water resources and disclosed them in Shiseido Climate/Nature-related Financial Disclosure Report.

Governance

Shiseido is promoting sustainability initiatives through our brands and regional businesses. Sustainability Committee was set up to ensure timely management decisions related to sustainability efforts and their proper implementation across the Group. In 2023, the committee was held regularly. The committee decides on Group-wide sustainability strategies, policies, and discusses specific topics such as risks and opportunities related to climate change and the natural environment, and actions for human rights, as well as monitors the progress of medium-to-long-term goals. The committee consists of the representative corporate executive officers and executive officers in charge of Corporate Strategy, Research & Development, Supply Network, Corporate Communications, and our Brand Holders, to discuss a range of issues from different perspectives. Important matters in the execution of business, which require approvals are proposed or reported to the Global Strategy Committee or the Board of Directors.
In order to ensure executing and promoting of sustainability actions, a Sustainability TASKFORCE was set up under the Sustainability Committee, consisting of the heads of key relevant functions. At the Sustainability TASKFORCE, practical approaches to achieve our long-term targets are discussed with relevant functions, regional headquarters, and local subsidiaries as necessary.

Strategy (Scenario Analysis)

We conducted our scenario analysis for both the transitional and the physical risks/opportunities in terms of the 1.5/2°C and 4°C scenarios, respectively, based on the Representative Concentration Pathways (RCPs) and Shared Socioeconomic Pathways (SSPs) provided by the IPCC. Regarding transitional risk, the elements associated with the transition to a decarbonized society — such as policy, regulation, technology, market, and consumer perceptions — were considered. Physical risks related to the acute or chronic phenomena caused by the rise in temperature — such as floods and water shortages — were also considered. Based on these considerations, the financial impacts of the 1.5/2°C and 4°C scenarios were then analyzed.
The influence of carbon tax was identified as the transition risk, with projections pointing toward approximately JPY 0.05-0.87 billion in 2030. For physical risks, JPY 0.89 billion of floods and JPY 3.5 billion of water shortage were forecasted potentially. As for opportunities, in the 1.5/2°C scenario, high awareness by consumers means there is a market for sustainable brands and products. Similarly, the 4°C scenario identifies sales opportunities for products that can help people to live with high temperatures. At Shiseido, we aim to leverage these findings — by mitigating risks and making the most of opportunities to provide sustainable products to consumers and promote our beauty innovations.

Risks and Opportunities

<table>
<tr><th colspan="2"></th><th>Risks</th><th>Opportunities</th></tr>
<tr><td colspan="2">Transition
(seen mainly in the 1.5/2°C scenario)</td><td>・Carbon tax increase ●
・Fuel price increase
・Loss of sales opportunities for products using single-use plastics ●</td><td>・Improve energy efficiency
・Develop more ethical products (e.g. clean beauty)</td></tr>
<tr><td rowspan="2">Physical
(seen mainly in the 4°C scenario)</td><td>Acute</td><td>・Natural disasters stop operations (e.g. typhoons, floods)
・Natural disasters disrupt logistics</td><td rowspan="2">・Develop environment-friendly products
・Develop climate-adaptive solutions</td></tr>
<tr><td>Chronic</td><td>・Changes in rainfall conditions impact the cost of procuring raw materials derived from crops ●
・Water shortages stop operations ●</td></tr>
</table>

●Risk factor analyzed qualitatively and quantitatively.

For nature-related risks and opportunities, we conduct a quantitative analysis of the impact on biodiversity throughout the value chain by means of a Life Cycle Assessment. This revealed that the impact is great, particularly in raw material procurement. In response, we assumed places of origin of cosmetics raw materials with high dependence on biodiversity in line with the LEAP approach recommended by TNFD. We thus monetized ecosystem services by pollinators, such as honey bees, as physical risk analysis in the aspect of dependencies. At the same time, we analyzed risks on sustainability-related regulations as transitional risks along with climate change issues.

Click here for Shiseido Climate/Nature-related Financial Disclosure Report.

Risk Management

We assess and identify the impactful risks holistically from a mid-to-long-term perspective. "Environmental (Climate Change, Biodiversity, etc.)" and "Natural Disaster, Infectious Disease and Terrorism" are listed as the categories related to sustainability. Climate-related and biodiversity-related risks are analyzed based on scientific and socioeconomic evidence and integrated into the enterprise risk management system as one of the elements related to climate change or natural disasters. According to their significance, the risks and their countermeasures are deliberated by the Global Risk Management & Compliance Committee and the Global Strategy Committee. The material risks are also proposed or reported to the Board of Directors as necessary.

Metrics and Targets

In order to mitigate the climate-related risks, we set the reduction of CO_2 emissions as our target. We aim to achieve carbon-neutrality*1 by 2026 for Scope 1 and Scope 2 emissions. For CO_2 emissions reduction targets of the overall value chain, our 2030 target, which conforms to the 1.5°C trajectory, was accredited by SBTi*2 as a science based target, and we are working to reduce CO_2 emissions.
With regard to biodiversity, we are replacing paper and palm-derived raw materials, which have a large impact, with certified raw materials.
To reduce Scope 1 and 2 CO_2 emissions, we decided to introduce an internal carbon pricing (ICP) system in 2023 and began to apply it for making decisions on decarbonization investments in energy-efficient facilities, renewable energy facilities, and the similar.*3

*1：Scope 1 and Scope 2 emissions are the targets. Carbon offsets made by using credits are included.
*2：SBTi is a global initiative that defines and promotes best practice in science-based target setting and independently assesses companies' targets.
*3：ICP price as of 2024: USD 130.0/t-CO_2

Click here for Shiseido Climate/Nature-related Financial Disclosure Report.

Awards Related to Reduction of CO_2 Emissions

CDP A List ＜Climate Change and Forests＞

Shiseido was selected by CDP, an international NPO, as one of the companies in the A List 2023 in recognition of its leadership in transparency and performance in the fields of Climate Change and Forests. We were selected for the second consecutive year in Climate Change and for the first time in Forests. We were included in two A Lists for the first time.

Encouragement Award from Life Cycle Assessment Society of Japan (JLCA)

At the 20th JLCA Awards held in January 2024, Shiseido received the Incentive Award in recognition of its activities for "Climate- and Nature-related Risk Analysis Using LCA: Application to TCFD and TNFD Reports."

Awards ceremony, January 23, 2024

Reducing Water Consumption

It is estimated that humans can use only 0.01% of all water on earth as fresh water resources. The increasing severity of water shortages has been a global concern due to population concentrations, which has been caused by changes to the industrial structure and urbanization progressing rapidly in developing and emerging countries in particular, as well as changes in weather conditions associated with climate change. Damage from climate disasters, such as major typhoons and drought, are also indirect causes of water problems. Sustainable use of water resources is expected to grow more important.

According to long-term projections based on climate and weather, rainfall is forecast to remain stable toward the end of this century in Japan, where our major factories are located. Moreover, the consumption of water resources in the cosmetics industry is lower than in other industry sectors, so we believe that the impact of water shortages will be limited. However, water supports every aspect of our products, including the development of water-containing products such as lotions; the growth of plants as raw materials; temperature control and equipment cleaning at factories; consumption; and waste disposal. As stated in the Shiseido Environmental Policy, we regard an understanding of the water-related environmental impact and sustainable use of water resources as an important environmental issue from the perspective of the value chain, from product development to production and use. We implement initiatives

accordingly. While a lot of water is needed at our factories, such as for motive power facilities, the reuse of water will enable a significant reduction in water consumption. At Shiseido's factories, we have introduced a Discharged Water Recycling System, with which we use some of the discharged wastewater as makeup water for motive power facilities. At factories, where we consume more water than we do at offices and research centers, we constantly monitor not only water intake but also the amount of water discharged, its temperature, and the quality of treated wastewater. We also conduct water environment research of the watersheds where our factories are located. Thus, we are working on water resource management (Water Stewardship*1) with our stakeholders.

*Using water in a way that is socially equitable, environmentally sustainable, and economically beneficial.

Use and Reduction of Consumption of Water Resources in Production Process

Regarding direct use of water resources, we have set reduction of water consumption at our sites as a target and apply various methods to achieve this target. For example, as each Shiseido factory has various facilities and equipment tailored to the kind of cosmetics it produces, we design specific water reduction initiatives for each site. Examples of our water-saving initiatives include using automatic cleaning to ensure the manufacturing equipment is cleaned more effectively and consolidating the washing locations of equipment parts. In addition, we are identifying locations and facilities with high water usage by increasing the number of monitoring points (measurement points) for water usage in our factories. The water usage of all factories is reported monthly, and we have established a system to track progress towards our targets and to develop measures to achieve them.
For instance, at our Kakegawa factory, we analyze data from measurement points and conduct training for environmental representatives in each workplace to identify the areas for water consumption reduction and find solutions. This initiative has raised our employees' awareness regarding water conservation, resulting in the development and execution of effective measures to reduce water consumption.

At our Val de Loire factory in France–an area where rainfall is expected to drop in future–initiatives like reduction of water consumption and redesigning the nozzles on our cleaning facilities successfully reduced the amount of water used per clean by 30%.
At our Shanghai factory in China, we have introduced a system for collecting, storing, and reusing wastewater from production of pure water used for cosmetics production. We reuse the wastewater as cooling water for cooling tower and for various other purposes. As a result of these aggressive reduction activities, in 2023 the overall water consumption at the Shanghai factory decreased by no less than 20% from the previous year. At our Hsinchu factory in Taiwan, we reuse 100% of the wastewater from our water purification systems as cooling water for cooling tower.

To ensure more effective use of water, we focus on circular systems that clean water and reuse or recycle it within the process. We process the used water through water treatment facilities and conduct regular monitoring of the treated water to ensure that the water quality meets the standards established by regulations. At our Kakegawa factory, we launched a Discharged Water Recycling System in 2023. With this system, we recycle some of the discharged wastewater to use it as makeup water for motive power facilities, in an effort to make efficient use of water resources and reduce their consumption. This has enabled cyclic use of wastewater from production process, which was discharged before. Use of this system enables to reuse approx. 12,000 ㎥ of water every year. It means water reduction equivalent to approximately 15.6% of water consumed at the Kakegawa factory. At our Osaka Ibaraki factory in Japan, we introduced a circular system that utilizes re-used water to cool the manufacturing tanks. This system enables an annual reduction in water consumption of around 65,000 ㎥. Other new water utilization initiatives include optimizing our pure water manufacturing equipment — as we have done at our Nasu factory in Japan, for example. Pure water manufacturing consumes approximately half of all water used at the factory. Through this initiative, as well as other water recycling schemes, we reduced our annual water consumption by around 72,000 ㎥, an amount that is approximately one third of the factory's annual water usage.

At our Gien factory in France, we switched from water-based cleaning to alcohol-based cleaning for our fragrance manufacturing equipment and transportation components. The alcohol used is cleaned and reused in the process repeatedly.

Water treatment facilities at Nasu factory (Japan)

Water Stewardship (Initiatives on Water Resources in Communities)

To effectively use water resources, we are engaged in the management of water resources as common property of the water basin, including secondary use in cooperation with communities.
Nasu factory, one of our major factories in Japan, is located in a vast fan-shaped area (Nasunogahara), which was formed through the deposition of a highly permeable gravel layer. Rainwater readily permeates the ground in this area, making it difficult to use surface water (river water). Therefore, at our Nasu factory, we use groundwater pumped up from a water-bearing layer that lies 150 meters below the ground surface. In an area like this, used water is also a valuable resource. We therefore treat it appropriately into wastewater whose quality conforms to our own strict standards, which are tougher than local ordinance standards, before releasing it into local canals. Thus, the water is reused as agricultural water. Reflecting these geographical characteristics of the watershed where the Nasu factory is located, we believe that understanding the water environment in the overall watershed is important for sustainable use of water resources.
Consequently, we are conducting water environment research of the overall Nasunogahara area. We studied groundwater sampled at the factory by combining a hydrological model simulation, in which water flows of the overall Nasunogahara area are reproduced on computer, as well as an onsite survey of the watershed around the factory. Findings of the research show that water discharged from the factory nurtures various living things in the surrounding area as it wets local farmlands and pours into rivers.

Water resources, field investigation: Professor Oki, professor Yoshida and senior researcher Kiguchi of the University of Tokyo and members from Shiseido.

At our Shanghai factory in China–which is located in a water-stressed* area–we participate in a local environmental protection association and proactively obtain environmental information, such as environmental laws and regulations regarding factory activities. We also report monthly water consumption to the government, which promotes water conservation and is working to improve water utilization rates and strengthen water conservation management. In the area around our Val de Loire factory in France, rainfall volumes are expected to fall in future. Therefore, we regularly share information with other local industries on good water practices to decrease water consumption.

*A situation where there is not enough water of sufficient quantity to meet the demands of people and the environment.

Engaging Stakeholders

As our Water Stewardship initiative, we have been engaging with local governments and relevant organizations from the watershed of Nasunogahara, where Nasu factory is located, based on our scientific understanding of the overall area obtained through our research. We have also had the research findings and direction of our initiatives reviewed by external academic experts. Shiseido aims to build a Water Stewardship in collaboration with its stakeholders, towards a

more comprehensive, sustainable use of water resources, and moreover for protection of biodiversity in watersheds. We ask our suppliers to provide information on their water usage through self-assessment questionnaires such as Sedex and Shiseido SAQ, and strive to ascertain water-related environmental impacts.

Reducing Waste

As population growth continues and income levels rise, resource consumption and waste increase.
To make more effective use — and reuse — of limited resources, it is important that businesses shift from a disposable, linear economic model to a circular economy. At Shiseido, we are doing this by optimizing the use of raw materials and reducing waste throughout our entire value chain, while complying with all relevant waste management rules in the countries and regions where we operate.

