Contribution Through Our Business

Overall Business and Scope of Impact

Sumitomo Forestry Group strive in a wide range of business activities centered upon wood.

We have built strengths unique to our Group from the technology and know-how in wood accumulated for the almost 320 years since our founding to the brand cultivated with a network in Japan and overseas that connects us to our customers. We utilize wood as a healthy and environmentally friendly natural resource to provide a diverse range of lifestyle-related services that contribute to the realization of a sustainable and prosperous society.

Value Chain

Forest Management

- Seedling Farming
- Site Preparation
- Garden Vegetation
- Cultivation
- Harvest
- Transport

Logistics

- Verification of Legal Compliance/ Sustainability
- Procurement
- Shipping/Sales
- Delivery

Manufacturing

- Product Development
- Raw Material Procurement
- Manufacturing
- Delivery

Housing and Construction

- Sales/Product Development
- Design
- Materials Procurement
- Construction
- After-Sales Support

Other

- Procurement
- Fuel Production
- Power Generation
- Sales

* related to the energy business

Relevant Sustainability Initiatives

- Sustainable Forest Management
- Protecting and Utilizing Domestic Forest Resources
- Forest Management Overseas
- Occupational Health and Safety in the Forestry Business
- Consulting Business
- Reforestation Activities Contributing to the Society

- Procurement Initiatives
- Sales Initiatives

- Procurement Initiatives
- Product Safety and Quality Control
- Occupational Health and Safety

- Procurement Initiatives
- Product Safety and Quality Control
- Home Building That Contributes to a Sustainable Society
- Occupational Health and Safety on Construction Sites
- Environmental Consideration on Construction Sites
- Communication with Our Customers
- MOCCA (Timber Solutions) Business
- Contributions to Eco Cities Through Greening
- Residential Property Development Business
- Overseas Housing and Real Estate Business

- Environmental Energy Business
- Business Responding to the Super-Aging Society

▶ Sustainability Targets of Our Group 2021 Mid-Term Management Plan and Material Issues
▶ Contributions to the SDGs and Material Issues

Housing and Construction Business

Business Overview

The Housing and Construction Business develops a wide range of housing and lifestyle businesses from custom-built detached housing, remodeling and renovations, and rental housing businesses to renewal and sales of pre-owned housing, real estate management and mediation, subdivision, greening and MOCCA (timber solutions) businesses.

Sumitomo Forestry is also expanding the housing and real estate business primarily in Pacific Rim regions, including the United States, Australia, and South East Asia.






Main Business Figures (FY2019 Result)

Housing sold and delivered in Japan **7,427**

Housing sold and delivered in the United States and Australia **10,390**

Percentage of orders for ZEH type houses out of new custom-built detached housings **48.2%**

Carbon stock in wooden architecture in Japan

193,072t-CO2

Number of local tree species sold

424,000 trees

Value Chain of the Housing and Construction Business

Sales/Product Development

Housing and constructions at the Sumitomo Forestry Group are mostly custom-built detached housing designed to each customer's individual home specifications. We listen carefully to the requests of our customers to propose the best lifestyle based on their wishes.

The Sumitomo Forestry Group pursues better housing performance from a wide range of perspectives, including earthquake resistance, fireproofing, insulation efficiency and universal design in product development.

Relevant Social Issues

Sales endeavors face the challenge of whether appropriate information can be provided comprehensively to customers. We strive to properly communicate data related to safety, performance and benefits of environmentally-friendly housing in addition to other information to offer proposals customers will be happy with.

Relevant Sustainability Initiatives

- Communication with Our Customers

Design

The Sumitomo Forestry Group provides long-lasting, high-quality housing by fully taking into account safety, durability and the environmental impact at the design stage. We have maintained our ratio of houses certified as Excellent Long-term Housing for new custom-built houses through development such as Net Zero Energy Houses (ZEH) and the BF Method up until now.

Relevant Social Issues

The themes in particular for social challenges related to initiatives in the design stage are safety and the environment. We propose safe, secure lifestyles to customers in addition to ensuring we do not neglect considerations toward the global environment, including climate change.

Relevant Sustainability Initiatives

- Product Safety and Quality Control
- Home Building That Contributes to a Sustainable Society
- MOCCA (Timber Solutions) Business

Materials Procurement

The Housing and Construction Business procures a wide range of materials from timber and concrete to kitchens and toilets. Promoting fair and responsible initiatives for these procurement activities are the social responsibility of the Group.

Relevant Social Issues

We believe that the procurement responsibilities of the Housing and Construction Business should include its business partners as well as upstream supply chain. Therefore, considerations are expansive from labor practices, human rights to environmental issues both in Japan and overseas.

Relevant Sustainability Initiatives

- Procurement Initiatives

Construction

Sumitomo Forestry considers safety while working carefully and efficiently to complete the construction on time for the customers. Therefore, we are building a system to ensure our policies and initiatives are carried out on-site by the construction contractors through thorough implementation of safety training and environmental education.

Relevant Social Issues

Construction sites are bound to face various dangers and occupational injuries. We cultivate the highest level of awareness about “Safety-First” practices and strive to realize accident-free construction sites with the cooperation of a variety of construction businesses. The Housing and Construction Business also takes measures such as the reduction of waste and considerations for the neighboring areas, such as noise and vibrations.

Relevant Sustainability Initiatives

- Occupational Health and Safety on Construction Sites
- Environmental Consideration on Construction Sites
- Contributions to Eco Cities Through Greening

After-Sales Support

The Sumitomo Forestry Group aims to provide housing residents can live in over the long term by pouring its strength into after-sales support. Therefore, we conduct customer satisfaction surveys and have set up a call center. Sumitomo Forestry has been conducting free periodic inspections for 30 years after homes are delivered to their owners, and thereafter provides paid maintenance services according to maintenance plans. Owners can also extend the building warranty every 10 years to receive these free periodic inspections for up to 60 years.

Relevant Social Issues

We believe responsibility for our products (housing) lasts even after delivery. Our Group recognizes maintenance as part of our responsibility for product liability to not only ensure long-term safety and environmental performance but also a home people can live in over the long term.

Relevant Sustainability Initiatives

▶ Communication with Our Customers

Procurement Initiatives

Basic Policy

The Sumitomo Forestry Group has been committed to responsible timber procurement and having established Timber Procurement Standard and Timber Procurement Philosophy and Policy in 2005 and 2007 respectively, to bring contributions to sustainable society via business activities of “wood” -a renewable resource.

In July 2015, Timber Procurement Philosophy and Policy were extended beyond timber and became subject to procurement of construction materials and other items, and reestablished as Sumitomo Forestry Group Procurement Policy. The Group's economically, socially and environmentally responsible procurement today is being carried out based on this policy.

▶ Sumitomo Forestry Group Procurement Policy

Green Procurement and Sustainable Procurement

The Sumitomo Forestry Group formulated the Green Procurement Guidelines in 2002. The Guidelines establish standards for procuring products from two perspectives: the supplier's stance toward the environment (corporate activities assessment) and the product's impact on the environment throughout its life cycle (product assessment).

In 2013 and again in 2020, the Group revised the Green Procurement Guidelines and added items to ensure even broader progress of sustainability initiatives concerning occupational health and safety and human rights under “the corporate activity assessment.”

▶ Green Procurement Guidelines (extract)

Environmental Consideration and Legal Compliance in Responsible Material Procurement

The Sumitomo Forestry Group procures materials for the Housing and Construction Business in accordance with the Green Procurement Guidelines.

When adopting new products or reforming existing products, we create green procurement ledgers as well as waste disposal confirmation forms (product/packaging) in addition to product specifications which define the specifications, standards and quality criteria of products. Green procurement ledgers confirm aspects of procurement such as verifying the timber procured has been legally logged, confirming the no occurrence no volatile organic compounds (VOCs) as well as use of certified chemicals such as insecticides when adopting new products. Regarding materials made of wood, documentations such as legal certification are confirmed to ensure that procured wood materials comply with the Clean Wood Act. The waste disposal confirmation forms (product/packaging) verify aspects such as the type of offcuts, disposal methods and processing facilities.

We create two copies of each form and suppliers and we each keep copies.

▶ Status of Sumitomo Forestry Group Forest Certification/CoC Certification (FSC-C113957)

Communication with Procurement Partners and Partner Evaluation

Sumitomo Forestry's Housing and Construction Business worksites are found in every region of the country, and they rely on support from the many business partners that the Sumitomo Forestry Group collaborates with. The Company considers communication with these companies to be vital in order to share with them its philosophy of improving the quality of homes while protecting the environment.

Main Communication Activities with the Business Partners of Sumitomo Forestry's Housing and Construction Division

Name/Scale	Description
Evaluation and feedback based on the Supplier Evaluation Standards Implementation rate: 100% (FY2019)	Material suppliers of the Housing and Construction Business (suppliers excluding on-site equipment manufacturers, precut factories, building material operators and frame centers) are evaluated every year per type of material based on items including corporate overview, quality, cost, delivery period, environmental response as well as services. We provide feedback from the evaluation results as a way of bettering our procurement. In fiscal 2019, we provided 245 feedbacks, a 100% implementation rate. In addition, we regularly audit supplier plants as part of the evaluation. In fiscal 2019, Sumitomo Forestry audited 117 plants although these audits have been suspended since February 2020 due to the spread of the novel coronavirus infection (COVID-19). If buildings are constructed with materials, which are not confirmed for performance quality, it would pose various risks for the people and the buildings. Therefore, we have formulated methods for auditing plants that focus on quality management to confirm whether material we procure are manufactured based on our quality standards and other aspects.

Responsible Material Procurement

Sustainable procurement practices throughout the supply chain have come to be expected in material procurement that goes beyond checking on quality, cost and delivery dates to confirming efforts made by the suppliers with respect to the environment, society and other sustainability aspects.

The Mid-Term Sustainability Targets announced in May 2019 set an annual implementation target for sustainability procurement survey implementation rate in the supply chain of the domestic housing department and conducted questionnaires about initiatives related to issues such as human rights, occupational health and safety, biodiversity conservation, and sustainable wood materials at each supplier.

In fiscal 2019, more than 80% of suppliers were surveyed, exceeding the target set for questionnaires with suppliers (subject to the survey*) that make up 65% of our purchasing ratio.

We will expand the scope of supplier surveys from fiscal 2020 with a plan that calls to implement surveys at suppliers (subject to the survey*) that make up 90% of our purchasing ratio by fiscal 2021.

* Manufacturers that are direct or indirect suppliers

▶ HIGHLIGHT 1: Enhancing Our Timber and Materials Procurement to More Effectively Embrace Human Rights and the Environment

Housing and Construction Business Initiatives for Sustainability in Timber and Wood Products

The Housing and Construction Division newly set a 100% target for the rate of sustainable timber used as primary building material in the Mid-Term Management Plan announced in May 2019. This target aims to put sustainable timber procurement into practice, including confirmation of legal compliance of timber procurement, compliance with human rights and occupational health and safety, biodiversity conservation, and considerations of the local community, especially for timber used in housing as outlined in the Sumitomo Forestry Group Procurement Policy.

In fiscal 2019, we were able to increase the rate of sustainable timber used for primary building material of Sumitomo Forestry detached homes to 80%. In fiscal 2020, these initiatives will strive to go even further with the goal of reaching 100% sustainable timber used.

Product Safety and Quality Control

Basic Policy

Sumitomo Forestry believes that popularizing high-quality, durable houses as social assets plays an important role in creating a prosperous society. Based on this belief, and taking the opportunity of the enforcement of the Excellent Long-Term Housing Promotion Act in Japan in June 2009, the Company formulated a basic policy for product safety and quality control in its housing and construction business in fiscal 2009.

Basic Policy for Product Safety and Quality Control in the Housing and Construction Business

- Make houses more reliable by improving their basic functions
- Increase future options for layout to accommodate changes in lifestyles
- Enhance maintenance programs to support long-term upkeep
- Monitor information on any production faults, and share information on handling faults promptly

Sumitomo Forestry offers homes that integrate seismic resistance, durability, better insulation efficiency, Net Zero Energy Houses (ZEHs), the promotion of universal design, and easy upkeep to improve all aspects of home performance so as to offer customers homes where they can live in peace of mind and comfort for many years to come.

Design Performance Evaluation

The Company is actively promoting the use of the Japanese Housing Performance Indication System*1 for customer peace of mind and safety as well as enhancing the value of property. In fiscal 2019, under the Japanese Housing Performance Indication System, implementation rate*2 of Design Performance Evaluation reached 99.1%, Implementation of Construction Performance Evaluation reached 98.8%, and the acquisition of Excellent Long-Term Housing certification reached 94.4%.

*1 Third-party evaluation system for design performance at the time of design and of construction performance upon completion so that customers can objectively assess the quality and performance of a house.

*2 The ratio of the number of applications against the total number of detached houses constructed, including extensions and/or alterations (applications for design and construction performance evaluation, April 1, 2019 - March 31, 2020) in the Housing and Construction Division.

Japanese Housing Performance Indication System Implementation Rate

	FY2015	FY2016	FY2017	FY2018	FY2019
Design Performance Evaluation	98.6%	98.8%	98.9%	99.0%	99.1%
Construction Performance Evaluation	97.3%	97.8%	97.9%	98.4%	98.8%

Certified Excellent Long-Term Housing

Sumitomo Forestry sets the standard specifications for its Sumitomo Forestry Home houses to exceed the highest level of Excellent Long-Term Housing*1 certification conditions*2 (applying the evaluation under the Japanese Housing Performance Indication System). From product development through to construction and after-service, the Company has established its framework for product safety and quality control in order to deliver high quality homes with superior overall balance.

*1 A life-long housing certification system of Ministry of Land, Infrastructure, Transport and Tourism which aims to popularize housing that will help realize a society that values its housing stock.

*2 Detached housing is evaluated for durability, seismic resistance, ease of maintenance and energy efficiency in accordance with the Japanese Housing Performance Indication System.

Ratio of Houses Certified As Excellent Long-Term Housing for New Custom-Built Housing

	FY2015	FY2016	FY2017	FY2018	FY2019
Ratio of houses certified as Excellent Long-term Housing for new custom-built housing	92.7%	93.3%	93.3%	93.8%	94.4%

Excellent Long-Term Housing Standards and Standard Performance of Sumitomo Forestry Home Houses

Certification Type		Certification Criterion	Standard Performance of Sumitomo Forestry Home Houses
Durability	Long lasting	Rating measures for deterioration class 3 Measures to allow regular inspection	Equivalent to highest level 3
Seismic Resistance	Strong to earthquakes	Rating of earthquake resistance 2 or higher	Equivalent to highest level 3
Maintenance Requirement	Easy maintenance home	Rating measures for maintenance level 3	Equivalent to highest level 3
Energy-saving performance	Energy-saving house	House Rating measures for energy conservation level 4	Equivalent to highest level 4

* The higher the rated level, the better evaluated.

Framework for Product Safety and Quality Control

- Undertaking development such as new technology, materials, housing products and lifestyle proposals based on consumer needs and owner surveys.
- The Housing and Construction Division and Tsukuba Research Institute are collaborating in experiments at validation facilities and testing of prototypes, promoting the creation of products that incorporate customer feedback, including even in the details of guarantees.

- Sumitomo Forestry uses a unique system to check design and structure at the time of contracting and through the final design stage.

A dedicated designer responsible for the work

- The Materials Selection Subcommittee, which meets once every month to decide upon all materials, conducts design reviews. All materials are checked to ensure that they meet the acceptance and quality standards set by the Tsukuba Research Institute and the Materials Selection Subcommittee.
- After approved by the Materials Selection Subcommittee, materials are subjected to a further design review after actual on-site use (approximately two years later) to confirm whether the planned quantity can be shipped and whether or not there are any quality defects.

Construction

- Sumitomo Forestry centrally manages and shares up-to-date information on the construction, process management, quality control and safety management of each building through its own site management system.
- Each on-site operator, contractor manager and construction manager during such stages as foundation, construction and completion, conducts inspections which are managed using a construction management record. Additionally, the Head Office inspection division checks the status of the inspection and management.

Construction Management

After-Sales Support

- Sumitomo Forestry includes 30 years of free regular inspections with its homes. After the first 30-years, Sumitomo Forestry provides paid maintenance constructions according to maintenance plans and, if customers extend the building warranty every 10 years, these free regular inspections continue for up to 60 years to ensure the long life of these valuable homes.
- Sumitomo Forestry has developed a 60-year Maintenance Program that offers renovation and maintenance proposals and manages maintenance records in order to support its customers.

