



ESG Communication Book
ESG Stories

2023

CSO Message

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Chairperson of the Corporate Sustainability Committee



The spirit of sustainability management has been passed down for 400 years at the Sumitomo Group. We aim to realize a sustainable society by connecting that spirit to the future together with our employees who are putting it into practice every day.

“Benet for self and others, private and public interests are one and the same” is a phrase that is used to express Sumitomo's BusinessPhilosophy, which has been passed down over roughly 400 years. To put it another way, Sumitomo's business, while beneting Sumitomo, must also benet the nation and benefit society. This philosophy is the source of the Sumitomo Corporation Group's sustainabilitymanagement and has long been placed at the core of its business activities.

[> Sumitomo's Business Philosophy](#)



Monjuin Shiigaki (Founder's Precepts), a written work forming the foundation of Sumitomo's Business Philosophy
(Source: Sumitomo Historical Archives)



Business Principles handed down as the basic points of Sumitomo's Business Philosophy

To further enhance our sustainability management, we have identified six key social issues consisting of two themes: “development and evolution of the society” and “sustainability of the society” back in 2020. We have also set medium- and long-term goals for each key social issue that lay out specic action plans and are implementing initiatives to achieve them.

[> Our Sustainability Management](#)

In March 2023, we also established the Sustainability Advisory Board, which consists of external experts, to further accelerate our initiatives. Through various dialogue with a wide range of stakeholders, we will pursue growth strategies that benet both our Company and È society, thereby committing ourselves to promoting sustainability management.

In ESG Communication Book 2023 (ESG Stories), we highlight employees who strive to realize a sustainable society through their daily work. Through interviews, our employees who are working on the front lines of the Group's diverse businesses tell their stories of how each of them are tackling social issues and working with business partners and stakeholders to achieve sustainable growth of society and our Company.

I hope you enjoy this publication and please look forward to our further growth in the future.

6 Key Social Issues Toward Realizing a Sustainable Future

Humanity now faces a variety of challenges in building a sustainable society.

The Sumitomo Corporation Group drives its sustainability management based on the belief that it must continue to create value that society truly needs while leveraging its strengths. We are confident that doing so will lead to the realization of a sustainable society as well as sustainable growth for Sumitomo Corporation.

In FY2020, we identified six key social issues that are deeply relevant to the Company and set long-term goals and medium-term goals for each issue.

We are working toward resolving these issues to achieve sustainable corporate growth while contributing to the development of a sustainable society.

Sustainability of the society

> Mitigation of climate change



> Circular economy



> Respect for human rights



Development and evolution of the society

> Development of local society and economy



> Improvement of living standard



> Quality education



- Our diverse human resources
- Multifaceted business expertise
- Global networks
- Business relations with partners and customers

Key Social Issue

Mitigation of climate change

Responsibility of the Sumitomo Corporation Group to achieve carbon neutrality by 2050

Long-term goal: Aim for carbon neutrality by 2050 and challenge to realize sustainable energy cycle

Medium-term goals

Reduce the Group's CO2 emissions 50% or more by 2035 (compared to 2019)

- Reduce CO2 emissions of the power generation business by 40% or more by 2035 (of which reduce 60% or more for coal-fired power generation business); power generation portfolio in 2035 to comprise 20% coal-fired, 50% gas-fired and 30% renewables*¹ in terms of net ownership generation capacity.
- Reduce indirect CO2 emissions*² associated with the fossil fuel upstream business by 90% or more by 2035.
- Reduce CO2 emissions in all other businesses*³.

Establish businesses that will form the foundation for a sustainable energy cycle in society

- Develop hydrogen and other forms of carbon-free energy, increase supply of renewable energy (5GW or more by 2030)*⁴, and expand new power and energy services.
- Expand businesses encouraging electrification, fuel conversion, improved energy and coal efficiency, and energy conservation.
- Capture, store and utilize CO2 via carbon recycling, forestry business, CCS, and emissions credit trading, etc.

*1 As of 2020: Coal 50%, gas 30%, renewables 20% *2 Indirect CO2 emissions generated by others with the use of fossil fuel

*3 Contribute to CO2 reduction by setting targets for individual businesses. *4 As of 2020: 1.5GW (1GW = 1 billion W)

Mitigating climate change by developing a sustainable energy cycle

Mitigating climate change is a serious challenge that must be overcome to realize a sustainable society. As such, we must make the transition to a society that emits as little CO₂, methane, and other greenhouse gases as possible by converting to renewable energy and other forms of clean energy and conserving energy in industries and households. It will also be necessary to balance residual emissions and absorption of CO₂ to create a sustainable energy cycle by maintaining and recovering CO₂ absorbed by forests, marine plants, and other natural capital and capturing, storing, and utilizing CO₂ through new technologies and business models that consider it a resource.

While leveraging the business foundation we have established, we are developing businesses that contribute to the carbon neutrality of society together with a wide range of partners. Our initiatives include reducing CO₂ emissions and energy consumption in manufacturing businesses; contributing to the capture and storage of CO₂ through sustainable forestry business; developing carbon-free energy sources such as hydrogen, ammonia, and next-generation biofuels; and establishing carbon-free platforms such as large-storage batteries. Through these efforts, the Group will contribute to the realization of a sustainable society.

Reducing the automotive industry's CO2 emissions

Casted automotive parts manufacturer KIRIU taking on the challenge of carbon neutrality at its manufacturing sites

Against the backdrop of climate change issues and technological innovations such as CASE*, the automotive industry is at a once-in-a-century turning point. In order for automobiles to remain an essential part of society, decarbonization efforts pose a challenge for the entire automotive industry, and the Sumitomo Corporation Group, which operates a wide range of businesses within this industry from upstream to downstream, is actively promoting these efforts.

Brake components made by KIRIU CORPORATION, a casted automotive parts manufacturer wholly owned by Sumitomo Corporation, will continue to be essential in the new automobile society symbolized by electrification and autonomous driving. KIRIU conducts business operations under its mission, "to contribute to the realization of a highly motorized society, by providing safety and comfort to our valued customers through KIRIU's Monozukuri (craftsmanship)." What are the challenges facing KIRIU and what does it need to do on the front line of its operations to overcome them and provide new value? Here, we will introduce the thoughts of the Sumitomo Corporation staff member in charge of KIRIU's project for carbon neutrality.

* An acronym for Connected, Autonomous, Shared & Services, and Electric

Interviewee



Kosuke Hatanaka

Automotive Manufacturing Business Dept. No.1

Joined the Company in 2013. He was involved in trading new vehicles in the Middle East, managing automobile dealerships, and creating next-generation businesses that use batteries. After working at Sumitomo Corporation (Shanghai), he joined the Automotive Casting Business Team in November 2021, where he plays a central role in KIRIU's project for carbon neutrality.

Why

Global growth also poses major environmental impacts

KIRIU, which has been in business for more than a century since 1906, is a casted automotive parts maker that manufactures and sells important brake-related safety components such as brake rotors. Sumitomo Corporation invested in KIRIU in 2004 and promoted its globalization by leveraging our strengths in overseas network, management human resources, and funding capabilities. Today, KIRIU has grown into a multinational corporation with manufacturing bases in eight countries located in Asia and North America.

On the other hand, the casting business requires a production process with a large environmental impact as it involves melting, solidifying, and processing iron at high temperatures. Sumitomo Corporation is committed to mitigating climate change throughout the Group and has set a target for carbon neutrality by 2050. In 2022, KIRIU had the highest Scope 1 and Scope 2 emissions among the Group (Sumitomo Corporation and subsidiary businesses) excluding the thermal power generation business and fossil fuel upstream business. In order for KIRIU to continue to grow sustainably, it is critical that the company shifts to a production process with a low environmental impact and addresses the needs of a decarbonized society.

Supply system

4 sites in Japan
12 sites in 7 countries overseas



Japan: Tochigi (headquarters plant), Yamagata, Oita, and Nagano (formerly, Asama Giken)

Overseas: China, India, Thailand, Indonesia, United States, Mexico, and South Korea



Overseas: China (Jiangsu and Hubei)

Company Information

Headquarters	2, Omata-minami-cho, Ashikaga-shi, Tochigi 326-0142, Japan
Established	December 1906
Shareholders	Wholly owned by Sumitomo Corporation
Employees	6,144 (consolidated basis; as of March 31, 2023)
Consolidated net sales	¥94.1 billion (FY2022)
Main business	Iron casting and machining

History

2004	Investment in KIRIU
2006	Establishment of Fujiwa Machinery Industry(Kunshan) Co., Ltd., a joint venture with Lioho Machine Works, Ltd. (Taiwan)
2019	Investment in ASAMA GIKEN Co., Ltd.
2021	Acquisition of ASAMA GIKEN by KIRIU

What&How

KIRIU's path to decarbonization

In the manufacturing industry, QCD, which stands for quality, cost, and delivery, was a source of competitiveness, but QCDE, which adds environment, has become indispensable as we are moving toward a decarbonized society.

In April 2023, KIRIU also formulated a roadmap for achieving carbon neutrality by 2050 and launched a strategy consisting of three steps: (1) energy conservation, (2) electrification, and (3) shift to renewable energy.

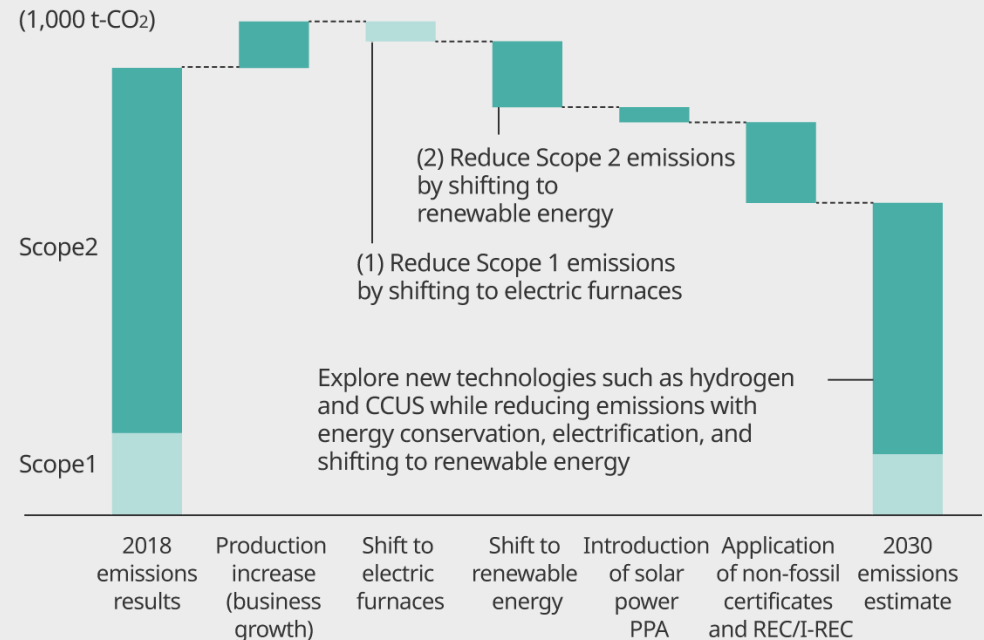
For each step, KIRIU has started initiatives including: (1) finding opportunities for further improvement in the production process with the support of group company Sumitomo Shoji Machinex Co., Ltd. for energy conservation; (2) introducing electric furnaces that significantly reduce CO2 emissions in the production process at the Ashikaga Headquarters Plant for electrification; and (3) switching to electricity from renewable energy and consulting on the purchase of REC*1 and I-REC*2 with the Energy Innovation Initiative (EII)*3, Sumitomo Mitsui Finance and Leasing Co., Ltd. (SMFL), and Summit Energy Corporation for the shift to renewable energy. In addition, to take on the challenge of implementing new technological innovations such as hydrogen and Carbon dioxide Capture, Utilization and Storage (CCUS) in the future, Sumitomo Corporation is communicating with the members of related departments within the company.

*1 An acronym for Renewable Energy Certificate. An electricity certificate adopted as the standard in North America

*2 An acronym for International Renewable Energy Certificate. An electricity certificate widely available globally

*3 A cross-functional business organization that engages in next-generation business development in the fields of decarbonization and next-generation energy

Roadmap to reducing CO₂ emissions



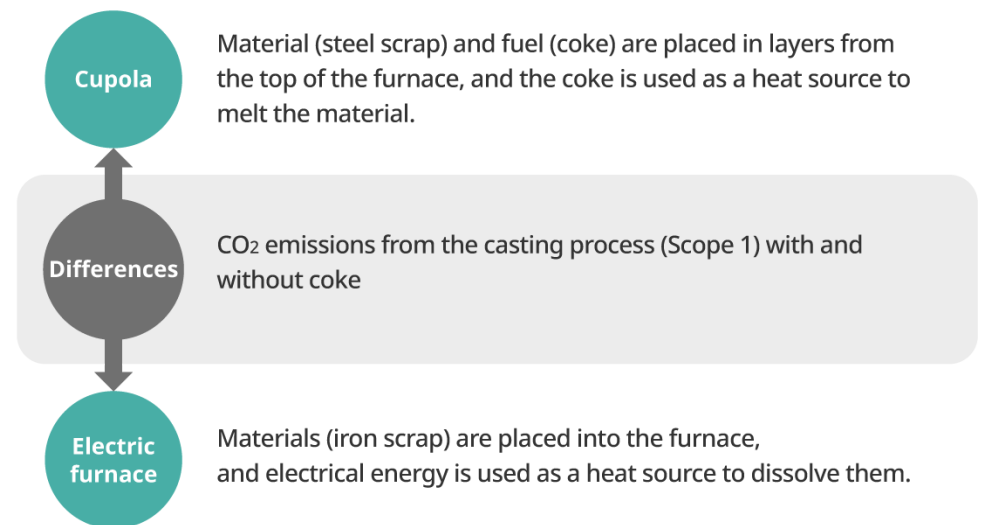


Shift from cupola to electric furnace

A cornerstone of KIRIU's carbon neutrality strategy is the introduction of electric furnaces at the Ashikaga Headquarters Plant. In the casting process, raw material iron scrap is melted down in a melting furnace, but the conventional cupola furnace uses coke as a heat source to melt the iron, which emits a large amount of CO₂ during manufacturing. Therefore, KIRIU decided to switch to electric furnaces with a low environmental impact.

Electric furnaces are already being introduced at its overseas production plants, and the Ashikaga Headquarters Plant is the second plant in Japan to install these, following the Oita Plant. The benefits of an electric furnace involve not only a reduction in CO₂ emissions but also stable product quality and an improvement in the working environment, which provides many positive factors for the sustainable growth of KIRIU.