Reducing, Reusing and Recycling Waste

At Shiseido, we continuously work to reduce, reuse, and recycle the waste we generate. In 2003, we achieved "zero emissions*1" at our domestic factories in Japan, and we continue our waste separation and recycling activities to this day. We conduct monthly review processes between the headquarters office and each factory to assess the volumes and types of waste generated to work towards reducing waste and enhance recycling efforts. At our domestic factories, we manage waste data based on electronic manifests, allowing real-time monitoring of waste disposal status, ensuring data transparency and strict compliance with regulations. To give a specific example, we use dehydrators and dryers to minimize the amount of sludge generated by our factories during wastewater treatment. In addition, at our Nasu factory, we have changed the delivery method of certain liquid raw materials from the use of drum cans to delivery by tank trucks. We have thus reduced the generation of waste drum cans as a waste reduction initiative. We also reuse shipping boxes, sort waste by material strictly for recycling them, and undertake other activities for reusing and recycling waste. In 2023, we entirely reviewed cardboard boxes, plastic packaging, and other packaging containers used for product transportation, in a project to reduce the outermost packages. We are moving forward with initiatives to minimize the use of resources while ensuring product quality. We also recycle waste plastics, not to mention cardboard boxes and paper used in transportation, into valuable resources. We compress and melt the waste plastics to reduce their volume before recycling them. While our target was to achieve zero waste*2 to landfill from our factories worldwide by 2022, the actions above enabled us to achieve the target in 2020, two years ahead of schedule, and we have maintained zero waste to landfill to the present.

We are also engaging in various initiatives to minimize waste generated outside of our factories and branch offices, including streamlining our product containers and packaging, eliminating package inserts, and switching to cardboard boxes with lighter weight. Moreover, we also work to limit product waste by minimizing excess inventory through improved precision in demand forecasts and shorter lead times in production and procurement.

*1 ："zero emissions" is a concept defined by UN university in Japan. Recycled waste: 99.5% or higher (excluding waste designated as landfill by law)
*2 ：Excluding waste designated as landfill by law. In 2023, we maintained the target of "zero waste to landfill" across all Shiseido owned factories.

Employee Education

All our waste reduction initiatives are driven by our PEOPLE. Therefore, we arrange online seminars and training sessions for newly appointed managers and employees in charge of industrial waste in Japan. When we outsource the disposal of waste from our factory or office to a waste disposal contractor, we make sure to assess the contractor, ensure that industrial waste is disposed of appropriately, ensure that a manifest is delivered, and inform the importance of onsite confirmation to the contractor. Following the seminars and training sessions, each participant should be able to identify how to effectively manage waste with the help of our internal guidelines and checklists.

Shiseido Climate/Nature-Related Financial Disclosure Report

June 28, 2024

Background

"Give a human face to the global market."

The philosophy of the ESG investment called for by then UN Secretary-General Kofi Annan in his 1999 speech at the Davos Forum is changing the values of the global economy. Nonfinancial information is now being used to judge a company's future value, as well as financial information by investors, and companies are increasingly required to transparently disclose their goals and performance in sustainability-related initiatives, including climate change. The TCFD[1-3] and the TNFD[4] have demonstrated to corporate managers the importance of considering and addressing climate change and biodiversity issues as one of the business priority issues by providing a simple framework, including *governance, strategy, risk management*, and *metrics and targets*. The International Sustainability Standards Board (ISSB) of the IFRS Foundation published IFRS S1 (General Sustainability Disclosure Requirements) and IFRS S2 (Climate-related Disclosures) in 2023, building upon the recommendations of the TCFD. The importance of non-financial information disclosure is increasingly being recognized.

In the *Global Risks Report 2024* [5], the World Economic Forum warned that extreme weather events, critical change to earth systems, biodiversity loss and ecosystem collapse, and natural resource shortages are the greatest long-term risk factors to the global economy. It is important to accurately analyze climate-related or nature-related risks and opportunities and to respond to those issues in advance in order to ensure sustainable business growth considering the recent severe damage caused by disasters.

For example, many cosmetic raw materials are made from agricultural products, such as oil palms. Stable climate conditions, including rain and temperatures, are essential for continuous business growth. If the weather conditions change because of climate change, it will cause water shortages and serious disasters, which will have significant impacts on society, as well as our value chain, including procurement, production, logistics, and sales activities. Therefore, we disclosed the science-based target along the 1.5° C trajectory in addition to analyzing sustainability-related risks and opportunities to mitigate climate change and its risks. We also committed to accelerating and to analyzing climate-related risks and opportunities and integrating them into company-wide actions. Furthermore, we will switch to RSPO-certified raw materials by 2026 for all cosmetic raw materials derived from oil palms in order to minimize supply chain risks and biodiversity loss as much as possible.

In this report, we present the results of our analysis of the climate-related and the nature-related risks and opportunities based on scientific and statistical evidence as comprehensively as possible in line with the TCFD framework of *governance, strategy, risk management*, and *metrics and targets*.

The analysis of global environmental issues, such as climate change, assumes a much longer time scale than that of normal business planning and risk management, and it is impossible to forecast all the various changes in society and markets that may occur as a result of environmental issues. Hence, the results contain a great deal of uncertainty and indeterminacy.

Governance

At Shiseido, we work to promote sustainability across the entire company, including our brands and regional businesses. Sustainability Committee meetings are held regularly to ensure timely management decisions related to sustainability efforts and their proper implementation across the Group, the committee was held regularly in 2023. The committee decides on Group-wide sustainability strategies, policies, and discusses specific topics such as disclosure contents of TCFD/TNFD and actions for human rights, as well as monitors the progress of medium-to-long-term goals. The committee consists of the Group COO and executive officers in charge of R&D, Supply Network, Corporate Communications,

and our brands, as well as other executive officers from different fields to ensure discussions of a range of issues from different perspectives. In case of requiring decisions on important matters in the execution of business, it is proposed or reported to the Global Strategy Committee or the Board of Directors. In addition, the Chief Operating Officer, who is the chair of the Sustainability Committee, receives regular updates on the latest information from the Sustainability Strategy Acceleration Department to ensure that the appropriate skills and competencies are secured to oversee the strategy.

In order to ensure executing and promoting sustainability actions, a Sustainability TASKFORCE has been set up under the Sustainability Committee, consisting of the heads of key relevant departments. At the TASKFOECE, practical approaches to achieve our long term target are discussed with relevant departments, regional headquarters, and local subsidiaries as necessary.

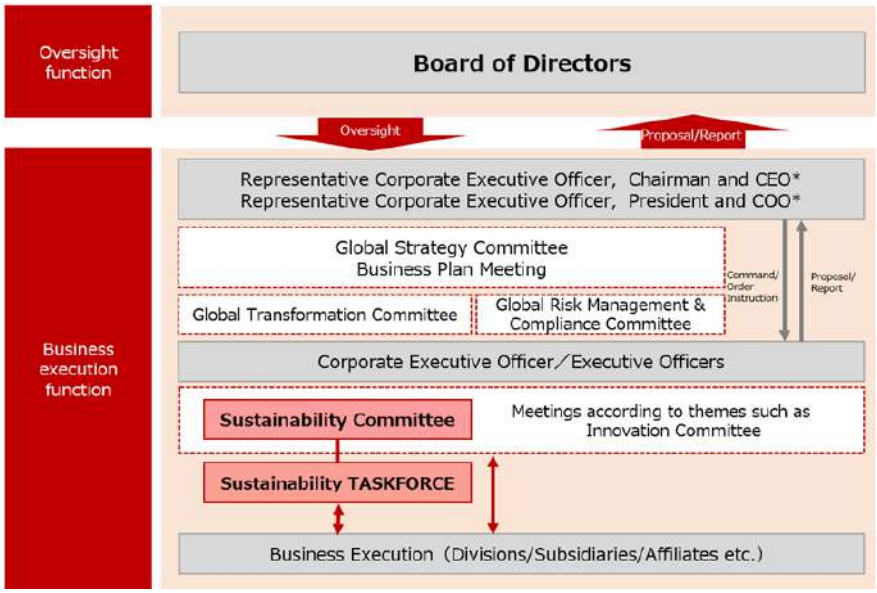

Figure 1: Governance structure of Shiseido

The Company regards the remuneration policy for Directors and Corporate Executive Officers as an important matter for corporate governance. Based on the above basic philosophy, the Compensation Committee has resolved its policy on decisions regarding remuneration of individual Directors and Corporate Executive Officers. Regarding evaluation indicators for the long-term incentive-type remuneration in fiscal year 2024, as an indicator for economic value of corporate value, the Company has set the compound average growth rate (CAGR) of consolidated net sales from fiscal year 2023 to fiscal year 2026 and the consolidated core operating profit margin for fiscal year 2026. Furthermore, the Company has adopted the multiple internal and external indicators pertaining to the environment, society and corporate governance (ESG) as benchmarks on creation of social value to ensure the structure to support the increase of the corporate value in terms of both economic value and social value.

Strategy

1. What is Risk?

ISO 31000 defines risk as the “effect of uncertainty on objectives,” and the magnitude of a risk is determined by the balance between the likelihood of its occurrence and its potential outcome (its hazard). For example, in the assessment of flood risk discussed later, the potential damage in the event of a flood represents the potential result of the event, while the

probability of the flood occurring now or in the future is the probability of occurrence. When analyzing risks related to nature and the climate, it is necessary to predict how the severity of events such as the scale of floods and the recurrence interval or probability of occurrence of major floods may change due to rising temperatures and the loss of biodiversity, and it is necessary to assess the damage resulting from these changes. Therefore, it is crucial that we understand the relationship between climate change and biodiversity loss, and specific risk factors such as floods and water scarcity.

However, it is important to note that floods and water shortages were occurring around the world even before the industrial revolution, before anthropomorphic climate change began, and to note that we cannot eliminate these risks even if we are able to eliminate the effects of climate change. Naturally, not all future anticipated risks are due to climate change.

The IPCC's Sixth Assessment Report presents global predictions regarding floods, heatwaves and changes in meteorological conditions in line with multiple climate scenarios, ranging from Representative Concentration Pathway (RCP) 1.9/Shared Socioeconomic Pathways (SSP) 1 to RCP 8.5/SSP5. Regarding biodiversity, a challenge that is faced is that there is no clear relationship between the extent of the loss of biodiversity and individual social and economic activities, and it is difficult to establish convincing scenarios that state changes in probability. Furthermore, it is currently challenging to assess the risk mitigation effects of the introduction of organisms to an area or the relocation of areas of economic activity to replace the ecosystem services previously provided by diverse biological resources. Therefore, this report uses the results of the hazard assessments in the extreme scenarios as a substitute for biodiversity risk assessments while looking forward to the emergence of science-based universally applicable future prediction scenarios.

2. Hot spot impact analysis

To gain a comprehensive and quantitative understanding of the magnitude of business activities' impact on the environment, climate and nature, a LIME 3[7-15] organizational life cycle assessment (LCA) was carried out based on data about the Shiseido Group's activities in 2023, including information about their direct activities and activities upstream and downstream in the value chain. LIME 3 includes damage factors for each country and region where a company may have an impact on the environment. However, regarding cosmetic ingredients derived from processed agricultural products, such as fatty acids and surfactants, the land transformation and occupation associated with agriculture and the water resource consumption do not align with the procurement regions but occur in activities that are upstream in the supply chain. Therefore, based on the results of supplier interviews, FAOSTAT[16] (agricultural statistics), and the market prices of crops, we have mapped the main agricultural products that are the raw materials for the procured ingredients by production country or region in 2023. We have calculated the area of land transformed, land occupied, and water resources consumed in association with agricultural production. By supplementing the elementary flow with this data in our LCA analysis, we have attempted to clarify the environmental impact of upstream activities in the supply chain taking regional characteristics into account. To avoid underestimation, we have not deducted the inventory of the corresponding elementary flows from the life cycle inventory data applied for the raw materials derived from the crops. Regarding the analysis conditions, considering the reality that GHG emissions have not been reduced in developing countries, the SSP2/RCP4.5 scenario was used, and a 1% discount rate for future damage has been used.

LIME 3, which uses mammals, birds, amphibians, reptiles, fish, and vascular plants as model organisms, uses the expected increase in the

number of extinct species per 1000 species per 1000 years to assess the endpoint impact of biodiversity loss.

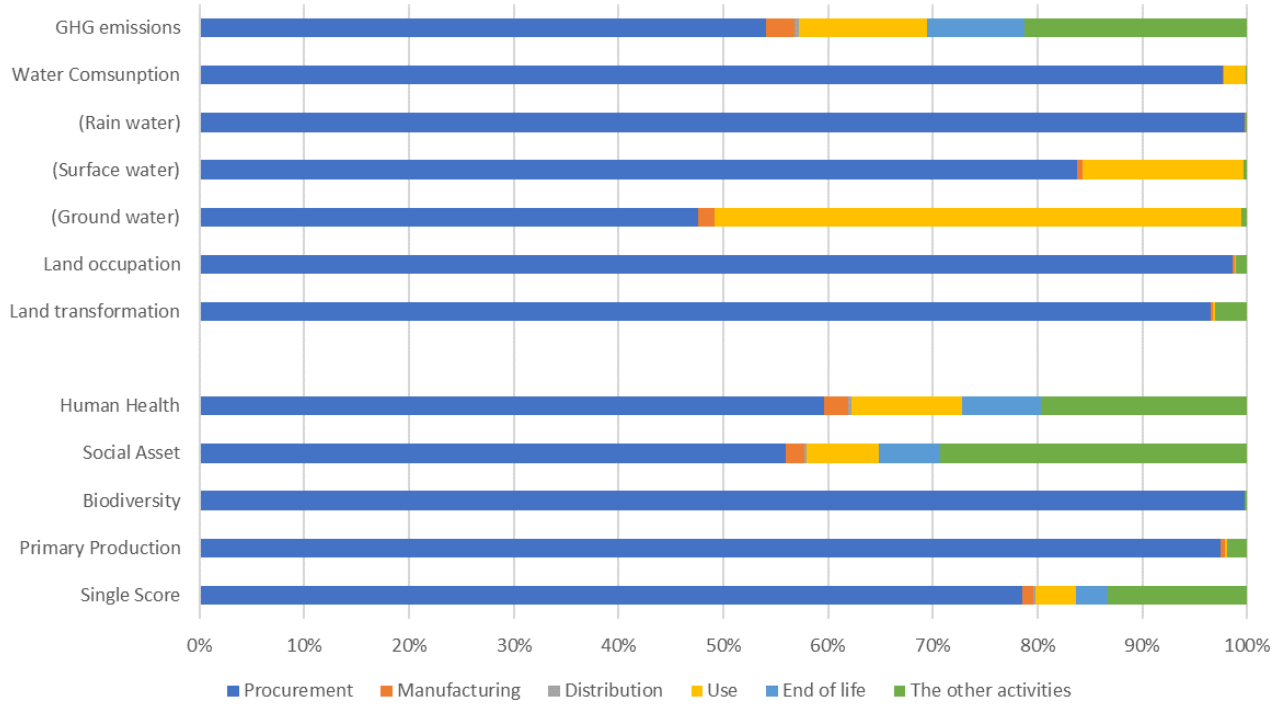

Figure 2: Environmental impacts of Shiseido's activities indicated by the LIME3

The LCA results indicated that the hotspot for biodiversity impact is in the procurement stage, and that most of the impact is due to land transformation associated with the cultivation of material crops, such as oilseeds and grains used in raw material production. It suggests the importance of collecting and analyzing more detailed information regarding the impact of agriculture in raw materials procurement to understand the impact of biodiversity loss. As a result of the integrated analysis using the G20's population-weighted average willingness-to-pay, the costs externalized due to the environmental impact of our business activities during one year were estimated to be about 30 billion yen, converted at 135 yen to the US dollar. Of this, 8.4 billion yen was external costs related to GHG emissions and 470 million yen was related to water resource consumption. Endpoint damage to human health was evaluated to be 4.4 billion yen. The endpoint damage to biodiversity was 3.2 billion yen, the damage to social assets was 9.8 billion yen and the damage regarding the inhibition of primary production was 12.6 billion yen. The integrated indicators provided by LIME 3 can be interpreted as the financial impact of the impact aspect that is a required disclosure under the TNFD recommendations, as it represents the implicit societal agreement to avoid the damage caused by our environmental impact. Furthermore, the ability to identify the magnitude of the impact in terms of endpoint damage, including biodiversity loss, by factor can also be considered to be an advantage of LCA.