Regular inspection

Renovation

- The performance and reliability of Sumitomo Forestry's proprietary materials used in anti-seismic reinforcement and so on are verified at the Tsukuba Research Institute. In addition, we are advocating seismic retrofitting by undergoing a technological evaluation of the Japan Building Disaster Prevention Association.

Seismic Resistant Housing

The Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake as well as a recent major earthquake in Kumamoto have been among the disasters that have wrought enormous damage in Japan. In addition, major earthquakes are forecast to occur in the Nankai Trough, resulting in year-by-year increase in demand for seismic resistance for wooden houses.

In response to customer need for seismic resistant houses, Sumitomo Forestry Home Tech has developed original construction methods that enable heightened seismic resistance without diminishing high levels of the home's structural strength, workability or insulation efficiency.

Development of K-type Corner Braces and RGS Panels

K-shaped corner brace bearing walls use 24 mm thick structural plywood that is in order to store 75 mm thick glass-wool insulation inside. This method has great workability because the materials are light, and it underwent a technological evaluation by the Japan Building Disaster Prevention Association (6.0KN/m² standard bearing wall).

GS panels for renovation (RGS panels) are used as a seismic resistance method to limit deformation by installing these right and left panels (structural plywood with a 24 mm thickness) made of special metals sandwiching highly rigid and highly damping rubber in vertical members. Even greater workability is provided by dividing these panels into top and bottom pieces as well. The method underwent a technological evaluation by the Japan Building Disaster Prevention Association (6.1KN/m² bearing wall).

Moving forward, we plan to develop new vibration dampers that can reduce earthquake damage to buildings to the greatest possible extent.

RGS Panel

BF Method

Sumitomo Forestry started selling the Big-Frame Construction Method (BF Method) as a product for three-story building products in February 2005 and expanded this method to two-story products in October 2009 as well as to products with fire-resistant specifications in four-story buildings in April 2015. Thereafter, as awareness of customers grew about risks such as disasters, the BF Method that had further evolved to provide greater strength in high seismic resistance matched customer needs and is now one of Sumitomo Forestry's main products.

The proprietary BF Method from Sumitomo Forestry is the first in Japan to realize the wooden beam Rahmen structure, which is used in high-rise buildings, in wooden houses.

The Rahmen structure is designed to stand up to horizontal forces such as earthquakes and wind through rigid-joints that unify the columns and beams with the fixings. The BF Method uses big columns with a large cross-section of 560 mm which is equivalent to roughly five standard 105 mm columns and incorporates structural materials in addition to a combination of metal-to-metal joints to achieve a robust Rahmen structure.

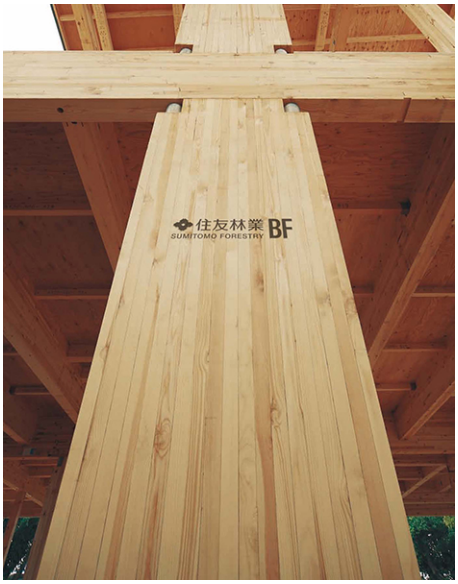
The beams and bases of the big columns join strongly thanks to the metal-to-metal joints. This brings about horizontal vibration resistance equal to a 22.4 (times/meter) shear resistance of walls. We ensure seismic resistance while being able to provide both large spaces and wide openings.

In addition, expanding and introducing a variety of original technology can support an even wider range of design requirements. Twin-bolt columns (shear resistance of walls equivalent to 33.6 times/meter) that doubles metal joints as well as double-large columns that layer two large columns (shear resistance of walls equivalent to 44.8 times/meter) provide freedom in floor plans and more spaciousness even on land with many restrictions. The pre-stressed timber beams are large-span beams enable the design for built-in garages ready for parking multiple vehicles, large open living rooms, multi-dwelling homes in addition to a wide range of other purposes.

Sumitomo Forestry conducts vibration tests on verification models of structural framework, using the BF Method as well as full-scale structures to examine seismic resistance in anticipation of a large-scale earthquake.

The full-size verification model for a three-story building constructed with the BF Method cleared testing for vibrations of a maximum acceleration of 2,699 gal, which is equivalent to the Great East Japan Earthquake (3.3 times the Great Hanshin-Awaji Earthquake). Our technology has been proven tough through a total of 22 harsh vibration tests; two of which were conducted at a magnitude of 7 equal to the Great East Japan Earthquake and 20 of which at a magnitude of 7 equal to the Great Hanshin-Awaji Earthquake. We also estimate strong aftershocks after a massive earthquake by implementing a repetition of a total of 246 vibration tests. We have repeatedly conducted testing with strong vibrations from a magnitude of 4 to a magnitude of a weak 6 and beyond to magnitude of 7 to ensure continued seismic resistance of the structural framework.

In this way, the BF method responds to the needs of customers with powerful structures to bring security as well as flexible designs able to provide comfortably spacious spaces.



Strong Big Column with a Width More Than Five Times a Standard Pillar

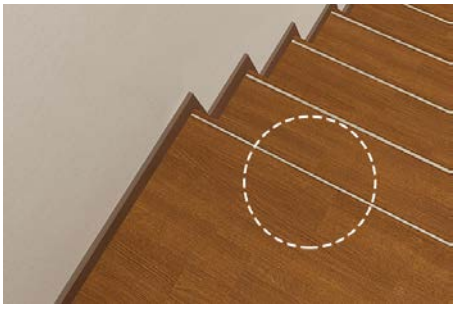
Realizing a Robust Rahmen Structure via Metal-to-Metal Joints

Promotion of Universal Design

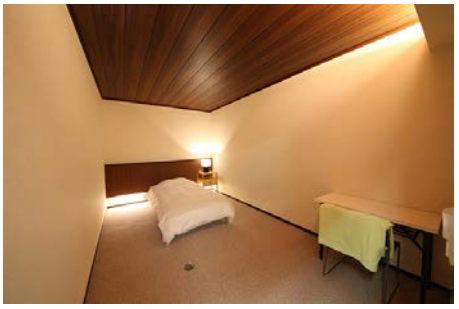
Sumitomo Forestry is a pioneer in establishing soft closers for all indoor furnishings such as sliding doors and hinged doors as an initiative to increase the safety of residents. In addition, an all flat design that does not create any level differences in flooring is now a standard specification while convex corners for inner walls and wall-mounted convex sections have an R-shape specification around living spaces and halls. We have set the standard specifications for the width of hallways to 780 mm to allow the use of assistive wheelchairs with the assumption that wheelchairs and care will be necessary in the future. We also flexibly respond to customer requirements through a freedom in design that includes slopes to entrances and the installation of home elevators.

Furthermore, Sumitomo Forestry is placing its strength in the design of living spaces to satisfy the needs of customers such as development of stairs with enhanced visibility, heat shocks, and the Air-Dream Hybrid total air conditioning system that reduces house dust and realizes a comfortable space without any temperature fluctuations. Sumitomo Forestry also provides comfortable bedroom environments with original wooden interiors that have indirect lighting to offer better sleep quality and reduce fatigue in indoor environments perfect for sleeping.

Stairs provide enhanced step visibility.
Received KIDS DESIGN AWARD in FY2010



These stairs provide safety-type resin-joint steps with greater visibility than standard stairs.
Received KIDS DESIGN AWARD in FY2012



Indirect lighting of wood offers better sleep quality and reduces fatigue.
Received KIDS DESIGN AWARD in FY2016 (Survey and Research Category)

Home Building That Contributes to a Sustainable Society

Basic Policy

Net Zero Energy Houses (ZEH) and other housing measures in Japan offer guidance to creating eco products as well as advocate excellent long-term housing as an asset.

By promoting ZEH-specification housing, Sumitomo Forestry reduces each household's primary energy consumption while also providing living spaces that are disaster-resistant and comfortable to live in year-round.

We provide environmentally friendly houses that meet the needs of each customer while contributing to the realization of a sustainable society.

Promotion of Net Zero Energy House (ZEH) Specifications

The household sector in Japan still has high level emission of CO_2 although the trend has slowed down. Japan has launched policy targets that aim for more than half of all custom-built detached houses constructed by housing manufacturers and other companies to be ZEH compliant by 2020 in the measure to counter global warming approved by Cabinet decision in May 2016. The Fifth Strategic Energy Plan approved by Cabinet decision in July 2018 sets a goal that “aims to achieve ZEH (net zero energy houses) for more than half of the ordered detached houses newly constructed by home-makers, etc. by 2020 and for all newly constructed houses on average by 2030.”

ZEH is a scheme for housing to provide less than zero annual net primary energy consumption by combining equipment to generate energy such as high thermal insulation efficiency, energy-saving equipment, and solar power generation.

This standard responds to many of the Sustainable Development Goals, including not only Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all and Goal 13: Take urgent action to combat climate change and its impacts but also Goal 3: Ensure healthy lives and promote well-being for all at all ages and Goal 12: Ensure sustainable consumption and production patterns. The standardization of ZEH will contribute to building a sustainable society.

Wood is conventionally a renewable natural resource that absorbs and stores CO_2 during its growth process. As well as using wood for its principal structural members, Sumitomo Forestry has offered housing proposals where residents can live comfortably all year round by incorporating its own unique Ryouonbou design, which takes advantage of natural blessings such as the wind and sun. The Company's expertise in utilizing these unique characteristics of wood and blessings of nature together with its technologies for the reduction of energy consumption, such as improvements in thermal insulation as well as the adoption of energy-saving equipment, and its technologies for the smart use of energy, such as equipment for generating and storing energy and HEMS[*1].

Given the ZEH targets established by the Japan, Sumitomo Forestry has set a ZEH standardization target of 80%[*2] by fiscal 2020, and had reached 51%[*2] as of fiscal 2019. We are making greater insulation efficiency in buildings and around openings as well as built-in solar power generation systems basic specifications as of April 2017 in our new housing.

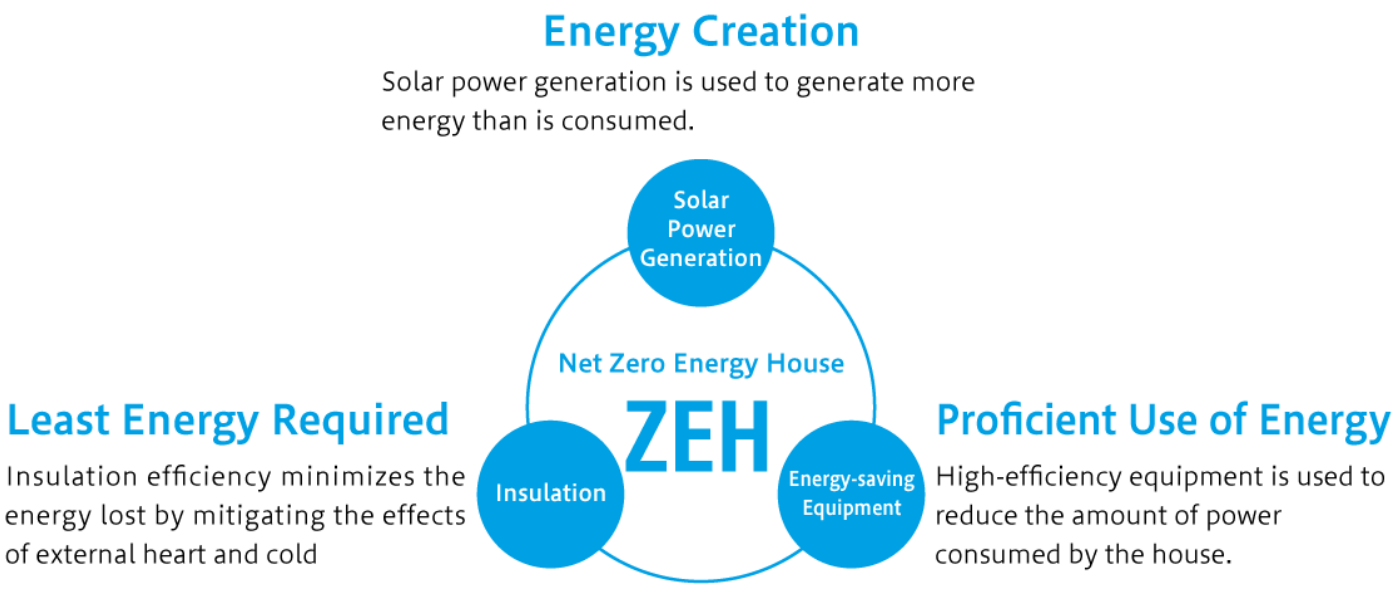
ZEH Standardization Target (FY2020)
80%[*2]

ZEH Standardization Performance (FY2019)
51%[*2]

*1 Home Energy Management System— a system whereby residents can visualize the amounts of energy they generate and use

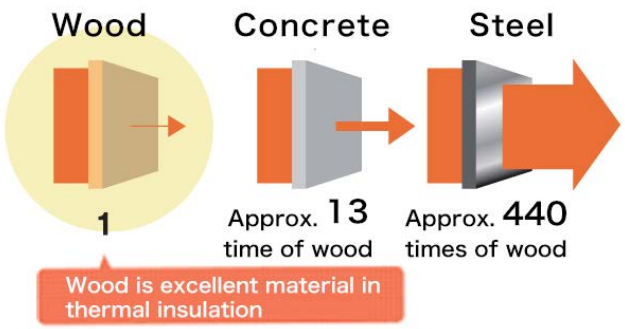
*2 Values include Nearly ZEH and ZEH Oriented while they exclude Hokkaido and Okinawa Pref. respectively. The fiscal 2019 results and 2020 targets for Hokkaido are, respectively, 0% and 51%. ZEH is defined as a primary energy reduction rate of 100% or more including renewable energy such as solar power generation systems while Nearly ZEH is defined as between 75% to 99%. ZEH Oriented is defined as a primary energy reduction rate of at least 20% (however, this is limited to housing built on narrow urban sites), excluding renewable energy.
This is a different indicator from the percentage of orders for ZEH type houses out of new custom-built detached homes (48.2% in FY2019 results/values based on orders for ZEH and Nearly ZEH) in the Mid-Term Sustainability Targets.

▶ Ryouonbou Design Concept (in Japanese)
▶ Material Issue 2: The Development and Sale of Reliable and Safe Products and Services that Consider the Environment and Society

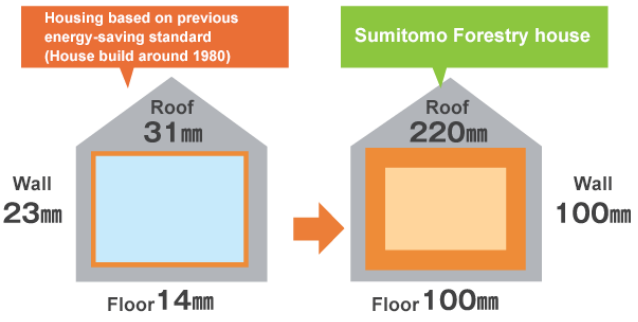


Wooden Houses with Superior Insulation

If the thermal conductivity of wood is 1, the thermal conductivity of concrete would be almost 13 and steal upwards of 440. Wood as a material is a superior insulator to mitigate the transfer of heat. In addition, Sumitomo Forestry uses high-performance thermal insulators based on its own unique standards.