Differences between cupola and electric furnace

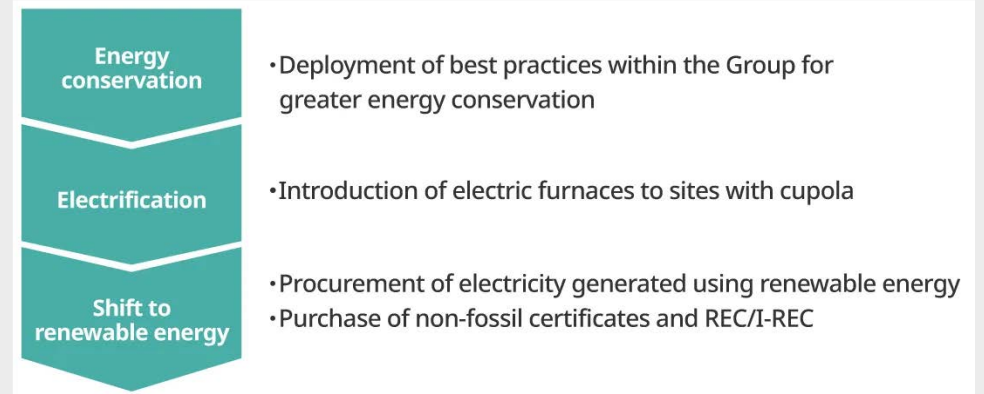


Electric furnace at the Ashikaga Headquarters Plant (completed in April 2023)

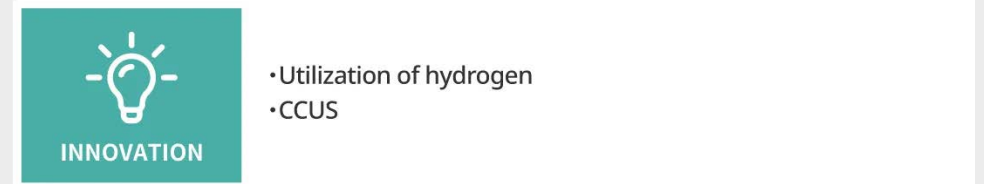
Use of renewable energy and the next phase of strategy

Direct emissions from plants (Scope 1) can be reduced by switching to electric furnaces, but indirect emissions from electricity use (Scope 2) remain; therefore, the next challenge is to replace the electricity used with electricity from renewable energy. Specifically, KIRIU is working to procure electricity generated from renewable energy, introduce solar power purchase agreements (PPA) on- and off-site, and purchase REC/I-REC and non-fossil fuel certificates. Since accessibility to renewable energy differs depending on the country or region, KIRIU is promoting decarbonization measures in line with regional uniqueness, for example, switching to electricity from renewable energy in India and Mexico, and introducing on-site solar PPAs in Thailand.

Prior to 2035



2035 and beyond



Going forward

Taking on the challenge of low environmental impact manufacturing as a member of an integrated trading company

Since joining the Company in 2013, I have been consistently involved in the automotive business. As a member of an integrated trading company, I am deeply involved in manufacturing and I face the challenge of reducing its environmental impact.

The automotive industry is currently at a major turning point against the backdrop of climate change. How will the automotive industry evolve so that automobiles continue to be a necessary part of society? I believe that addressing this issue is not something that can be achieved by automobile manufacturers alone, but rather a challenge for the entire value chain. With KIRIU's production floor, we hope to stand between the market and the production front line and see what kind of value and innovation we can create. Through the evolution of sustainability management one step ahead of the industry, we would like to demonstrate the unique value of an integrated trading company that engages in manufacturing.

Carbon neutrality initiatives are a challenge yet to be answered, but we have received support from our various departments and group companies. By injecting the Group's decarbonized and low-carbon solutions into KIRIU's manufacturing sites, we will create critical momentum that cannot be generated by the department in charge alone. Seeing the scale and speed at which this momentum is growing, I feel once again the thrill of working for an integrated trading company.



Forestry

Contributing to carbon neutrality through forest management looking ahead 100 years

Forests are essential assets for the planet, contributing to carbon neutrality through the capture and storage of CO₂, as well as providing functions such as water storage and conservation of biodiversity. However, in recent years, the global forest area has been in continuous decline. Over the past 30 years since 1990, the world has lost 178 million hectares of forests, which is equivalent to about five times the land area of Japan. To maximize the CO₂ capture function of forests, which is becoming increasingly important, and to leave these assets to the next generation, it is essential to manage the business from a long-term perspective, repeating the cycle from afforestation to harvesting over and over again. Based on our 400-year history as the Sumitomo Group and 100-year history as Sumitomo Corporation, we look ahead 100 years from now, taking on the challenge of sustainable forest management in New Zealand. Here, the Managing Director of New Zealand-based subsidiary Summit Forests New Zealand Limited (SFNZ) shares his thoughts on the significance and future outlook of the business.

Interviewee



Kenji Okawa

Managing Director, Summit Forests New Zealand Limited

Joined Sumitomo Corporation in 2006. After working in the import/export of exterior wall materials in the Lumber & Building Materials Department of the Construction & Real Estate Division, he went to Russia in 2009 to study for two years under the language trainee program. After returning to Japan, he was placed in charge of administrative and sales work for Russia-related business in the Wood Resources Business Department. After the acquisition of SFNZ by Sumitomo Corporation in 2013, he was in charge of SFNZ's business management at the Head Office in 2014 and was transferred to SFNZ in 2017 as Manager of the Corporate Planning and Business Development. In April 2023, he was appointed Managing Director of SFNZ.

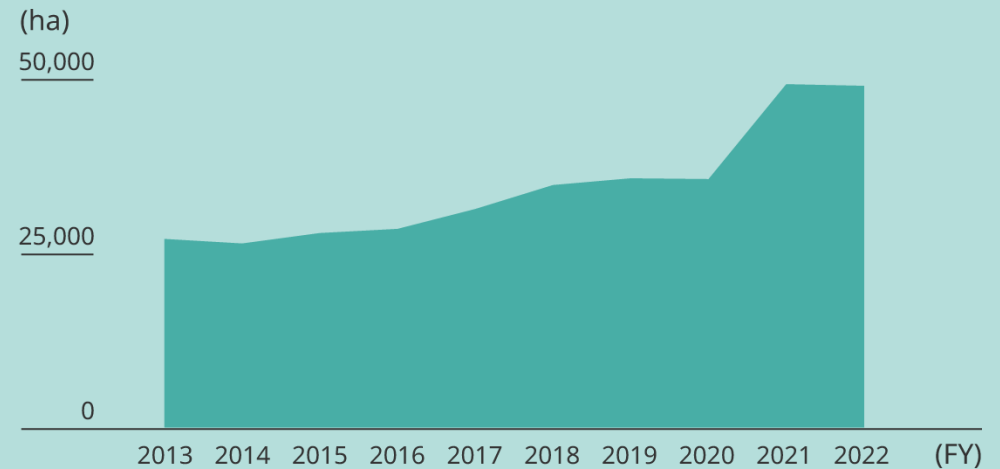
Why

Focusing on the environmental value of forests and timber and expanding the business into forest management

Forests have the function of capturing CO2 from the atmosphere and storing it. Moreover, wood produced by forests is a recyclable resource that can be perpetually regenerated through the repetition of planned logging and forest growth. Forests are becoming increasingly important as the world pursues carbon neutrality to resolve the issue of climate change.

Sumitomo Corporation, which has been involved in the timber import business since Japan's high economic growth period, expanded its business into forest management in the 2000s and has since been working to secure and utilize forest resources in a more sustainable manner. Today, by leveraging the knowledge and expertise we have cultivated in forest management over the years, we are working on promoting sustainable forest management and expanding global forest resources.

SFNZ-owned forest area* over time



*Harvestable area excluding forest roads and non-commercial forest area

What&How

Owning vast forest assets amounting to roughly 50,000* hectares in New Zealand

Taking advantage of its mild climate, New Zealand is a country with an advanced forestry industry where systematic afforestation and logging are carried out to realize effective use of forest assets and achieve harmony with the global environment. In 2013, Sumitomo Corporation acquired forests in New Zealand and established Summit Forests New Zealand Limited (SFNZ) to enter the forestry business there.

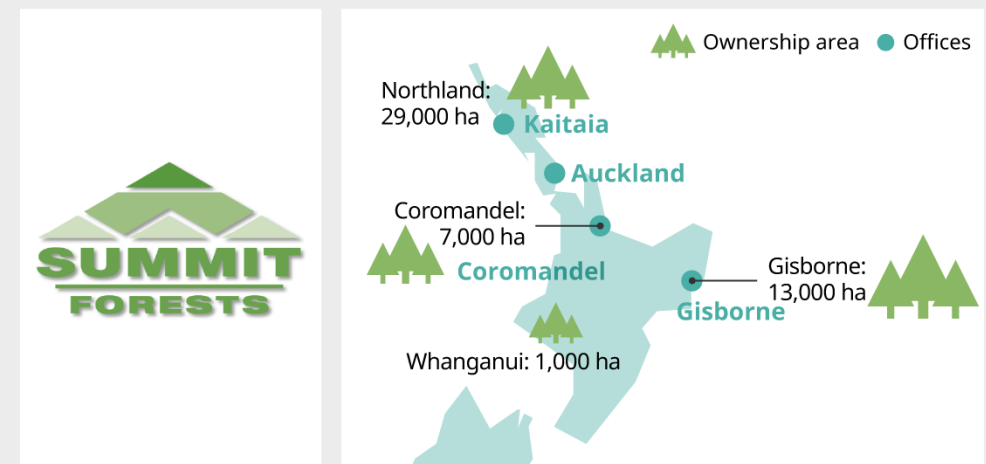
SFNZ owns vast forest assets amounting to approximately 50,000 hectares in New Zealand, making it one of the largest trading companies in the forestry business. Within these Limited forests, we plant and grow radiata pine, a species of pine tree, in a 30-year cycle. The harvested timber is sold domestically in New Zealand as packaging material or construction supplies and also exported to China and South Korea. After logging, we reforest most of the land, except for some areas where reforestation is not contractually permitted, to protect and nurture the forest over a long period of time.

Since its founding, SFNZ has accumulated expertise in forest management and developed a sustainable forestry business.

* Harvestable area (excluding forest roads and non-commercial forest areas from the forest area owned)

Summit Forests New Zealand Limited

Year of founding	2013
Business description	Management of owned forests and sale of timber harvested by the company or others to domestic lumber mills or export thereof
Capital	137 million NZD (approx. ¥10.2 billion) / Ownership: 100%
Offices	Auckland, Kaitaia, Gisborne, Coromandel
Number of employees	43 (including two seconded from Sumitomo Corporation)
Forest ownership	Harvestable area: Approx. 50,000 hectares





Maintaining healthy forests into the future through proper management

To grow healthy forests and acquire quality timber, it is not enough to simply plant seedlings. In addition to tasks such as thinning, where trees are thinned out to adjust forest density, and pruning, where poorly developed branches are removed during tree growth, forest management requires soil management, monitoring of vast forest areas, management of data on tree growth conditions, and disaster prevention. Managing forest properly in this way helps to protect healthy forests over the long term, which also leads to stable capturing of CO₂.

Moreover, forest management involves a 30-year cycle from planting to harvesting, so economic benefits are only generated 30 years after planting. As such, business operations require capital strength to sustain operations over the long term and a strategy that looks ahead to the future. It is in these areas that Sumitomo Corporation's cultivated strengths come into play. We also believe that there will be opportunities for further business expansion in the future, including selling the CO₂ capturing function of forests as credits.

In our future business activities, we will focus on automation of logging, planting, pruning, and other operations. We will also put our energy into the promotion of DX, including introducing drones and automatic measuring technology, to reduce costs and improve safety. Grounded on this, we will sustainably manage and operate our vast and rich forests in New Zealand.

Thinning in SFNZ forest area

Building strong relationships

In the forestry business, Sumitomo Corporation not only considers the 30-year cycle from afforestation to harvesting but also looks ahead to the next 100 years, taking a long-term approach to business management. In our business development in New Zealand, it has not been simply financial strength but also the ability to articulate the strategy and vision from a long-term perspective based on history that has underpinned our business.

The majority of SFNZ's business sites are on land owned by the Maori, the indigenous people of New Zealand. Building a relationship with them is thus essential for conducting our business. The Maori people hold both history and this land in extremely high regard. As such, as a way of communicating our Company's stance of business management with a long-term perspective, we shared with them the story of the 400-year history of the Sumitomo Group and about the large-scale afforestation the Group carried out in response to the air pollution from smoke produced by the Besshi Copper Mine during the Meiji era (1868–1912). The Maori people were interested to hear about our history and future outlook and expressed appreciation for the fact that we will be committed to efforts over the long term. This is when I feel that we have a mutual interest with the landowners. Discussions based on a long-term perspective also help nourish a sense of trust in business dealings among our local partner companies entrusted with forest operations. Furthermore, SFNZ conducts biodiversity conservation activities*, such as breeding and reintroducing the national bird of New Zealand, the kiwi, into the forests, as well as promoting coexistence with wild horses. The local community has expressed appreciation for these activities. Such initiatives are the foundation upon which we build strong relationships with the people of New Zealand.

*The biodiversity conservation initiatives at SFNZ were analyzed as a pilot test for the Taskforce on Nature-related Financial Disclosures (TNFD). Please refer to the ESG Communication Book 2023 (ESG Data, page 73) for the details.



The one hundredth kiwi was released into the Whangapoua forest area in Coromandel in 2023

Going forward

Looking ahead to the future and tying daily efforts into business expansion and realization of carbon neutrality

I believe that the forestry business itself cannot be operated without the perspective of sustainability. When making decisions about the business, I always keep in mind the question, “Is it sustainable?” Every year, SFNZ plants trees on 700–800 hectares of land, roughly the same size as the area logged. The moment these trees are planted, we become responsible for their proper management for the next 30 years. If we cannot keep the business going for 30 years or manage these trees properly, then we should not plant them. Each decision comes with great responsibility, so I consider them carefully. This is a business that must be operated long term, and when considering what is important, I think it is looking ahead to the future and moving forward one day at a time. SFNZ currently has a good group of people who are serious about the future of forestry. As the Managing Director, I hope to create an organizational culture in which everyone who has gathered as a part of this group can continue to enjoy their work each and every day and to make Sumitomo Corporation's presence felt here in New Zealand. I believe that this will lead to the realization of carbon neutrality and further business expansion.



Large-scale energy storage business

Providing a platform that stores energy to promote the transition to renewable energy

The main challenge in promoting decarbonization is the transition to renewable energy, and its importance is indisputable. However, the introduction rate of renewable energy in Japan is still low compared to European and other countries. One of the main reasons is the insufficient capacity of transmission lines. In response to this issue, Sumitomo Corporation aims to expand its business of storing energy nationwide in Japan by developing a large-scale energy storage platform that can compensate for this lack of transmission line capacity. Here, we will delve into our path taken to launch a completely new business and start operation of the first large-scale energy storage facility in Japan in 2024, as well as the challenges and future prospects on the front line.