3. Screening of factors related to risks and opportunities

In considering factors related to climate change, we conducted a scenario analysis for both the transitional and the physical risks and opportunities in terms of the 1.5/2° C and 4° C scenarios, respectively, based on the RCPs and SSPs. A variety of factors and relationships among them are assumed to contribute to climate-related risks and

opportunities.

Table 1: Key risk factors reported by IPCC and Shiseido's activity area

Area	Key Risk	Procurement	Manufacturing	Distribution
Europe	(1) Coastal and inland flooding (2) Increasing temperatures and heat extremes (3) Ecosystem disruptions (4) Water scarcity (5) Losses in crop production	✓	✓	✓
North America	(1) Mental health and mortality (2) Increasing temperatures and heat extremes (3) Ecosystem disruptions (4) Water scarcity and quality (5) Losses in crop production (6) Sea level rising	✓	✓	✓
Central and South America	(1) Water scarcity (2) Infectious diseases (3) Coral ecosystem disruptions (4) Food security (5) Floods (6) Sea level rising	✓		✓
Asia	(1) Human health (2) Floods (3) Ecosystem disruptions (4) Sea level rising (5) Water scarcity (6) Food security	✓	✓	✓
Australasia	(1) Ecosystem disruptions in ocean or alpine area (2) Sea level rising (3) Losses in crop production (4) Increasing temperatures (5) Wildfire	✓		✓
Africa	(1) Ecosystem disruptions (2) Food security (3) Human mortality (Heat and infections) (4) Economic growth and poverty (5) Water scarcity	✓		

Regarding transitional risk, the elements associated with the transition to a decarbonized society, such as the policy, regulation, technology, market, and consumer perceptions were considered. Since factors that pose climate-related risks and opportunities are influenced by a variety of events and relationships, we comprehensively identified key physical risk factors based on the IPCC *Sixth Assessment Report* and the Shiseido Group's areas of activity.

In the following sections, the results of the qualitative and quantitative analysis of financial impacts as of 2030 are described. The analysis was conducted based on scientific and statistical data by

selecting items with significant impacts from among the individual risk and opportunity factors presented in the IPCC *Sixth Assessment Report*, considering the sustainability and uncertainty of the business and assets, and the lifetime of the business and facilities.

4. Carbon tax

The financial impact of a carbon pricing scheme is a concern in the transition to a decarbonized society. Various carbon pricing schemes are being discussed, including a carbon tax, a border carbon tax on the movement of goods from countries and regions with weak carbon regulations to those with strong carbon regulations, Cap & Trade, and an emissions trading system.

Currently, carbon tax prices are set at US$20–140 per ton of GHG emissions in European countries[17]. Since the carbon tax is used to secure the budget for implementing mitigation, adaptation measures, and compensation for climate disasters, the carbon tax price is expected to be determined based on the social cost of carbon in the near future. The International Energy Agency (IEA) has projected a carbon price of US$120 in the Announced Pledges Scenario to US$130 in the Net Zero Emissions by 2050 Scenario per ton of GHG emissions in 2030, which includes the cost of implementing climate-related policies. With France and Iceland announcing carbon taxes of €100 and CA$170 in 2030, the trend toward higher carbon tax prices is likely to continue.

In recent years, a series of studies on the social cost of carbon have been published, and some reports suggest the appropriate future carbon price at $500–1,500[18,19]. As the carbon tax becomes more expensive, the transaction price in the ETS market is expected to follow the carbon tax price. With this current situation regarding carbon pricing as background, we analyzed the financial burden of the carbon tax in 2025 as a short-term impact, adopting the current level in France, where we have a factory, and the annual burden as of 2030 using the IEA AP and NZE scenarios for the medium- to long-term impact. Based on the projections for GHG emissions of Scope 1 and Scope 2, we considered the financial impact of the border carbon tax as well, according to the following formula with the assumption that a border carbon tax with the same level is introduced in Europe in 2030 or in all countries and regions where our factories are located.

$$\text{Carbon tax impact} = GHG_{in} * CT_{in} + GHG_{out} * CT_{out} + GHG_{out} * (CT_{in} - CT_{out}) * S_{in}/(S_{in}+S_{out})$$

GHG_{in}: GHG emissions in countries and regions with a border carbon tax

GHG_{out}: GHG emissions in countries and regions without a border carbon tax

CT_{in}: Carbon tax price in countries and regions with a border carbon tax

CT_{out}: Carbon tax price in countries and regions without a border carbon tax

S_{in}: Sales volume to countries and regions with a border carbon tax

S_{out}: Sales volume to countries and regions without a border carbon tax

Table 2: Projected financial impact from carbon tax

	Period	Tax price	Region	Impact
1	2025	$52	France	¥12 mil.
2	2030	$130	EU	¥53 mil.
3	2030	$130	All	¥0.87 bil.
4	2030	$130	All	¥2.2 bil.

As a result, it was estimated that the financial impact over the short term would be small (Scenario 1). However, for the medium to long term, if a carbon tax is introduced only within the EU, the annual impact would be approximately 53 million yen in 2030 (Scenario 2), and if the same level was applied globally, the annual impact would be approximately 0.87 billion yen per year (Scenario 3). If the level of

renewable energy deployment in 2030 were to remain at the same level as in 2020, the annual carbon tax burden would be approximately 2.2 billion yen (Scenario 4).

At COP27, it was agreed to establish a fund to compensate for losses and damages caused by climate change. According to the *Sharm el-Sheikh Implementation Plan* [20], it is reported that US$5.8 trillion to US$5.9 trillion will be needed until 2030 to support such developing countries. Assuming that these losses and damages will be financed by a carbon tax in the future, we estimate that the annual burden would be approximately 250 million yen to 840 million yen under the 1.5° C scenario and 360 million yen to 1.2 billion yen under the 4° C scenario even if we had reduced our Scope 1 and Scope 2 GHG emissions by 95% in 2050.

The carbon tax would affect procurement costs. If only GHG emissions at Tier 1 suppliers were subject to a carbon tax, additional costs would be incurred for raw material procurement in proportion to the ratio of GHG emissions from electricity and fuel consumption of GHG emissions from raw material procurement, but in practice, it should be assumed that electricity and fuel consumption, especially at upstream suppliers located in countries and regions that have introduced carbon taxes, would also be considered. The share of GHG emissions that would be subject to a carbon tax if all upstream suppliers were covered is calculated as the sum of the following infinite sequence of numbers.

$$\text{Carbon tax coverage} = \sum_{n=1}^{\infty} \{(1-x)^{n-1} * x\}$$

x: Ratio of GHG emissions from electricity and fuel consumption of GHG emissions from raw material procurement

For $0 < x < 1$, this infinite series converges to 1. If a carbon tax were introduced globally, a carbon tax would be imposed on all GHG emissions from raw material procurement, but discussions at the Conference of the Parties to the United Nations Framework Convention on Climate Change often call for restrictions only on developed countries. Therefore, we calculated the impact of the carbon tax on raw material procurement costs under the IEA NZE scenario with a conservative approach, assuming that up to the tier 3 suppliers operate in countries and regions subject to the tax. The share of GHG emissions from procurement of cosmetic raw materials and packaging materials, which are emitted through electricity and fuel consumption at suppliers, was estimated based on our raw material procurement results using an analysis based on IDEA, a life cycle inventory database.

$$\text{Carbon tax impact} = \left(\sum_{n=1}^{3} \{(1-x_m)^{n-1} * x_m\} * GHG_{C1m} + \sum_{n=1}^{3} \{(1-x_p)^{n-1} * x_p\} * GHG_{C1p}\right) * CT$$

x_m: Ratio of GHG emissions from electricity and fuel consumption of GHG emissions from cosmetic raw material procurement

x_p: Ratio of GHG emissions from electricity and fuel consumption of GHG emissions from packaging material procurement

GHG_{C1m}: GHG emissions from cosmetic raw material procurement

GHG_{C1p}: GHG emissions from packaging material procurement

CT: Carbon tax price

As a result, an additional burden of approximately 3.5 billion yen per year was expected, suggesting the importance of working with direct and indirect suppliers to decarbonize the supply chain.

5. Floods

The impact of large-scale floods due to the temperature increase was evaluated. For the flood frequency in future, we used the return period of large-scale floods in the RCP2.6, RCP4.5, RCP6.0 and the RCP8.5 scenario reported by Hirabayashi *et*

al.[21] As for the current frequency, we adopted the average number of floods per unit area by country and region for the decade from 2000 to 2019 based on the *Emergency Events Database* [22] published by the Universite Catholique de Louvain. The inverse of the number of return period in 2100 is taken as the probability of flooding per year. The sum of the probability of flood occurrence at present and one third of the difference between the current probability and the probability in 2100 was adopted as the probability of flooding in 2030.

The amount of damage was calculated for all domestic and overseas factories. Assuming that 50% of the facilities are to be replaced at the factories located in areas where flooding is predicted to be greater than 50 cm, according to hazard maps published by local governments and other sources, the financial impact was the total amount of loss if shipments were suspended with the assumption that production activities at the affected factories would be halted for one month. And for the factories whose hazard maps predicted inundation of 50 cm or less, the financial impact was calculated as the impact of a three-day suspension of production activities due to disruption of surrounding logistics and difficulty in commuting for employees, assuming no damage to facilities caused by the inundation.

The reported data are evaluated at a spatial resolution of 0.25 degrees in latitude and longitude. Therefore, the results may differ significantly due to slight differences in location information. For this reason, we calculated the average score for each river basin and used them in this analysis. An impact assessment was conducted for all factories, and the total was calculated as the impact of the flooding on the Shiseido Group as a whole.

$$f(F_{2030}) = FR_0 * FF_{2030} * (S + C)$$
$$\text{Flood impact} = \Sigma f(F_{2030})$$

FR_0: Initial value of flood risk
FF_{2030}: Probability of large-scale flooding in 2030
S: Hypothetical sales amount suspended by flooding
C: Value of facility of the target factory

As a result, the potential impact of flooding in 2030 under the RCP8.5 (4 ° C scenario) was estimated to be about 870 million yen per year of which 150 million yen is attributable to climate change under the RCP 8.5. Especially in Japan, where factories are concentrated, the impact of flooding is expected to increase toward the end of this century; therefore, the importance of taking such measures as developing a business continuity plan and predicting flooding from a long-term perspective was pointed out. Regarding the super long-term impacts, the effects of climate change are predicted to significantly increase, with the potential risk in 2100 estimated to be several times higher than in 2030. However, there is considerable uncertainty in all aspects of the business environment, including socioeconomic and technological aspects, in addition to the environmental situation, so the value of the results as a realistic prediction of risk is limited.

Such extreme weather events have a significant impact not only on shipping from our factories but also on logistics. Therefore, we started to investigate the flood risk of important distribution centers. First, we carried out an analysis based on the same methodology for our distribution centers in Japan and confirmed that the flood risk was low according to the hazard maps published by the local governments. In some countries and regions other than Japan, as detailed hazard maps are not provided by local governments, a detailed method of analysis based on topographical and other information is under consideration for overseas factories and distribution centers.

6. Drought and water shortage

Shiseido has 11 factories in Japan, France, the United States, China, and Taiwan that use approximately 0.88 million m^3 of water resources annually.

The baseline water stress indicators are generally used to assess the scarcity of water resources and physical risks related to water, but various problems have been identified. The baseline water stress indicators are based on the ratio of the amount of water used to the amount of water available, regardless of the size of the river, and do not consider the amount of water required by the aquatic ecosystem. We evaluated the water environment of the watershed where the factory is located using the AWARE (Available Water Remaining per area in a watershed)[23] characterization factors which were developed with the support of the UNEP/SETAC Life Cycle Initiative to address these issues regarding the baseline water stress indicator. AWARE indicates the relative amount of water available after meeting the needs of aquatic ecosystems and society. An AWARE of 1 signifies the global average for terrestrial areas, and it was determined that our Beijing factory in China is located in a region where water scarcity is greater than the global average.

Table 3: Water usage at factories in 2023

AWARE	Country and region	Withdrawal (m^3)
1<	Japan France US Taiwan China (Shanghai)	641,105
≧1	China (Beijin)	24,199

On the other hand, even if water resources are abundant at present, rainfall in some areas is expected to decrease in the future due to climate change. In this section, the result of the analysis of how access to freshwater resources may change because of reduced rainfall associated with climate change and demographics and how the operations of production factories may be affected by these changes will be described.