Comparison of Materials by Thermal Conductivity

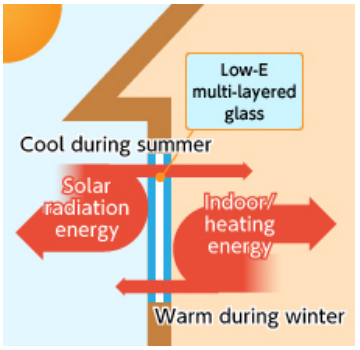


Unique Standards of Thermal Insulators of Sumitomo Forestry

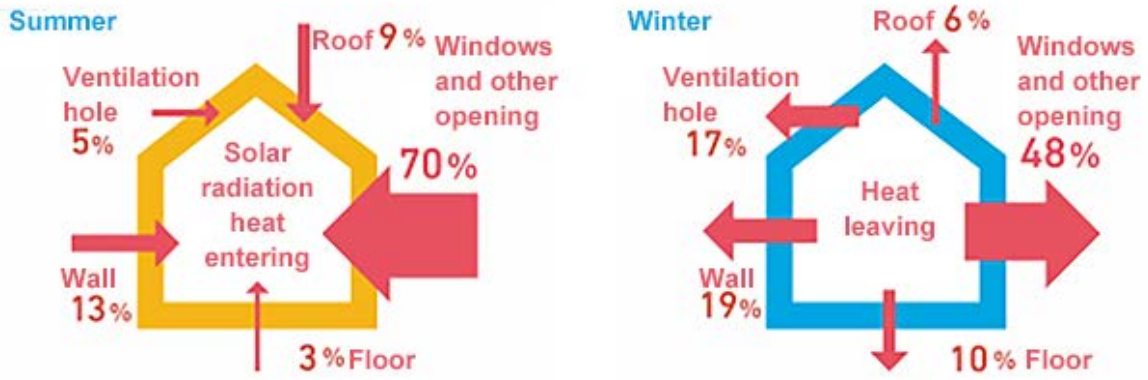
Limiting Energy Loss with Highly Insulating Glass

Windows cause the greatest loss of heat in living spaces. Shielding interior spaces from heat in the summer and preventing heat from escaping in the winter is vital. As windows cause the largest heat loss, Sumitomo Forestry uses low-E multi-layered glass with argon gas inside. Argon gas is injected between the multi-layers of glass to mitigate heat transfer to the air while the panes are coated with special metal film. The superior thermal insulation and insulation properties shield interior spaces from heat in the summer and prevent heat from escaping in the winter.

▶ Insulation of Sumitomo Forestry Home houses (in Japanese)



Insulation using low-E multi-layered glass



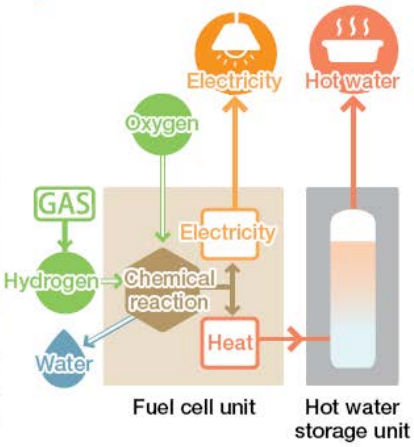
Heat Loss Ratio of Houses

Double Power Generation

Sumitomo Forestry recommends the installation of solar power generation system, as well as residential fuel cell units. Double power generation can generate the necessary electricity for daily life in the home. Furthermore, Home Energy Management Systems (HEMS) realize zero energy homes (ZEH specifications) by proficiently managing energy consumption throughout the home.

Ene-Farm

Water heaters that also generate electricity



Heat and water are generated during the generation of electricity. That generated heat is not wasted and is collected to be used for making hot water and heating floors, greatly improving the efficiency of primary energy usage.

Solar power generation system

Combining solar power generation system and Ene-Farm further reduces utility costs and CO_2 emissions compared to using just either one. It can be more economical by using electricity generated by Ene-Farm during the day when use of electricity is low and selling excess electricity generated by solar power generation system.

Trends in Installation Rates of Environmentally-Friendly Equipment (based on number of houses)

	FY2015	FY2016	FY2017	FY2018	FY2019
Solar power generation systems	35%	48%	46%	51%	56%
Ene-Farm units	43%	34%	34%	35%	36%
Eco One*1	-	16%	18%	16%	17%
Environmentally conscious equipment installation rate*2	58%	68%	69%	72%	75%

*1 Hybrid electric and gas hot water and central heating systems

*2 Installation rate of solar power generation system or Ene-Farms until fiscal 2015. Fiscal 2016 includes Eco One on the left

Expanding Choices with the Launch of the Forest BF Design, a Home to Enjoy the Four Seasons

In September 2018, Sumitomo Forestry launched a renewed The Forest BF nationwide (excluding Okinawa), a detached house design that enables large, open spaces and built to ZEH specifications. The Forest BF represents a further structural enhancement of Sumitomo Forestry's original Big-Frame (BF) construction method for large, open spaces and wide openings among the features allowing for greater freedom in the use of space. The latest design renewal offers distinctive features of design coordinating diverse aspect of external appearance and interior, as well as providing abundant lifestyle that can feel the nature and the taste of Japan. While attending in particular detail to the overall design as well as interior and exterior materials, we developed these homes especially for the younger generation homeowners in their 30s, and those with design sensibilities, making this a product that can appeal to a wider range of customers than previously.

Combining Comfortable Habitability and High Environmental Performance in The Forest BF

In addition to offering insulation efficiency greater than the local standards, The Forest BF can also achieve ZEH, which requires zero or less primary energy consumption each year, through equipment such as solar power generation systems. Moreover, we have adopted versatile partitions that do not require structural materials to build a structure with less waste when changing room plans such as the partitions separating living areas for children and parents alike.

- Expanding Choices with the Launch of the Forest BF Design, a Home to Enjoy the Four Seasons (in Japanese)
- The Forest BF page (in Japanese)

Renovating to Improve Function and Asset Value

Sumitomo Forestry Home Tech promotes renovations from energy-saving point of view. We propose the installation of energy-efficient equipment alongside better insulation efficiency as well as new life styles that decrease the energy consumed in daily life, realize reductions to the environmental impact, and decrease lifetime heating and lighting costs.

The insulation renovations can also mitigate health risks from heat shock.

We will continue to focus on seismic retrofitting proposals and actively strive to bring about excellent long-term housing in existing properties as well as long-term excellent extension and alteration standards by improving the performance in thermal efficiency, energy-savings and seismic retrofitting.

Sumitomo Forestry Home Tech has set a goal to improve the order rate of environmentally-friendly renovations in the Mid-Term Sustainability Targets announced in May 2019.

In fiscal 2019, we achieved a 52.4% total order rate for seismic construction, structural reinforcement work, insulation renovations, and smart material installations on standard property (other than owners of Sumitomo Forestry homes), exceeding our 50% target.

We were able to exceed our goals thanks to active promotion of seismic and structural reinforcement work that helps extend the lifespan of buildings as well as dramatic increase in the number of storage battery sales through storage battery proposals to customers who reached the fixed feed-in energy purchase period of solar power generation.

Needs for Environmentally-friendly renovations will continue to grow in the future in order to ready properties for potential natural disasters.

We have also begun renovations that adapt to a new style of life resulting from the impact of the novel coronavirus infection (COVID-19). In addition to providing telework environments, we propose comfortable and safe living spaces to enhance time spent at home.

- Seismic Resistant Housing


Installation of a Thermal Insulator

Given Japan's establishment in recent years as a major tourism destination country, we began focusing efforts on renovation of hotels and inns. In fiscal 2017, Sumitomo Forestry joined the All Japan Ryokan Hotel Association*1 and Sumitomo Forestry Home Tech joined the Japan Ryokan & Hotel Association*2. Sumitomo Forestry Group enjoys strong name recognition, and is building a track record in renovations.


Before renovation

After renovation

In fiscal 2017, Sumitomo Forestry and Kumagai Gumi Co. entered into a business and capital partnership and collaboration between Sumitomo Forestry Home Tech and K&E K.K., companies belonging to the respective corporate groups is in progress. Sumitomo Forestry Home Tech handles interior renovations optimizing wood, while K&E is in charge of building exterior and other renovations that fully leverage its comprehensive abilities as a general contractor. The partners participate jointly in events as they move forward. By renovating the whole building, we are able to heighten its value as an asset.

*1 The association promotes Japanese inns and hotels throughout Japan to be more sanitary facilities, conduct better maintenance and stable management among other aspects of accommodation businesses.

*2 The organization aims to help provide comfortable accommodations for travelers from within Japan and overseas, improve the level of hospitality service and otherwise work to realize Japan's status as a tourism destination country, develop local economies, and promote the national health.

Moving Higurashi Bettei, Shisakajima, Reopened as a Commemorative Hall

Higurashi Bettei was designed by Magoichi Noguchi, a renowned architect of the Meiji period. Built as a guest house and other purposes for the Sumitomo family in 1906, it is located on the island of Shisakajima in the Seto Inland Sea, about 20km off the shore of Niihama(where the copper mine was located).

As one of 20 Sumitomo Group companies involved in the project to move the structure to a hilltop location in the city of Niihama, Sumitomo Forestry Home Tech was engaged in the reconstruction of the structure, which opened to the public in November 2018 as the Higurashi Bettei Museum and conveys the history of Sumitomo.

The history behind the construction of Higurashi Bettei is that it was built as an adjacent structure when Sumitomo's copper smelter was moved to Shisakajima in order to overcome the smoke pollution in Niihama caused by the Besshi Copper Mine operation. More than 110 years after its construction, the building was deteriorating despite its many invaluable design features inside and out. In the relocation construction work, we used timber produced in Ehime Prefecture to build the structure with improved seismic resistance. Design features such as fireplaces, ceilings and floors were carefully dismantled from the original structure, and reconstructed upon relocation.

Exterior view

Interior

Cleaning drainage water stains

Research and Development Related to Life Cycle CO_2 ($LCCO_2$)

Sumitomo Forestry has been engaged in the development of Life Cycle Carbon Minus (LCCM) housing to achieve negative CO_2 emissions across the entire life cycle of homes. Today, we are underway with research and development for the purpose of reducing CO_2 emissions throughout the life cycle in wooden structures besides housing.

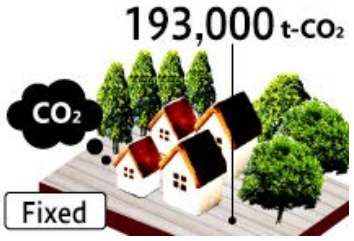
The new research wing constructed at the Tsukuba Research Institute in 2019 achieved dramatic reductions in CO_2 emissions thanks to an air-conditioning system with an absorption water chiller-heater base load heat source that uses energy from power generation from solar panels on the roof and wood pellets as renewable energy fuel. These technologies reduce the environmental impact in anticipation of zero energy buildings. By designing an inner courtyard with a three-story atrium at the center of the building with indoor greenery, and a skylight at the top, the new wing adopts technology to deliver sunlight to the plants on the first floor throughout all four seasons in an effort to actively use daylight. In addition, we have achieved reductions to the heating and cooling load by introducing natural ventilation that takes advantage of this atrium. In the future, Sumitomo Forestry intends to further these energy reduction efforts during operation founded in measurement data provided by an instrumentation system.

We have also begun cross-department initiatives throughout Sumitomo Forestry to reduce CO_2 emissions from material procurement to construction and renovations similar to LCCM housing.

Carbon Stock in the Housing and Construction Business

Trees retain CO_2 as carbon even after they are turned into products. Constructing wooden houses can therefore be likened to building forests in the city. The total domestic carbon stocks* in timber that was used in construction of the houses in the MOCCA (timber solutions) business in fiscal 2019 reached 193,000 t-CO_2. The Sumitomo Forestry Group contributes to measure to counter global warming by increasing carbon stocks for forests and cities.

* CO_2 fixation is calculated by categorizing the actual amounts of timber used per tree species for new detached houses, rental housing, and MOCCA business, and calculating carbon content from the specific gravity of each tree species.



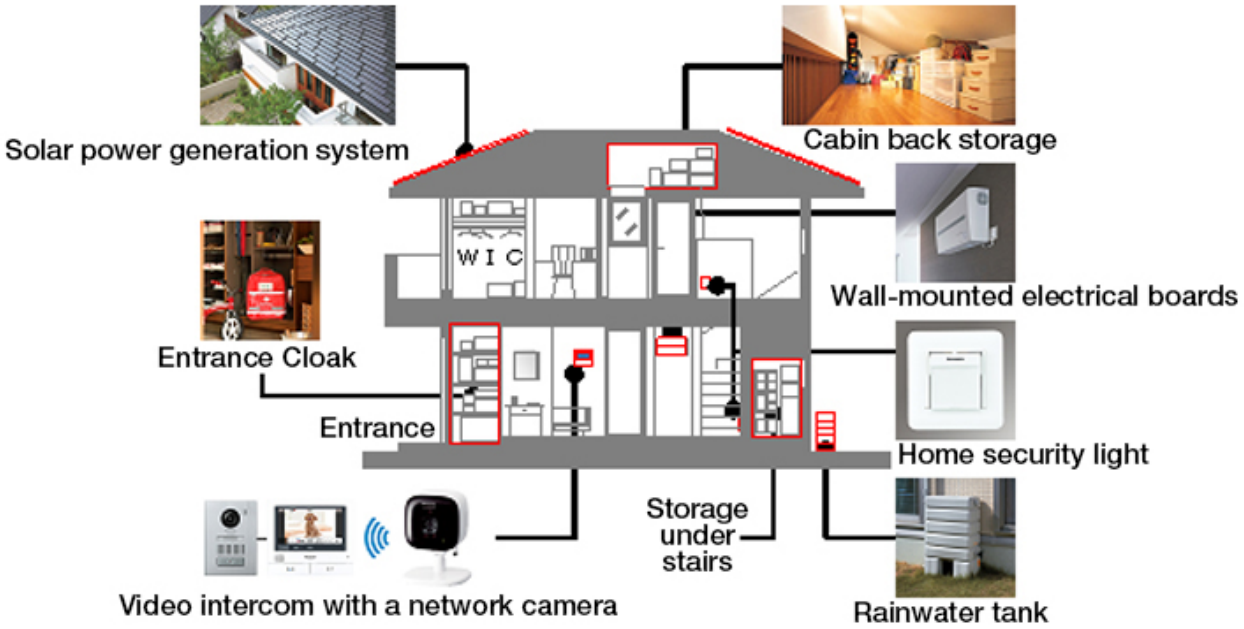
Carbon stock of the timber used in the construction of houses and MOCCA (timber solutions) business in Japan in fiscal 2019

Housing Sales Adapted to Climate Change

Disaster Recovery Guidelines were put in place in the Housing and Construction Division and measures and action guidelines for operations were defined to quickly and accurately respond to damages from natural disasters to our customers' houses as they become more prevalent due to climate change. As one measure, we established a new Disaster Prevention Department in April 2020 as an office to guide disaster prevention measures that prepare for emergencies during ordinary times while taking the lead of each division and affiliated company in an emergency in order to minimize damage as much as possible.

On November 2016, BF-Si Resilience Plus was released to pursue security, safety and comfort when disasters such as earthquakes or flooding strike. The BF Method that boasts structural strength only offered by Sumitomo Forestry ensures the safety of buildings and provides functionality for an uninterrupted lifestyle until recovery even when lifelines are cut thanks to equipment such as enhanced storage space, solar power generation systems, wall-mounted electrical boards and water tanks. A video intercom with a network camera allows the interior to be clearly seen with a wireless camera as well as gives owners the ability to check the state of their house in a disaster even while out-and-about. The large storage space helps keep rooms clean in daily life while the original built-in furniture effectively prevents the furniture from toppling in an earthquake and can achieve a space in harmony with the interior.

BF-Si Resilience Plus for Durability in Disasters and Greater Comfort in Each Day



▶ Launch of BF-Si Resilience Plus Lifestyles with High Disaster Preparedness; Peace of Mind and Safety in Disasters Plus Everyday Comfort (in Japanese)

Developing Disaster Recovery Support Services Using IoT

Addressing the Issue of the Time It Takes to Assess Disaster

Japan has many earthquakes, but in recent years, climate change has made natural disasters more serious with concentrated downpours, typhoons and other natural disasters causing extensive and frequent damage. In monetary terms, Japan accounts for 17% of the worldwide total of damage caused by natural disasters. In the 20 years until 2015, the total cost of damages was a staggering 47 trillion yen*.

Of course, the bigger the disaster, the longer the recovery efforts, and it now takes more time to assess the situation as well. For the Kumamoto earthquake that occurred in April 2016, it took about one and a half months for the government to conduct emergency safety checks of buildings aimed to prevent secondary disasters. Disaster victims expressed their anxieties, saying, “It takes too much time to get the information we need,” highlighting one of the biggest hurdles in speedy recovery efforts.