Interviewee



Satoshi Wada

Zero Emission Solution Business Department

Joined the Company in 2013. After being involved in the investment side of the Tubular Business Development Department of the Tubular Products Division (Metal Products Business Unit), he engaged in the trading of tubular products for automobile parts in the Mechanical Tubular Business Department in 2015. In 2018, he was seconded to the Sales Department of Nippon Steel Pipe America, Inc. in the United States. After returning to Japan in 2020, he was assigned to the Mechanical Tubular Business Department and moved to the Zero Emission Solution Business Department in 2021.

Why

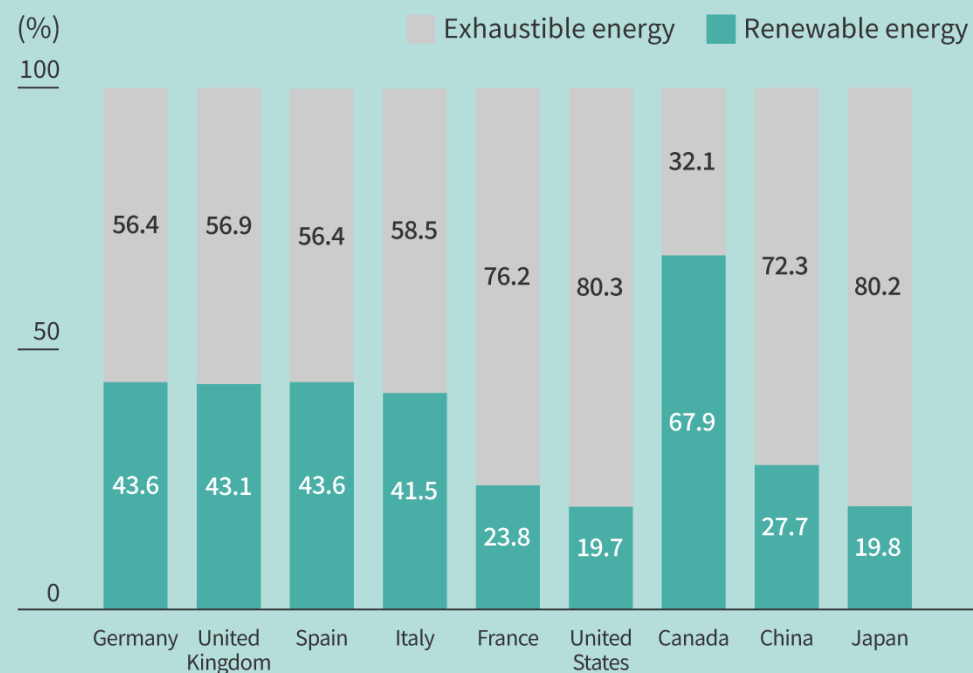
Resolving issues facing the spread of renewable energy with large storage batteries

Despite the global trend toward decarbonization, the share of renewable energy in Japan remains at a low level of roughly 20%, as it is an unstable power source whose power generation is greatly affected by natural conditions, such as sunlight and wind, and because Japan's current power grid*¹ is unable to accommodate this instability. In order for renewable energy providers to deliver electricity to users (households, factories, etc.), they must be connected to the power grid, but if the required amount of electricity exceeds the assumed amount, it may interfere with the stable supply of electricity. Therefore, even if a renewable energy provider plans to build or expand a solar power plant, there are cases where the power company that manages the power grid cannot accept the connection, which hinders the expansion of renewable energy.

As one of the solutions to this issue, there is growing interest in the energy storage business, which connects large storage batteries to the power grid and adjusts the surplus or deficiency of renewable energy power generation by charging and discharging these storage batteries.

*¹ System integrating power generation and transmission of electricity companies. Managed by area; i.e., Tokyo Electric Power Company Holdings, Incorporated manages the Tokyo area.

Utilization rate of renewable energy*



Source: Prepared based on “Japan’s Energy—10 Questions for Understanding the Current Energy Situation” by the Agency for Natural Resources and Energy (February 2023)

*Excludes hydroelectric power generation

What&How

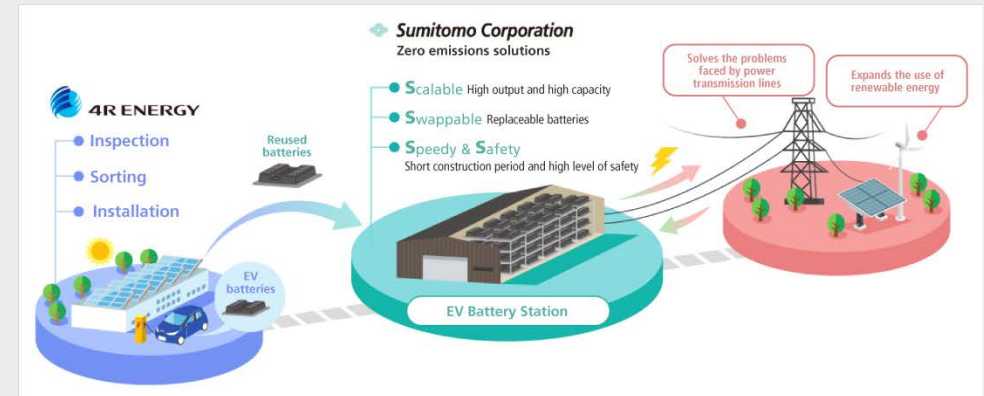
Building a large storage battery system with reused batteries

Beginning more than a decade ago, Sumitomo Corporation was among the first to work on social implementation of large-scale storage batteries that can be connected to the power grid. In 2015, we started Japan's first demonstration project covering energy storage connected to the power grid in the Koshikishima, Satsumasendai City, Kagoshima. This project is still operating in a stable manner today.

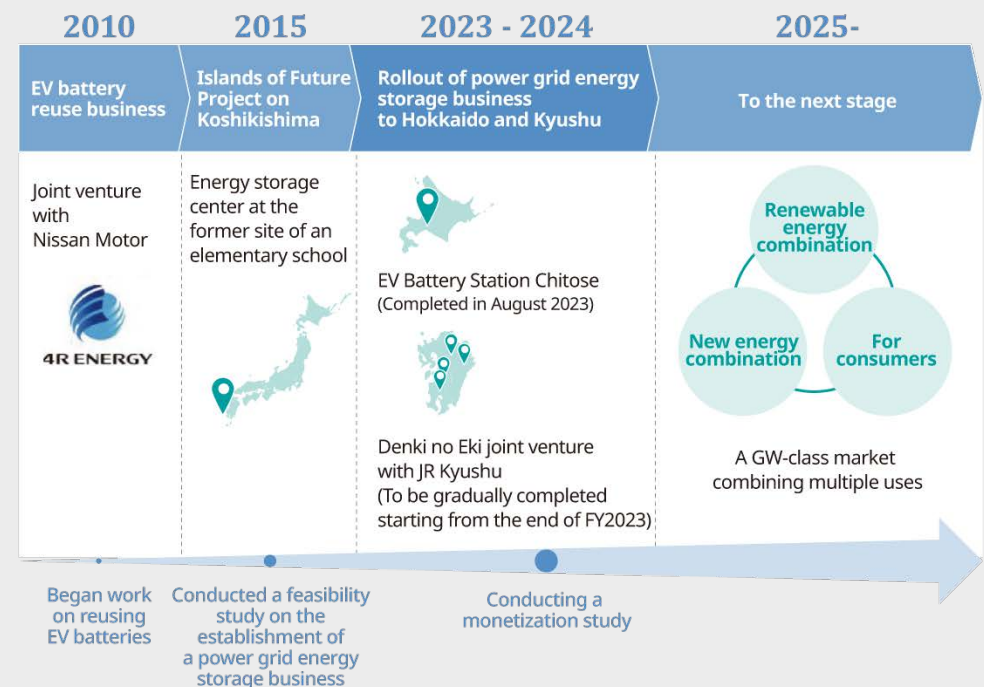
One feature of our grid energy storage system is that it utilizes reused batteries from EVs. Although the penetration rate of EVs in Japan is still only about 1%, the Japanese government aims for 100% of all new passenger car sales to be EVs by 2035. This, at the same time, means that more batteries will be discarded. Focusing on this, Sumitomo Corporation envisioned a sustainable supply chain for an electrified and resource-saving society by reusing discarded batteries for large-scale energy storage.

Based on this concept, we have accumulated technical and operational know-how since the establishment of 4R Energy Corporation jointly with Nissan Motor Co., Ltd. in 2010 to reuse EV batteries, with the aim of commercializing large-scale energy storage systems that are more economical and have high output and capacity. After more than a decade of experiment, we developed the EV Battery Station, a large-scale energy storage system that combines hundreds of reused batteries to provide high output and capacity so that it can be connected to the power grid. In 2024, we plan to invest our accumulated know-how into the operation of the first large-scale energy storage plant in Japan, to be located in Chitose, Hokkaido.

Conceptual diagram of the EV Battery Station



Energy storage business road map





Reducing CO2 by efficiently using EV batteries and renewable electricity

Our grid energy storage business contributes to decarbonization from two major perspectives.

First is the nationwide rollout of an energy storage platform. In response to the issue that renewable electricity cannot be used efficiently due to insufficient capacity in the power grid, we will develop a platform for storing energy using large storage batteries at the national level. By doing so, we will promote the use of renewable electricity, thereby contributing to CO2 reduction.

Second is the reuse of EV batteries. One EV battery is believed to emit approximately three tons of CO2 at the time of production. The reuse of batteries in the energy storage system means that new batteries no longer need to be manufactured, which not only reduces CO2 emissions by the same amount but also contributes to the life cycle assessment of EVs. In addition, 4R Energy is working to achieve zero CO2 emissions in the battery reuse process by installing solar panels and an energy storage system and utilizing solar power to avoid purchasing grid electricity.

Mr. Satoshi Wada at the energy storage facility of EV Battery Station Namie

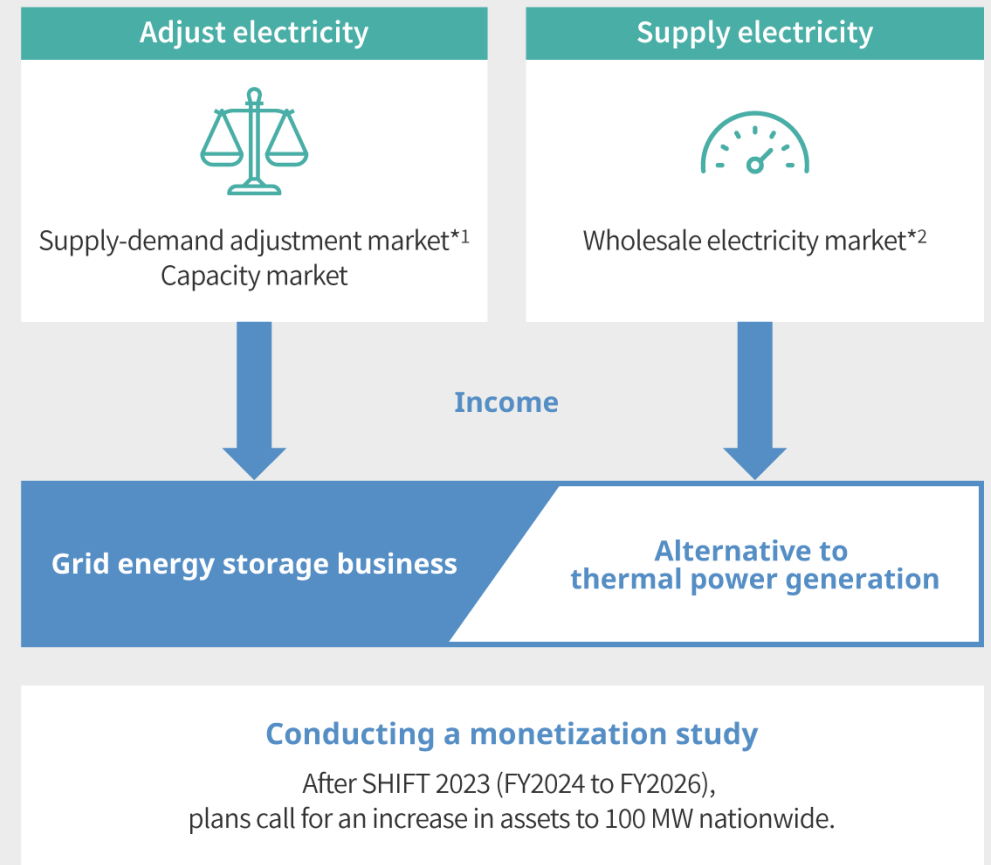
Balancing CO2 reduction and economics to make the business sustainable

Although the capacity of the power grid needs to be increased in order to realize a sustainable society in which renewable electricity is mainstream, expanding transmission lines requires enormous time and cost. Therefore, we believe that infrastructure development using storage batteries presents a more realistic approach. To develop a sustainable storage battery infrastructure, it is essential to have a monetization mechanism in place without relying on subsidies. Our grid energy storage business has reached the stage where it can be profitable without subsidies. This was made possible thanks to our continuous efforts to reduce the cost of energy storage facilities and to the source of income provided by the rapidly evolving supply-demand adjustment market, capacity market, and wholesale electricity market. All of these factors contribute to the profitability of the business.

In these three markets, as it is important to predict trends in demand and price of electricity and charge and discharge electricity at the appropriate time, market forecasts are directly linked to income. Therefore, in parallel with the expansion of its energy storage facilities, we are also working to develop a program to maximize profits by forecasting the market.

To realize the transition to renewable energy, it is important to pursue economic efficiency and make it a sustainable business. We have been developing the business by installing energy storage facilities as a pioneer in the grid energy storage business. Based on this, as a trading company, in the future we aim to provide services such as market forecasting programs that are under development. While expanding our business area, we will also work to create a system that pursues greater economic efficiency and generate greater value.

Monetization plan that does not rely on subsidies



*1 Electric Power Reserve Exchange (EPRX)

*2 Japan Electric Power Exchange (JEPX)

Going forward

Launching businesses that contribute to the transition to renewable energy to leave prosperous lifestyles for the future

We still have a long way to go, but I think the main reason why we have made it this far is because we were allowed to conduct the demonstration experiments through trial and error. Just because the grid energy storage business was successful overseas, that did not mean it would be in Japan. Also, when it came to EV battery reuse, there were no success stories overseas. Furthermore, since this is a completely new business, there were frequent conflicts with existing rules. Because of this situation, we talked to various people, such as those from the relevant ministries, experts, and business partners, and put forward a hypothesis on the premise of receiving opposing views from them, which led to the demonstration experiments. The fact that we were able to spend money on the demonstration experiments and had a wide network is due to the scale of Sumitomo Corporation's business and the business foundation built by our predecessors.

I strongly believe that the transition to renewable energy should be accomplished in our generation, as it is absolutely necessary to leave prosperous lifestyles for society in the future. When I joined the Company, I gave myself the goal of creating a new company with a new business and then releasing what I had created to the world. I am extremely fortunate and honored to have been involved in this project at this time, with the introduction of the grid energy storage business that contributes to society's transition to renewable energy, building on the success of our predecessors. I will first make this business a success and get it on track, and then continue to create a new system that contributes to the resolution of social issues.