According to the report *Current Status of Water Resources in Japan*[24] published by the Ministry of Land, Infrastructure, Transport and Tourism, a survey of approximately 170 sites throughout Japan showed that water supply restrictions were implemented 590 times during the 30 years from 1991 to 2020 due to drought. Long-term water supply restrictions were imposed 40 times for 2,865 days. This means that per year, water supply restrictions are in place for 96 days. Short-term water supply restrictions are in place for 128 days per year based on the assumption of 7 days for each short-term restriction. When assuming that the percentage of factory production capacity lost due to short-term and long-term water supply restrictions is 10% and 100%, respectively, the potential drought risk for factories in Japan today can be set at 0.041% of production capacity lost. For the factories located in countries and regions other than Japan, the initial value of the drought risk in Japan was used as the standard value, and the value weighted by the Water Unavailability Factor (f_{wua})[25] for surface water was adopted as the initial risk. The f_{wua} is a characterization factor that weights the scarcity of water resources by the size of the land area required to collect 1 m^3 of rainwater, surface water, and groundwater, respectively.

Rainfall projections were based on the relative precipitation change from 2011 to 2040 under the RCP2.6, 4.5, 6.0, and 8.5 scenario, reported by Hanasaki *et al.*[26] The reported data are evaluated at a spatial resolution of 0.5 degrees in latitude and longitude. Therefore, the results might differ significantly due to slight differences in location information. For this reason, we calculated the average score for each river basin and used them in this analysis. The amount of damage was calculated based on the assumption that factory operations would be suspended depending on the severity of the water shortage. In addition, the demographic change of the country or region where the factory was located was adopted as one of the explanatory variables based on the medium scenario of the United Nations demographic projections[27] because access to water

resources is also affected by the population. The effect of demographic change is weighted 1/9 compared to the effect of precipitation change.

The financial impact due to suspended factory operation was calculated for all domestic and oversea factories by the risk function with a sinusoidal curve in response to the risk factors of rainfall reduction or population increase between the thresholds where the impact becomes apparent and where the impact is maximized because the effect of the fluctuation and the buffer effect of water storage infrastructure should be taken into consideration.

The reciprocal of the standard deviation σ_N of the rainfall variability from the average rainfall in the years without long-term water supply restrictions over the past 30 years was used as the threshold at which the impact begins to become apparent. The standard deviation σ_L of the rainfall variability from the average rainfall in the year when long-term water supply restrictions were implemented is taken, and the threshold at which the impact is maximized is the amount of rainfall that decreases by an amount equivalent to 3 σ_L. The following formula was used to model the relative change in drought risk to initial risk, and the amount of damage caused by the suspension of manufacturing operations for each domestic and overseas factory was evaluated as the financial impact. And the sum of these was calculated as the impact of water shortages for the entire Shiseido Group.

$f(P) = (sin((T_{Pmin} - P)/(T_{Pmin} - T_{Pmax}) * \pi - \pi/2) + 1)/2$

$f(D) = (sin((T_{Dmin} - D)/(T_{Dmin} - T_{Dmax}) * \pi - \pi/2) + 1)/2$

Drought impact $= \Sigma\{R_0 * (0.9 * f(P) + 0.1 * f(D))\} * S$

P: Relative change in rainfall from 2011 to 2040

D: Population growth rate from 2011 to 2040

R_0: Initial risk magnitude

TP_{min}: Threshold for the rate of rainfall decrease at which impacts begin to become apparent

TP_{max}: Threshold of the rate of rainfall decrease at which the impact is maximized

TD_{min}: Threshold for the rate of population growth at which the impact begins to become apparent

TD_{max}: Threshold of population growth rate at which the impact is maximized

S: Sales of products shipped from the target factory

As a result, the potential financial impact of water shortages in 2030 under the RCP8.5 (4° C scenario) was projected to be about 3.2 billion yen of which the risk was assessed to be about 10 million yen less due to climate change. This is because the competition for water resources in Japan, the center of production, is expected to ease as rainfall tends to increase toward the end of the century and the population is expected to decline. On the other hand, the potential risks in China, which is currently experiencing high water stress, and in Europe, where rainfall is expected to continue to decline toward the end of the century, were rated as high, and attention should be paid to water risk management, especially in these regions. In order to manage water risk from a long-term perspective, we selected “water consumption at our business sites per net sales” as the metric and set the target as a reduction by 40% per unit of sales by 2026. We will work to mitigate the risk and reduce the impact on the watershed environment by reducing water consumption through the introduction of water-saving and reclaimed water facilities, especially at factories that use a lot of water. Regarding the super long-term impacts, it is predicted that the effects of climate change will significantly increase, the same as for flooding, with the potential risk in 2100 estimated to be double the risk in 2030. However, there is considerable uncertainty in all aspects of the business environment, including socioeconomic and technology aspects, in addition to the environmental situation, so the value of the results as a realistic prediction of risk is limited.

We have begun the pioneering water stewardship initiative of surveying the overall water environment of the Nasu-no-gahara area where the Nasu factory is located. In the 2023 survey, we conducted on-site investigations of the surrounding rivers and computer simulations of the flow of surface water and

groundwater in the Nasu-no-gahara area based on geological and statistical information. It revealed that the Nasu-no-gahara area is a fan-shaped area composed of sand and gravel with high water permeability where most precipitation infiltrates the ground, making it difficult to obtain surface water. Historically, this geological feature made agriculture difficult until the establishment of modern water infrastructure. It was also found that the amount of groundwater drawn by the factory is about 0.02% of the total groundwater in the watershed and the factory's wastewater is about 1% of the agricultural water flow up to where it merges with the Sabi River.

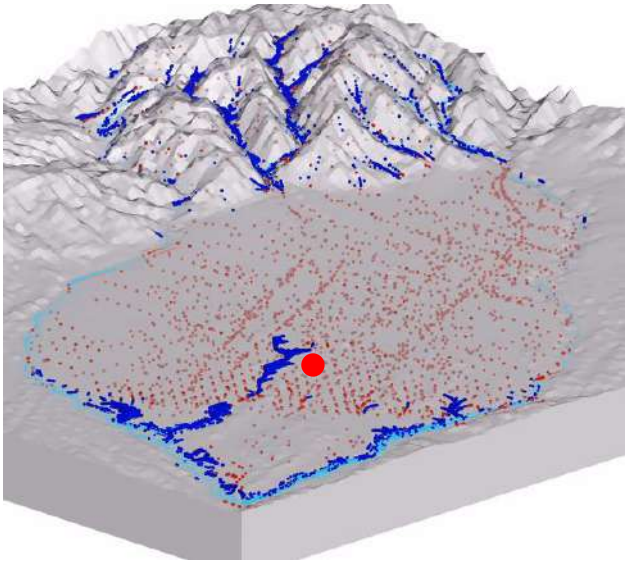

Figure 3: Flow of surface and ground water in the Nasu-no-gahara area

●ground water ●surface water ● Nasu Factory

Since the Nasu factory discharges wastewater into local channel, the water used in the production process is treated using a four-stage water purification system including chemical and biological treatment. Additionally, as a precaution, water is retained in a tank before discharge to evaluate water quality. If the water does not meet our own water quality standards that are several times stricter than the public standards, the purification process is performed again, but it has never been necessary to do this since the plant began operating in 2019.

In addition to water saving and wastewater quality management, Shiseido will continue to make efforts to understand the input and output of water resources in the entire basin trough a detailed on-site survey and share this information with other stakeholders such as local governments and farmers to improve sustainable water stewardship.

7. Impacts on procurement

Many of the cosmetic raw materials purchased by Shiseido are made from plants. The precipitation change due to climate change also affects raw material production derived from agricultural harvests. Based on our actual raw material procurement results in 2021, we analyzed how much and in which regions water resources were used to grow raw material crops on the basis of water footprint methodology[28]. The sustainability of water consumption was analyzed by the precipitation change until 2100 and the demographic projections for each country and region used in the previous chapter.

As a result, we identified the material crops and locations whose cultivation would be significantly affected by climate change. These crops may make procurement impossible along with significant increases in costs. We will implement measures to avoid or mitigate the risk by changing the materials and diversifying the production areas for the material crops that might be severely affected.

Second, we analyzed the increase in procurement costs for palm oil and palm kernel oil, which are the most commonly used oilseed crops for cosmetic raw materials, because of the instability of agricultural production. First, we identified the raw materials containing ingredients derived from palm oil and palm kernel oil, such as glycerin and fatty acids, based on the actual procurement of raw materials in 2019, and calculated the total usage of palm oil and palm kernel oil. Then, we estimated the usage of palm oil and palm kernel oil for raw material production in 2030 based on our business growth scenario. Next, a regression analysis was conducted based on the

monthly market transaction prices of palm oil and palm kernel oil over the past 25 years (1997–2021) to determine the average price increase, the standard deviation of the ratio of price fluctuations to the average price, and the frequency of prices exceeding the average. Based on the price trends, we forecasted the average price of palm oil and palm kernel oil in 2030 and calculated the potential price increase due to production instability caused by climate change by assuming a contribution of 0.5 from extreme weather events to the frequency of price upswings. The rate of increase in the frequency of once-every-10-year hot temperatures over land, heavy precipitation, and droughts as reported in the IPCC *6th Assessment Report* was applied to project the increase in the frequency of production destabilization. The IPCC report shows the frequency of extreme weather events in 2100. Therefore, the frequency of extreme weather events in 2030 was set for the 1.5/2° C (RCP 1.9, RCP 2.6) and 4° C temperature increases (RCP 8.5) based on the assumption of a linear increase in frequency from 2020 to 2100. We calculated the potential price increase of palm oil and palm kernel oil due to climate change by multiplying the average price, estimated procurement volume in 2030, standard deviation of the price fluctuation rate, and the frequency of extreme weather events.

$$\text{Procurement impact} = A_{2030} * P_{2030AVE} * \sigma * R_{AW}$$

A_{2030}: Expected procurement amount in 2030
$P_{2030AVE}$: Expected average price in 2030
σ: Standard deviation of the percentage change in price relative to the moving average
R_{AW}: Percentage of price upswing by extreme weather events

As a result, we estimated that the potential cost increase as of 2030 would be about 140 million yen per year due to climate impacts under the 1.5/2° C scenario and about 290 million yen under the 4° C scenario. In addition to promoting the procurement of sustainable palm oil, with regard to material crops other than oil palm, we should also be aware of the possibility that material demand might lead to higher procurement costs in the future, as well as the possibility that procurement itself might become impossible because of climate change. We will continue to analyze the financial impact and implement measures to avoid or mitigate risks, such as changing materials and diversifying production areas.

8. Geopolitical risks

In 2021, while Asian countries and regions were accelerating the phase out of coal, coupled with the economic stagnation caused by the Covid-19 pandemic, fuel shortages became apparent in Europe. The global shortage of the natural gas supply rapidly increased fuel dependence on some natural gas producing countries and regions, and this became one of the factors that triggered the military invasion. At first glance, international military conflicts and decarbonization may seem unrelated, but decarbonization is closely linked to energy security. The global expansion of renewable energy will promote local energy production for local consumption and be able to stabilize the energy supply for the long term. But in the short term, it may destabilize the balance between international energy supply and demand and result in serious financial impacts. In addition, the civil war that broke out in the Middle East region in 2011 made the acceptance of refugees a major social issue in Europe. A severe drought that lasted for several years devastated agricultural production in rural areas, and the influx of many people into urban areas is said to have been one of the causes of this civil war. A climate model analysis suggests that this drought was caused by climate change[29]. The breakdown of risks related to such conflicts and civil wars can include the following items:

(1) Opportunity losses resulting from the suspension

of production and sales activities in the countries involved in the conflict

(2) Increased procurement costs due to shortages in the supply of raw materials and energy produced in the countries involved in the conflict

(3) Decrease in sales in other countries due to stagnation of the global economy

The potential financial impact of international conflict is expected to be significant compared to other transition and physical risks. We should consider geopolitical instability and destabilization of the energy supply-demand balance as new climate-related risks, and we should also recognize that analyzing the magnitude of the potential impact and developing countermeasures are also important issues to be addressed in the future.

9. Increased sales opportunities related to climate change

In a 4° C scenario with a significant increase in temperatures, sales opportunities for products used in the summer will expand. Shiseido has elucidated the mechanism by which cool-touch ingredients, such as menthol, influence more effectively and continuously through research in the structure of the cell surface[30]. Cool-touch products based on these findings and technologies are expected to expand the opportunities not only in Japan and Asia but also in Europe where heat waves have caused significant damage in recent years.

Furthermore, the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) announced that the amount of UV radiation reaching the ground surface in the mid-latitudes of the Northern Hemisphere is expected to increase toward the end of this century due to the various environmental factors, including climate change[31]. The mid-latitudes of the Northern Hemisphere have many large cities with concentrated populations, such as Tokyo and Beijing. The increase in UV radiation is expected to lead to opportunities for the sale of sunscreen products or skincare products that treat skin damaged by UV rays.

In addition to these expectations, we are attempting to identify temperature-dependent consumption and consumer behaviors by a regression analysis of the relationship between temperatures and cosmetics sales performance in Japan over the past five years (2017–2021). Analyzing the relationship between weather, climate, and business is one of the key objectives of climate risk and opportunity analysis because it can lead to the acquisition of new business opportunities.

10. Risks and opportunities related to nature and biodiversity

Biodiversity and ecosystem issues are the aggregation of a myriad of problems at the local level that form a global problem, which are much different from the GHG emissions considered to have a uniform effect on change in radiative forcing. While there are many reports on the effects of economic activities and climate change on biodiversity, there are very few examples of quantitative and macroeconomic correlations between the effects of biodiversity loss on society and the economic activities of the cosmetic or personal care business sector because the conditions of biodiversity loss and the magnitude of the effects may vary depending on the region where the problem occurs. Therefore, a screening analysis was conducted to identify the dependencies and impacts related to ecosystem services of the personal care industry in accordance with ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure)[32] provided by the Natural Capital Finance Alliance.

The results indicate that the impacts of raw material procurement and production activities should be considered from the perspective of both the dependencies and impacts on ecosystem services. Since the impact of water resources used in production activities overlaps with the risk of drought and water shortages as climate change-related risks, the results of the assessment of land occupation and water resource consumption at the raw material

procurement stage as the indirect impact as well as the biodiversity impacts due to land occupation by our production sites will be described in the following sections.