* Centre for Research on the Epidemiology of Disasters database (EM-DAT)

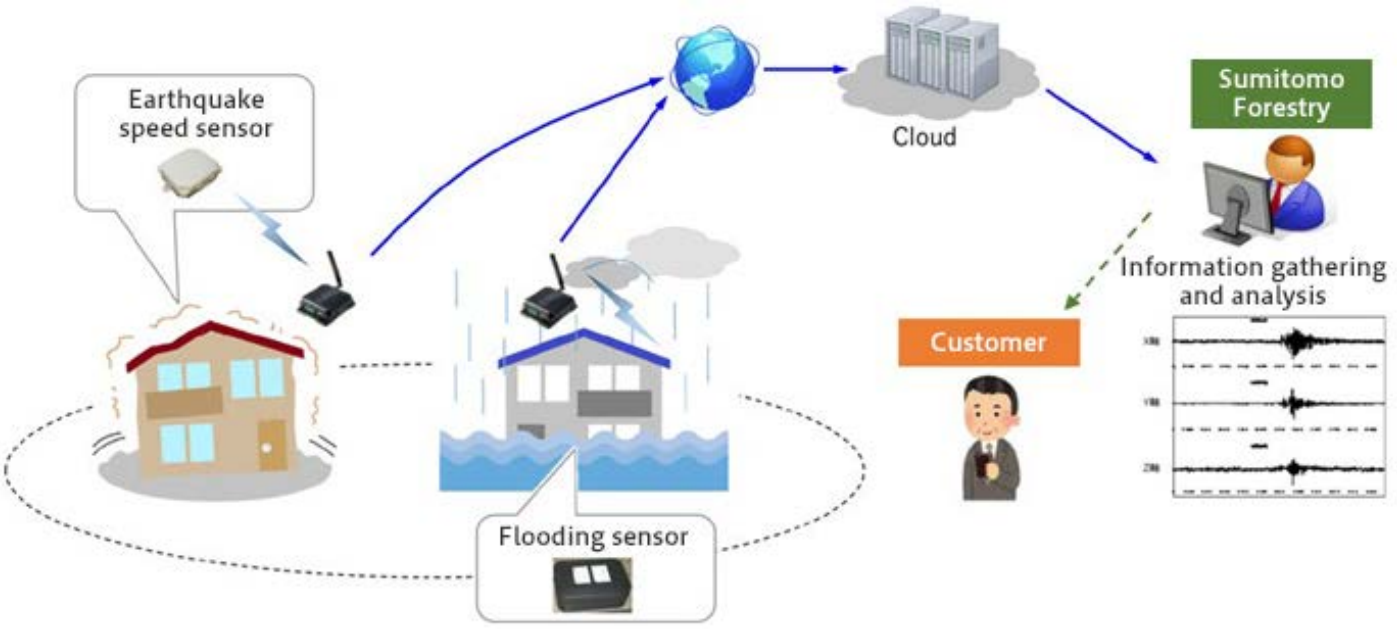
Quickly Gathering Data About Damaged Homes Using Sensing Technologies

Sumitomo Forestry is responding to such issues by developing services that promote quick recovery after disasters. Since 2017, we have been conducting trials of IoT services that utilize our analysis technologies. Specifically, we are conducting trial experiments using sensors to measure, gather and analyze data of buildings to determine their condition. We place several sensors throughout a house to acquire data, such as the magnitude of an earthquake’s tremors, flooding or other conditions, and gather this data through a network to analyze. At our Tsukuba Research Institute, we combine this data with the vast amount of data about earthquake resistance of wooden houses for high-precision analysis to create a technology that is uniquely ours.

A sensor installed inside a wall of a house

We have expanded the proof of concept that began in the Kanto region to all 100 sites as of August 2020. In addition to further heightening the decision accuracy for service provision, we aim to engage in initiatives to ready infrastructure to ensure comprehensive collection and processing of enormous amounts of data while working hard toward actual implementation to ensure customer peace of mind and safety in the event of a disaster.

Overview of How Data Is Gathered



Supporting the Speedy Recovery of Customers and Regions Affected by Disasters

If sensors installed in homes can be used remotely to determine the level of damage, we will be able to more quickly grasp, report and respond to the situation and arrange for repairs or other work to provide our customers the support they need. As engineers would no longer have to check each and every house, it would resolve the problem of taking too much time and can even be used for areas made inaccessible after a major disaster.

In addition, by utilizing this gathered data in different ways, we can develop new services that would give more people a sense of security. For example, we could collaborate with casualty insurance companies to provide quick damage assessments necessary for insurance benefits, which would help people rebuild their lives more quickly.

In addition, we could provide data to customers and local governments for emergency risk assessments that would help prevent secondary disasters. Furthermore, our data analysis results could promote development of technologies that enhance earthquake resistance and durability.

One example of how gathered data can be utilized

Sales of Home in-line with Various Needs and Lifestyles

Sumitomo Forestry proposes housing to a broad range of customers from first time home buyers to married couples that plan to live with their children in multi-generational homes or who plan to live as a couple after their children are grown.

DUE CLASSO was released as custom-built housing for double-income families in August 2017. In response to needs such as efficient traffic lines and room plans easy for families to interact as well as storage ideas and the latest equipment, DUE CLASSO proposes Saku-kaji (prompt housework), Tomo-kaji (housework together) and Shin-kaji (new housework). These innovations are plentiful and help families spend a wonderful time together in this important space created through family cooperation. DUE CLASSO helps create a living space to achieve a leisurely lifestyle in both personal and professional life.

In addition, Forest Selection BF was launched to propose 1,000 carefully selected plans from approximately 300,000 proven custom-built homes in November 2017. This housing is realizing living suited to the needs and lifestyles of customers from a rich selection of choices.

Both of these products promote ZEH specifications to provide living spaces that value the lifestyle environment as well as the global environment.

We are also proposing five new plans that ensure a workspace in newly built homes as telework becomes more common due to lifestyle changes driven by the spread of the novel coronavirus infection (COVID-19). As a housing manufacturer that builds custom units in single-family spec homes, we use our expertise and design capabilities with which we have responded to the demand of more than 300,000 customers and provide homes integrating living and working spaces.

- Launch of DUE CLASSO Houses for Dual-Income Families: Rich lifestyles through ingenious houses that expedite housework and work style reforms
- New Launch of Forest Selection BF Select Style Product: Choose from 1,000 Plans for and Custom-Built Lifestyle (in Japanese)

WORKING STYLE

Integrated Work-Life Single-family Spec Homes

Using More Domestic Timber in Home Products

Sumitomo Forestry Home houses primarily take advantage of the Big-Frame Construction Method (BF Method) and the Multi-Balance Construction Method (MB Method). We have been striving to increase the ratio of domestic wood of structural members and non-structural materials used in these two construction methods. By fiscal 2019, we had achieved 50% and 71% for these two materials, respectively.

Ratio of Domestic Wood of Structural and Non-structural Materials for each MB Method Home FY2019

71%

Ratio of Domestic Wood of Structural and Non-structural Materials for each BF Method Home FY2019

50%

Occupational Health and Safety on Construction Sites

Basic Policy

Sumitomo Forestry prioritizes occupational health and safety above all else on housing construction sites. Therefore, we raise awareness about information and important items about safety in employees of the Sumitomo Forestry Group of course but also every worker involved with Sumitomo Forestry Home houses, such as on-site construction contractors.

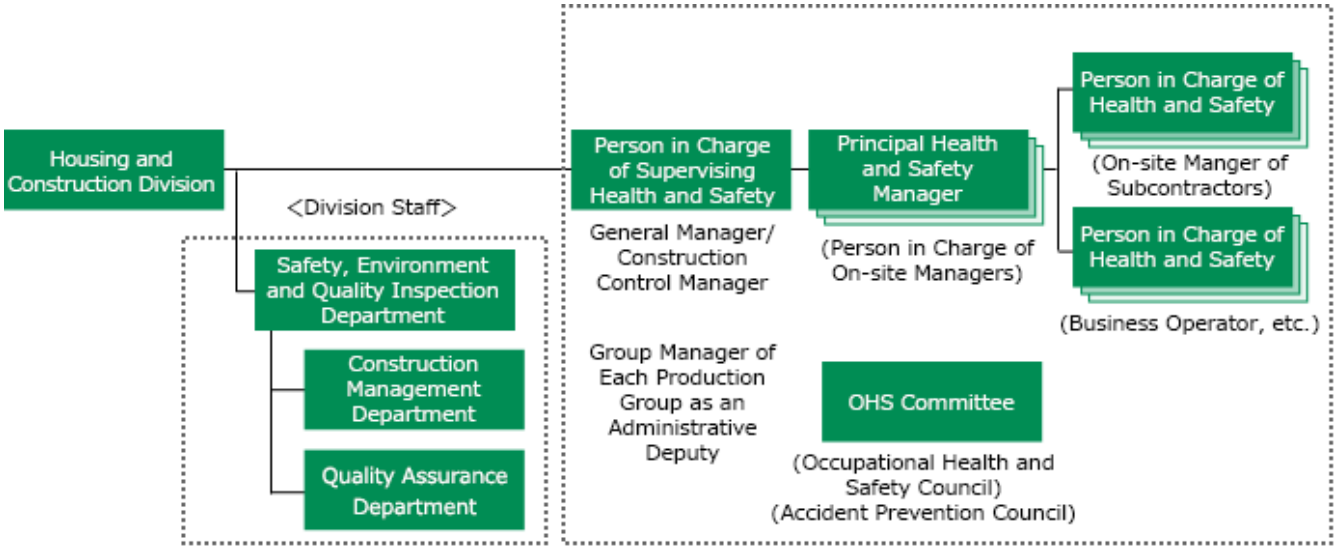
Occupational Health and Safety on Construction Sites

At the beginning of every fiscal year, the Divisional Manager of the Housing and Construction Division formulates an Occupation Health and Safety Policy to provide notification based on circumstances such as the accidents that occurred in the previous period, the state of occupational health and safety promotion as well as compliance with relevant laws. In addition, permeating a safety culture has been designated as a basic policy, and we are working to achieve this in primarily three ways; compliance with the law, promotion of occupation health and safety education and eradication of occupational injuries.

Safety check at construction site

Always raising awareness toward the recognition of safety first permeates this safety culture. Offices, branches and building contractors set important management targets for the fiscal year to eliminate five-types of major accidents; falls, accidents with tools, things tipping over, accidents with heavy machines and heat strokes.

Occupational Health and Safety System for Housing Business Sites



Occupational Injuries of Contractors on Housing Construction Sites

	FY2015	FY2016	FY2017	FY2018	FY2019
Number of occupational injuries*1	6	12	9	7	11
Lost-time injury frequency rate*2	2.23	3.35	2.31	2.79	3.93
Work-related illness frequency rate	0	0	0	0	0

*1 The number of work-related accidents resulting in payment of compensation benefits for absence from work in accordance with the Industrial Accident Compensation Insurance Act is disclosed.

*2 Lost-time injury frequency rate = Number of occupational fatalities or injuries resulting in an absence from work of at least one day ÷ Total number of working hours × 1,000,000

▶ Occupational Injuries
▶ About symbol for Independent assurance

Training Designed to Improve Awareness for Occupational Health and Safety

Based on the results of the monthly health and safety patrols and work site surveys, the Housing and Construction Division and each branch organize training programs with specific cases promoting health and safety, targeting the OHS managers, as well as the leaders (subcontractors) in each job category on construction sites.

In addition, training is designed for maintaining safety such as when workers use grinders*, which are fraught with great hazard, and when they work with circular saws, which are susceptible to accidents due to misuse despite being simple and easy to use.

* Operation with an electric tool to cut by rotating a grinding stone

Training for circular saw work

Together with Construction Contractors

Sumitomo Forestry publishes monthly safety and environment information that includes information and topics about safety and the environment to help prevent accidents and avoid risks by repeatedly raising awareness at branches and construction contractors.

Safety Training for Construction Contractors

Sumitomo Forestry conducts safety training throughout Japan by visiting building and demolition contractors throughout Japan. Directly instructing the people working on-site advances our initiatives toward on-site safety and the environment by building understand about instructions from our company such as permeating a safety culture.

Education for Construction Contractors

Sumitomo Forestry holds monthly health and occupation councils at branches for the purpose of preventing construction accidents by promoting health and safety. On-site health and safety patrols help bring awareness about safety to construction contractors and provides advice to enhance knowledge, such as confirming the state of sites and improving guidance.

The District Safety Improvement Committee launched in fiscal 2018 is advancing system development to raising awareness and verify policies and measures in divisions related to safety by strengthening links with offices, divisions, and branches.

Environmental Consideration on Construction Sites

Basic Policy

Sumitomo Forestry is working to advance toward building a sustainable circular society. Particularly at construction and building sites, where the environmental impact of industrial waste is relatively high, we endeavor to mitigate this environmental impact through initiatives to restrict the production of industrial waste, reuse and process materials for recycling.

Initiatives to Reduce Industrial Waste

Initiative for Reduction of Industrial Waste Generated at New Housing Construction Sites

FY2019 Initiatives to Reduce Industrial Waste

In July 2014, Sumitomo Forestry set up the Waste Reduction Working Group comprising representatives from the product development, material procurement, production management and environment divisions. The working group has been planning and implementing a wide range of measures to reduce waste on new housing construction sites.

We discovered two-thirds of all our waste is made up of wood waste, gypsum board and cardboard from detailed data about the waste that is produced aggregated from the industrial waste management system used under this inter-region certification, which has been in operation since 2012. We are working to reduce waste by concentrating on these three primary forms of waste.

In fiscal 2019, we strove to standardize sub-floor gypsum board that uses new curing methods and revised standard sizes adopted in fiscal 2018.

In particular, the new curing methods can realize approximately 150 kg reduction of waste (cardboard) per home by replacing conventional disposable curing materials with reusable curing materials.

The usage rate in properties completed by the end of fiscal 2019 increased to 83% for reusable curing materials and 91% for sub-floor gypsum board, which is gradually showing effective reductions of industrial waste.

We are also furthering pre-cut initiatives related to roof slate, siding, and Kizure panel materials that have been measured and processed on sites. Practical introduction in stages of these measures begins in fiscal 2020. We expect these pre-cut materials to drastically reduce emissions since pre-cutting is effective in reduction of industrial waste with heavy weight.

Furthermore, we strive to raise awareness on construction sites and conduct educational activities by providing feedback of data about waste emissions from each property to the sites.

Reduction Rate of Industrial Waste Generated at New Housing Construction Sites

The Sumitomo Forestry Group has also set an 18% reduction in the volume of industrial waste generated per household at new construction sites by fiscal 2021 compared to fiscal 2017 levels in the Mid-Term Sustainability Targets. In fiscal 2019, this initiative achieved gradual results, reducing the amount of industrial waste per new house by 10% from the fiscal 2017 level, and we are well on our way to achieve our fiscal 2021 target.

▶ Promotion of Waste Reduction and Recycling

Reduction Rate of Industrial Waste Generated at New Housing Construction Sites (Per Household)

	Total Emissions (kg)	Reduction Rate
FY2017 (Baseline)	3,325	-
FY2018 result	3,274	-2%
FY2019 result	3,002	-10%
FY2020 target	2,950	-11%
FY2021 target	2,730	-18%

Initiative for Recycling of Industrial Waste Generated at New Housing Construction Sites

Sumitomo Forestry meticulously sorts waste produced on new housing construction sites. We will raise awareness through mediums such as posters including specific waste information to make sorting of the 11 categories of waste easier. We have also engaged in efforts to reuse rather than dispose of wood base and packing materials used when transporting precut structural and other materials.

The Sumitomo Forestry Group set a goal of achieving 98.0% waste recycling rate for new construction sites by fiscal 2021 as part of the Mid-Term Sustainability Targets. Recycling rate was 94.3% in fiscal 2019 since recycling on some intermediate processing sites in some regions did not work well, but we will work to consider the adoption of new processing sites that can execute the recycling to improve our recycling rate.

Posters About Sorting Industrial Waste

Waste Recycling Rate at New Housing Construction Sites

	Recycling Rate
FY2017 (Baseline)	92.5%
FY2018 result	94.2%
FY2019 result	94.3%
FY2020 target	98.0%
FY2021 target	98.0%

About symbol for Independent assurance

Acquisition of the Inter-Region Recovery and Recycling Certification by the Ministry of Environment

Sumitomo Forestry acquired the inter-region recovery and recycling certification from the Ministry of the Environment in December 2010. This certification enabled us to build our own industrial waste recycling system by allowing transport of waste by proprietors other than waste disposal operators.