Please refer to the Integrated Report 2023 (page 59) for the details of Energy Storage business.

Biomass energy development

Striving to develop new carbon-free energy from wood pulp

There is worldwide demand for the production and stable supply of carbon-free energy, such as hydrogen and ammonia, as an alternative to fossil fuels, as this is essential to realize a carbon-neutral society. While Sumitomo Corporation works on multiple projects for hydrogen and ammonia, the Company is seeking to address the issue of climate change by producing new carbon-free energy. Together with Nippon Paper Industries Co., Ltd., which we have been doing business with for more than 50 years, we will contribute to reducing CO2 by producing bioethanol from wood pulp as a raw material for jet fuel. This could be one of the most advanced endeavors in the world as the project also seeks to produce non-edible biomass by making use of abundant forest resources in Japan. This project would not have been possible without the firm trust we had established with our business partners over the last several decades and a history of tenacious and wide-ranging studies on new business development in the field of next-generation biotechnology. The following is an interview with the members who have been leading this unprecedented project.

Interviewees



Natsuki Omori

Biomass Energy & Materials Department

Joined Sumitomo Corporation in 1994. He was in charge of wood pulp imports and domestic sales during his time with the Pulp Team of Pulp & Paper Department No. 2. After being transferred to the Cement Department in 2008, he was assigned to a biomass-related development project in Lampung, Indonesia in 2013. After working in the biomass-related business, in 2021 he was placed in charge of the wood pellet import business and next-generation biomass material and fuel development in the Biomass Pellet Team of the Biomass Energy & Materials Department.



Masato Yokoyama

Biomass Energy & Materials Department

Joined Sumitomo Corporation in 2019. He was assigned to the Wood Chip Team of the Biomass Materials & Fuels Department and managed wood chip imports and exports. In 2021, he moved to the current Biomass Pellet Team of the Biomass Energy & Materials Department. In addition to importing wood pellets, he is involved in developing next-generation biomass materials and the fuels business.



Why

Bioethanol made from non-edible resources attracting worldwide attention

Bioethanol is currently attracting attention in countries worldwide striving for a carbon-neutral society as a renewable energy source and as feedstock for biofuels such as SAF*1 and chemicals with low environmental impact. Bioethanol produced from edible biomass such as sugar, starch, and vegetable oil is called “first-generation bioethanol.” Meanwhile, cellulosic bioethanol made from inedible biomass that does not compete with food consumption, such as woody biomass and bagasse (i.e., the sugarcane residue after sugar production), is classified as “second-generation bioethanol.” In particular, the latter type of woody biomass has the potential to tackle various issues in Japan, including utilizing abundant domestic forest resources, ensuring energy security, and improving energy self-sufficiency.

*1 An acronym for sustainable aviation fuel. This refers to an aviation fuel that significantly reduces CO2 emissions compared to conventional fuels throughout its life cycle, from production and collection to manufacturing and combustion, and can utilize existing infrastructure without modification.

Classifications of bioethanol

Classification	First-generation bioethanol	Second-generation bioethanol
Raw material	 Sugar cane, corn, sugar beets, etc.	 Cellulose, bagasse, tapioca, rice husks, wheat straw, etc.
Competes with food consumption	Yes	No
Progress	Commercialized	In the phase of R&D to partially commercialized

What&How

Joint study together with Nippon Paper Industries and Green Earth Institute

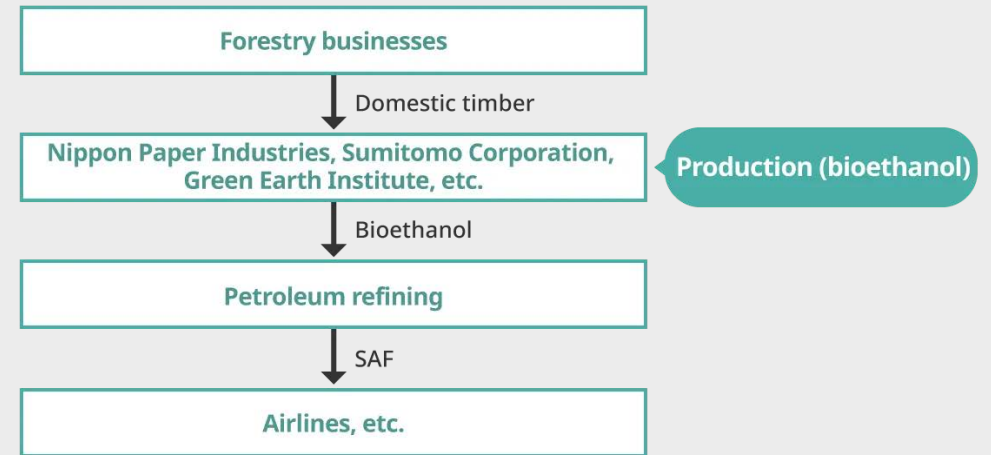
Sumitomo Corporation, together with Nippon Paper Industries and Green Earth Institute Co., Ltd., has begun a study on the commercial production of Japan's first cellulosic bioethanol made from woody biomass and its development into biochemical products. The project aims to produce bioethanol from domestic wood resources with an annual production capacity of tens of thousands of kiloliters.

The production of bioethanol from non-edible resources, especially wood pulp, is a global pioneering initiative. Not only does it contribute to decarbonization as an alternative to petroleum fuels but the use of non-edible resources realizes lower CO2 emissions and has lower environmental impact compared to mainstream bioethanol production from corn and sugar. In addition, by using black liquor obtained during pulp production, we aim to achieve exceedingly low CO2 emissions compared to other fuels. Furthermore, by effectively utilizing domestic thinned wood, it will also lead to the conservation of forest assets in Japan.

This bioethanol will be used mainly as a raw material for domestically produced SAF, for which demand is expected to increase rapidly in the future. We also plan to consider the establishment of a carbon recycling system, such as capturing and utilizing CO2 produced as a by-product of bioethanol production, and converting the residue of the fermentation process into feed and fuel.

New technologies are needed to use our bioethanol, which we aim for commercial production, as jet fuel. This is an area that oil companies are working on. To realize a recycling-oriented carbon-neutral society, various challenges are underway simultaneously around the world. It is exciting to think that we are playing a part in this, and we strongly wish to achieve success in the field at all costs.

Expected sales channels and flow of goods



Bioethanol production from domestic timber



Bioethanol on the far right is produced through the process of using the leftmost wood chip to create pulp and then saccharification fermentation culture media (courtesy of Nippon Paper Industries and Green Earth Institute)



Members discussing the direction of the project at a training camp
(Nippon Paper Industries, Green Earth Institute, and Sumitomo Corporation)

Achieving win-win collaboration based on a strong relationship

Our collaboration with Nippon Paper Industries began with the import of wood chips from South Africa approximately 50 years ago, and since then we have continued to collaborate and trade mainly in the afforestation business in South Africa and South America. The second-generation bioethanol business was made possible based on the solid trust we have earned through collaboration over many years. Their expectation toward our knowledge and know-how in group company management also helped to make the collaboration happen.

Since this project will make effective use of idle pulp production facilities in Japan, it is expected to contribute not only to mitigating climate change but also to solving the problems faced by the paper industry and revitalizing the industry as a whole.

Continuing to take on the challenges of commercialization by harnessing the collective strengths of Sumitomo Corporation

After the conclusion of the basic agreement in February 2023, there are still many challenges to address before the start of bioethanol production, but as we seek to work out these issues, the underlying strengths of Sumitomo Corporation as an integrated trading company are helping to create new businesses. The Energy Innovation Initiative (EII)*2, an individual business organization newly established in April 2021, brings together experts in energy and infrastructure, as well as other fields, and provides engineering advice to Nippon Paper Industries and Green Earth Institute from time to time. In addition, since the Group has specialists in various other fields, we are collaborating with the Green Chemical Business Development Department, and with SC Foods Co., Ltd. and the AgriScience Department on the effective utilization of residues generated in the bioethanol production process.

Sumitomo Corporation's creativity and connections between businesses as well as its abundance of specialists undoubtedly serve as a cornerstone for supporting sustainable business growth.

*2 A cross-functional business organization that engages in next-generation business development in the fields of decarbonization and next-generation energy



Going forward

Hoping to bridge to the next generation businesses that go beyond win-win relationships


I have a strong attachment to this project. This year, we finally reached a point to where we could issue a press release on the progress made. This was only possible thanks to the diligent work of our many tenacious colleagues, including those who have already left the department, seeking to do something innovative using wood resources. I feel a flood of emotions when it comes to working on a new business with Nippon Paper Industries because I have had a deep relationship of trust with them for many years. This business will bring many benefits not only to the three collaborating companies but also to the domestic forestry industry, the aviation industry, and the global environment. I personally believe that we can achieve a “win to the 10th power” that goes beyond just a win-win relationship. Since this is a long-term project, I hope to be a bridge to the next generation so that Mr. Yokoyama's generation can powerfully grow the business. I would like it to eventually develop into a business that can support the sustainable development and decarbonization of Japanese industry.



Working to resolve social issues through collaboration with Nippon Paper Industries

Based on my specific research of wood at university, since joining the Company, I have been studying new ways to utilize woody biomass together with my colleagues and members of the Wood Resources Business Department. I am very pleased that these studies have borne fruit and that the commercial production of cellulosic bioethanol will pave the way for pulp utilization outside of papermaking. In addition, my first client after joining the Company was Nippon Paper Industries, so I feel a deep connection and am excited to be able to work together to help solve social issues. In the future, I would like to not only realize this business but also seek business opportunities in the biochemical field, such as producing plastic bottles derived from wood chips.





Key Social Issue

Circular economy

Helping to realize sustainable resource recycling that makes effective use of limited resources

Long-term goal: Shift to recyclable, efficient technologies and products

Medium-term goals

Use renewable and recyclable raw materials, collect waste, and promote improved efficiency of product usage

- Expand use of raw materials derived from recycled or renewable resources.
- Improve efficiency of product usage and expand businesses that promote longer product life (sharing, sales of used items, leasing, rentals, etc.).

Long-term goal: Sustainable use of natural resources

Medium-term goals

Reinforce the sustainable procurement system for major natural resources used by the Group

- Identify major natural resource-related commodities requiring sustainable procurement, establish procurement policy, promote certification, and strengthen voluntary auditing system.

Aircraft aftermarket business

Contributing to the creation of a circular economy in the aviation industry by promoting the effective utilization of retired aircraft

The aviation industry was heavily impacted by the COVID-19 pandemic, but aircraft demand is growing again now that travel and entry restrictions around the world have been eased or lifted. Moreover, in recent years, airlines all over the world have been focusing on sustainability management to achieve a sustainable society and corporate growth. Against this backdrop, the aircraft aftermarket business, which is one that increases the sustainability of the aircraft life cycle, is gaining traction.

Why has Sumitomo Corporation been focusing on it, and what kind of future does it see for the business? We asked the persons in charge of the aircraft recycling and used aircraft parts businesses of the Commercial Aviation Department about the current status of the business, its future prospects, and their thoughts on the business.

Interviewees



Arisa Tsukamoto

Commercial Aviation Department

Joined the Company in 2006. After working as a representative for the Japanese market regarding aircraft parts and maintenance, repair, and overhaul (MRO), and handling portfolio management of an engine leasing group company, she was involved in the establishment of the Group's material issues at the Corporate Planning & Coordination Department. She is currently involved in the aircraft recycling business at the Commercial Aviation Department.

Toshinori Kondo

Executive Vice President, Werner Aero, LLC

Joined the Company in 2008. After working in the aircraft and engine leasing businesses, he was seconded to an engine leasing company in the Netherlands. He has been involved in the used aircraft parts business since 2020 and was seconded to U.S.-based used aircraft parts group company Werner Aero, LLC in 2022.

Why

Recycling retired aircraft: A serious environmental problem for the aviation industry

The life cycle of an aircraft is 25 to 30 years, and more than 700 aircraft are retired each year. After retirement, many of these aircraft are neglected in a desert area, an “aircraft graveyard,” in the United States. There are many challenges when it comes to recycling retired aircraft, but the need is growing.

Amid these circumstances, global aviation demand is recovering again as the COVID-19 pandemic comes to an end. In addition, recognizing the urgency of reducing CO2 emissions and decarbonizing the aviation industry, airlines are developing and implementing growth strategies based on sustainability management.

With these market factors, there are calls to increase the sustainability of the aircraft life cycle itself.

The Sumitomo Corporation Group is heavily engaged in the aviation business, and we consider it our responsibility to contribute to the development of a circular economy through our aviation business, such as selling the recyclable parts retrieved from retired aircraft and returning metals extracted from the remaining parts in those aircraft to the market as secondary alloys.



What&How

Sumitomo Corporation's aftermarket business

Over the years, by leveraging its global network, Sumitomo Corporation has expanded its aircraft-related business portfolio in terms of scale and scope, while keeping its core focus on the aircraft leasing field. In recent years, we have been focusing on the aftermarket business, which involves the reuse of aircraft parts, with the aim of developing businesses that cover the entire aircraft life cycle.

While the primary lease term for new aircraft in the aircraft leasing business is 5 to 15 years, the useful life of an aircraft is 25 to 30 years. As aircraft remain active long after the primary lease has ended, we are not only focused on the entry point of the aircraft life cycle, or primary leasing, but also on the exit point, or the aftermarket business. This includes the used aircraft parts business, the aircraft recycling business, and the engine MRO business as part of our efforts to develop and promote businesses that will lead to sustainability of the entire aircraft life cycle.



Used aircraft parts business for effective utilization of parts from retired aircraft

There are more than 1,000 parts that can be removed from a retired aircraft and reused. These range from large parts, such as the landing gear and the auxiliary power unit, to the cabin seats and the panels. Our used aircraft parts business repairs and sells such parts. At Sumitomo Corporation, we are working to expand our aftermarket business, and U.S.-based Werner Aero, which we invested in August 2022, plays the central role in this strategy.

Werner Aero has been involved in the used aircraft parts business in the United States for approximately 30 years and has a solid working relationship with many airlines. It also has a high inventory management capacity and strong aircraft procurement and parts sales capabilities. The aircraft aftermarket business is expected to grow steadily, and we plan to further increase the value we create by enhancing our human resources and expanding the volume and types of retired aircraft we procure.

Sumitomo Corporation's growth vision for the used aircraft parts business is to create synergy between this business and our aircraft and engine leasing businesses, while expanding Werner Aero's business with our financing capabilities and expertise. Furthermore, by incorporating peripheral businesses such as aircraft recycling, we seek to become a strong presence in the aircraft aftermarket business.