Table 4: Dependencies suggested by ENCORE and Shiseido's activities

Factor	Shiseido's activity
Dilution by atmosphere and ecosystems	Unintentional release of pollutants Release ingredients from products
Fibers and other materials	Raw material procurement
Surface water	Cultivation of raw material crops Raw materials production Manufacturing and facility cleaning Use of products
Ground water	Raw materials production Manufacturing and facility cleaning Use of products

Table 5: Impacts suggested by ENCORE and Shiseido's activities

Factor	Shiseido's activity
Water use	Cultivation of raw material crops Raw materials production Manufacturing Use of products
GHG emissions	Energy consumption Activities on the value chain
Non-GHG air pollutants	NOx, SOx, and PMs from fuel combustion
Water pollutants	Eutrophication, acidification, heavy metal
Soil pollutants	
Solid waste	Waste from our business Waste from sold products

11. Impacts on biodiversity of land occupation of our business sites and the adjacent areas

Although the relative degree of impact is small, we recognize the importance of understanding and minimizing the impact of our own sites' land occupancy on biodiversity from the perspective of land manager responsibility. Under L2 and L3 of the LEAP approach, the TNFD Framework version 1.0 requires the identification and prioritization of locations that are ecologically sensitive and those deemed significant from the perspective of an organization's dependence and impact on nature, as well as risks and opportunities.

Table 6: LEAP approach

L Locate	Understand the relationship between business activities and nature, including local characteristics
E Evaluate	Analyze the magnitude of the impacts on nature from business and the dependencies on nature
A Assess	Identify the risks/opportunities with double materiality method from a perspective of dependencies and impacts
P Prepare	Set metrics and targets to manage risks/opportunities for nature conservation and restoration, and disclose the efforts

With the support of MS&AD InterRisk Research & Consulting, Inc., we identified our production sites and surrounding areas that were in sensitive locations from the perspectives of ecosystem importance, ecosystem integrity and ecosystem service provision in accordance with TNFD guidelines. Ecosystem importance was evaluated based on proximity to protected areas and key biodiversity areas (KBA) and taxon-integrated conservation priority. Proximity to protected areas and KBA was evaluated based on the management category of adjacent protected areas in accordance with the World Database on Protected Areas (WDPA) [33] and KBA[34] within a radius of 100 m and 1,000 m from the factory. We evaluated taxon-integrated conservation priority based on the data set provided by Think Nature Inc., which shows the relative importance of biodiversity at each point, calculated from the perspective of vertebrate and tree species composition. In this evaluation, we referenced the International Union for Conservation of Nature (IUCN)'s Red Data Book, the Red List of endangered species published by the Ministry of the Environment and also data on the predicted probability of species

distribution created by Think Nature Inc. We evaluated ecosystem integrity and the importance of ecosystem service provision, from the perspectives of biodiversity intactness and development pressure around the site. We evaluated biodiversity intactness, using data on the stat of layered habitats based on habitat distribution data and natural forest distribution data provided by Think Nature Inc. multiplied by the mean species abundance which was determined using the method developed by Tim Newbold[35]. Development pressure was evaluated using the Human Footprint Index developed by H. Mu[36], which indicates the degree to which the impact of human activity on the environment has increased or decreased from 2000 to 2020.

In our identification of material locations, we focused on water resource consumption and land use from the perspective of our business activities' dependence and impact on nature. We calculated the environmental impact of our water resource consumption by weighing the consumption of tap water (surface water) and groundwater in 2023 using AWARE. In our groundwater assessments the groundwater to surface water ratio of the Water Unavailability Factor (*f*wua) at each point was multiplied by aware and used as a weighting factor. We evaluated land occupation by multiplying the area of each business site minus the green area by the taxon-integrated conservation priority and the characterization factor for land occupation according to Environmental Footprint 3.1. The environmental impact of water resource consumption and land occupation were integrated using the normalization factor and weighting factor in Environmental Footprint 3.1, and this was used as the evaluation indicator for material locations.

The heat map created based on the results of these evaluations is shown in Table 7. The results of these evaluations identified no areas where both the importance and integrity of the ecosystem were high. In terms of the sites' relationships with nature, as shown in item 6, the Beijing factory scored relatively high compared to other sites, its water resource scarcity is high. It should be noted that this heat map shows relative values between business sites and does not represent the absolute size of our footprint.

Table 7: Condition of biodiversity and endangered species habitat around production sites

Site name	Country/ Region	Sensitive loction					Material location		
			Ecosystem Inportance		Ecosystem Integrity			Water	Land use
			Geography	Biology	Biodiversity Intactness	Development pressure			
Kakegawa	Japan								
Osaka	Japan								
Osaka ibaraki	Japan								
Nasu	Japan								
Fukuoka kurume	Japan								
Shiseido Cosmetics Manufacturing Co., Ltd.	China								
Shiseido Liyuan Cosmetics Co., Ltd.	China								
Taiwan Shiseido Hsinchu Factory	Taiwan								
Shiseido America Inc. East Windsor Factory	USA								
Val de Loire Factory	France								
Gien Factory	France								

In conjunction with the identification of sensitive locations, we also conducted a survey of endangered species around the factory based on the IUCN Red Data Book and the Red List of the Ministry of the Environment. Concerns in recent years include not only vertebrates included in these lists, but also the decline of bees in France where two factories are located. To address regional issues like this, the factory has stopped using pesticides on the premises and is working to protect bees by setting up beehives on the factories' premises. In the future, it will be important to expand the scope of surveys such as these and to promote initiatives for protecting ecosystems, including endangered species, in accordance with the unique situation of each site.

12. Biodiversity impacts due to raw material procurement

In general, cosmetic raw materials, such as surfactants and moisturizers, are classified as chemicals, but many of them actually are made from bio-based resources for all or part of their ingredients. Since many materials, such as paper and bio-based plastics, are also made from bio-based resources for packaging, it is important to analyze the characteristics of individual ingredients and their regional characteristics in order to procure raw materials that have a large biodiversity impact. For this reason, TNFD recommends the LEAP approach as a way for investigating nature-related risks/opportunities.

As part of the "L" and "A" investigations in the LEAP approach, based on the molecular structure of ingredients used in cosmetic ingredients, we identified raw materials derived from the bio-based resources of fats, oils, fatty acids, sugars, and alcohols that are used in the production of ingredients and estimated the amount of crop inputs for the agricultural crops that serve as raw materials. Since it is important to identify the regions where these crops are grown in order to assess the biodiversity impact, we mapped the producing countries and regions for each major agricultural crop related to our procured raw materials based on the results of interviews with suppliers, FAOSTAT, and the market price of crops. Based on that, we calculated the area of land transformation, land occupation, and water consumption.

We are focusing on these items as candidate metrics for measure the impact of our business activities on biodiversity and we are developing an analysis method that can take into account rainfall, water infrastructure, and economic activity in areas surrounding our raw materials production areas.

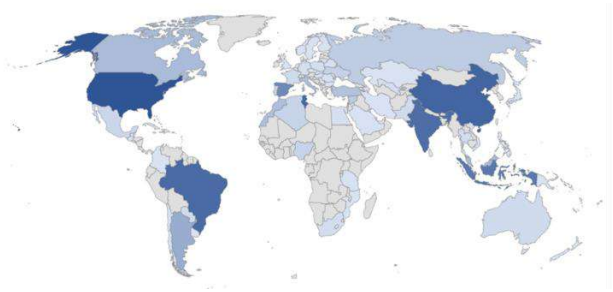

Figure 4: Area of land occupation for material crop production

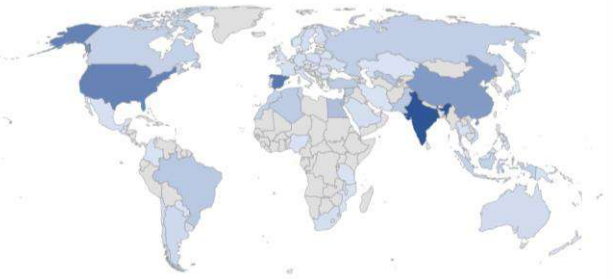

Figure 5: Consumption of irrigation water for material crop production

The role of pollinators, such as honeybees, and weevils in the production of agricultural products is well known as one of the most important dependencies on nature. The Food and Agriculture Organization of the United Nations (FAO) has proposed some methods for calculating the value of pollinators[39]: one is an evaluation method based on the additional cost when pollinators are replaced by other pollinators or labor, and the other is based on the amount of loss resulting from changes in supply

and demand when the work of pollinators is lost. This can be interpreted as the impacts of the business risk by biodiversity loss and inadequate functioning of ecosystem services by pollinators. Therefore, for the purpose of quantifying biodiversity-related risks, we estimated the number of crops required to produce raw materials based on the actual procurement volume in 2023, and the dependence on pollinators was calculated using the FAO methodology. As a result, the dependence on pollinators was estimated to be about 2.6 billion yen per year.

On the other hand, these services provided by pollinators are only part of the dependence on biodiversity. If plant seeds attempt to germinate under sterile conditions with a significant lack of biodiversity, they can easily be killed by fungi if they are inadvertently introduced. The fact that plants can germinate and grow in soil inhabited by many different varieties of bacteria and fungi is a benefit of biodiversity that has created a well-balanced state of competition among different organisms. Most of our products contain plant-derived ingredients, and in a broad sense, all of our sales depend on biodiversity. It is important to develop a more comprehensive understanding of both *dependence* and the *impact* on biodiversity, as well as to promote quantitative assessments.

13. Organizing the relationship between factors

The risk and opportunity factors related to climate and nature are not independent variables but are intricately interrelated. For example, climate change can be a direct business risk factor in that it increases the probability of weather disasters, such as large-scale typhoons, while rising temperatures can also increase supply chain vulnerability indirectly by destabilizing agricultural production through ecosystem impacts, such as the loss or displacement of habitat for temperature-sensitive organisms like honeybees. Conversely, the relationship of cause and effect can be reversed because deforestation with biodiversity loss leads to releasing the carbon stored in the soil, which accelerates climate change.

Therefore, focusing on the factors identified in the previous section, we organized the nexus among the physical and transitional factors related to climate change, biodiversity and ecosystems, water, and resources. Then, we classified the risks and opportunities in the short term (<1 year), medium (1–5 years), long term (5–10 years), and super long term (more than 10 years) based on the time scale in which each related event becomes apparent in the future. Understanding the relationships among these factors is essential for appropriate action, and we will continue to analyze these factors for a comprehensive understanding of risk and opportunity.

Table 8: List of climate- and nature-related risks and opportunities

Risk / Opportunity	Cause	Classification	Time scale		
			Short to mid term	long term	Super long term
Employee health damage	Temperature rising	Climate change (Physical)			+
Relocation of business site	Sea level rising	Climate change (Physical)			+
Declining real estate value	Sea level rising	Climate change (Physical)			+
Supply chain disruption	Floods	Climate change (Physical)			+
Increased procurement cost	Floods, droughts, agricultural production, resource depletion	Climate change (Physical), Water, Resource			+
Increased operating cost	Droughts, resource depletion	Climate change (Physical), Water, Resource			+
Suspension of production	Floods, droughts	Climate change (Physical), Water			++
Flood damage to facilities	Floods	Climate change (Physical)			++
Increased insurance costs	Floods, sea level rising	Climate change (Physical)			+
Disruption of logistics	Floods	Climate change (Physical)			+
Suspension of sales activities	Floods, geopolitics	Climate change (Physical)	++	++	++
Increased/decreased product sales	Temperature rising, market change	Climate change (Physical), Climate change (Transitional), Biodiversity		+	++
SCC burden	Carbon tax, adaptation costs	Climate change (Physical), Climate change (Transitional)	+	+	+
Renewal of energy equipment	Regulation, technology, market change	Climate change (Transitional)		+	+
Sustainable packaging	Regulation, technology, pollution	Climate change (Transitional), Biodiversity		+	+
Regulation for ingredient	Pollution, regulation	Climate change (Transitional), Biodiversity	+	+	++
Regulatory Strengthening	Regulation	Climate change (Transitional), Water, Resource	++	++	++
Sustainable brand/product development	Market change	Climate change (Transitional), Biodiversity		+	++
Additional disclosure items	Land-based GHG emissions	Climate change (Transitional)	+	+	+
Loss of innovation opportunities	Loss of genetic resources	Biodiversity			+

Risk management

We assessed and identified the impactful risks holistically from a mid-to-long-term perspective. “Environmental (Climate Change, Biodiversity, etc.)” and “Natural Disaster, Infectious Disease and Terrorism” are listed as the categories related to sustainability. Risks related to climate and biodiversity are analyzed based on scientific and socioeconomic evidence and integrated into the enterprise risk management system as one of the elements related to climate change or natural disasters. According to their significance, the risks and their countermeasures are deliberated by the Global Risk Management & Compliance Committee and the Global Strategy Committee. The material risks are also proposed or reported to the Board of Directors as necessary.

Metrics and Targets

In 2021, the IPCC declared in its *6th Assessment Report* that it was unequivocal that human influence had warmed the atmosphere, oceans, and land and announced its prediction that the temperature increase would exceed 1.5° C around 2030. In response, the Glasgow Climate Pact, which agreed to limit the increase in global average temperature to

1.5° C or less compared to pre-industrial levels, was adopted at COP26. The Pact can be interpreted as countries all over the world recognize "the toward NET-ZERO emissions" as a common goal. As society moves toward decarbonization, there is no doubt that our business environment will also be greatly affected. Shiseido has continuously promoted initiatives to reduce GHG emissions as a pillar of our environmental activities since the publication of our first *Environmental Report '97* in 1998.

In this chapter, our transition plan for decarbonization and biodiversity conservation is described along with the metrics and the targets for risk and opportunity management and confirmation of the effectiveness of the activities. The plan will be added or modified when longer or more concrete action will be planned, and we will ensure transparent disclosure. For other climate- and nature-related factors not shown below, we will consider setting appropriate metrics and targets depending on the magnitude of the impact from a long-term risk management perspective.

1. GHG emissions and renewable energy

Shiseido recognizes importance of sustainability and we have incorporated ESG elements into our decision making, including the status of CO_2 emission reduction. These elements are included in the compensation factors used to calculate long-term incentive-based executive compensation, making up 20% of the total.

Furthermore, approximately 60% of the GHGs emitted due to energy used in our direct operations are due to production activities at our factories. Consequently, in 2023, we decided to introduce internal carbon pricing for factory equipment investments. In line with the IEA NZE Scenario, we set a carbon price of US$130 per ton of GHG emissions (CO_2 equivalent), which will encourage decision-making that will move us towards decarbonization. In addition, we use the latest IT technologies, such as energy management systems, to reduce unnecessary energy consumption and visualize GHG emissions from our production processes. This allows us to educate and motivate employees to save energy at our sites. At the same time, we aim to switch 100% to renewable energy-derived electricity by 2030. Regarding GHG emissions, we set a long-term goal of NET-ZERO by 2050, which will be achieved by balancing residual emissions with beyond value chain mitigation (BVCM) such as removal credits and investments in neutralization. We also set the science-based target of 46.2% reduction for Scope 1 and Scope 2 GHG emissions, and 55% reduction by 2030 in terms of economic intensity along the 1.5° C trajectory as the mid-term targets.