Our industrial waste management system for new housing construction sites helps contribute to the rationalization of waste disposal by using returning transportation for collecting waste while also securing traceability by applying bar codes to waste and collecting accurate data about the volume of waste generated.

Operations at the Metropolitan Area Recycling Center

Sumitomo Forestry used the acquisition of the inter-region recovery and recycling certification to establish the Metropolitan Area Recycling Center in Kazo, Saitama Prefecture for advanced sorting and data collection.

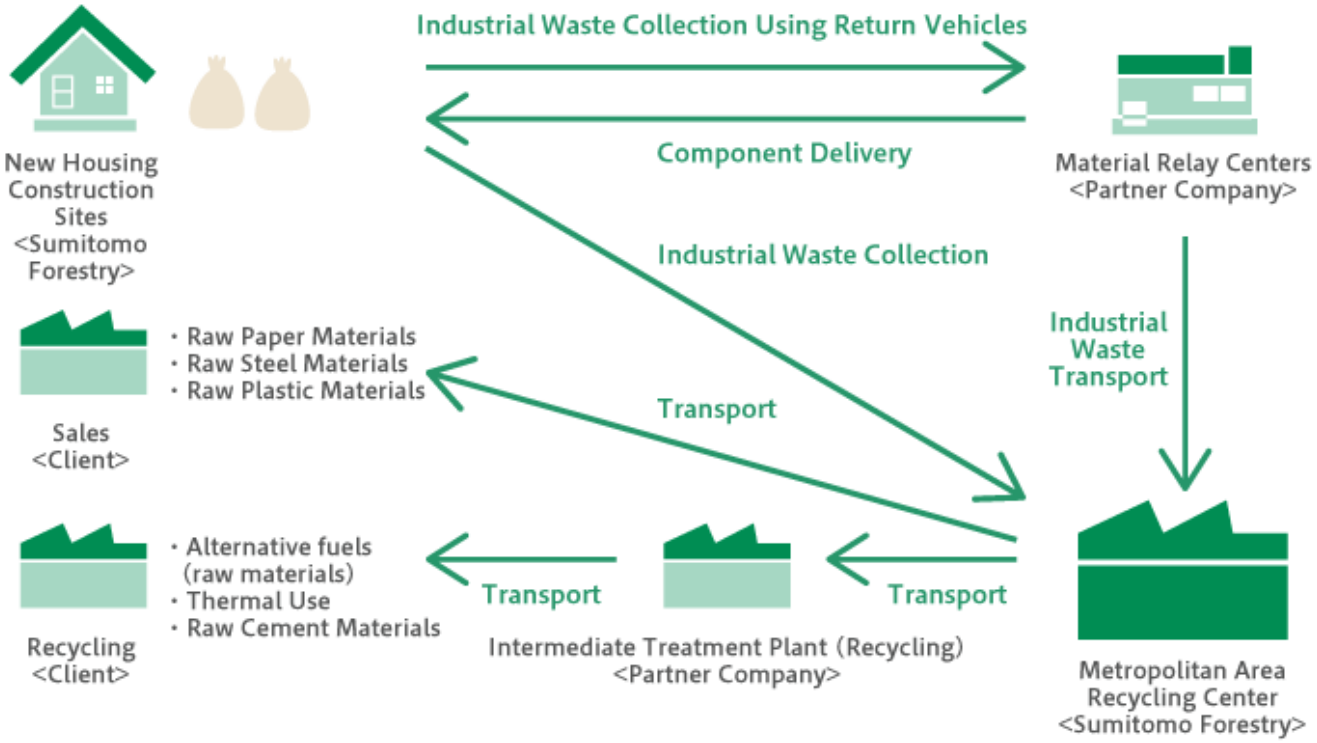
Metropolitan Area Recycling Center

The Metropolitan Area Recycling Center started full operation in fiscal 2012 and has been collecting and processing waste produced by new housing construction sites of the metropolitan and six prefectures of Kanto (Metropolitan Tokyo, Kanagawa, Chiba, Saitama, Ibaraki, Tochigi, and Gunma prefectures).

Setting up the Metropolitan Area Recycling Center brings data feedback to product development, material procurement and production management divisions by facilitating the collection of specifications, construction branches as well as the detailed status and trends of waste generation in each region. This data is being leveraged in our initiatives to reduce waste.

This initiative works to expand operation under the certification for the inter-region recovery and recycling, build processing routes led by Sumitomo Forestry, and further promote recycling even in regions outside the metropolitan area.

Flow of Industrial Waste Collection Using the Inter-Region Recovery and Recycling Certification



Waste Management for Demolition Work

We are strengthening management by building a system able to confirm the type, quantity and packaging of waste to transport from demolition work sites using mobile phones and smartphones which is adopted by all of our demolition partners.

The delivery confirmation invoice sent thanks to input into an electronic manifest checks whether the issuance is correct via our system.

Together with Construction Contractors

Sumitomo Forestry publishes monthly safety, environment and quality inspection information that includes information and topics about safety and the environment to help avoid industrial waste-related risks by repeatedly raising awareness at branches and construction contractors.

Joint Environmental Training with Business Partners

In fiscal 2017, we began conducting joint training for personnel in charge of industrial waste management and administration personnel at branches and the person in charge at demolition contractors.

This joint training aims to raise legal understanding, such as laws related to waste treatment and cleaning (Waste Disposal & Public Cleaning Law) and laws related to the recycling of materials in construction work (Law Concerning Recycling of Materials from Construction Work), share information about industrial waste management risks, and create consistent management methods, such as input procedures of digital manifests to eliminate industrial waste risks.

The joint training also helps facilitate smooth communication between personnel in charge of administration at Sumitomo Forestry and demolition contractors as well as improves the management of digital manifests that are vital to industrial waste management.

Communication with Our Customers

Basic Policy

Sumitomo Forestry provides proposals for ideal home building to customers who are thinking about buying a home through continuous communication with useful and effective information offering.

We introduce information helpful in housing development such as the design examples as well as structural and technological information as part of the stream of home building. Next, we provide guidance at showrooms to help customers see Sumitomo Forestry home building and exhibitions to provide a first-hand experience of the warmth in wood. We also provide information in various other forms such as tours in the homes our customers are actually living in.

In addition, Japanese housing policy is encouraging the standardization of excellent long-term housing to transition to emphasis on the importance of creating high-quality stock which is easy to maintain so that each house can be valued and lived in for a long time. Sumitomo Forestry conducts housing maintenance and replaces equipment in addition to providing appropriate proposals such as exterior renovations to sustain comfortable living in the long term for every owner. We are able to create opportunities such as consultation and inquiries through ongoing communication at owners events held in each location throughout Japan in addition to sustaining ongoing asset value through long-term support for the comfortable living of our customers.

Strengthening Sales Capabilities

Sumitomo Forestry offers a unique application system that realizes ideal home building.

Once a customer applies, we meet to discuss everything from the exterior and room plan to the interior and housing exteriors with a home building team dedicated to the customer made up of a person in charge of sales, design, interior design, production and housing exteriors. At the point of application, each person with expert knowledge inquires about the requirements for the home such as the budget, family composition, lifestyle and any other areas of emphasis to help achieve the ideal home in all respects.

In addition, we ensure ideal home building by escorting our customers to the actual construction site and giving them an image of the real home upon completion.

Model Homes/Showrooms

Sumitomo Forestry has roughly 300 model homes and about 80 showrooms located throughout Japan. Technology housing display centers in Tokyo, Osaka and Nagoya specialize in appealing to the technological and performance features of Sumitomo Forestry Home houses.

Sumitomo Forestry provides first-hand experience of the attractive living it provides through these model houses.

Sumitomo Forestry model homes offer variety of homes on display such as western and Japanese styles to three-story homes in addition to smart homes.

1. **High-quality Luxurious Wooden Spaces**
   Each of these model houses let customers interact with luxurious wooden spaces that fully take advantage of design capabilities unique to Sumitomo Forestry, which has cultivated expertise in both the quality and charm of wood. In particular, visitors can get a taste of the high-quality atmosphere only provided in these real spaces from the flooring made from the world's precious wood and wooden fittings that impeccable fluidity with the interior design.
2. **Design Proposals Founded in Comfortable Living**
   The strength of a structure is obviously important in a home, but a room plan, flow planning and storage plan as well as other aspects to provide comfortable lifestyles is also vital to every family living in the home. Visitors to these exhibitions can see the innovative room plans and ease of cleaning provided by Sumitomo Forestry with their own eyes. Families with children can also get a picture about raising their children there, including proposals for floor plan and children room as well as a study corner perfect to raise children.

3. **Environmentally-Friendly Design and the Latest Equipment**
   Sumitomo Forestry is revolutionizing design with the Ryouonbou design concept. This design concept aims to incorporate the soothing qualities of nature and facilitate a lifestyle which does not rely too much on air-conditioning and heating systems. Everyone can see the actual innovations at our model houses, such as a design to create airflow from the south to north of the home with wonderful light via deep eaves. Furthermore, the smart house exhibition builds in an Ene-Farm solar power generation system and fuel cell units for homes as well as central air-conditioning systems in addition to the latest environmental devices.

The Sumitomo Forestry showrooms offer a unique line-up only possible from a housing builder. Every visitor can form a specific vision of their home while comparing a broad line-up of curtains, wallpapers, interior materials, furniture as well as exterior materials such as exterior walls and entrance doors in addition to plumbing equipment such as system kitchens and bathrooms.

1. **Large Exhibition of a Variety of the Latest Equipment**
   We exhibit system kitchens from multiple product manufacturers. Design features from the sink tops to the color and texture of doors from different manufactures can be examined while comparing the storage space and convenience. Our model homes also provide a sanitary corner for bathrooms sinks and other equipment so that visitors can imagine the usability of these kitchens, restrooms and any other rooms requiring plumbing.
2. **Total Coordination of Interiors and Exteriors**
   A wealth of floor materials, doors and windows, furniture and more are on display together with curtains and wallpaper with a wide variety of colors and patterns. These displays can provide a base to specifically consider an indoor feel suitable to the interior decor of each customer's image. We also have brought together a broad line-up of exterior materials for entrance doors and external walls to help visitors solidify their exterior images, which can offer coordination for the entire home.
   Everyone can get a distinct individual feel with wood that varies in color and look for each tree species. The showrooms make available floor materials in addition to a broad range of other interior and exterior materials. Each person can experience the look and actual feel of these materials from the touch to texture which cannot be felt in catalogs or on websites.
3. **Exhibition of the Housing Structure and Latest Environmental Devices**
   Sumitomo Forestry puts on display the housing structure which brings the most concern. This lets potential buyers experience the strength for themselves. In addition, we have the latest environmental devices on display, such as solar power generation.


Tsurugashima Model Home (Saitama-Nishi Branch/Saitama) Opens April 2019

Technology Exhibition Houses

At model homes at which fosters opportunities to communicate with customers about home building, Sumitomo Forestry set up “technology exhibition houses” where displays special technologies and functionalities of Sumitomo Forestry Home houses in major cities.

The exhibition houses put in creativity in explaining excellent competencies of wooden homes and structural features of Big Frame Construction Method -Sumitomo Forestry's own building method that is Japan's first timber rigid frame structure so that visitors are able to understand through direct exposure to the basic structures of the homes.

Currently, the exhibition houses are in Tokyo, Osaka, and Nagoya, and total visitors exceeded 2,794 groups in fiscal 2019.

Inside of Technology Exhibition House

Outside of Technology Exhibition House

Respect for and Application of Customer Feedback

Operation of Sumitomo Forestry Customer Service Department

Sumitomo Forestry established the Customer Service Department in April 2000 as a Group-wide customer service help desk. Communicating the opinions and complaints of customers, including neighboring residents, to improve each department as well as management is an important mission for the Customer Service Department in enhancing customer first actions even further. The Customer Service Department holds periodic meetings and working groups with each business division and Group company as well as shares information to provide high-quality products and services which will bring sensation to our customers. The Department discusses the issues and examples of solutions to bring together as specific measures. The measures then are executed throughout the Group, and the Customer Service Department regularly evaluates progress and efficacy of the measures, and undertakes reviews and corrective actions, in line with the PDCA cycle.

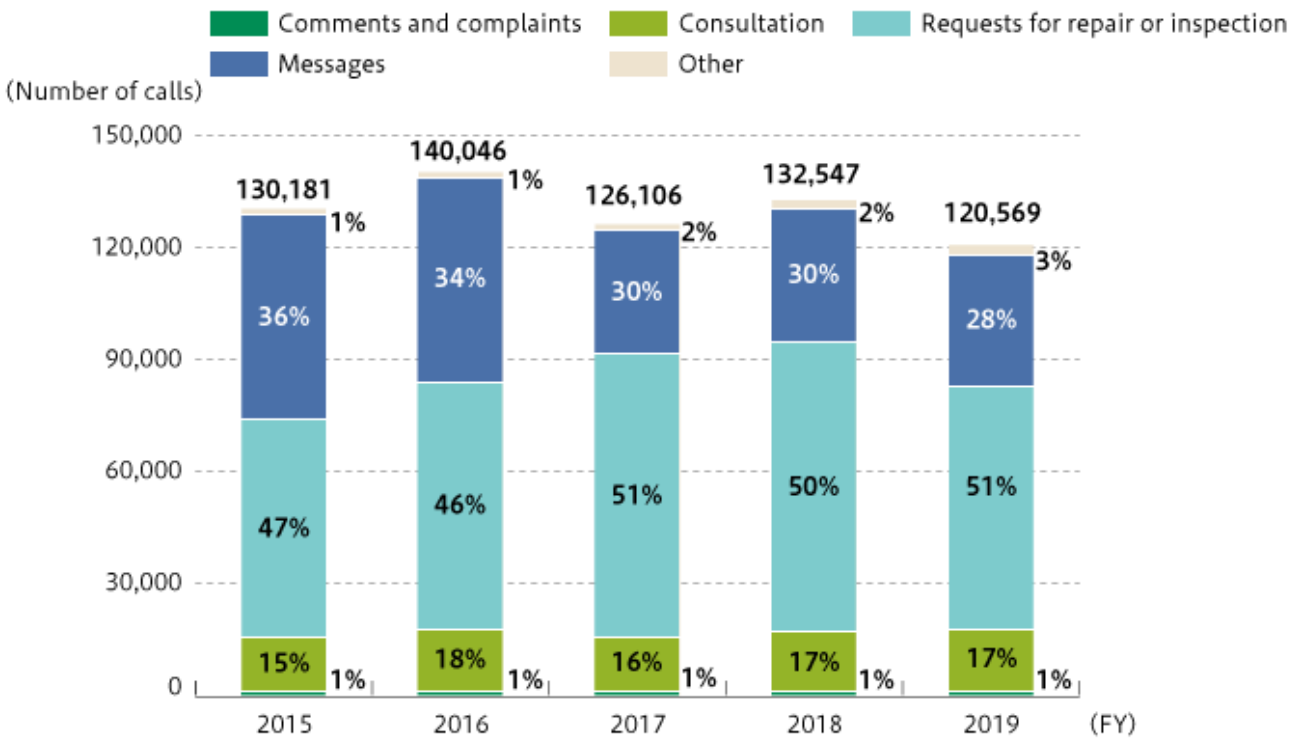
Additionally, Sumitomo Forestry regularly introduces example creative solutions that can be easily adapted in the daily work routine, improves customer satisfaction as well as publishes heart-warming stories on the intranet. Direct feedback and opinions of customers sent to the Customer Service Department, details of the consultations and their analysis results, and examples of superior response are consistently communicated to prevent recurrence of factors causing problems. The support for internal training and one-on-one meetings with Group companies are also provided.

Operation of Sumitomo Forestry Call Centers

Sumitomo Forestry established Sumitomo Forestry Call Centers that open 24 hours a day 365 days a year toll free as a consistent dedicated helpline throughout Japan that allows immediate support such as an emergency response lifeline to assist our customers. The telephone number is introduced on magnet cards, owner dedicated websites, magazines and other mediums so that this helpline will be used broadly by our customers

Presently the centers are located in Tokyo and Okinawa, and are linked together, shortening wait times for customers who call via the unified national free-dial number. In addition, the system is organized to enable response in emergency situations. The system facilitates prompt response to customer requests and consultations and also strives for improved customer satisfaction.

Sumitomo Forestry Call Center Inquiry Breakdown (Trends)



Customer Surveys

Sumitomo Forestry conducts resident surveys three times from the second to tenth year from when residents move in to collect opinions and feedback of owners in order to deliver greater satisfaction and services to customers.