At Werner Aero



Aircraft parts after dismantling

Engaging in the challenging task of recycling CFRP in the aircraft recycling business

The aircraft recycling business begins after the necessary parts have been removed in the used aircraft parts business. The business involves finely shredding and sorting the remnants of aircraft and then recycling them as secondary metal alloys. At Sumitomo Corporation, we looked into this business opportunity in partnership with Toyotomi Sangyo Co., Ltd., which has the technological capability to recycle 99% of metals, plastics, and other materials in their automobile recycling operations.

Furthermore, Toyotomi Sangyo is the only comprehensive recycling company in Japan that has accreditation from the international Aircraft Fleet Recycling Association (AFRA), which promotes the proper recycling of aircraft. In 2022, Sumitomo Corporation and Toyotomi Sangyo achieved a 96% recycling rate in jointly conducted aircraft recycling trials.



Structural components before incineration

We are also taking on the challenge of recycling carbon fiber reinforced plastic (CFRP), a lightweight and robust special aircraft material that is considered to be particularly difficult to dispose of. While the retirement of aircraft made with more than 50% CFRP will begin around 2035, there is no established method for recycling the material and it is said that the only option will be to bury it. Taking into account the forecast that the amount of disposed CFRP in 2040 will be nearly 10 times the current level, Sumitomo Corporation is focusing on establishing a recycling method in cooperation with its Carbon Department and external partners. We have already confirmed that CFRP can be removed in a sufficiently reusable form in recycling trials using the technology of Carbon Fiber Recycle Industry Co., Ltd. in Gifu, Japan. We will study the secondary market for this recycled CFRP in cooperation with various companies, universities, and research institutions.



Pellets after incineration and processing

Going forward

Establishing responsible businesses in the aviation industry from the point of entry to exit

An aircraft graveyard full of decaying planes in the desert is obviously unsustainable. I recognize the tremendous importance of transforming the aviation industry into a sustainable one, and we are working to realize this by leveraging our network of partners' capabilities in proper aircraft recycling alongside Sumitomo Corporation's own capabilities. Moreover, the aircraft aftermarket business is expected to continue growing steadily, and the reuse of parts will provide a large return on investment. For these two reasons, I am excited by the thought that this business will become a major earning pillar if we succeed in commercialization.

I participated in identifying Sumitomo Corporation's material issues when I was in the Corporate Planning & Coordination Department. At the time, however, I was not aware of it enough to tie it into the actual business. Today, there is a growing momentum within the division to encourage ESG investment based on the keyword of "circular economy." While still ensuring nominal profitability, we can gain recognition of the social significance of the business. I hope to contribute to the establishment of a portfolio that conducts business from entry to exit in the aviation industry with responsibility.



Creating new aftermarket businesses in the aviation industry

The aviation industry is coming upon a major turning point, and a wide variety of assets and functions are required to adapt to the changes. In particular, aircraft recycling requires broad expertise and networks, including for securing aircraft procurement sources, dismantling and recycling technologies, and knowledge of metals. I feel like this is where Sumitomo Corporation, as an integrated trading company, has its strengths.

I believe the significance of the aircraft business, which helps bring people who are far apart together, lies in its contribution to the happiness and prosperity of people all over the world through the stable supply of aircraft. European and American manufacturers have long led the aviation industry. However, considering the expansion of the aftermarket an opportunity, we will put every effort into the creation of new aftermarket businesses to lead the market as a Japanese company.



Please refer to the Integrated Report 2023 (page 61) for the details of aviation business.



Key Social Issue

Respect for human rights

Respecting the human rights of everyone involved in our business activities and supply chain as part of our corporate social responsibility

Long-term goal: Respect human rights through all of our businesses and supply chains

Medium-term goals

Promote and ensure respect for human rights in accordance with the United Nations Guiding Principles on Business and Human Rights and Sumitomo Corporation Group's Human Rights Policy

- By 2023, achieve 100% participation rate in human rights education based on the Guiding Principles, and 100% implementation rate in regional organizations and subsidiaries.
- Strengthen risk analysis in human rights due diligence to accurately assess risks in all businesses, including the supply chain, and implement risk mitigation measures by 2025. Establish a more effective grievance mechanism based on assessment results.

Ensure a safe workplace environment

- Strengthen efforts to achieve zero accidents at major business workplaces, focusing on manufacturing, processing, and projects involving large-scale construction.

Achieve a diverse organization grounded in mutual respect

- Provide a safe working environment that is free from discrimination and harassment.
- Promote human resources management that enables individuals to demonstrate their abilities regardless of nationality, age, gender, sexual orientation, gender identity, or any other attributes or values.

Roundtable Discussion with External Experts

The current state of Sumitomo Corporation's human rights due diligence and future challenges

We established the Sumitomo Corporation Group's Human Rights Policy in 2020, which states that the Group will respect human rights as part of its corporate social responsibilities and aim for sustainable growth together with society.

In the same year, to promote its implementation, we identified respect for human rights as one of the six key social issues the Company needs to address. In 2021, we established a medium-term goal to accurately assess human rights risks in all businesses, including supply chains, and implement risk mitigation measures by 2025. Since then, we have begun human rights due diligence at the business-unit level covering all of our business segments.

Today, nearly two years after this process began, how should we evaluate the results of our initiatives and what direction should we take in the future?

To answer these questions, we organized a roundtable discussion on the current state of our human rights due diligence and future challenges. We invited two external experts in business and human rights serving as members on our Sustainability Advisory Board, and members of the Company's Corporate Sustainability Department leading human rights due diligence.

Interviewees



Hidemi Tomita

Managing Director, LRQA Sustainability K.K.

At Sony Corporation, Mr. Hidemi Tomita was involved in research on material physical properties and environmental technologies at the Sony Research Center. He worked at the European Environmental Center, and after his time as Manager of the Environmental Strategy Office, served as General Manager of the CSR Department, established in 2003, for approximately 10 years. After joining Lloyd's Register Quality Assurance Limited (LRQA) in 2013, he became a director of Lloyd's Register Japan K.K. (currently LRQA Sustainability K.K.) in 2016. As part of our human rights due diligence process at the business-unit level, he conducted interviews with each business segment as an external expert. In March 2023, he was appointed to our Sustainability Advisory Board.



Junko Watanabe

Attorney, Nishimura & Asahi

Ms. Junko Watanabe closely assists corporate clients with their sustainability needs while leveraging her expertise in various legal fields and jurisdictions including M&A, general corporate law, Asian law, and European law. She also excels at working with various stakeholders based on her experiences as a consultant for the International Labour Organization (ILO). Ms. Watanabe provides advice to Japanese corporate clients using her expertise in business and human rights. In March 2023, she was appointed to our Sustainability Advisory Board.



Tadafumi Yamaya

Corporate Sustainability Department, Sumitomo Corporation

Mr. Tadafumi Yamaya began his career in April 2004, when he joined a precision equipment manufacturer. There, he was responsible for sustainability promotion, including environmental regulation compliance, establishment of medium-term sustainability plans, and preparation of integrated reports. Later, in June 2016, he moved to an energy company. He worked in the corporate planning section, where he was responsible for all aspects of sustainability promotion, including formulating GHG emissions reduction targets, improving ESG ratings, and addressing human rights matters. Since he joined Sumitomo Corporation in October 2022, he has been in charge of social and environmental risk management.



Ryota Fujii

Corporate Sustainability Department, Sumitomo Corporation

Mr. Ryota Fujii joined Sumitomo Corporation in April 2021 and was assigned to the Corporate Sustainability Department. Up to September 2022, he assisted with publication of materials for external release, including the ESG Communication Book, and improving the Company's ESG ratings. Since October 2022, he has been a member of the social and environmental risk management team, engaging in human rights due diligence for the departments he covers and analyzing risks of investments.

History of human rights due diligence

FY2020: Examined the Group's businesses and value chains, and under the consultations of Mr. Tomita, identified eight salient human rights issues facing the Group.

FY2021 onward: Began human rights due diligence on a business-unit basis from individual business units believed to pose a relatively high risk in terms of human rights. Plan to complete for all seven individual business units (six business units and one initiative) by 2025.

Note: Please refer to ESG Communication Book2023(ESG Data) for details on our actions regarding human rights due diligence.

Progress (completed for four individual business units)

FY2021: Implemented for the Media & Digital Business Unit and the Living Related & Real Estate Business Unit.

FY2022: Implemented for the Infrastructure Business Unit and the Mineral Resources, Energy, Chemical & Electronics Business Unit.

Sumitomo Corporation Group frontline employees have a high awareness of human rights risks

—This question is for Mr. Tomita, who was involved in identifying risks as part of human rights due diligence, and Ms. Watanabe, who has viewed the disclosure. How do you evaluate Sumitomo Corporation's efforts thus far?

Tomita Sumitomo Corporation has business operations in a wide range of fields. In addition to businesses with risks already recognized, such as those that impact local communities and occupational health and safety in mineral resource concession projects, the Company also conducts business with new types of human rights risks, including human rights violations caused by AI in the media and digital-related business. Therefore, there is no single answer to the question of what human rights risks Sumitomo Corporation faces, and it is extremely difficult to come up with a concise picture of all such risks.

Given this difficulty, **the fact that employees close to the front line took part in my interviews** on the risks of each business was a strong positive. Generally speaking, in most cases the corporate department of a company carries out risk assessments. Although I cannot say that one is necessarily better than the other, the fact that Sumitomo Corporation adopts this more bottom-up approach is unique.

I feel like I was really able to understand the unique risks facing each business because the people I interviewed have a true understanding of frontline operations. For example, even in the same industrial field, each business has an individual supply chain and stakeholders, and as a result, they face different risks. An important outcome of my interviews was that I got a clear picture of the current situation by talking to people close to the Company's frontline operations.

Watanabe I think it is great that Sumitomo Corporation conducted interviews of its many business units and is working on initiatives to address risk tailored to each business. **The fact that this follows the risk-based approach advocated in the United Nations Guiding Principles on Business and Human Rights, which recommends to work from larger risks to smaller ones, sets the Company apart from others.**

It is also great that the Company already has the culture to implement human rights due diligence groupwide, using a solid system for collaboration between the Corporate Sustainability Department and individual business units.

Tomita I was also impressed with **the high degree of awareness toward human rights risks** shown by the people I interviewed. They are aware of what needs to be done now and really recognize areas of concern for the future. Since risks change as the business landscape

evolves, even if risk management was going well as of the time of the interview, there is no guarantee that this state will continue going forward. Therefore, the important thing is for people on the front line to continue to have a high sensitivity toward risk and always be aware of changes. The interviews indicated to me that sensitivity to risk is deeply rooted across the entire Company.

—What are the current issues facing the Company?

Watanabe One is **providing more detailed information in disclosures**, such as the integrated report. The Company has mentioned that efforts have already been initiated to address risks. However, I have found that details are lacking when it comes to its current actions with regard to businesses found to pose high human rights risks and the Company's evaluation for adequacy of such efforts.

Tomita I agree. Even if risks are identified, if the Company cannot show how it is correcting and preventing these risks, then its human rights due diligence efforts will not have come full circle.

Watanabe I feel it is also important to disclose how internal and external stakeholders are involved in human rights due diligence initiatives. For example, which stakeholders were involved in the process of formulating the Human Rights Policy, what types of opinions were

—Mr. Yamaya and Mr. Fujii, both from the Corporate Sustainability Department, how do you feel about the evaluation and findings shared right now?

Yamaya I have worked in the sustainability department of several companies previously. I joined Sumitomo Corporation last year and have been in charge of human rights due diligence. It was pointed out that our employees have a high sensitivity toward risks and are extremely serious when it comes to human rights initiatives. I have felt the same way since joining the Company.

Fujii How best to disclose our human rights due diligence initiatives has been an area of concern. Most of the Group's businesses are run with the close collaboration of investment partners, and thus, we were unsure of the extent to which we should disclose information. At the same time, we need to show stakeholders that we are firmly implementing the PDCA cycle in human rights due diligence and making progress with improvements. We hope to provide disclosures useful to stakeholders while consulting with experts, including those on the Sustainability Advisory Board, with regard to the most appropriate methods.

Yamaya Having people outside the Company point out shortcomings makes the issues very clear. Human rights due diligence at the business-unit level will wrap up soon. Based on the results and the findings today, we will take action to mitigate future risks, including mapping out high risks.



Ensuring that the entire Group takes the initiative in human rights due diligence

—What areas will Sumitomo Corporation work on in the future?

Yamaya Currently, we identified the eight salient human rights issues*1 facing the Group and are interviewing each business unit with a hypothesis in mind. Earlier, Mr. Tomita praised the fact that he was able to interview persons in charge close to the front line of our businesses. With that being said, the Corporate Sustainability Department leads overall initiatives for human rights due diligence. Given that we are an integrated trading company engaged in a wide range of businesses, it is important for each group company, which identifies and manages risks on the front line, to proactively implement human rights due diligence.

Meanwhile, even if group companies are able to lead human rights due diligence, the corporate group including the Corporate Sustainability Department still needs to verify whether sufficient risk assessment and countermeasures are being undertaken on the front line and elaborately check that actions are being taken in response to high risks from a companywide perspective. Therefore, it is necessary to establish an appropriate design for determining the roles of each layer, including the corporate group, individual business units, and group companies we invest in.

*1: Please refer to ESG Communication Book2023 (ESG Data) for details on the eight salient human rights issues.

—Ms. Watanabe and Mr. Tomita, what are your thoughts on future initiatives?

Watanabe Watanabe: First, I feel that the further strengthening of the risk management system groupwide would be a move in the right direction. Currently, priority has been given to initiatives depending on the extent of risk identified in interviews with individual business units. In order to raise greater risk management awareness on the front line, I encourage the Company to strengthen its



collaborative system with group companies. I believe the Company is already implementing a number of initiatives for events determined to pose a high risk. Nevertheless, I do recommend that the Company has an expert in international human rights check whether initiatives to address each issue are truly adequate or not. **It would be ideal for the Company to establish a platform that can share expertise from these initiatives in high-risk fields within the Group** while further refining its response to risks.

Tomita I believe that dividing roles according to each layer, such as corporate group, individual business units, and group companies, is key to having successful initiatives for respecting human rights. It is important for individual business units and group companies to continue to implement human rights due diligence on their own and for the corporate group to supervise their efforts as appropriate.

To achieve this, **the persons in charge of each layer must undergo training.** This should not only teach knowledge but also foster the ability to think on their own. This process may be a long road, but the only way to success is to see the process through to the end. Approaching risk based on the degree of seriousness is highly effective, but actual initiatives can be difficult. For example, it should be difficult to simply compare which poses a higher risk when it comes to the initiatives of different business units.

Therefore, even when giving priority to the higher risks



with speed in mind, in order to determine risk appropriately, a comprehensive approach involving the entire business must be taken. The important thing is for each individual layer to thoroughly follow the risk-based approach. Toward this end, **a system must be in place that empowers each and every employee to work autonomously.**

Priority should be placed on strengthening our grievance mechanism

—What other initiatives must be implemented?