Shiseido aims to reduce GHG emissions throughout the value chain by working with our suppliers and other stakeholders on introducing renewable energy into our supply chain, preventing deforestation related to raw material production, and developing and implementing new social models for the efficient collection and recycling of a wider range of materials, as well as our own efforts for selecting raw materials based on green chemistry principles, replacing with plant-derived materials, reducing packaging weight by expanding refilling and design optimization, making packaging recyclable, reducing energy consumption, and expanding renewable energy at our sites.

2. Raw material procurement

Raw material procurement is the largest contributor to our carbon footprint. We recognize the importance of reducing GHG emissions related to raw material procurement through collaboration with our suppliers. Some raw materials generate significant indirect emissions upstream of the supply chain. Palm oil and palm kernel oil, which are one of the most important oilseed crops for food and daily necessities, as well as cosmetics, are derived from oil palms grown in Southeast Asia such as Malaysia and Indonesia. Oil palm plantations are often developed and cause

deforestation and significant loss of biodiversity. According to a report by Germer *et al.*[40], when 1 hectare of tropical rainforest is developed to create a plantation, 777 to 1,443 t-CO_2e of GHG will be released from the ground over the next 25 years. Analyses based on the inventory databases for LCA and the agricultural statistics suggested that about 80% of the land use change from forests for the production of our raw materials seem to be from developing oil palm plantation. Therefore, in order to prevent GHG emissions associated with such land use changes and to conserve the precious rainforest ecosystem, Shiseido aims to switch all cosmetic ingredients directly purchased to RSPO-certified ingredients by 2026*. The GHG emissions that can be reduced by this initiative are estimated as approximately 70,000 t-CO_2e per year for oil palm-derived cosmetic raw materials. In 2023, we switched 52%(w/w) of palm-related raw materials, equivalent to 4,275 tons of palm oil and palm kernel oil, corresponding to RSPO-certified raw materials through the Mass Balance System.

In the future, as with oil palms, we will continue to investigate the environmental impact of raw materials due to land use changes for other bio-based ones. Also, we will make efforts to minimize our impact on the climate and ecosystems by switching to sustainable procurement.

3. Saving water

Water is an essential resource in all aspects of cosmetics, including the cultivation of crops used as raw material ingredients, heat transfer medium during production, cleaning, and product use, as well as an important raw material for cosmetics. Climate change is expected to affect atmospheric circulation on a global scale, resulting in significant changes in rainfall conditions. In addition, glaciers in the Himalayas and the European Alps, which are water sources for Asia and the European region, are expected to recede due to rising temperatures. Because of the effects of climate change, there are regions that currently have abundant water resources but will face the threat of droughts in the future. Therefore, in order to make effective use of water resources and mitigate water risks caused by climate change, we are promoting water saving activities, especially at factories with high water consumption, with the goal of reducing the amount of water consumption at our sites by 40% per sales by 2026 compared to 2014 levels. In addition to saving water by optimizing equipment cleaning and reviewing manufacturing processes, our factories in France, which are particularly interested in water issues, have set their own targets and are working on initiatives to reuse water once used and switch from water to alcohol cleaning for fragrance product manufacturing equipment. As a result, the factories achieved water savings of more than 60% per unit of bulk production compared to 2009.

In recognition of the significance of the availability of water resources to our business, we have participated in the Research Group on Water, Climate Change, and Sustainable Development led by Professor Taikan Oki of the University of Tokyo. We strive to acquire the latest scientific knowledge in the areas of hydrology and climate change, and continuously improve our risk analysis methods related to water resources through discussions with experts in the fields of civil engineering and architecture, as well as the academic community.

4. Product development

As the transition to a decarbonized society, consumer awareness of climate and environmental issues is expected to increase more than ever. Responding flexibly to these changes in consumer awareness is critical to the sustainability of our business. We aim to replace all plastic cosmetics packaging with reusable, recyclable, or biodegradable materials by 2025. Shiseido developed and provided a variety of solutions for packaging since the launch of the first refillable face powder in 1926. Shiseido declares that it will optimize packaging design, select

appropriate materials, and implement the concept of global reuse by refillable and replaceable products for consumers. In addition to these efforts, we will also work to reduce GHG emissions through innovation for a sustainable future by developing new materials using algae and new chemical recycling methods that can regenerate various types of plastic.

5. Disclosure

Shiseido supported the TCFD and disclosed the result of climate-related risk analysis based on the TCFD framework. In preparation for a decarbonized society, we compiled our climate-related goals, scope, and initiatives into a transition plan. We are disclosing climate-related information through our responses to the CDP, as well as our website, Integrated Report, and Sustainability Report. Our disclosure on Scope 1, Scope 2, and Scope 3 GHG emissions are verified by the independent third party verification organization, SGS Japan Inc., to ensure transparent disclosure. In addition, our target on mitigating climate change is certified as the science-based target along the 1.5° C trajectory by SBTi. Regarding renewable electricity, we have joined RE100 to promote the introduction proactively.

Table 9: GHG emissions (t-CO_2e)

Scope		Description	Internal data	Emission factor	2019	2023
Scope 1		Direct emissions due to our activities	Fuel consumption	Reference-1[41]	27,036	21,105
Scope 2		Indirect emissions due to energy consumption provided by other entities	Power and steam consumption	Factor provided by power company	51,714	13,617
Scope 3		Indirect emissions other than Scope 2				
1	Purchased goods and services	Emissions generated from upstream of the supply chain, such as raw materials, advertising service, LUC due to palm- and paper-derived material production.	Raw material procurement volume POSM procurement volume, Advertising expenses Palm- and paper-related raw material procurement	IDEA v3.1 Ecoinvent 3.9 Reference-2[42] Reference-3[40]	*1,210,000	509,000
2	Capital goods	Emissions generated from making capital goods.	CAPEX	Reference-2	231,000	139,000
3	Fuel- and energy-related activities	Emissions generated in the process of mining, extraction, refining, transportation of energy and fuels.	Amount of energy consumption	IDEA v3.1	15,600	9,740
4	Upstream transportation and distribution	Emissions generated from procurement transportation and shipping transportation.	Raw material procurement volume Product volume Distance between our factories and sales sites	IDEA v3.1 Ecoinvent 3.9	110,000	37,200
5	Waste generated in operations	Emissions generated in the process of transportation and waste treatment from our operations.	Waste generated by material type and disposal method	IDEA v3.1	20,700	13,900
6	Business travel	Emissions from employee business-related travel	Travel expenses Number of trips by destination Transportation distance	IDEA v3.1 Reference-2	14,700	9,460
7	Employee commuting	Emissions from employee commuting between home and Shiseido's site	Commuting expenses	IDEA v3.1 Reference-2	5,200	7,990
8	Upstream leased assets	Not applicable.			0	0
9	Downstream transportation and distribution	Emissions generated in storage and stores	Sales volume Product bottom area	Reference-4	**252,000	74,300
10	Processing of sold products	Not applicable. The products sold do not need to be processed for consumer use			0	0
11	Use of sold products	Emissions from product use, such as rinsing, drying up.	Energy, water, and consumable goods consumed in product use	IDEA v3.1	1,580,000	108,000
12	End-of-life treatment of sold products	Emissions generated in decomposition of ingredients, and the process of transportation and waste treatment from products sold	Amount of carbon derived from fossil resources in the molecules that make up the ingredient and packaging components Waste generated by material type	IDEA v3.1	148,000	59,400
13	Downstream leased assets	Not applicable.			0	0
14	Franchises	Not applicable.			0	0
15	Investments	Emissions from unconsolidated affiliates and stock investees	Scope 1 and scope 2 emissions of unconsolidated affiliates and stock investees Shareholding Ratio	—	**4,240	4,940

*Emissions related to LUC in procurement are added to disclosed value. ** Category additionally calculated by SBTi request

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Sustainability Strategy Acceleration Department
Shiseido Company, Limited

Developing Sustainable Products

We are facing a crisis stemming from the finiteness of resources, a result of economic activities exceeding the limits of the planet's receptiveness and resilience. We also face issues including climate change, biodiversity, other environmental issues, and population explosion. Manufacturers are expected to follow green chemistry principles towards the development of a circular economy, which is premised on both making effective use of resources to reduce their environmental footprint throughout the product lifecycle and recycling resources.
Shiseido positions Sustainability INNOVATION as an important research area and one of the three pillars of its Research & Development strategy for 2030. To achieve this, we have adopted Premium/Sustainability as a research approach under DYNAMIC HARMONY, our unique Research & Development philosophy, based on our compliance with high safety and quality standards that we have had in place for more than a century. We will step up to the challenge of creating sustainable innovations, which balance satisfaction stemming from the results, high-quality design, and feel of our products with respect for and coexistence between people, society, and the global environment.

Reducing Environmental Impact Based on Our Product Development Policy and the Concept of Product Lifecycle

Shiseido develops and provides safe and high-quality products and services based on more than a century's experience in dermatology and material science. At Shiseido, we want to help tackle issues concerning people's health and the environment. Therefore, we disclosed our Corporate Product Development Policy, in which we have summarized our policies on product development (formulas and packaging) and use of ingredients and raw materials that could be concerning for consumers. We also monitor trends in product-related regulations, such as PPWR*1 and ESPR*2 in EU, in developing our products.
Cosmetics formulations include natural raw materials. Therefore, sustainable and responsible procurement and the use of raw materials is of the utmost importance from an environmental perspective. Based on the idea of the product lifecycle, we focus on developing formulas and ingredients, packaging, and circular recycling models that are aimed at making effective use of limited resources, mitigating climate change, and minimizing our impact on ecosystems.

*1 : EU Packaging and Packaging Waste Regulation
*2 : Ecodesign for Sustainable Products Regulation

Click here for Product Development Policy (About Ingredients/Formulas)

Formulas/Ingredients

In line with green chemistry principles, we carefully evaluate our raw materials, ingredients and formulas to ensure they are safe for the human, have minimal environmental impact, and use natural and upcycled materials sourced through ethical procurement. We comply with all relevant regulations in each country where we operate. In addition, we have our own in-house standards for ingredients–and only select ingredients that meet our strict safety, environmental, and ethical standards.
Our Global Innovation Center in Yokohama, Japan, which manages all regional centers, is working to select raw materials and develop formulations that are not only safe and functional but also respect the environment.

Raw Material Development Aimed at Reducing CO_2 Emissions and Switching to Bio-based Raw Materials

At Shiseido, the proportion of CO_2 emissions from raw material procurement are high among Scope 3 CO_2 emissions. This has made it imperative to reduce CO_2 emissions through selection of raw materials. Cosmetics formulations include natural raw materials. We work with our suppliers to reduce CO_2 emissions by shifting to bio-based raw materials in line with the green chemistry principles.

Exploring the Possibilities of Algae in the MATSURI Project

In 2022, Shiseido joined the MATSURI project, the world's first corporate joint project to explore how algae can be used to drive a sustainable future, which is led by the CHITOSE Group. Powered by the sun, algae absorb CO_2 through photosynthesis, while also generating useful proteins, lipids, and carbohydrates. More extensive use of algae is expected to contribute to lower CO_2 emissions in future, where algae products can replace fossil-derived raw materials. In 2023, Shiseido invested 1.0 billion yen in the CHITOSE Group and signed a strategic collaboration agreement focused on R&D with the Group. The purposes of this initiative include the development and mass production of cosmetics and container raw materials using algae, as well as the development of raw materials which can be used in the food industry. To maximize the potential of algae, we will work together with MATSURI Project partner companies in ending the use of fossil resources for cosmetics.

千年祭 CHITOSE MATSURI

Click here for the news release regarding MATSURI.

Marine Protection Initiatives

UV Care

We are accelerating innovation in the field of suncare to protect against UV and pursue coexistence between people, their ecosystems, and the environment. The effect caused by the climate change, UV exposure for people around the world is expected to increase*1. Exposure to UV rays over extended periods of time causes spots and wrinkles on the skin– symptoms of photoaging. Recognizing the importance of innovations for protecting beautiful skin from UV, we will enhance our research efforts to provide products and services with added benefits.

Artificial marine ecosystem reproduced in an aquarium using environmental transfer technology developed by Innoqua Inc.

Because suncare products are used in the sea, we believe that we need to address their environmental impact appropriately as a company.
We are assessing the impact that UV filters used in suncare products have on the ocean. This includes working with universities and research initiatives to assess the impact of each UV filter used in our products on coral*2, and performing simulations*3 of how suncare products spread into the ocean when used by people at the seashore. We are utilizing the results of these assessments for ingredient selection and the development of coral-respecting formulas, while applying them to suncare product development for both *SHISEIDO* and *ANESSA*.

In 2023, in order to evaluate the impact of cosmetic ingredients on marine ecosystems, we began a partnership agreement with Innoqua Inc., a start-up company with proprietary technology that reproduces ecosystems in an aquarium. The aquarium can reproduce possible future environmental change scenarios, including 'rising seawater temperatures', which are predicted to have a tremendous impact on marine life. This allows us to evaluate the impact of various cosmetic ingredients, such as those used in sunscreen, on the entire marine environment, including coral and other organisms.

*1 ：According to an announcement by the Japan Agency for Marine-Earth Science and Technology.

*2：Egg-laying size groups of coral, excluding those in the planktonic larval and juvenile stages.
*3：Utilizing the Tokyo Bay risk assessment model developed by the National Institute of Advanced Industrial Science and Technology.

Click here for Corporate website: Research on Sustainability
Click here for Brand website: *SHISEIDO*
Click here for Brand website: *ANESSA*
Click here for the news release regarding Innoqua Inc. (In Japanese only)

No Animal Testing

We strive to provide safe and effective products to consumers while complying with cosmetics regulations and respecting the principles of animal protection. For more than 40 years after we established a safety research department in 1963, we continued to study alternative methods which do not involve animal testing. In 2013, we abolished animal testing entirely* and shifted to a safety assurance system that does not use animals. We have established a safety assurance system with our unique strict standards. Working together with external stakeholders, we are striving to establish alternative methods, which were developed on our own or jointly with other companies, as official methods.