The survey questions primarily elicit responses about specifications, design, building materials, systems and fixtures, and the support service provided by the staff. The Company then statistically processes and analyzes these results, and applies any findings to product development and employee training.

We strive to improve customer satisfaction through direct customer contact gained from the comments received in these surveys, which are then shared with all of our relevant departments.

Each branch collects and ranks items determined by the people in charge of sales, design, interiors, production, and housing exteriors to judge the level of customer satisfaction. Our headquarters forwards the results of these rankings to each branch every three months. Each branch then aims to improve overall customer satisfaction while doing everything in their power to revise measures accordingly based on the results.

In fiscal 2019, the satisfaction ratio for overall satisfaction was 95.9% in the survey of new owners, and 96.3% in the survey of second-year owners.

Furthermore, Sumitomo Forestry has adopted the Net Promoter Score (NPS)* advocated by the housing industry for the purpose of enhancing customer satisfaction. In October 2017, we revised the five stage evaluation to an 11 stage evaluation for the questions above.

We will continue to provide high-quality products and services which bring sensation to our customers by further leveraging customer feedback through the NPS survey analysis.

* NPS is a new index used to measure customer loyalty (the amount of trust and affinity for the company and brand).

Communicating Information to Customers

Website Operation and Magazine Publication

Sumitomo Forestry operates its clubforest special website for owners of Sumitomo Forestry Home houses. As of March 2020, about 120,000 owners had registered as members.

Through a variety of content on the site, we provide information that is useful in helping members get more enjoyment and comfort out of their lives as homeowners. The site offers various contents such as a page where members can see photos of the construction site as its progresses, exclusive sales pages where only owners can purchase Sumitomo Forestry Home products at special discount prices and a 24-hour inquiry that accepts requests for building repairs.

Lovely Family is a home and lifestyle magazine published twice a year. It also features details about Group company activities such as renovation and utilization of lands. About 300,000 prints were issued for each issue in fiscal 2019.

The cover of "Lovely Family", fall and winter 2019 issue

Progress check page in clubforest

MOCCA (Timber Solutions) Business

Basic Policy

Sumitomo Forestry has been engaging in forest management for more than 320 years. In addition, we create living spaces which take advantage of wood through our expertise in the various properties of wood worldwide. By dramatically furthering wide-ranging experience, knowledge and technology, we propose wider use of wood and timber in non-residential buildings, such as medium to large-scale construction. Sumitomo Forestry is promoting MOCCA (Timber Solutions) Business in which proposes wider use of wood in non-residential buildings such as industrial and public facilities.

In 2009, the Japanese Government formulated the Forest and Forestry Basic Plan as a forest and forestry recovery policy. This plan sets a timber self-sufficiency rate of at least 50% by 2025 as an ideal approach and positions the expansion of wood use as national policy, including the Public Buildings Wood Use Promotion Act enacted on October 1, 2010.

Through the MOCCA (Timber Solutions) Business, Sumitomo Forestry will bring out the excellence of wood and cultivate new value and potential such as warmth, tranquility, and comfort in addition to aligning the passion of companies, individuals, countries, municipalities and others to expand the transition to wood as a new building method worldwide. This is the mission Sumitomo Forestry must fulfill as a company involved with wood since its founding.

Basic Concept of Product Safety and Quality Control in MOCCA (Timber Solutions) Business

Sumitomo Forestry is promoting MOCCA (Timber Solutions) Business in which proposes wider use of wood in non-residential buildings such as industrial and public facilities. The Construction Market Development Department provides high-quality buildings with consideration for users' health, safety, and comfort via wooden architecture, and obtained ISO9001 in September 2015 in response to customer expectations. Complying with this international standard, policies were established as shown in the following. Each plant sets tangible quality targets and a business expansion plan adhering to the policy to attain maintained safety and enhanced product quality.

Quality Policy

We will strive in the efforts below as an organization that loves wood because we believe it is the path to respond to the expectations of our customers by consistently providing high-quality buildings with consideration to people's health, safety, and comfort via wooden architecture.

1. **Continually better quality and improve customer satisfaction**
   We will work to heighten our quality performance and improve customer satisfaction while continually bettering the effectiveness of our quality management systems by conforming to standards and meeting the requirements of our customers.
2. **Complying with the law**
   We will have full knowledge of applicable laws and other requirements we see as a duty for the company in the design and construction of buildings.
3. **Establishing policies**
   We will set quality targets and periodically evaluate our success and revise those targets and goals to specifically promote this quality policy.
4. **Conducting education and training**
   We will conduct education and training for the staff involved with the MOCCA (Timber Solutions) Business that we employ to raise awareness so that all of our employees working in the Construction Market Development Department and the Company will understand this quality policy.
5. **Publishing this policy**
   We will publish this quality policy externally on the Housing and Construction Division's Construction Market Development Department website.

Product Safety and Quality Management System in MOCCA (Timber Solutions) Business

Sumitomo Forestry Construction Market Development Department consolidates the quality management system under the aforementioned policy and is building a strict process management system.

The Department also conducts biannual internal audits at all construction sites to follow the PDCA cycle incorporated in the quality management system as stipulated by ISO9001.

▶ Quality Management

MOCCA (Timber Solutions) Business Initiatives

Using Wood in Buildings to Help Transform Work Styles- Kokubunji Head Office Building of Flavor Life Co. Ltd.

Flavor Life Co., Ltd., which has its head office in Kokubunji City, Tokyo, provides aroma products that incorporate blessing of nature into daily life. It is a company that creates lifestyles with fragrance and smiles through aromatherapy.

As a company that handles products made of natural materials, wish for a building that used natural materials it is a matter of course to wish above all else, the company wanted an environment in which employees could work comfortably. A wooden-hybrid building was realized in July 2017 with the passion of the proprietor.

Time spent in a workplace is no fleeting moment for the working people. It is surely fair to say that bringing comfort and coziness to a living space in which so much time is spent to be an important element of in promoting work style reform.

The effects of a peaceful workplace incorporating wood, in which employees say they can relax while working, and communicate more with coworkers, has begun to be reflected in employee satisfaction levels and productivity of work.

This wooden-hybrid building has a steel frame structure for the first three floors and a wooden-hybrid structure for fourth through seventh floors. Its most distinctive characteristic is its use of hybrid laminated engineered wood which the steel frame is completely covered in wood. Featuring a combination of the soft texture of wood and the strength of steel, it enables the wood to protect the steel from heat as a fire-resistant coating, contributing to disseminate incorporation of wood as a material for buildings.

The aim of Sumitomo Forestry is to create vistas lined with buildings that provide a sense of the warmth of wood in cities, where contact with wood is rare. We apply our knowledge and experience in using wood to propose new ways of doing so.

* This project was selected as a pilot program for sustainable buildings (wood type) of Ministry of Land, Infrastructure and Transport in fiscal 2015.

Head office building of Flavor Life with full use of quality of wood

Participating in Building Energy-efficient, Environmentally-friendly Convenience Stores

Sumitomo Forestry designed and built the energy-efficient, environmentally-friendly Numata Interchange Family Mart convenience store which opened in Numata City, Gunma in December 2019. This store was a pilot test that aimed to save energy by combining the strengths of various environmentally-friendly products from participating companies.

Sumitomo Forestry proposed and employed Cross Laminated Timber (CLT) materials made from domestic wood for the walls of the structural framework. Use of Sumitomo Forestry's original S-100 coating material (powerful water repellent silicone coating) on an exposed timber* style even improved weather resistance. Nelson Pine Industries Ltd. (NPIL), a Sumitomo Forestry subsidiary in New Zealand, even took charge of the beam construction by manufacturing the Laminated Veneer Lumber (LVL) that was used. As of May 2020, our Group has completed a total of 204 stores by proposing this type of wood construction.

Trees continue to stabilize CO_2 as carbon even after they are turned into products. Wood structures help reduce CO_2 emitted by these stores throughout the entire life cycle from material procurement to construction, renovation, repair, demolition, and disposal better than light gauge steel used for columns and beams.

We also took advantage of a grant for the CLT materials used in this store through an individual proof-of-concept project for expanding the use of JAS structural materials, which is a Forestry Agency subsidy program. Sumitomo Forestry will promote further use of wood by providing total solutions from the procurement and supply of materials to the construction.

* A finishing technique in wooden constructions which structural members such as columns and beams are exposed to view.

External wall CLT Timber

Wood CLT Convenience Store Construction

Wood CLT Convenience Store Construction

Toward the Future -Aiming for the Timberized Eco Cities with W350 Plan-

Sumitomo Forestry announced its W350 Plan in February 2018. The W350 plan is a research and technological development roadmap aiming to build a 350-meter-tall wooden high-rise building in 2041, which will mark the 350th year since foundation of business in 1961, in preparing to create Timberized Eco Cities. The plan is intended to develop future technologies that contribute to people's lives, society and the global environment, including building construction methods, environmental technologies, wood for building materials and resources.

The new three-story wooden research building completed in October 2019 at the Tsukuba Research Institute will help further this plan as a research and development base.

Toward Realizing the W350 Plan

Managed mainly by our research and development center, Tsukuba Research Institute, the W350 Research and Technological Development Plan is a roadmap for future technologies; to develop building construction methods, environmental technologies, wood for building materials and resources. This roadmap will expand the possibilities of wooden structures.

This plan of creating Timberized Eco Cities centered on wooden high-rise buildings will revitalize the forestry industry with increased demand of timber and mitigate climate change with increased fixation of CO_2; in essence, Sumitomo Forestry will contribute to invigorate the community and to realize coexistence with the global environment.

Building outline:

- Height - 350m, Number of floors above ground - 70 floors
- Building use: Stores, offices, hotels, residences
- Building area: 6,500m²
- Design collaboration: Nikken Sekkei Ltd.
- Architectural area: 455,000m² (6,500m² × 70 floors)
- Amount of timber used: 185,000m³
- Structure: Wood and steel hybrid structure (Internally, pure wooden structure)

New Research Building of the Tsukuba Research Institute, Which will Serve as the Research Base for the W350 Plan

It has been 29 years since Tsukuba Research Institute was established. The deterioration of the main research building and increase in staff have become issues needing to be addressed. The new research building completed in October 2019 adopts new Post-tensioning[*1] technology related to the wooden structures. Other technologies used in this building will also form foundation for the W350 Plan. Energy saving technology and renewable energy will also be used with a view of achieving a zero energy building (ZEB).

The new research building is a three-story building with a floor area of 2,532.67m². The exposed beams, pillars, and wall structure has been designed using the semi-fireproofing technique. Full building evacuation safety verification [Route C (Minister's certification)][*2] makes it possible to reduce restrictions on wooden interiors so that spaces with the qualities of wood can be presented. The building greatly reduces CO_2 emissions by installing solar panels on the roof and adopting absorption water chiller-heaters fired using wood pellets. With roofs, balconies and exterior walls used as areas to test greening, the research and development of green technologies for non-residential wooden architectural structures will be conducted while office space will be used for verifications such as green layouts that seek to improve intellectual productivity.

This facility has been accepted as a pilot program for sustainable buildings (wood type) in fiscal 2017 promoted by Ministry of Land, Infrastructure, Transport and Tourism. This includes an office for housing 140 persons and a gallery that provides information about timber.

With the new research building positioned as the cornerstone of the W350 Plan, we also began a construction plan for a six-to eight-story wooden building (20m to 30m tall) as the next actual step forward. This plan has been named “W30” and is currently under way.

*1 Technology where high-strength steel poles and wire ropes running through load-bearing members are tensioned to increase the fixation of position between members.

*2 A method for verifying safety performance where everyone within a building is able to evacuate safely to the ground level given a pre-determined fire scenario. If safety can be confirmed, some of the regulations of the Building Standards Act of the Japanese government are eased, enabling greater freedom of design, such as exposing wood structural members to view. Route C designation requires certification by the Minister of Land, Infrastructure, Transport and Tourism, but since evacuation safety performance is confirmed using sophisticated calculation methods not stipulated by the notice, it allows for the highest level of design freedom.

Overview of New Research Building at Tsukuba Research Institute

- Location : Midorigaoka,Tsukuba-shi,ibaraki Prefecture,Japan
- Building area: 1,120.27m²
- Floor area: 2,532.67m²; 1F: 1,001.95m²; 2F: 894.44m²; 3F: 636.28m²
- Structure: Three-story wooden Original Post-tensioning Semi-fireproof Structure
- Application: Research Facility
- Project Management: MOCCA (Timber Solutions) Department*, Sumitomo Forestry Co., Ltd.
- Design: le style h/Atelier Asami kazuhiro and MOCCA (Timber Solutions) Department, Sumitomo Forestry Co., Ltd.
- Construction company: Kawada Industries, Inc.
- Construction Period: March 26, 2018 to September 30, 2019

* Restructured as the Construction Market Development Department on April 1, 2020

▶ Material Issue 2: The Development and Sale of Reliable and Safe Products and Services that Consider the Environment and Society

The New Research Building at the Tsukuba Research Institute Receives the Minister of Land, Infrastructure, Transport and Tourism Prize for Wood Design

The New Reserch Building of the Tsukuba Research Institute completed on September 30, 2019 received the Minister of Land, Infrastructure, Transport and Tourism Prize for excellence in the 23rd Utilization of Wood Contest . This is the first time Sumitomo Forestry has received this award. The judging selected a total of 76 candidates through preliminary screening from a total of 173 total entries before selecting 21 to receive awards, including the highest honors.

The new research building was praised for using technologies such as exposed interior timber (arawashi) achieved by paying close attention to evacuation safety in the event of a fire as well as indoor and outdoor greening and the original structure using Post-tension technology.

Contributions to Eco Cities Through Greening

Basic Policy

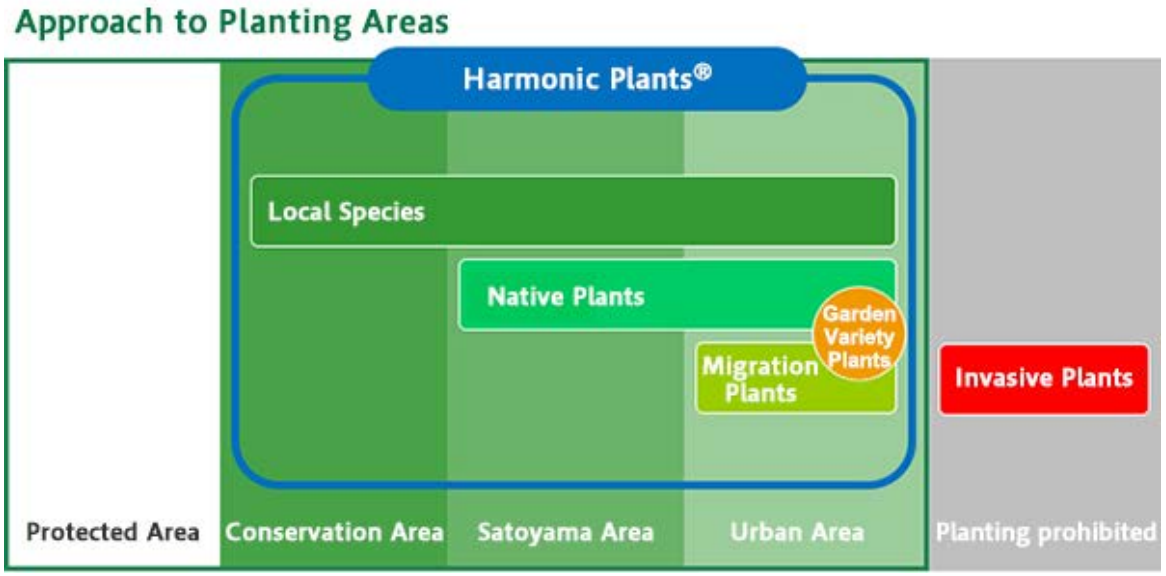
The use of as many plants as possible which are native to the region in property development is a growing trend as society shifts toward a goal to co-exist with nature.

In the midst of these trends, Sumitomo Forestry Landscaping has defined Harmonic Plants® guidelines for selecting plants species based on greening areas with the concept that using indigenous and local species in greening plans is in the best interest of natural revitalization. The Company has been promoting this model up until now.

There are plants that have grown in Japan since long ago (native plants) and plants that have come to Japan from abroad (migration plants) for trees. Among these migration plants, there are species that will overrun areas where native plants live due to their characteristics, which endanger the biodiversity of the region (invasive plants*).