Fujii We are now in the second half of our human rights due diligence at the business-unit level. In addition to thoroughly implementing these initiatives, as laid out in our medium-term goals for key social issues, we recognize the need to explore the establishment of a more effective grievance mechanism in the future based on the evaluation results of our human rights due diligence on a business-unit basis. Currently, our corporate website has contact points available in English and Japanese, but there is still room for improvement. However, introducing a grievance mechanism at every business site will overload operations, so we hope to receive views from various people, discuss them thoroughly, and explore the optimal format.

Watanabe Providing services in Japanese and English is not enough, considering the number of business segments and regions where the Company operates. Meanwhile, regarding the level of grievance mechanism and where to deploy it, the process should also begin with a risk-based approach, and introducing it from business sites with a high risk is a realistic and effective method.

Tomita If the current system is applied to the entire Group in general, the next step should be to consider what kind of mechanism is best for receiving reports on relatively high-risk issues. To respond to the human rights risks associated with a wide range of businesses, it may be necessary to have various complaint-handling mechanisms according to the rights holders*2 involved in each.

*2: People who have rights. In the context of business and human rights, it refers to people whose human rights may be violated through the activities of a company.

Watanabe Many companies in Japan tend to introduce or strengthen their grievance mechanisms after completing human rights due diligence. **However, it is effective to start efforts related to the grievance mechanism as soon as possible. This is because there are many cases where the introduction of the grievance mechanism has identified new human rights risks and thus it makes following actions for human rights due diligence more efficient.** In addition, I think it will be more effective to cooperate with the Legal Department and the Legal Compliance Department on issues such as upgrading the existing whistleblower system.

Tomita I would also like to see the Company work on human rights due diligence and the establishment of a more effective grievance mechanism at the same time. The expected timeline for human rights initiatives is becoming clear due to the progress of legislation in Europe, and the need to strengthen our grievance mechanism at an early stage is also increasing. For both human rights due diligence and the grievance mechanism, I think it is important to be aware of the timeline and to organize and disclose what will be completed by when to some extent.

Taking a unique approach that truly works for Sumitomo Corporation

—Mr. Fujii and Mr. Yamaya, how do you feel about the future approaches provided here as advice?

Fujii The advice about a risk-based approach was extremely enlightening. When we actually pursue this, even if we tell the front line that “this is a high risk,” they may often have doubt as to “how can you say this poses a higher risk for us than for other business units or departments.” To prevent this, I feel we need to explain logically how we identify risks, assign priorities, and decide which actions to take. As for the advice on dividing roles by layer and conducting employee training, we have already begun initiatives. Specifically, **all of Sumitomo Corporation's employees underwent e-learning on human rights last year. This year, we will roll this training out to regional organizations and subsidiaries.**

Yamaya Based on the advice provided today, I feel that there is a lot we need to address and we have a long way to go. For example, in regard to the risk-based approach, for group companies, we need to increase opportunities to consistently communicate why the business faces high risks through detailed explanations, workshops, and other efforts.

In addition, the Self-Assessment Questionnaire (SAQ), a survey that checks whether suppliers are in



compliance with our required standards of conduct, is implemented for specific businesses, but not uniformly for the Company as a whole. Should we consider expanding the scope of this in the future?

Tomita Personally, I feel that the conventional format of the SAQ has resulted in many cases where it does not function effectively in response to the true goal of risk identification, and its necessity is doubtful. Therefore, when using the SAQ, I would like the Company to think from scratch about the format that suits its business characteristics without thinking that it has to cover general questionnaire items. To pursue

the essence rather than the form, I would like you to **approach the SAQ with a spirit of “creating a completely new way.”**

Watanabe As Mr. Tomita just said, I feel that the SAQ is full of abstract survey items and is not particularly effective. If a response to the question “Do you use forced labor” simply says “No” and the Company does not go any further, then you will not be able to identify actual risks. I agree that the Company should do what needs to be done to identify true risks.

Yamaya I understood well the importance of thinking about what needs to be done to fundamentally reduce

risk, without being bogged down by conventional methods. I feel that many companies want to show that they are doing “a good job” not only in human rights but also in general sustainability topics. However, if we stop there, our initiatives will not evolve, and we will not be able to meet the level of human rights initiatives that is currently required worldwide. I would like to think about what is truly important and what is suitable for our Company, communicate with each internal organization and external stakeholders, and listen to the opinions of experts as we move forward. Thank you for your time today.

Comments from four business units

(Planning & Coordination Departments*3 or departments in charge of overseeing group companies) where human rights due diligence was carried out

Digital Business Development Department (responsible for overseeing SC Digital Media K. K.), Media & Digital Business Unit

SC Digital Media K.K., which offers marketing support, video production, and live streaming services to client companies, handles a wide range of data, including consumer-related information.

Through dialogue held with SC Digital Media as part of the human rights due diligence carried out, we recognized that there were potential human rights risks when it comes to their handling of data and protection of privacy. To prevent these risks from occurring, we took several measures including raising internal awareness and implementing operational improvements. We will continue to address business and human rights with a high level of awareness to properly fulfill our responsibilities as a corporate citizen.

Planning & Coordination Department, Infrastructure Business Unit*3

As our business unit has many projects rooted in local communities, we are committed to protecting the human rights of the local residents and the occupational safety of the workers on-site. Since the human rights due diligence was conducted for all businesses in the unit, it provided an excellent opportunity to reconfirm our actions to date. It also helped us to take a fresh look at the supply chain to identify human rights issues and measures to address them. Furthermore, there were also opportunities for e-learning and to receive advice from outside experts. As a result, the due diligence process also helped raise awareness of those in the department and increase their literacy.

Retail Business Department No. 2 (responsible for overseeing Sumisho Montblanc Co., Ltd.), Living Related & Real Estate Business Unit

Sumisho Montblanc Co., Ltd., which designs, manufactures, and sells lab coats and service uniforms, has always given full consideration to the safety of workers at the overseas and domestic plants contracted for production. Through the human rights due diligence that was carried out, our department was reminded of its importance and recognized supply chain issues.

Sumisho Montblanc is working on initiatives that include (1) conducting on-site inspections at overseas plants, (2) establishing guidelines for CSR auditing activities, and (3) establishing a supplier code of conduct with external experts and carrying out transactions based on it. In addition, when our department discusses further enhancement of corporate governance with the company, we are able to utilize the information organized during human rights due diligence.

Planning & Coordination Department, Mineral Resources, Energy, Chemical & Electronics Business Unit*3

We were able to comprehensively confirm the human rights risks of each business line of the business unit. For those where risks such as occupational injury and lack of traceability were identified, we developed action plans for preventing and mitigating these risks, and have begun carrying them out. As for the mining business, we were also able to confirm that there were no major issues with regard to environmental impact assessments, impact on local communities, and the working environments at manufacturing plants. In addition, the proactive risk reduction initiatives for contractors and upstream suppliers were shared internally as good practices to raise the overall level of efforts.

*3: Departments in charge of strategy, performance management, planning, and human resources for each business unit. The departments serve as the business unit's point of contact and supervising entity for sustainability initiatives, including human rights due diligence.



Key Social Issue

Development of local society and economy

Contribute to development of local industries, human resources, and industrial and social infrastructure

Long-term goal: Contribute to development of local industries and human resources

Medium-term goals

Develop local industries, create jobs, and develop human resources through the Group's global business operations

- Promote sustainable, highly productive and value-added industries, and coexist with local communities through business.
- Create employment and develop management and highly skilled human resources at the Group's business sites.

Long-term goal: Develop industrial and social infrastructure

Medium-term goals

Establish industrial and social infrastructure that contributes to the sustainable development of society

- Promote infrastructure that enables access to high-quality energy, water, transportation, logistics, communications, and financial services, as well as businesses that enhance urban functions.

Integrated Telecommunications business in Ethiopia

Supporting Ethiopia's future through the establishment of telecommunications infrastructure and value-added services

Mobile telecommunications services are becoming an essential social infrastructure that is indispensable to people's everyday lives, just like electricity and water. However, there are still regions of the world where the development of telecommunications infrastructure is lagging behind and the adoption of mobile devices has not progressed sufficiently. One of those is Ethiopia in Africa. The slow spread of telecommunications service is holding back future economic development in the country and is creating a barrier to resolving social issues such as educational disparities and gender inequalities. Together with our partners, Sumitomo Corporation is entering the telecommunications service market in Ethiopia, which is still in its infancy, leveraging our expertise in launching telecommunications service from scratch in various regions of the world. Here, we highlight the efforts of experienced and passionate employees in their quest to further expand the telecommunications service area and provide various value-added services to contribute to medium- to long-term economic development and the betterment of people's lives in the country.

Interviewee



Yukari Soejima

Smart Infrastructure Business Department No. 2

Joined the Company in 2008. She was assigned to the former Telecommunication Business Department in 2011 and has since been involved in investing in the telecommunications business in emerging countries. In April 2013, she was assigned to Mongolia for two years and seconded to a local mobile carrier investee, where she was placed in charge of corporate planning and marketing. Since January 2022, she has been in charge of the integrated telecommunications business in Ethiopia and collaboration with Vodafone Group. She is also involved in local group company management.

Why

Telecommunications infrastructure development delays holding back economic growth

Ethiopia is a pivotal country in Africa, and its population of approximately 120 million is the second largest on the continent. It has a young population with a median age of approximately 19 years, and in recent years it has enjoyed high economic growth with annual GDP growth rates of 6% to 10%. On the other hand, roughly 80% of the population works in agriculture, and the country is still one of the poorest in the world due to recent large-scale droughts, rapid population growth, and low wages.

The mobile penetration rate is only around 50%, significantly lagging behind not only advanced countries but also many emerging countries that have achieved penetration rates of over 100% (more than one device per capita).

The widening of the international digital divide due to the delay in the development of telecommunications infrastructure will be a significant barrier for Ethiopia in achieving economic growth and social progress. As such, the Ethiopian government has established an economic policy called “Digital Ethiopia 2025.” The aim of the policy is to achieve sustainable economic growth by expanding employment and alleviating poverty through digitalization. As part of the policy, the government began opening up the telecommunications sector in 2019.



What&How

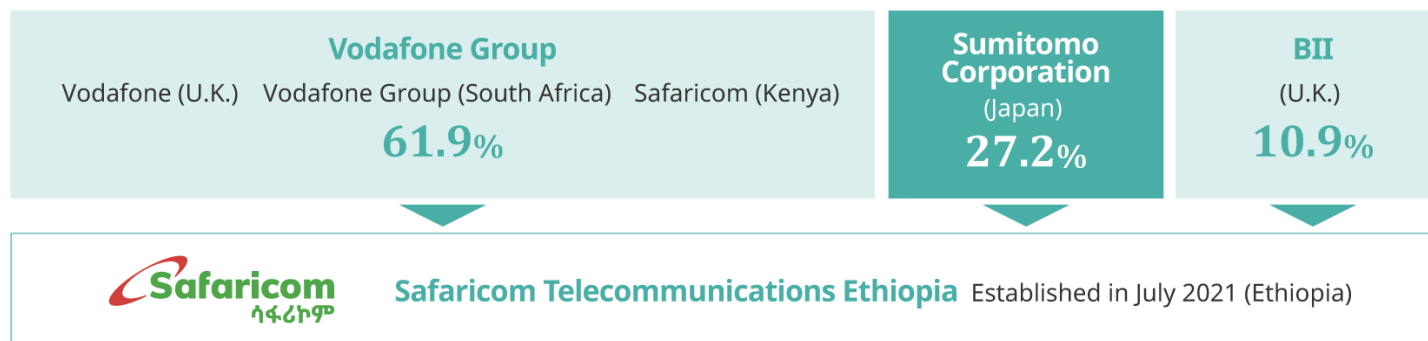
Forming strategic partnerships with leading global players to launch new telecommunications services from scratch

The mobile market in Ethiopia has long been dominated by a single company. The absence of competition has hindered incentives for technological innovation, expansion of coverage, and service improvements. This has been a contributing factor to the stagnation of mobile penetration.

To overcome this situation, the Ethiopian government decided to open up the telecommunications sector and implemented a competitive bidding process for new market entrants. Sumitomo Corporation won this bid in a consortium with UK-based Vodafone Group Plc, its Kenya-based group company Safaricom Plc, South Africa-based Vodacom Group Ltd., and British International Investment plc, a UK government-affiliated investment company, to gain a new entry into the Ethiopian mobile market.

Sumitomo Corporation has been in the integrated telecommunications business for approximately 30 years. Starting with the launch of operations in Mongolia in 1995, where no mobile telecom service had previously existed, we have promoted many projects, including the development of mobile telecom service in Russia and Myanmar. Through these projects, we have acquired a great deal of knowledge, such as in relation to specialized human resources in the telecommunications field, business networks with leading companies in Japan and abroad, negotiations with local governments, and project management skills, including risk management. In Ethiopia, the partnership between Vodafone Group, which operates telecommunications businesses in eight African countries and various other parts of the world, and Sumitomo Corporation, which has experience in launching overseas telecommunications businesses from scratch, serves as a driving force for the project.

Promotion structure for the integrated telecommunications business in Ethiopia and investment ratio



Launching services in major cities despite intensification of civil conflict and aiming to expand services across Ethiopia by 2030

The consortium that acquired the integrated telecommunications business license established a local operating company, Safaricom Telecommunications Ethiopia Plc, in July 2021 and set to work on commercialization. Immediately afterward, there were some setbacks in preparing for operations due to the intensification of the civil conflict. However, in October 2022, service was launched in 11 major cities, including the capital Addis Ababa. The service area was subsequently expanded, and by April 2023 it had grown to 22 major cities across the country. The plan is to expand the service area to smaller cities and major roads and to increase the number of sales channels, enabling almost everyone in Ethiopia to have access to a mobile network by 2030. The development of this project has also contributed to the creation of direct and indirect employment, with over 5,000 jobs already created as of March 2023.



SIM sales at launch ceremony

Providing financial services to support economic activity in Ethiopian society

In this integrated telecommunications business in Ethiopia, we also aim to provide various value-added services utilizing the telecommunications network. As the first step, we will launch the mobile money service M-PESA in FY2023. Launched in Kenya in March 2007 by partner Safaricom Plc, M-PESA is a service that allows mobile money transfers to a recipient's mobile phone number via the user's mobile phone. Not only can it be used for mobile payments in stores, but it can also be used to get cash at the nearest store or kiosk when needed. The service quickly gained popularity in Kenya, where many people do not have bank accounts, due to the convenience of being able to do financial transactions on a mobile phone even without a bank account, and in recent years, the number of users has been increasing in other African countries and Eastern Europe.

Since the majority of people in Ethiopia still do not have bank accounts, we believe that widely rolling out M-PESA will have a significant social impact, changing people's lives and economic activities. The service will enable cashless payments, such as for daily purchases and paying public utilities, as well as secure transactions, such as for receiving salary payments and sending money to family members in rural areas.