In February 2023, we announced our involvement in the newly launched International Collaboration on Cosmetics Safety (ICCS). A global project involving manufacturers, suppliers, industry associations, and animal protection organizations, ICCS's goal is to promote and implement animal-free safety assurance in the development of cosmetics and personal care products.
Shiseido will promote and implement the safety assurance of cosmetics without animal testing through the sharing of technologies and knowledge on alternative methods of animal testing, discussions and collaboration with related companies and organizations, and approaching the regulations of each country and region.

*Except when required by governmental and regulatory authorities.

Click here for our safety assurance initiatives which do not use animals.

Procuring Sustainable Raw Materials

Shiseido strives to procure environmentally friendly, sustainable raw materials. Palm oil is used in cosmetics and household goods for a range of purposes, including as a humectant and as an oil. However, palm oil production can have a significant impact on the environment. We have disclosed our medium- to long-term targets for the procurement of sustainable palm oil, as well as our goal to switch from palm oil to more sustainable raw materials.

Brands That Cater to Consumer Needs

When selecting a product, consumers increasingly place importance on a company's approach to social responsibility, environmental protection, and ethical raw material sourcing. At Shiseido, in addition to disclosing our corporate policy on ingredient and raw material sourcing, we work to develop brands with a strong environmental, social and ethical profile.

Drunk Elephant originating in the US, for example, is a leading brand in the clean beauty market sold in 40 countries and regions, known for its sustainable and responsible raw material procurement as well as its promotion of sustainable action. Taking this stance, the brand has gained significant support from Millennial and Generation Z consumers.

Ulé

In 2022, we launched the *Ulé* skincare brand in France. Based on plant-derived ingredients, *Ulé* promotes beauty both inside and outside the body. The brand emphasizes responsible procurement, product efficacy and safety, lower environmental impact, and transparency. To ensure clearer raw material traceability and reduce environmental impact from transportation, the brand buys its three botanical treasures (centella, coleus and tulsi) and produces all its products locally in France. The names and origins of the raw materials can be found on the brand website.

Sustainable Packaging

Climate change and marine plastic waste are pressing environmental issues that need to be addressed on a global scale. It is expected that the Global Plastics Treaty (a resolution of the United Nations Environment Assembly approved by over 175 countries in Nairobi in 2022 which calls for urgent action to end plastic pollution globally by 2040) will be signed by the end of 2024. Shiseido aims to realize a circular economy where all materials are responsibly managed during production through efforts such as recycling to minimize the impact on our ecosystem. It is expected that the interest of consumers and other stakeholders in climate change and other environmental issues will continue to rise. Adapting to changes in societal awareness through product development and other means, is extremely important for the sustainability of our business.
Based on the Shiseido 5Rs packaging development policy*1, Shiseido is working to reduce its environmental footprint and contribute to realize a circular economy.
To achieve our goal of 100% sustainable packaging*2 by 2025, we are adopting recyclable and reusable designs, using post-consumer recycled (PCR) and bio-based materials, reducing packaging weight, and encouraging refills to promote reused packaging. We have also started initiatives designed to reduce the amount of virgin petroleum-based plastic used by adopting non-plastic alternative materials, and we are introducing mono-material packaging to improve recyclability.*3 In addition, we aim to build a Shiseido circular business model that recycles used packaging as new resources in collaboration with consumers and external partners.
Looking ahead, by 2030, we are committed to further enhancing our global sustainability efforts by achieving a target of 30% of plastic packaging per product made from either post-consumer recycled (PCR) or bio-based plastics. These initiatives reflect our dedication to minimizing environmental impact and fostering a more sustainable future.

*1 : Packaging development policy: respect, reduce, reuse, recycle and replace.
*2 : For sale of products with plastic packaging.
*3 : Amount of plastic packaging used in Japan in 2023 (including estimates): 9,600t. Sustainable packaging accounted for 63% of all plastic containers sourced in 2023 (weight basis, Japan only)

Products with Packaging

Reduce and Reuse

We understand that the Earth's resources are limited. In line with Shiseido's 5Rs packaging development policy, we are reducing the amount of plastic we use and reducing our impact on the environment by such as optimizing the size of packaging to suit the product, reducing packaging weight and offering refillable packaging. Compared to 2019, the average weight of a plastic packaging was reduced by 18% in 2023.

Refillable packaging significantly reduces resource use. By encouraging the reuse of main packaging, it is possible to reduce the total amount of plastic used for packaging. Our Life Cycle Assessment confirms that refillable packaging lowers resource use and waste and significantly reduces CO_2 emissions compared to the continuous disposal of regular (primary) packaging. To significantly contribute to the reduction of the environmental impact, we aim to promote the development of these products widely, not only in Japan but also on a global scale.

Since we launched our first refillable product in 1926, we have provided refillable packaging in a wide range of product categories, including skincare and makeup. In 2023, we offered refillable packaging for about 740 stock keeping units (SKUs) within 31 brands globally in an effort to reduce the amount of plastic and ultimately, to reduce the environmental footprint.
This included increasing the amount of refillable packaging in our prestige skincare brand Clé de Peau Beauté and launching refillable packaging for the cream LA CRÈME, which uses 95%*1 less plastic than its regular (primary) packaging. In 2023, the brand launched new refillable packaging for five new products, including SÉRUM RAFFERMISSANT SUPRÊME n. In 2023, sales of refillable packaging from Clé de Peau Beauté increased approximately 23% year on year.

Before launching a refill option for the IPSA loose powder that became available in 2023, we redesigned the main container to improve durability and to make it more suitable for repeated use.

We are also incorporating innovative technologies to reduce environmental impact. In 2023, the brand SHISEIDO, which operates in 88 countries and regions around the globe, became the first company to sell cosmetics using container made with LiquiForm® technology*2. It is a one-step technology for manufacturing bottles and filling them with liquid content. Refillable cosmetics container made using LiquiForm® can reduce plastic usage per container.*3 Moreover, this technology, inclusive of the reduction of energy consumption through the one-step technology, can reduce CO_2 emissions by approximately 70%*4 throughout the supply chain—from raw materials procurement and production to use and disposal—compared to our standard conventional refillable container of the same volume. We will raise awareness of refillable products by launching them not only in Japan but also in other Asian countries and regions, including China. We will also strengthen our activities to achieve toward a circular economy that seek the cooperation of consumers.

In 2024, *Ulé*, a skincare brand that promotes beauty both inside and outside the body, launched a refillable option made from 100% recyclable materials for cleansing gel Dream of Pure. The refill helps reduce plastic and aluminum usage by 23% and 100% respectively, as opposed to purchasing new packaging.
In 2023, the luxury brand *Serge Lutens* launched a fragrance that strikes a delicate balance between sustainability and luxury. The refill packaging is made from 100% recyclable aluminum in consideration of environmental impact.

*1 : Weight ratio of regular (primary) packaging
*2 : The new packaging technology was developed chiefly by Amcor. Shiseido worked with Yoshino Kogyosho, a company that has put the technology to use, to jointly develop cosmetic packaging.
*3 : Comparison with a refillable container of the same volume, not including contents
*4 : CO_2 emissions per unit for both our existing refillable container and the Liquiform®-based refillable container (not including contents) have been verified by the SuMPO Environmental Label Program (in accordance with ISO/TS14067:2013). Figures were compared by Shiseido.

SHISEIDO, Clé de Peau Beauté, Ulé and *IPSA*. Left: main container, Right: refill/ refill container.

Recycle

To realize a circular economy, it is important to select materials and design products with the reuse of resources in mind. To reduce our consumption of single-use plastic, we are developing packaging made from a material that can be more easily sorted and reused/recycled after use without compromising the quality of the packaging's design.
In 2023, a number of our brands launched products with packaging that is easier to recycle, including *SHISEIDO* and *Clé de Peau Beauté*.

Replace

To mitigate climate change and marine plastic pollution, we are focusing on the research of post-consumer recycled (PCR) materials, plastic alternatives, and bio-based materials with low environmental impact — and promoting their use. For example, packaging of some *Clé de Peau Beauté* and *ELIXIR* products is made from recycled plastic.

Over 72% of the PET in the bottles of ELIXIR facial lotion and emulsion is recycled. In 2023, as part of our global sustainability initiatives, a limited edition design of facial lotion and emulsion featuring Doraemon has been released to demonstrate our commitment to enhancing not only the beauty of individual's skin but also ensuring a radiant future for our world. Again, over 72% of the PET used in these bottles is recycled. The facial lotion and emulsion refills help reduce plastic usage by over 85%*1 and CO_2 emissions by 85%.*2

ELIXIR facial lotion and emulsion and a limited edition design of same products featuring Doraemon

We also use some plant-derived bio-based plastic in the outer packaging of our *ANESSA* suncare brand. *BAUM*, which celebrates and honors our connection with nature, offers environmentally friendly products. Packaging, for example, use sustainable raw materials such as upcycled wood left over from furniture industry, plant-derived or recycled plastic, and recycled glass. Additionally, many containers are refillable.

BAUM facial lotion

Products' secondary packaging that is made from plastic is being replaced with paper alternative. In addition, Point of Sale Materials (POSM) used at retail stores, such as drug stores, and counters that are made from plastic will also be replaced with paper alternatives in due course to further reduce the amount of plastic we use. In 2022, we switched approximately 70%*3 of our plastic POSM in Japan to paper.

*1 : Comparison between the existing main container and refill
*2 : Comparison of the existing main container and refill in terms of CO_2 emissions per packaging. The evaluation was carried out by Shiseido using Japan EPD Program by SuMPO (which complies with ISO/TS14067: 2013)
Calculated using the container of the facial lotion sold in September 2022 and onward
*3 : For promotional materials of premium Japanese brands, such as set cases and hooks.

POSM

At Shiseido, we published the POSM Eco Design Guideline in 2023 for the purpose of reducing the environmental impact related to the lifecycle of promotional materials, including in-store display tools and shopping bags. Based on the guideline, we promote the development of POSM materials in line with the Shiseido's 5Rs.* We will work with our stakeholders to reduce our environmental impact in the manufacturing of not only our products but also promotional materials.

*Packaging development policy: respect, reduce, reuse, recycle and replace.

Participation in Related Initiatives

R Plus Japan Ltd.

To play a part in solving the global plastics recycling challenge, Shiseido invested in R Plus Japan in 2022 and engaged in recycling used plastics. By bringing together companies across the plastic packaging industry — from monomer and polymer manufacturers to packaging producers, trading, food and beverage companies — R Plus Japan aims to commercialize an efficient, low-environmental impact recycling technology by 2030.

Click here for Press Release: R Plus Japan

Initiatives with External Institutions

Granting Technology License to Toyo University for Environmental Impact Reduction

In March 2020, Shiseido became the first WIPO GREEN* partner company from the cosmetics industry. In 2022, we granted Toyo University a license to use our low-energy manufacturing technology, which is listed in the WIPO GREEN database. In 2022, the university developed a prototype of an environmentally friendly product that uses the extract from boysenberries, a local specialty of Tatebayashi City, Gunma Prefecture. The product began to be sold via crowdfunding in 2023.

*The World Intellectual Property Organization (WIPO) is a specialized agency under the United Nations, responsible for developing international intellectual property systems. WIPO GREEN is an international framework for promoting innovation in environment-related technologies, and has more than 150 partner companies. As of April 2023, Shiseido had licensed out 11 patented technologies registered in the WIPO GREEN database.

Initiatives to Build a Circular Model

Shiseido started a new scheme to collect used plastic cosmetics packaging in stores, utilizing a wide range of business partners and consumer touchpoints. As well as increasing consumer awareness about the value of used containers as a recyclable resource, we hope the scheme will help drive wider behavioral change in society and encourage competitors and companies in other industries to implement circular models.

In-store Collection and Recycling

To support and promote recycling, we collect used cosmetics packaging in-store and recycle it as new materials. We work with multiple parties to ensure containers are recycled fully and correctly, including customers, waste collection companies, and other companies.

In 2023, in Japan, we collected around 49,000*1 used containers through 88 AEON stores in collaboration with Aeon Retail Co., Ltd., TerraCycle Japan*2, and other companies.

*1 : Collection period: January 2023 - December 2023.
*2 : TerraCycle is a US-based social enterprise whose mission is "Eliminating the Idea of Waste®".

Collaborating to Build a Circular Model for Plastic Cosmetics Containers

When developing cosmetic containers, protecting the contents, ensuring ease of use, and giving the premium look and feel are considered and designed. As a result, they have to be made from a wide variety of plastics, which can make it challenging to recycle them back into reusable plastic resources. To solve this issue, Shiseido launched an initiative in 2022 in collaboration with SEKISUI CHEMICAL CO., LTD. and Sumitomo Chemical Co., Ltd. The initiative involves creating a circular economy in which plastic cosmetics containers are collected and recycled without separating the materials. We are planning to manufacture recycled plastics in the future by collecting used cosmetic packaging, which we then turn into new cosmetic packaging. The three companies will be advancing this cross-sectoral alliance, while also calling on related industries and companies to join the effort to create a circular economy.

Click here for Press Release: Collaborating in Building a Circular Economy for Plastic Cosmetics Containers

"BeauRing®" Circular Model Project for Plastic Cosmetics Containers

In April 2023, we launched the "BeauRing®" project — a circular model project to collect and recycle plastic containers into new ones for reuse. We began collecting used containers from several Shiseido product retailers in Yokohama and the Shiseido Global Innovation Center in Yokohama. The *POLA* brand of POLA ORBIS HOLDINGS INC. joined in the project. As well as driving in-house initiatives, we are encouraging other companies to join the project to expand the circle of resource circulation and, ultimately, create a sustainable society in which consumers use cosmetics with a more positive mindset.

BeauRing BOX、BeauRing logo

Click here for Press Release: Circular Model Project "BeauRing®"

Recycling Initiatives in China

In 2023, Shiseido launched a joint recycling initiative in China with a packaging material supplier. We recycle used plastic bottles for the cosmetics of the *AUPRES* brand, which we market in China. The bottles were made into desks and chairs by applying the supplier's recycling technology. They were donated to Hope Elementary School in Sichuan province.