Garden vegetation plans are separated into four areas that take into account the conservation level (protected areas, conservation areas, satoyama areas, urban areas) to select plant species based on these areas. For example, in urban areas when building gardens for residences, the colorfulness is represented by selecting a balance of greening plants from non-invasive migration plants around a main selection of native plants, including garden variety plants. In addition, the Group has in place a policy of not using invasive plants that clearly have an adverse impact on local ecosystems and a division responsible for coordinating technology at Sumitomo Forestry Landscaping Co., Ltd. checks that such species are not used.

* Specified alien species and alien species requiring caution as stipulated by the Invasive Alien Species Act



Contributions to Property Development

Project to cultivate leaders to form an ecological network for corporate green zones along the coastal area of the Chita Peninsula received a special jury prize at the Environmental Awards 2019

In the industrial zone along the northern coast of the Chita Peninsula in Aichi Prefecture, this conservation initiative brings together corporation green zones as regional ecological sites to unify students, companies, NPOs, and government agencies.

In June 2019, these Chita Peninsula ecological conservation efforts provided an excellent example of an initiative to conserve the ecosystem through a consortium honored with a special jury prize in the 46th Environmental Awards (held by the National Institute for Environmental Studies, Japan and Nikkan Kogyo Shimbun with the support of the Ministry of the Environment).

Sumitomo Forestry Landscaping joined this project as an advisor and consultant with MS&AD InterRisk Research & Consulting, Inc. and Regional Environmental Planning, Inc. We cooperated broadly by providing advice such as methods for greening renovations that increase biodiversity and methods to monitor life with the participation of students and employees.

As the recovery of biodiversity becomes of major interest today, Sumitomo Forestry will not only further deepen but also broaden its consulting capabilities related to biodiversity conservation.

Connecting Life Student Project

Assisting Nakashinden Green Area of Aichi Steel Corporation and the Central Negishi Refinery Garden of the ENEOS Corporation to Receive ABINC Certification

The Nakashinden Green Area of Aichi Steel Corporation (Aichi Prefecture) that Sumitomo Forestry assisted in obtaining the ABINC certification* is a roughly 2 ha corporate green zone adjacent to the plant in the head office district of the company. The area had originally been used for a plant, but this plan set out to open the zone as a local ecological site. The project was able to take advantage of the marshy and grassy environment to create a natural ecological garden. Employees, local citizens, student volunteers, and many others are helping build this green area to nurture even greater biodiversity.

In the same way, the central garden at the ENEOS Corporation refinery (Kanagawa Prefecture) that Sumitomo Forestry assisted in obtaining the ABINC certification* is a large-scale green space 100 meters wide and 800 meters long with three biotope ponds. In recent years, the initiative has been aiming to create green areas friendly to biodiversity by linking to nearby lush natural areas, such as the Sankeien Garden. Undeveloped woodlands on plant premises are expanding diverse environments, such as the water lands attracting kingfishers and grasslands filled with common bluebottle butterflies.

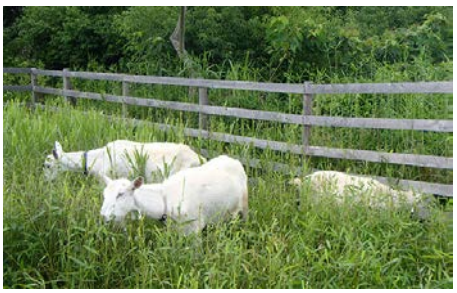
As shown by these two examples, efforts to try and transition production plant gardens into green areas where biodiversity flourishes are booming. In the future, Sumitomo Forestry will emphasize consulting related to the biodiversity conservation even more.

* This system certifies results of biodiversity preservation activities of companies to promote coexistence of nature and people.

Planting Event in the Aichi Steel Nakashinden Green Area

Environmental Awareness Building Activities in the Aichi Steel Nakashinden Green Area

Nature Observation Event at the ENEOS Negishi Refinery



Goats Grazing to Weed the Garden at the ENEOS Negishi Refinery

Exhibited a Garden at the 36th National Urban Greenery Fair in Shinshu

The “Gift from the North Alps” Shinshu Flower Festival 2019 at the 36th National Urban Greenery Fair in Shinshu (Hosted by: Nagano Prefecture, Matsumoto City, Omachi City, Shiojiri City, Azumino City, and the Organization for Landscape and Urban green Infrastructure; Proposed by: Ministry of Land, Infrastructure, Transport and Tourism) was held over 53 days from April 25 to June 16, 2019 using the Nagano Matsumoto Daira Park (Shinshu Sky Park) as the main venue.

The National Urban Greenery Fair is a festival of flowers and nature that has been held every year throughout each region in Japan since 1983 as a project to raise awareness of property development that pursuit of comfortable, welcoming living filled with greenery.

Under a theme of connecting nature to forests, people, and the future, this fair advocate various greenery from original wall gardens to highly-durable wood decks and wood fencing, locally produced stone materials for local consumption, and vegetation suitable for different environmental conditions. In addition to native species such as Japanese white birch, Japanese dogwood, siebold maple, azalea, and Lily-of-the-Valley indigenous to Nagano and popular garden plants, this festival showcased how to cultivate a pleasantly refreshing garden unique to Shinshu that was then put on display.

Planting Design Adopting Natural Nagano Vegetation

Education for Biodiversity Conservation

Publish of Biodiversity Handbook Vol. 2: Local Vegetation

We are receiving a wide range of concerns for information about what the local vegetation is to the production, distribution and consumption of native plants and the cultivation plans for native plants in addition to future trend of local vegetation required for greening that consider biodiversity.

Sumitomo Forestry Landscaping has responded to these concerns by publishing the Biodiversity Handbook Vol. 2: Local Vegetation in January 2018.

This handbook offers explanations while interweaving cutting-edge examples that use locally cultivated plants to address primarily the information below.

1. Reconstruction projects for the Great East Japan Earthquake using local plants
2. The development of large-scale test driving course using local plants in
3. Beach plant revitalization project using local plants
4. Urban redevelopment using local plants from the Edo period
5. Mixed tree revitalization using local plants cultivate on large-scale artificial grounds

Cover of the Biodiversity Handbook Vol. 2: Local Vegetation

Publish of an Illustrated Guide to Home Trees Revised Edition

The Ministry of the Environment and The Ministry of Agriculture, Forestry and Fisheries of Japan newly released a list of alien species which harm biodiversity of Japan (list of potentially harmful alien species for biodiversity) for the purpose of deepening interest and understanding about alien species to incite the appropriate action by various independent entities.

This list not only stipulates the specified alien species up until now but also selects alien species which have the potential to become highly invasive to the ecosystem or kill or harm people as well as damage agriculture, forestry and fisheries.

Sumitomo Forestry Landscaping has reorganized criteria for alien species unique to its business in accordance with the regulations on the list of harmful alien species for biodiversity with considerations to further impact on the ecosystem. The Illustrated Guide to Home Trees published based upon this criteria has released a revised edition in March 2017 which replaces some of the tree species included therein.

We will continue to advocate Harmonic Plants® and the use of these standards for alien species to include in proposals for plants to customers as well as in raising the awareness of our employees.

Cover of “An Illustrated Guide to Home Trees Revised Edition”

Overseas Greening Businesses

In North Melbourne, Australia, we are leveraging our expertise in a design partnership with Tract Landscape, a local landscape design firm, for the Annadale estate project (1,087 total lots for sale), which is a joint residential development project between Sumitomo Forestry and NTT Urban Development.

In this design partnership that began in January 2017, Sumitomo Forestry proposed a concept, Growing Wellness Life & The Five Sense, for the basic design of Tract. Tract highly evaluated this proposal as a fantastic reference because a story is not usually incorporated into standard design plans in Australia and playground equipment using natural stone and logs was employed to better the motor skills of the children as well as the vegetation plans. Even in the second stage of park planning conducted thereafter, we proposed basic concepts to further tasks to bring together the basic design founded upon this idea and moved forward with the construction set to be complete in September 2020.

Green zones in Australia and the U.S. is imperative to raise the value of the estate development and pursue the creation of efficiently green open spaces. Even in South East Asian regions where Sumitomo Forestry has been advancing housing and real estate businesses since 2019, initiatives to work in cooperation with local landscaping companies have started. We have just begun our efforts in the overseas greening business, but will continue to further these businesses in the future with the aim of creating beautiful and comfortable spaces loved by residents overseas.

Nature Play Equipment Using Natural Stone (First Stage of the Annadale Estate Project Park)

Concept Proposal for the Second Stage of the Annadale Estate Project Park

Residential Property Development Business

Basic Policy

Sumitomo Forestry strives in the residential property development business by providing roughly 300 high-quality single-family spec homes each year through technical expertise accumulated in custom-built housing and greening businesses. We develop long-lasting properties by taking advantage of nature with the goal of realizing a sustainable, prosperous society founded in the Sustainable Development Goals (SDGs). Employing lifestyle design concepts, we respect the history, environment, and culture of each region to bring out these characteristics to create townscapes in harmony with nature. Sumitomo Forestry is driving property development toward an ideal of high asset value by considering all aspects of living from the purchase of land to the design of townscapes and living spaces.

Developing Beautiful, Long-lasting Cities and Communities

Sumitomo Forestry formulates townscapes Development Guidelines for each project that incorporates the size, geography, environment and other distinct characteristics of each property to develop beautiful, long-lasting towns and communities. In addition to property design codes, we also create landscapes that unify homes with nature to bring a sense of oneness. Our goal is to realize comfortable living environments through land plans and building arrangements that consider the adjacent land and buildings and take advantage of natural airflows, sunlight, and vegetation. At the same time, we place particular emphasis on the design and structural layout of residential spaces to bring out the most comfortable living spaces that also provide privacy.

Residential Property Development Initiatives

Forest Garden Hadano Receives the First ABINC Certification As a Detached Housing Complex.

Forest Garden Hadano, a detached housing complex in Hadano City, Kanagawa Prefecture, received the first ABINC (Association for Business Innovation in harmony with Nature and Community) certification under the detached housing complex and city area category in March 2018. The ABINC certification system certifies results of biodiversity preservation activities of companies to promote coexistence of nature and people. The certification began the certification of office buildings and commercial facilities from 2014 and has expanded its scope to include housing complexes and factories. Furthermore, detached housing complex and city area category and city area category and logistic facilities were newly added in fiscal 2017.

Property Design of Forest Garden Hadano

The property design of Forest Garden Hadano is green property that coexists with life. It realizes rich greenery through the use of local tree species and Harmonic Plants®. Consideration toward sustainable circulation of water utilizing spring water was one of the major factors of receiving the certification.

Overseas Housing and Real Estate Business

The Sumitomo Forestry Group is expanding housing and real estate businesses in the United States and Australia that have large, mature wooden house markets, as well as in Asian regions where significant growth is expected in the future. We not only sell housing that matches the needs of the climate and natural features as well as markets in each region but also engage in various initiatives to create shared value through our business activities by respecting employees, local residents, corporate organizations, society and every other stakeholder.

Respect for Regional Culture for Housing, Lifestyle, and Architecture

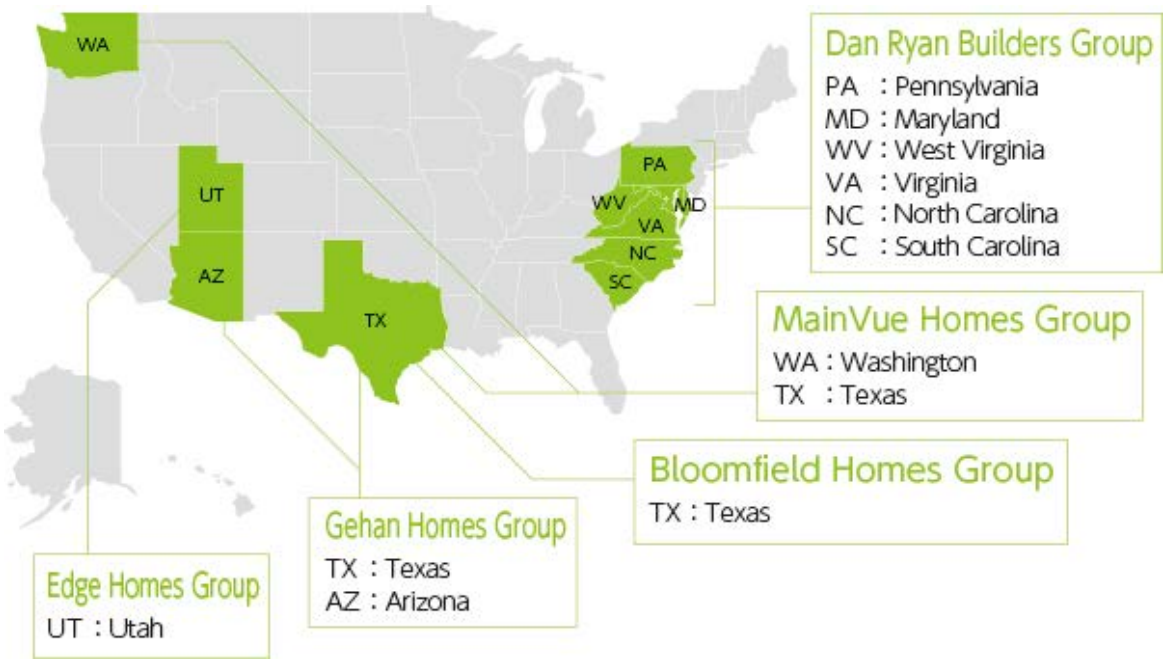
Sumitomo Forestry has built a proven track record in wooden house construction in Japan, and its overseas housing and real estate businesses also place value on construction that adapts to the living customs and culture of each region. We respect the business policies of our local Group companies that are well versed in the culture, needs and characteristics of each region. This approach allows us to create a system that is able to provide products and services best suited to each region.

United States Business

Sumitomo Forestry is expanding a multifaceted housing and real estate business in the United States where stable population growth and strong housing demand are expected to continue in the future.

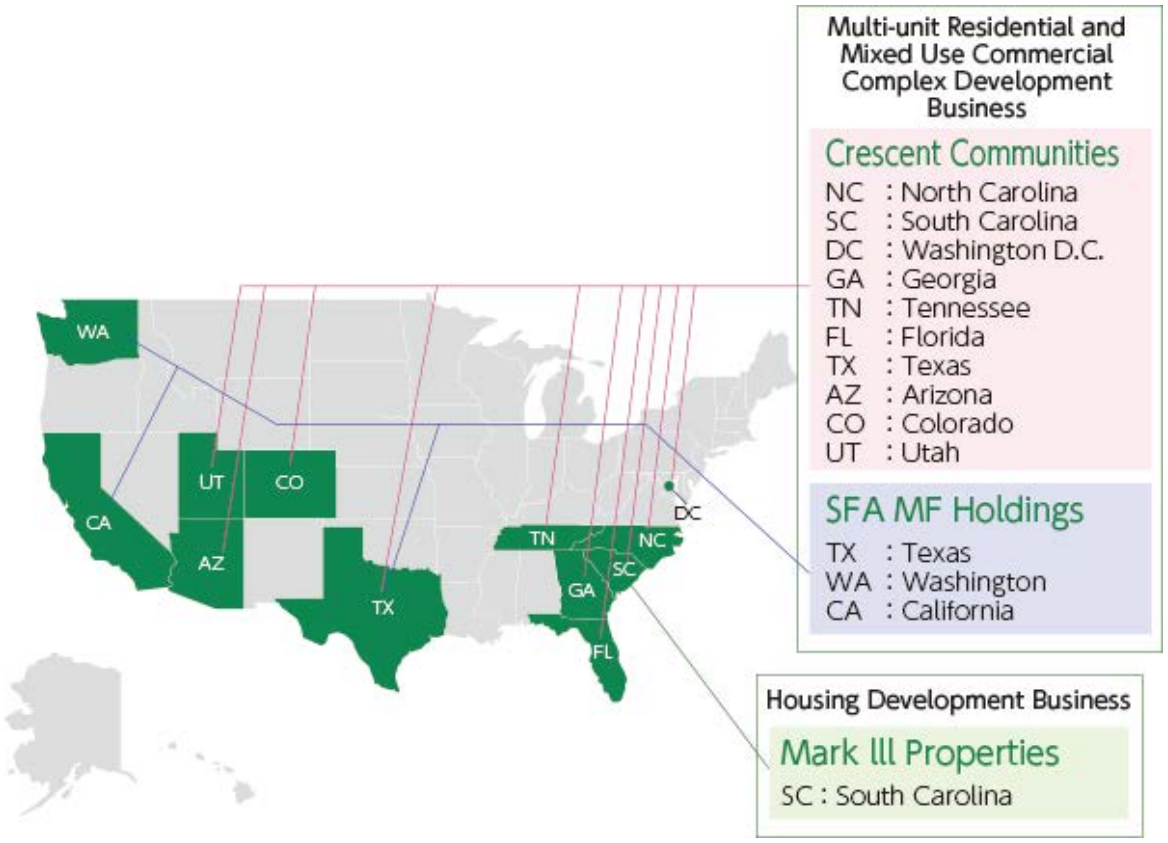
We entered the U.S. housing market—the biggest in the world—in 2003. Initially, it provided single family homes in Seattle, Washington, which is our base for trading timber and building materials for more than fifty years. Today, we have five home builder companies in a broad area from the west to east coast that are expanding the subdivision business and providing high-quality wooden houses. Through careful marketing in the business regions of each company, we supply various types of housing in a broad price range, such as detached houses, town homes and condominiums, to adeptly respond to the ever more diverse range of needs.