In the future, we hope to see M-PESA used to provide small loans and other financial services to individuals and small and medium-sized businesses to promote business expansion and entrepreneurship, thereby contributing to local economic revitalization and employment growth.

In addition, easy and reliable billing and payment methods will be necessary for potential future services, such as online education and content distribution using the mobile network, so the rollout of M-PESA will lay the foundation for future value-added services. Sumitomo Corporation has the advantage of having business divisions that engage in various industries such as education, entertainment, agriculture, and healthcare. Furthermore, we possess a network to expand the utilization of this platform to external entities. While leveraging synergy as an integrated trading company, we will provide a variety of value-added services that contribute to the establishment of Ethiopia's infrastructure and the country's further development. We will also contribute to economic and human resource development in pursuit of our Corporate Message of "Enriching lives and the world."

Going forward

Bringing network access to all in Ethiopia

Network construction is a major part of implementing a mobile telecommunications service. However, overseas businesses are subject to problems unique to the country or region in which they are located, including security issues and difficulties in obtaining land use approval. Each time, the challenge must be overcome by revising the plan or continuing to engage in persistent negotiations. During such times, it was reassuring to have a significant number of people within the Company who had previous experience executing projects in other countries such as Mongolia and Myanmar. My own previous experience in Mongolia, where I was involved in the operation of a local mobile carrier, also proved useful. Among the various businesses of trading companies, the telecommunications business is one that is directly tied to people's lives. I have actually been to Ethiopia, and many people still do not have mobile phones, especially in rural areas, and development of infrastructure other than telecommunications is also still underway. After experiencing firsthand the local way of life, I renewed my determination to change the situation through the telecommunications infrastructure and financial services we provide.

We will continue to take up the challenge of expanding the network and providing value-added services so that in the near future we will be able to see with our own eyes people using their smartphones to enjoy mobile services such as social media and shopping no matter where we go in Ethiopia.



Message from Safaricom Ethiopia ESG Manager

Mr. Tewodros Getachew

It has been very exciting to be the part of a company that is committed to Transforming the Lives of our society for a Digital Future. Safaricom Ethiopia's ESG program is underpinned by solid policies and procedures to ensure end to end implementation in all our operations through collaboration with our suppliers, vendors, and the communities where we conduct our business operations.


As an ESG Professional it is very encouraging to witness the changes that our company has brought to our society through direct and indirect job and business opportunities, network accessibility and high-speed internet connection. The introduction of mobile money will drive much needed financial and digital inclusion to millions of Ethiopians and will go a long way in improving lives meaningfully.

In line with our commitment to company's purpose "Transforming the Lives of our society for a Digital Future" has already provided direct and indirect employment opportunities to 5,321 people (among them, 150 are new graduates with over half of them being female and from rural areas).

As we continue to expand our operations and reach all of Ethiopia, we pay particular attention and support popular community events like the Women First 5K run, focusing on bringing together 15,000 women every year, and projects that focus on environment protection like the annual nationwide tree planting.



Please refer to the Integrated Report 2023 (page 17) for the details of Integrated Telecommunications business in Ethiopia.



Key Social Issue

Improvement of living standard

Aiming to provide advanced services and new functions through diverse businesses and new technologies and concepts

Long-term goal: Provide advanced lifestyle-related services

Medium-term goals

Deliver advanced lifestyle services that help to solve social issues such as urbanization and aging populations

- Provide more advanced services and new functions that improve the standard of living, such as mobility, media and telecommunications, healthcare services, and Smart City development, based on new technologies and concepts.

Next-generation agribusiness

Realizing sustainable food production through agricultural innovation

As the world's population growth and climate change become more critical, there is a need to eradicate hunger, ensure a stable food supply, and improve nutritional conditions. To achieve this goal, it is essential to establish a sustainable food production and supply system that balances higher agricultural productivity with less environmental impact.

Sumitomo Corporation has been engaged in agribusiness globally for roughly 70 years. Seeing the current social challenges in food production and supply systems as a medium-to long-term challenge, the Company newly established the Agri-Innovation Department in April 2022. The department is responsible for business development to promote new technologies and solutions that will support the future of agriculture. We talked with two employees active on the front lines of agriculture about Sumitomo Corporation's pursuit of realizing sustainable next-generation agriculture and how they can leverage the knowledge the Company has cultivated in the agribusiness over the years.

Interviewees



Keisuke Okada

Agri-Innovation Department

Joined the Company in 2008. After working in the mining and construction equipment sales business and supply chain management for construction equipment plants at the Construction & Mining Systems Division, participated in new business development at the African subsidiary for approximately three years starting in October 2013. After returning to Japan, he joined a team business development in the field of precision agriculture. He later joined the Agri-Innovation Department, which was established in April 2022, and is now responsible for developing new businesses in the field of smart farming.

Aya Kuroe

Agri-Innovation Department

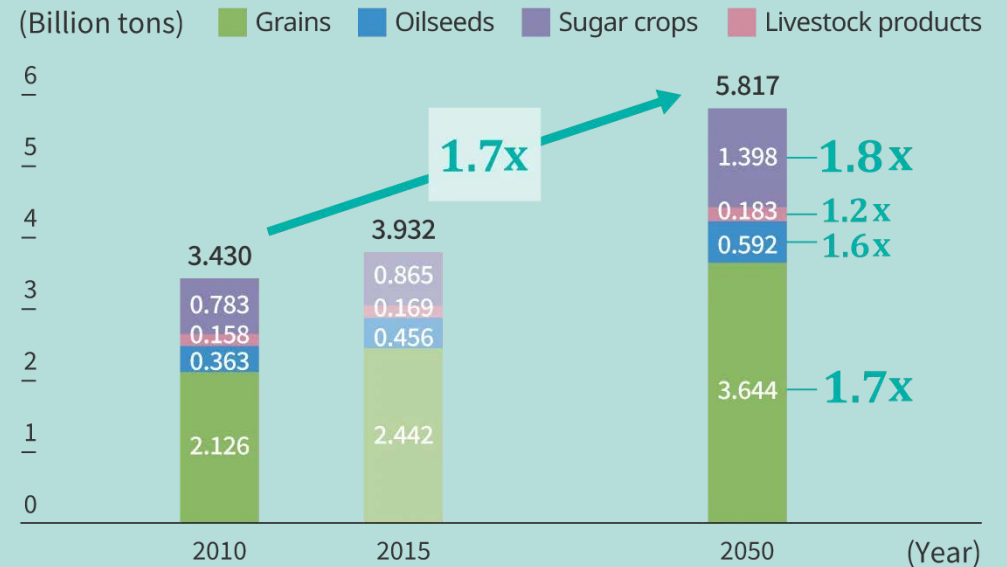
Joined the Company in 2008 and worked in the Basic Chemicals & Electronics Division, where she worked in plastic raw material and semiconductor material trade. In July 2020, she was transferred to the Energy Division, where she was involved in the launch of a carbon credit-related business. In April 2022, she joined the new Agri-Innovation Department and is currently involved in new business development in the clean farming field, including carbon credit generation.

Why

Seeking agriculture and food production that addresses increasing food demand and climate change

The environment surrounding agriculture and food production has become even more severe in recent years. Globally, the demand for food is increasing as the world's population grows and dietary habits change. At the same time, however, numerous issues are emerging as barriers to increased food production. These include changes in crop growing conditions caused by climate change, increased droughts and flooding, and soil erosion. Looking specifically at Japan, there are a mountain of social issues such as the declining population of farmers, the shortage of successors, and the increase in fields and rice paddies that have been abandoned and are no longer cultivated. A sustainable food production system requires new technologies and solutions that improve agricultural production, automate and reduce the labor required for the work, and reduce the environmental footprint. Also, to resolve the social issues, these innovations must be put into practical use and be widely accessible.

Outlook for global food demand by item



What&How

Developing new businesses from a medium- to long-term perspective with the agribusiness as the focus of the next-generation growth strategy

Since launching imports and exports of crop protection products and fertilizers approximately 70 years ago, Sumitomo Corporation has promoted businesses that contribute to the sustainable development of agriculture all over the world and the stable supply of food. This includes manufacturing and distributing such products and global development of the agricultural input & service business, including the sales of agricultural equipment. Through these long-established businesses, we have built a global sales network and value chain that covers the major agricultural regions of the world. At the same time, we have gained the ability to address the specific needs and challenges of our customers, the producers in each region, through our direct sales system allowing immediate access to them. These are some of the major strengths of our agribusiness.

As agriculture and food production are gaining greater attention as challenges related to human sustainability and food security, Sumitomo Corporation has positioned its agribusiness as one of the next-generation growth fields in its medium-term management plan SHIFT 2023. In the Agribusiness Strategic Business Unit (SBU), the plan is to grow after-tax profit (excluding one-off profits) from ¥16.5 billion, where it is now, to more than ¥40.0 billion by FY2030.

Based on this plan, the Agri-Innovation Department is working to develop smart farming, which aims for highly efficient food production utilizing information and communications technology (ICT); clean farming, which pursues food production with a small environmental footprint; and next-generation food production, which leverages genome and culture technologies.



Pursuing the practical application of sustainable next-generation agriculture utilizing ICT, biotechnology, environmentally friendly technologies, and more

Smart farming is a business for maximizing yield, improving quality, and automating and streamlining agricultural work. This involves utilizing cutting-edge information technology such as IoT, ICT, and AI analysis to aggregate and analyze various agricultural information, including operational data from agricultural equipment, farming records, and soil and weather data, and growth analysis based on satellite and aerial images. We are also focusing on the contract farming business to promote these advanced agricultural technologies and solutions. As part of this, we have invested in Nileworks Inc., a company that develops and sells automated drones for agricultural use in Japan, as well as AI services which provide growth and disease diagnosis based on image analysis. In the domains where we are looking into new businesses, we are working to spread precision agriculture utilizing automation technology and to develop support services for emerging countries and small farmers, such as analysis and software subscription services and mobile payment services for contract farming and agricultural input distribution.

Regarding clean farming, the focus is placed on regenerative agriculture, where crops are cultivated while storing CO2 in the ground by increasing organic matter in the soil to preserve and improve farmland and ecosystems, thereby reducing the greenhouse gas emissions from agriculture. We also aim to achieve sustainable business by trading the carbon credits generated. In addition, to reduce greenhouse gas emissions from livestock and dairy farming, we are putting effort into developing businesses using feed additives that are effective in reducing methane gas contained in cattle belches. Another example of our projects includes developing insect-derived proteins as alternative proteins for livestock and aquaculture feed as well as pet food.

Next-generation food production is an initiative to build a circular food production system using next-generation technologies to support plentiful diets. Specifically, we seek to develop highly functional agricultural product varieties and bio-agricultural chemicals using genome editing technology, to put edible oils and fuel generated from algae to practical use, and to develop and produce Cell-based meat and Plant-based meat.

Smart farming

High-efficiency food production utilizing ICT infrastructure

- Agricultural data analysis and farming platform: Digitization, visualization, and AI analysis of agricultural data
- Contract farming business: Supporting producers through drone spraying and precision agriculture (automated steering and variable fertilization)
- Emerging country and small farmer support platform: Supporting small farmers through crop and agricultural input distribution, mobile payments, and other means



Clean farming

Food production using new technologies with a low environmental footprint

- Feed additives: Reducing greenhouse gases generated by livestock
- Regenerative agriculture: Reducing greenhouse gases from farming and farmland and generating carbon credits
- Insect-derived proteins: Creating new business value from insect-derived livestock and aquaculture feed



Next-generation food production

Development of circular economy and improvement of living standards through next-generation technologies

- Genome editing: Developing and selling highly functional agricultural product varieties
- Algae cultivation: Utilizing algae in edible oils, fuels, and more
- Next-generation food production: Cell-based meat and Plant-based meat



Pursuing synergy not only through collaboration with the existing agribusiness but also with Sumitomo Corporation's wide range of other businesses

Progress varies depending on the project, but our policy is to set milestones for each project and steadily achieve them. Even for projects that have already shown results through proof of concept, there is a possibility that cost could become a major challenge when it comes to actual commercialization. As such, for businesses with high entry costs, such as for machineries and equipment, we aim to build a business model that can be widely used by small and medium-scale producers who have difficulty when it comes to the initial investment. Offering subscription services is one of the ideas.

Furthermore, when developing new businesses, we collaborate not only with existing businesses in the Agribusiness SBU but also with other SBUs and internal and cross-organizational teams, such as the Green Chemical Business Development Department and the Energy Innovation Initiative (EII), along with regional bases and group companies. We believe that being able to contribute to the realization of sustainable next-generation agriculture and food production systems while pursuing synergy with various businesses within the company is a unique strength of Sumitomo Corporation.



Sumitomo Corporation employees pictured with local partners and farmers in India working toward sustainable agriculture

Going forward

Sharing a vision with our partners and solving challenges one by one

In the smart farming project, it is extremely important to have a collaborative relationship with many partners. This includes not only manufacturers of equipment, such as farm machines and drones, and IT vendors but also the agricultural producers who are the users, the food processing companies who are the consumers of the crops, and distributors. It can take six months to more than a year for proof of concept at farms to yield results. Therefore, I believe it is crucial that we develop businesses with partners who share the same sense of urgency to make agriculture more sustainable from a long-term perspective and ensure that projects do not come to a halt during the experimentation phase. I go about my work with the hope that Sumitomo Corporation can play a role in helping to achieve this. Furthermore, we have offices not only in Japan but also in various parts of the world, including Asia, Africa, Europe, and South America. In those locations, we have people who are passionate about contributing to the development of agriculture and society in their respective countries. I hope to create new businesses that will support the next generation of agriculture and food production together with these colleagues.




Developing a business model capable of turning reduced environmental impact in agriculture into profit

The mission of the Agri-Innovation Department is “Innovation for the Earth.” I am in charge of clean farming, and am convinced that it is an essential initiative for the future of agriculture and a business of great social significance. However, because reducing the environmental impact of agriculture does not immediately translate into profit for the producers under the current circumstances, I feel that it is crucial to find a balance between reducing environmental impact and making it successful as a business. For that reason, we are committed to establishing a business model to monetize clean farming by such means as introducing mechanisms to convert environmental value into economic value, including carbon credit generation, and pursuing cost reductions. Moreover, as individual commercialization by each producer is not efficient, my hope is to coordinate businesses by collaborating with various industries and regions, working together to generate greater greenhouse gas reduction effects and bring about a social impact.



Please refer to the Integrated Report 2023 (page 14) for the details of Agribusiness.



Key Social Issue

Quality education

Aiming to “contribute to quality education”
as the basis for resolving all social issues

Long-term goal: Contribute to quality education

Medium-term goals

Provide quality and equal learning opportunities through 100SEED* activities

- Quantitatively expand the scope of learning opportunities.
- 100% satisfaction of beneficiaries.
- Continue to have at least 5% of all employees participate annually (scope is Sumitomo Corporation, regional organizations and group companies).