Our Environmental Policy and Environmental Management

Shiseido Environmental Policy[*1]

Shiseido will promote sustainability throughout our business including the activities in our sites, to realize a rich global environment where people and nature can coexist in harmony. We will produce and market products and services based on a circulation model at every step of the value chain, from product development and procurement of raw materials to production, logistics, distribution, use and disposal. To realize this commitment, we will collaborate with our stakeholders such as employees, consumers, suppliers and other business partners, and society. In the event of mergers or acquisitions, we will conduct due diligence based on this policy.

- Reducing Our Environmental Footprint and Promoting Sustainable and Responsible Procurement

  CO_2[*2]

  We will strive to mitigate and adapt to climate change and respond to short- and medium-to-long-term risks and opportunities through our business. Regarding climate change mitigation, we aim to achieve our science-based net-zero emissions targets, and to achieve our scope 1 and 2 targets, we will promote the efficient use of energy, including the reduction of energy usage, the installation of solar power generation equipment and the expansion of the use of renewable energy. To achieve our scope 3 targets, we will work with stakeholders to reduce indirect CO_2 emissions from the value chain. To adapt to climate change, we will work on natural disaster countermeasures in our operations and supply chain and develop products and services that respond to climate change.

  Water

  In view of the importance of water resource management, we will cooperate with stakeholders (Water Stewardship) to promote the sustainable use of water resources by working to understand the water cycle and the environment of watersheds, reduce water consumption, increase the effectiveness of its use, and ensure thorough control of water quality.

  Resources and Waste

  Aim to optimize resources by incorporating a circular economy approach and promoting "Shiseido's 5Rs" (Respect, Reduce, Reuse, Recycle, Replace).

  Biodiversity and Forests

  We will strive to conserve biodiversity (terrestrial, freshwater, and marine biodiversity) by assessing the environmental impact of our value chain and implementing mitigation measures such as measure to avoid or reduce activities that impact biodiversity. Regarding our direct impact on biodiversity, we will conduct

biodiversity risk assessments at our sites such as factories and engage in conservation activities and other activities as appropriate in the region. Regarding our indirect impact, we will support zero deforestation and work with stakeholders to achieve sustainable and responsible procurement including traceability, since the procurement of key raw materials has the greatest impact on biodiversity.

- Developing Sustainable Products and Services

  Based on the principles of Lifecycle Thinking and Green Chemistry, we will strive to create sustainable value unique to Shiseido, which balances the satisfaction stemming from the results, high-quality design, and feel of our products with respect for and coexistence between people, society, and the global environment. We will promote the development and implementation of circular formulas, ingredients, packaging, and business models using innovative technologies, process innovation and through collaboration with stakeholders.

- Compliance with Laws and Regulations

  We comply with the relevant environmental laws and regulations of each country and region in which we operate, in line with international standards and our own standards.

- Governance and Environmental Management

  We set environmental policies, targets, and objectives, establish management systems and work to continuously improve our environmental performance. These are promoted and supervised on a regular basis by the Sustainability Committee consisting of executive officers from sustainability-related fields of the Global Headquarters. Particularly important matters are proposed or reported to the Board of Directors. Under this framework, we strive to appropriately manage chemical substances and prevent air, water, and soil pollution.

- Communication and Engagement

  We endeavor to increase the trust we have earned from society by sharing the contents of this policy with various internal and external stakeholders including consumers and investors, disclosing transparent and reliable information, and promoting proactive communication. We will also promote employee awareness and training to increase internal awareness.

*1 : Approved by the Sustainability Committee
*2 : CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_6 and other gasses are commonly considered greenhouse gases, but in this policy they are collectively referred to as CO_2.

Our Thoughts Regarding "Biodiversity"

Our company name 'Shiseido' comes from a phrase in the classical Chinese text, I Ching: "Praise the virtues of the Earth, which nurtures new life and brings forth significant values." While Shiseido's business activities rely on nature's rich biodiversity, we also recognize that natural resources are limited. In recent years, many scientists and non-government organizations have warned of rapid biodiversity loss. As a result, from both a species conservation and sustainable business perspective, companies are being called upon to engage in biodiversity conservation activities. They are also encouraged to ensure transparent information disclosure regarding the impact of their activities on the natural environment.
At Shiseido, we use the Taskforce on Nature-related Financial Disclosures' (TNFD) framework to assess and analyze risks/opportunities around our dependency and impact on nature. The results of these analyses have shown that palm oil-derived raw materials and paper have a significant impact on biodiversity on land. Therefore, we support the principles of the NDPE（No Deforestation, No Peat and No Exploitation） Policy*1 for palm oil and paper and strive to minimize the negative impact on biodiversity by complying with the laws and regulations of each country and international treaties and agreements*2 and switching to certified and recycled raw materials. We have organized challenges in biodiversity according to the hierarchy approach*3 and have set goals to switch to 100% sustainable paper by 2023 and 100% sustainable palm oil by 2026. To achieve these goals, we believe it is important not only to conduct our own operations but to also collaborate with our suppliers and other partners, etc. and promote sustainable procurement together with stakeholders.
We understand that recovering and regenerating biodiversity toward no net loss/net positive is essential, and we will continue to contribute to a future in which business and a diverse natural environment exist in harmony.

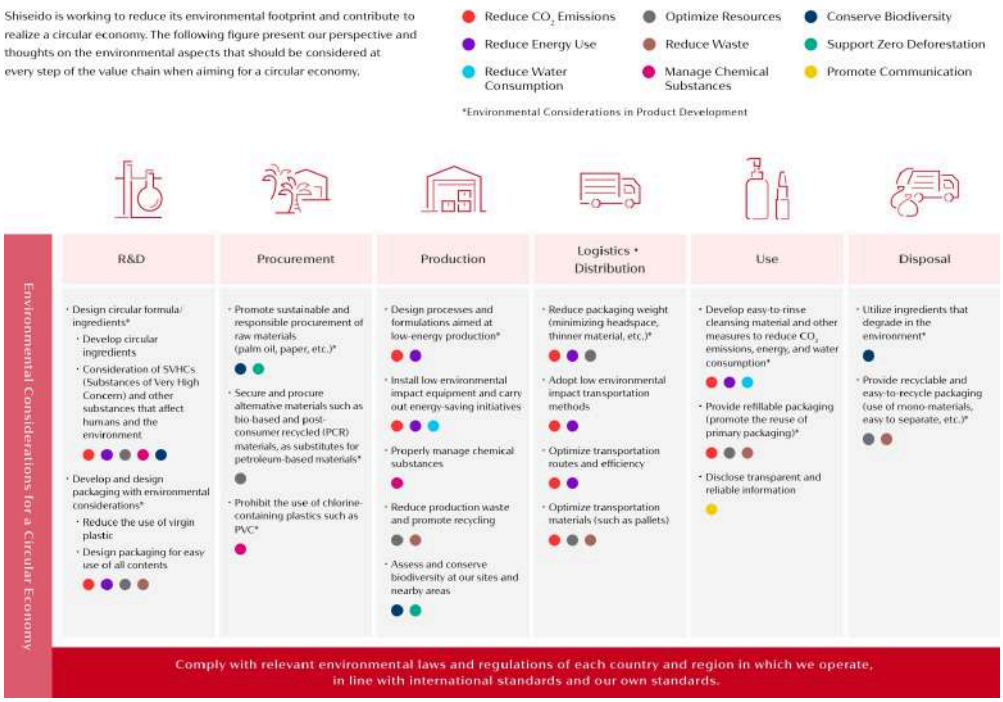
*1 ：Comply with the principles and criteria of our sourcing-the RSPO's for palm oil and forest-related certification systems for paper, respectively. Preserve High Conservation Value (HCV) areas and High Carbon Stock (HCS) forests. Prohibit new peatland development regardless of depth and field burning for plantation or development. Respect and protect the rights of indigenous peoples and local communities and guarantee Free, Prior and Informed Consent (FPIC).
*2 ：Washington Convention, Convention on Biological Diversity, OECD Guidelines for Multinational Enterprises, ILO Fundamental Conventions, The Ten Principles of the UN Global Compact, United Nations Declaration on the Rights of Indigenous Peoples, etc.
*3 ：An approach to prioritize avoidance and reduction as steps to reduce environmental impact and to use offsets to offset the environmental impact that remains after these steps are taken.

Our Thoughts Regarding "Freshwater Resources"

Water supports various aspect of our products, including the development of water-containing products such as lotions; the growth of plants as raw materials; temperature control; equipment cleaning; consumption; and waste disposal.
In light of the unique characteristics of water resources, such as its circularity and uneven distribution, we want to respect and promote a healthy water cycle, culture, and the human right to water and sanitation. We aim for a sustainable consumption for not only regulatory compliance but to also be in alignment with initiatives such as SDGs. We aim to reduce water consumption by 40%*1 by 2026 (versus 2014). In addition to promoting technological innovations, we promote water saving and recycling activities — especially in areas with high water stress and areas where rainfall is expected to decrease due to climate change. Furthermore, in collaboration with local stakeholders, we promote "water stewardship"*2 as a common property. To make effective use of water resources we focus on circular usage, where water used is purified and reused or recycled.

*1 ：intensity per sales
*2 ：Using water in a way that is socially equitable, environmentally sustainable, and economically beneficial

Our Thoughts on “Environmental Considerations for a Circular Economy”



Promoting Environmental Management

The Shiseido Group's production sites introduced the ISO 14001 environmental management system for the first time in 1997. Our eleven production sites worldwide all have obtained ISO 14001 certification. We are reducing our environmental impact and improving our management system by placing an Environmental Management Representative in each production site responsible for environmental initiatives including, setting policies and targets, promoting activities, confirming compliance with regulations, properly managing chemical substances, educating employees, and conducting the PDCA cycle. The progress of these activities is validated through third-party audits.

We are also advancing our global efforts in environmental management. For instance, the headquarters office and departments responsible for environmental management at various sites convene on a regular basis to discuss the reduction of CO2 emissions, improvement of energy efficiency, reduction of water consumption, and enhancement of its effective use, as well as waste reduction. By exchanging best practices and sharing improvements among all sites, we aim to foster the development and environmental awareness of our employees.

Status of ISO14001 Certification

Production sites		Date of certification
Shiseido Company, Limited	Shiseido Kakegawa Factory	October 5, 1998
	Shiseido Osaka Factory* *Adjustments are underway for integration into the Osaka Ibaraki factory by the first half of 2026.	—
	Shiseido Nasu Factory	June 13, 2022
	Shiseido Osaka-Ibaraki Factory	March 24, 2023
	Shiseido Fukuoka Kurume Factory	November 13, 2023
Taiwan Shiseido Co., Ltd. Hsinchu Factory		August 31, 1999
Shiseido America, Inc.	East Windsor Factory	March 31, 2000

Shiseido International France S.A.S.	Unité de Gien Unité du Val de Loire	August 8, 2000 February 8, 2002
Shiseido Liyuan Cosmetics Co., Ltd.		August 17, 2000
Shiseido Cosmetics Manufacturing Co., Ltd.		November 9, 2004

*The acquisition rate of ISO 14001 certification for our domestic and overseas factories is 100%.

Cooperating Companies

Production sites		Date of certification
Shiseido Honeycake Industries Co., Ltd.*		September 29, 1999

*Although Shiseido Honeycake Industries Co., Ltd. is not a consolidated subsidiary it obtained certification in 1999 in line with Shiseido policies.

Collaboration with Stakeholders

Agreements with external organizations

2022	In Japan, Shiseido updated the content of our declaration on environmental protection, the Promise of eco-first and certified as an "Eco-First Company" by the Minister of the Environment. (Re-certified in 2012, 2017, and 2022.)
2009	In Japan, Shiseido became the first company in the cosmetics industry to receive the "Eco-First Company" certification from the Ministry of the Environment thanks to our declaration on environmental protection, the "Promise of eco-first."
2008	We agreed with the United Nations Global Compact's Climate Change Initiative on Caring for the Climate.

Environmental study with local residents

Environmental study with children

The Shiseido Kakegawa Factory (Kakegawa City, Shizuoka Prefecture) holds environmental learning sessions for local elementary school students every year. In 2019, 20 children from Kakegawa participated in the sessions. We introduced eco-friendly packages and waste reduction initiatives and learned about the problem of ocean plastics. Everyone checked small pieces of plastic collected from the beach by employees and made kaleidoscopes. The Shiseido Kakegawa Factory continues to provide environmental education in cooperation with the community.

Environmental study in the roof garden at the Ginza Office

The Ginza Office (Chuo-ku, Tokyo) has a rooftop "Shisei Garden" created with biodiversity conservation in mind. We hold environmental learning sessions for local residents in the garden. In October 2016, we invited 29 children to take part in a workshop in which they observed the plants in the roof garden and squeezed oil from Camellia, a cosmetics ingredient.

Environmental Accounting

In Japan, we use the Environmental Accounting Guidelines 2005 edition issued by the Ministry of the Environment to quantify the environmental conservation costs and outcomes.
Target period: From January 1 to December 31, 2023
Scope: Domestic sites (production sites, research centers, departments in the headquarters), overseas sites (production sites)

1. Environmental Conservation Costs (Unit: 1 million yen)

Category		Main initiatives	Investment	Expenses
(1) Costs breakdown by operation			4,760	436
Breakdown	(1)-1 Pollution prevention costs	Water contamination, atmospheric pollution control, etc.	85	160
	(1)-2 Global environmental conservation costs	Promotion of energy conservation, measures to protect the ozone layer, etc.	4,649	13
	(1)-3 Resources recycling costs	Waste processing, recycling, Wastewater re-use, reducing materials, etc.	25	260
	(1)-4 Chemical substance reduction cost		0	3
(2) Upstream/downstream costs		Costs associated with Recycling of Containers and Packaging Recycling Law, green procurement, product recycling, etc.	0	145
(3) Administrative costs		Personnel expenses (excluding R&D), environmental management costs	5	526
(4) Research and Development costs		R&D for environmentally friendly products, etc. (including personnel expenses)	5	0
(5) Social contribution costs		Support of environmental groups, disclosure of environmental information, environmental advertising, etc.	0	30
(6) Environmental remediation costs		Environmental remediation costs, etc.	0	0
(7) Other costs			0	0
Total			4,770	1,136

2. Economic Benefit Associated with Environmental Conservation Activities (Unit: 1 million yen)

Category	Outcomes	Economic benefit
Earnings	Revenue from the recycling of waste generated in main business activities and the recycling of used products, etc.	44
Cost savings	From energy conservation	144
	Waste-related	6
	From resource conservation	15
	Other	0
Total		209