*Social contribution activity program with employee participation at the Sumitomo Corporation Group

Social contribution activity program 100SEED

Quality education for all

~Diverse educational support by Sumitomo Corporation Thailand~

100SEED is a social contribution activity program aimed at solving educational challenges facing each region around the world.

We interviewed members of Sumitomo Corporation Thailand, which promotes 3 projects, BUTTON UP, POWER UP, and LIGHT UP, to provide diverse educational support.

Interviewees



Ms. Kanitha Thiansing (left)

SCTL* 100SEED Committee Advisor (FY2021 - FY2022)

Ms. Pallapa Wartcheeranon (center)

SCTL 100SEED Committee Advisor (FY2021 - FY2022)

Ms. Chalida Yodkansee(right)

SCTL 100SEED member and Volunteer

* Sumitomo Corporation Thailand

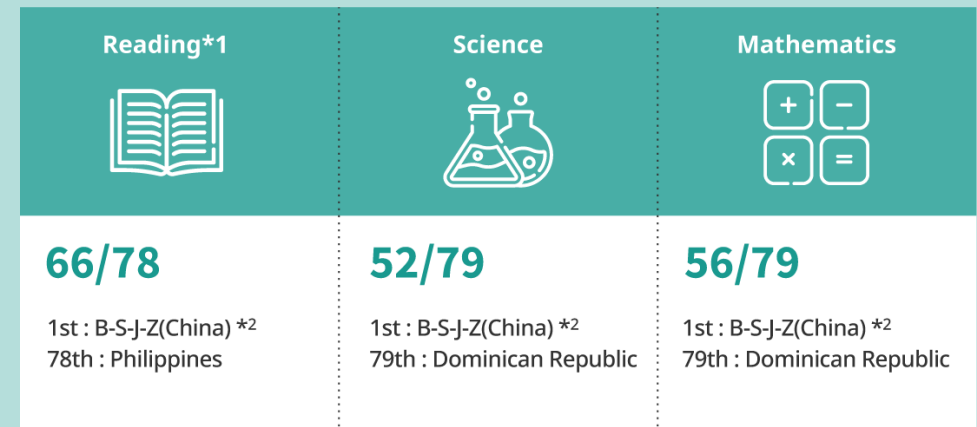
Why

The reason we work on these projects Educational Challenges in Thailand

There are two major educational issues in Thailand: First, the government's educational support is concentrated in large urban schools, while small schools lack infrastructure and teaching materials, resulting in an educational disparity. Second, the content of classes is not linked to real life and society, and students are concerned what they have learned will be applicable in the real world. As a result, the performance of students in Thailand is still lower than the global average.

To address these issues, Sumitomo Corporation Thailand (SCTL) has established the 100SEED Committee, which has launched three projects. We are also working closely with our partners to understand the local needs.

Thailand PISA 2018 Global Ranking



*1 : Data not available from Spain

*2 : B-S-J-Z refers to Beijing, Shanghai, Jiangsu and Zhejiang

What&How

3 projects to improve education from various perspectives

We are engaged in the 3 projects to improve education from broad perspectives: improving the educational environment in schools, providing university students with essential skills to become quality members of society, and developing teachers' teaching skills.

Through these activities, we support more than 2,000 students and teachers annually, and we believe that these projects contribute to the development of society. The LIGHT UP project, which aims to cultivate teachers' skills, plays a particularly significant role as the program enables their ability to mentor more students each year.

➤ **BUTTON UP**

Aims to improve the learning environment by providing equipment to local elementary schools.

➤ **POWER UP**

Offers seminars and workshops for second through fourth year university students to improve their understanding of business and bridge the gap between student life and working life after graduation.

➤ **LIGHT UP**

Provides teachers with teaching methods to help children develop communication, collaboration, and critical thinking skills that suit 21st century skills.

Results of activities

Project	FY2020 Results	FY2021 Results	FY2022 Results
BUTTON UP	<ul style="list-style-type: none"> • 2 schools • 345 students • 67 SCTL staff 	<ul style="list-style-type: none"> • 2 schools • 299 students • 86 SCTL staff 	<ul style="list-style-type: none"> • 2 schools • 286 students • 97 SCTL staff
POWER UP	<ul style="list-style-type: none"> • 1 seminar • 220 students • 10 SCTL staff 	<ul style="list-style-type: none"> • 2 seminars • 336 students • 33 SCTL staff 	<ul style="list-style-type: none"> • 2 seminars • 424 students • 39 SCTL staff
LIGHT UP	<ul style="list-style-type: none"> • 2 courses • 30 teachers • 20 principals • 30 SCTL staff 	<ul style="list-style-type: none"> • 1 course • 32 teachers • 68 SCTL staff 	<ul style="list-style-type: none"> • 2 courses • 32 teachers • 49 SCTL staff
Total impact	<ul style="list-style-type: none"> • 2,365 students • 107 SCTL staff 	<ul style="list-style-type: none"> • 2,435 students • 187 SCTL staff 	<ul style="list-style-type: none"> • 2,510 students • 184 SCTL staff





Going forward

Expanding our activities to areas in need of educational support

Each of the 3 projects has its own wish and origin: BUTTON UP is to properly button up the first button (i.e., to improve the educational environment for primary schools), so they could smoothly button the rest of the buttons (i.e., the educational process thereafter will run successfully). POWER UP is to provide university students with skills, knowledge, mindset, and better understanding of real working life to empower them to become the seeds of the future. And through the LIGHT UP program, we want to focus on training teachers who light up the future of students.

We will continue to engage in these 100SEED activities and educational development initiatives. If possible, we would like to expand our activities to other provinces where support is especially needed to improve educational disparities. We also hope to expand the scope of students so that we can reach more students and schools to have greater impact to society.



We are engaged in our activities with a sense of social significance and pride

We believe that Sumitomo Corporation and Sumitomo Corporation Thailand are part of the local community. Therefore, Sumitomo Corporation Thailand is engaged in the activities with a sense of pride that it is playing a key role in fostering the next generation who will later become part of our company and business partners and contribute to the development of the country.

The activities have been enthusiastically supported and endorsed by many school principals and teachers, and after 2 years of activities, our programs have become well-known in Ang Thong province, which is the focus area of LIGHT UP and BUTTON UP. POWER UP was introduced in the universities annual meeting held by the Ministry of Higher Education, Science, Research and Innovation, as a meaningful and effective program for university students preparing to become working professionals. It has shown a greater success than we expected.

Seeing actual positive impact on society

By participating in these programs, I am proud to be a part of an organization that actively contributes to the development of society, especially in the field of education in Thailand. Working with various departments and other companies to identify and analyze educational issues has been a great opportunity to learn and improve my critical thinking, analytical skills, creativity, and teamwork management. I also believe that these acquired skills can be applied to my work and help me grow and develop as a person. I also feel that through this activity, I am more motivated, satisfied, and engaged in my work because I can see how my work can have a positive impact on society.



Messages from participants



A student who participated in BUTTON UP

I'm thankful that members from SCTL came and did many things for the school, especially improving things that were lost or broken and making them better. Thank you.



A teacher who participated in LIGHT UP

This is a very good program because I get to learn new teaching techniques. My students look forward to seeing what I will bring to the next class.



A three-day training program for teachers as part of the LIGHT UP project

TOMODACHI Sumitomo Corporation Scholarship Program for development of the next generation of global leaders

Supporting students wishing to study abroad in the United States through scholarships and human resources exchange

Sumitomo Corporation launched the TOMODACHI Sumitomo Corporation Scholarship Program in 2014 to develop the next generation of leaders who will be active on the global stage.

We talked to Ms. Nana Watanobe, a program coordinator who supports operations, and Dr. Natsumi Komatsu, an alumna of the program, and asked them what kinds of experience and knowledge participants gain through the program and what type of mindset they think students hoping to study abroad should have.

Interviewees



Ms. Nana Watanobe

U.S.-Japan Council (Japan)

After working for a food company, she participated in the Japan Outreach Initiative (JOI) program and was sent to North Carolina in the United States for two years as a coordinator for Japan-U.S. exchange. Since 2020, she has been involved in operations of the TOMODACHI Initiative as program coordinator.



Dr. Natsumi Komatsu

Scholarship student of TOMODACHI Alumni

She participated in the TOMODACHI Sumitomo Corporation Scholarship Program in 2015 while enrolled in the Department of Applied Physics and Physico-Informatics at Keio University's Faculty of Science and Technology. After receiving her BS degree in 2017, she joined a PhD program at Rice University in the United States and earned her doctorate in the Electrical and Computer Engineering Department in 2022. She is currently a postdoctoral scholar at the University of California, Berkeley.

Why

Launching activities after resonating with the mission of the TOMODACHI Initiative

The TOMODACHI Initiative is a public-private partnership that was born out of support for reconstruction efforts in Japan after the Great East Japan Earthquake of 2011. Led by the U.S.-Japan Council and the U.S. Embassy in Tokyo, the initiative aims to develop the next generation of Japanese and American leaders through educational, cultural exchange, and leadership programs. We began participating in 2013, resonating with the mission of the TOMODACHI Initiative. The following year, in 2014, we launched the TOMODACHI Sumitomo Corporation Scholarship Program to provide aspiring students with the opportunity to take on the challenge of studying abroad by subsidizing the travel and living expenses of exchange students.



What&How

Sumitomo Corporation's unique support for study abroad through scholarships and human resources exchange

The TOMODACHI Sumitomo Corporation Scholarship Program is designed to further deepen the relationship between Japan and the United States and develop the next generation of leaders who will serve as a bridge between the two nations.

Sumitomo Corporation not only provides Japanese university students studying in the United States with travel and living expenses for a year but also collaborates with Sumitomo Corporation of Americas to offer training opportunities on the East Coast of the United States. Through these opportunities, we seek to offer a unique leader development program by providing them with experiences different from what they have at university. We also select mentors from among our employees, supporting the students so they can have a fulfilling study abroad experience.

Moreover, we provide ongoing opportunities for exchange after students have completed their studies, including the TOMODACHI Alumni Leadership Program run by the TOMODACHI Initiative.

Over the nine years from FY2014 to FY2022, we have supported a total of 67 students, and this year marks the 10th year of the program. We are confident that this program strongly promotes student growth and contributes to the development of future leaders who will be active on the global stage.

Supported **67** students
over **9** years
(FY2014–FY2022)



Ms. Komatsu touring Capitol Hill



Interview with SCOA management during East Coast training (January 2023)

Fulfillment of running TOMODACHI Sumitomo Corporation Scholarship Program

Being greatly inspired by students as a coordinator

As someone involved in running the program, I strongly feel that it provides a wide range of support beyond scholarship assistance. This frequently comes up in comments from the students themselves. In my role as a point of contact, I quite often get feedback such as “I had experiences during my training on the East Coast that I couldn't have had in my student life” and “I was able to talk with my mentor about my future and resolve my concerns.” For students, it seems to be an opportunity to deepen their thinking about their goals and career paths.

Based on these reports from students, I'd say if you have 10 people, you'll have 10 different learning experiences and epiphanies. Many students show amazing growth in a short period of time, and I myself have been greatly inspired by them. This is one of the most rewarding aspects of my work on the program.

The COVID-19 pandemic is subsiding, so I hope we can increase the number of opportunities for face-to-face exchange, including between alumni of the program.



Encouraging exposure to different values and broadening of horizons through study abroad

I'm from a small town, and when I was a child I thought that my environment was representative of all society. However, when I went to university, I was exposed to different values, and my experience overseas taught me that there were options out there that I had never even considered. The experience has become a great asset for me, and I hope that many people will seize the opportunity to study abroad because I believe that putting yourself in a new environment can greatly expand your possibilities in life.

We will continue to cooperate with Sumitomo Corporation, which has many overseas connections and resources, to provide a meaningful scholarship program, so I hope people will take advantage of it.

Lessons Learned from Participating in TOMODACHI Sumitomo Corporation Scholarship Program

Three encounters during the program now a great personal asset

The first thing I gained from participating in the program was meeting fellow students that received the scholarship. During the East Coast training in the United States, I met a fellow student with the remarkable ambition of becoming an astronaut. I also got to have many late night discussion with wonderful peers. These experiences in the program were a significant turning point in my thinking about my own future.

In addition, I had the opportunity to meet various people during my study abroad, including Sumitomo Corporation employees, entrepreneurs, and people from NGOs and NPOs. This helped me realize there was a wider range of options available to me than I had imagined when I was an undergraduate student. I feel that these experiences have led to my current choice to pursue a doctoral degree at a U.S. university and work as a researcher.

Actually, coming to the United States and meeting people with diverse backgrounds likewise had a significant impact on me. It gave me the opportunity to reassess my own unconscious biases for measuring the world.

Through these encounters, my dream for the future is now becoming a university faculty member with my own laboratory, something I had never imagined I would do before studying abroad. I hope to help students reach their full potential regardless of their background or gender.



Study abroad a great opportunity to acquire the ability to think and act proactively

Participating in this program and receiving an international education exposed me to diverse values and allowed me to see society from a different perspective than before. I was also able to develop a proactive approach to my work by thinking about why I was doing what I was doing, rather than just doing it because I was told to do it. This has greatly benefited me in my current job. I also found it extremely informative to understand what social goals people at Sumitomo Corporation pursue through their work. I truly feel that studying abroad provides an opportunity to gain a new perspective on things, so I encourage you to go for it if you have even the slightest interest in it.

Sumitomo Corporation of Americas

Message from Vice President and Assistant Chief Strategy Officer

Working with the SC Sustainability team on this program has been a great honor for me. It has been one of the most rewarding CSR programs that I have had the opportunity to work on in my 30 years with SCOA. It was the first time for SCOA and SC to collaborate together from the beginning, and design a CSR program that requires cross border teamwork between Japan and U.S.

I am proud of the success stories among the alumni, because I know SCOA's interaction with them had impact. There are young entrepreneurs, college professors, government and non-government officials, and business professionals.

I realize their U.S. studies influenced their academic futures, but I think their visit with SCOA inspired them to consider their future from a much broader perspective. For this reason we try to provide an action packed week with experiences that introduces them to a variety of culture and peoples, outside of their comfort zones. We designed an agenda that exposes the students to once-in-lifetime opportunities and allows them to build lasting relationships with people they meet, while having fun at the same time.

It's been rewarding to witness the transformation of these students over the 10 years. I am fortunate to have met every student that has gone through the program so far, at all different stages. I have judged their winning essays, attended the SC awards ceremony in Japan, hosted them during their one week visit, and met them upon their return to Japan. It amazes me to see how they change and gain greater self-confidence, and a sense of global curiosity. I know some even changed career choices due to their experience in the U.S.

The mission of the SC TOMODACHI Scholarship program was originally to inspire young Japanese students to become leaders, and I can say that it has succeeded. We should be proud of the many lives we have enriched through this program.

Sumitomo Corporation of Americas(SCOA)

Vice President and Assistant Chief Strategy Officer

Jewelle Yamada