Housing Construction Business Areas



We started a multi-unit residential development business in 2016. In 2018, two companies joined the Sumitomo Forestry Group to expand business domains; Crescent Communities, a general real estate company which develops multi-unit residential, offices, logistics centers and other commercial and mixed use complexes, and Mark III Properties, a land development business. We are establishing a more stable and diverse revenue base in the United States, while building a framework that can provide a wider variety of housing and real estate products.

Housing, Multi-unit Residential and Mixed Use Commercial Complex Development Business Areas



Detached Housing

Town Homes

Condominiums

Multi-Use Complexes (Rental Housing/Commercial Facilities)

Land Development

Australian Business

Three Group home builder companies are expanding the -order homes and spec home businesses in Australia. By adding Scot Park Group in Western Australia, in 2019, the Group built an operation network with coverage from eastern to western Australia and provides quality wooden housing at a broader scope. Australia is expecting long-term population growth in light of its immigration policies, and we will provide homes that are affordable to a various income groups by developing business using multiple brands with varying price ranges according to each region.

Asian Business

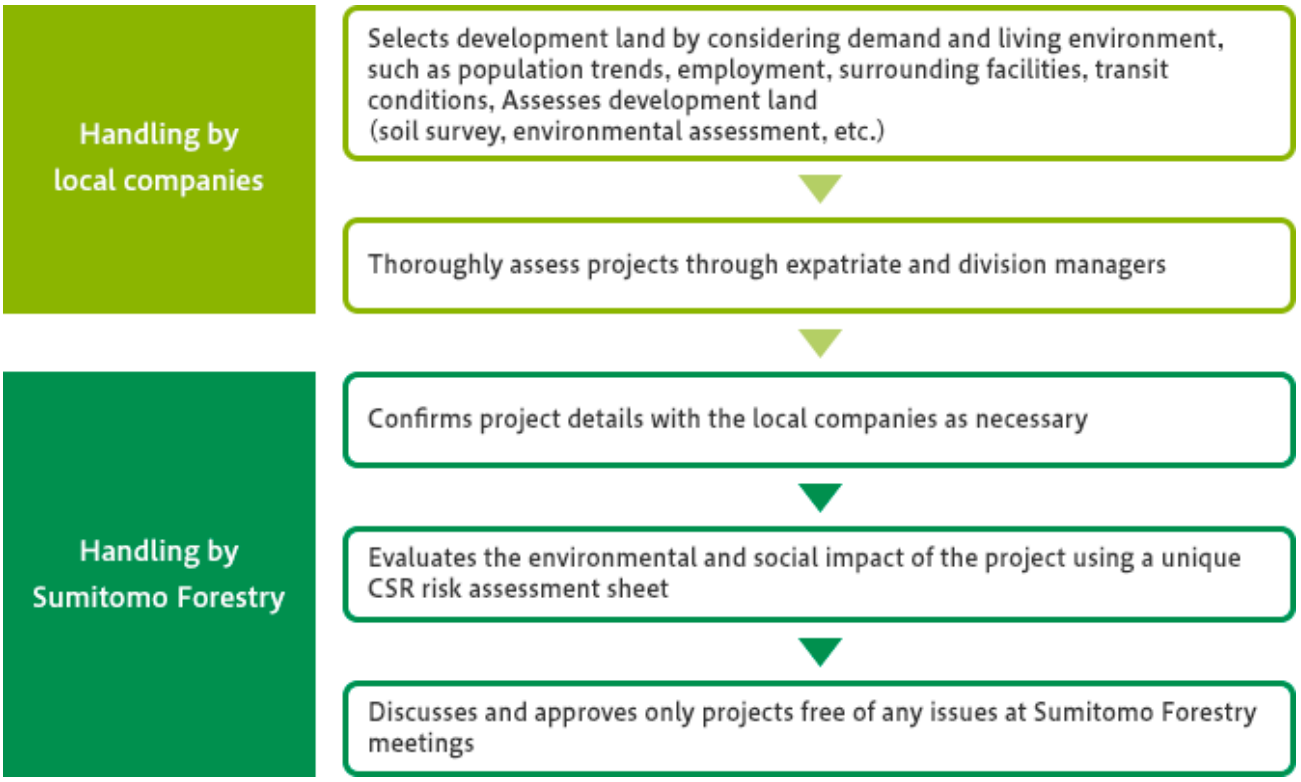
Sumitomo Forestry engages mainly in the large-scale real estate development business in South East Asia. By employing a joint venture scheme, we are promoting the provision of high-quality homes by taking advantage of the functionality and resources of local partners and integrating the technology and expertise possessed by Sumitomo Forestry and its affiliated companies.

In China, Sumitomo Forestry is also providing outsourcing service that produces residential blueprint data. This business plays a role in heightening operational efficiency and quality in the housing industry overseas.

Understanding and Assessing Development Risks

Properly understanding the geological and geographical risks unique to each property is vital in the development of housing and real estate. The Sumitomo Forestry Group has put in place the necessary systems to verify whether there are any issues through careful surveys at the assessment stage of development in addition to other multistage checks done before determining how to implement a project.

We first select the land to develop and then outsource soil survey and environmental surveys to external research firms to fully understand the risks from an objective standpoint. We not only ask local affiliated companies to give their input on risks but the Sumitomo Forestry head office also conducts property inspections and environmental and social impact studies using its own CSR risk assessment sheet for projects larger than a certain scale. Management also provides feedback through meetings at the Sumitomo Forestry head office to analyze risks from diverse multistage perspectives. We only engage in projects determined to be acceptable through this process.



Construction also comes with the risk of occupational accidents during the construction phase. Sumitomo Forestry complies with occupational health and safety laws and works to prevent occupational accidents at local affiliated companies and also puts in place systems to immediately report any accident that occurs to the headquarters so it can quickly understand what happened as well as plan and execute measures to prevent recurrence.

Community Development to Enhance the Value of Living Spaces

Each Group company works to heighten the level of enhancements to lifestyle and environmental aspects when developing housing, commercial complexes and other facilities.

We strive to provide robust common areas in addition to residential units through five home builder companies in the United States that sell single-family spec homes, such as the installation of green areas and promenades formed to fit the size, landscape and surrounding environment of the property. Large-scale developments heighten community value and satisfaction of lifestyle environments by installing information centers built alongside pools, parks, tennis courts, cafés and other amenities.

Crescent Communities, a real estate developer, provides living and community spaces that offer more value than just a home to residents by incorporating the distinct characteristics and history of the surrounding environment in building specifications, spatial design, and resident services with the participation of the neighbors and everyone else involved when planning the concept for each project.

Sales of Environmentally-conscious Housing

Henley Properties drove forward efforts to enhance energy-saving performance in the Australian housing industry, such as pioneering its own standard specifications ahead of competitors, by recommending a five-star energy rating*1 for the standard energy-saving performance in 2001. Efforts toward the environment accelerated further after the involvement of the Sumitomo Forestry Group in 2009. We conducted a variety of initiatives to reduce the environmental impact, including the realization of the first zero emission house*2 for the general consumer as a major home builder company in the country.

In Victoria, Henley Properties also uses low carbon concrete by replacing approximately 20% of cement, the primary ingredient in concrete used in foundations of homes, with fly ash (waste produced when burning fossil fuels) and blast furnace slag (byproduct separated from iron ore in the iron manufacturing process in blast furnaces). The low carbon concrete reduces CO_2 emissions by about three tons per home in the construction stage.

More than 80% of new homes built in Australia uses veneer glass because multi-layered glass has not become as popular for use in homes as in Japan due to cost. However, in 2018, Henley Properties was the first in Victoria to make multi-layered glass a standard specification in order to increase the insulation efficiency of homes*3.

Henley Properties also leads the industry in efforts to improve airtightness. A survey conducted in 2019 showed homes built by Henley Properties have shown airtightness roughly three times higher than the average home in Australia*4. This level of airtightness can reduce the power consumption necessary for heating and cooling the average home by approximately 25%.

Henley Properties is not only improving environmental performance but is also pioneering the development of residential properties that consider the health of the people living there. The Company is also developing a system to provide ventilation while mitigating construction, lighting, and heating costs to improve the air quality inside the home. Moreover, Henley Properties reviewed primary construction and finishing materials and adopted interior coatings with ultra-low VOC*5 in accordance with the advice from the National Health and Medical Research Council of Australia. These measures achieve housing that suppresses rising costs, maintains high quality, and protects the health of the people living there.

*1 An evaluation metric of the energy burden for heating and cooling the inside of a building in Australia. Insulation, windows, the type, size and orientation of the building, and the climatic zone are all items included in this metric.

*2 Environmentally-friendly housing expected to have an energy-saving effect of more than 70% compared to conventional housing.

*3 Multi-layered glass is effective in improving insulation efficiency of homes by limiting the thermal reflux to approximately 35% less compared to veneer glass.

*4 The average value for Henley Properties is 5.9 ACH where the average housing in Australia is 15.4 ACH (ACH is an index that indicates the air leakage per hour at a 50 Pa indoor-outdoor air pressure difference. The lower the value the higher the airtightness).

*5 Volatile Organic Compounds (VOCs) are organic chemical substances volatile in the air at ordinary temperatures and pressures. Many construction coatings and adhesives contain these organic chemicals and have the potential to cause sick house syndrome or impact human health in other ways when dispersed in large quantities.

Ventilation System Development

Coatings Containing Low VOC Percentage

Occupational Health and Safety Management

Henley Properties also focuses on worker safety management in Australia. The Company is developing businesses across four states of Australia: Victoria, Queensland, New South Wales, and South Australia. Under the company-wide safety management policies, Henley Properties builds the highest level of safety management system that includes drafting annual safety management policies and targets, conducting risks assessments of each site (evaluating danger and planning measures to mitigate those risks), providing on-site managers and employees with safety management training, understanding the safety management capabilities of partner companies, and ensuring thorough reports on any accidents that do occur. The Company also acquired the ISO 45001 certification, an international occupational health and safety standard, in April 2019.

Additionally, Wisdom Properties Group, a business operator in New South Wales, has established an advanced occupational health and safety management system. The Company has also acquired the AS4801 certification, an Australian occupational health and safety standard. The Company has built system able to provide stable on-site operations by preventing accidents before they happen and protecting workers' health.

Building Positive Work Environments

In the United States, federal and state laws prohibit any employment discrimination for reasons such as race, gender, religion, birthplace, or health condition. Sumitomo Forestry Group companies in the United States strive to share the same philosophy in prohibiting discrimination and providing fair opportunities, by including these topics in the employee handbook.

Each of these companies also engages in various other measures, such as consultation hotlines to report harassment and discrimination in the workplace. Crescent Communities has put in place initiatives to provide comfortable environments for employees to work beyond strict legal compliance, such as the adoption of a system whereby a corporate insurance policy covers 60% of the salary of an employee who cannot work for seven days or more due to reasons such as injury, illness, or mental disease.

Third-Party Evaluation

Henley Properties Group Honored as Australia's No. 1 Home Builder in the Professional Major Building Category of the HIA-CSR Australian Housing Award

Henley Properties Group has received the HIA Australian Professional Major Builder award at the HIA-CSR Australian Housing Awards held in May 2020 by Australia's Housing Industry Association (HIA) as Australia's No. 1 home builder.

This event has a history of over 70 years since its establishment in 1945. It is organized annually by HIA, which is an industry association with more than 40,000 members who are housing construction companies and renovation operators undertaking more than 85% of the overall construction work in Australia. Winners of state-level events from the previous year move on as representatives of their states to compete during this year's event to determine the No. 1 position in Australia.

The Professional Major Builder award is given to the most outstanding major home builder companies —with an annual turnover of AU$50 million or more—in terms of industry leadership, customer service and satisfaction, business scope, financial soundness, undertaking of social contribution activities and other factors. Henley Properties has won the No. 1 position at the state level three times in the state of Victoria and eight consecutive times since 2012 in the state of Queensland. At the national level, this is the second time Henley Properties has emerged as No. 1 in Australia since 2015.

This time, Henley Properties was given the award due to its meticulous handling of customers, including a maintenance hotline that is operated throughout the year and its long-term structural guarantee. Henley Properties was also recognized for implementing a pioneering employee development program that seeks to nurture future industry leaders.

Crescent Communities Receives Top Award at the NAHB Multifamily Pillars of the Industry Awards

Crescent Communities, LLC, a Group company in the United States, has been named Multifamily Development Firm of the Year award at the 2019 Multifamily Pillars of the Industry Awards organized by the National Association of Home Builders (NAHB).

With a history stretching for over 70 years since its founding in the 1940s, NAHB, the organizer of these annual awards, is the largest housing construction industry body in the U.S., representing more than 140,000 members.

The Multifamily Pillars of the Industry Awards give public recognition to enterprises and projects in the multi-unit residential industry, appraising creative development concepts, innovative financing strategies, superior design and marketing in the development of multi-unit residential. Crescent Communities was honored as the Multifamily Development Firm of the Year, as the top multi-unit residential developer in the U.S. and NOVEL South Capitol—a multi-family housing project in Washington, D.C. in which Crescent has been involved in development—was named the Best Overall Leasing or Sales Campaign for a Multifamily Community*.

* Category to commemorate projects with superior initiatives to attract customers

Exterior View of NOVEL South Capitol

Distribution Business

Business Overview

Based on a global network built up over years of developing operations worldwide, the Timber and Building Materials Distribution Business sources stable supplies of high-quality timber from properly managed forests. As the No.1 share company in the domestic timber and building materials distribution markets, we provide total solutions for customer needs.

Main Business Figures (FY2019 Result)

Japan Timber Raw Wood Exports

127,000 m³

Sustainable procurement survey implementation rate of suppliers of imported timber products

100%

Value Chain of Distribution Business

Verification of Legal Compliance and Sustainability

The Sumitomo Forestry Group engages in due diligence on its procurement suppliers and timber procurement according to the Sumitomo Forestry Group Procurement Policy. We not only ensure legal compliance but also verify considerations toward human rights, labor, biodiversity conservation and the local community while practicing sustainable procurement.

Relevant Social Issues

The Sumitomo Forestry Group recognizes a broad range of social issues related to wood that are connected to business risks such as compliance with laws, regulations and social norms, respect of human rights, securing of occupational health and safety, biodiversity conservation and the consideration of local community.

Relevant Sustainability Initiatives

▶ Procurement Initiatives

Procurement

The Sumitomo Forestry Group strives to conduct procurement activities while making considerations about human rights and labor in all timber and wood products verified to be sustainably and legally compliant as well as conserve biodiversity and contribute to the local community. The progress of these initiatives is reported to the Timber Procurement Committee made up of managers from each section procuring timber to encourage continued improvements in the supply chain.

In addition, given that it is characterized as being a regional industry, Sumitomo Forestry Group maintains close communication with the suppliers and purchasers of timber and building materials in each region.

Relevant Social Issues

In efforts at the stage of procurement in distribution operations, we verify legal compliance and sustainability while also endeavoring to respond to broad social issues such as human rights, occupational health and safety, labor, biodiversity conservation and the local community.

In response, we have built a management system which deliberates matters such as timber procurement standards and illegal timber with the Timber Procurement Committee at its core. We are confirming traceability of timber and legal compliance while also confirming consideration towards human rights, labor and biodiversity conservation.

Relevant Sustainability Initiatives

▶ Procurement Initiatives

Commercialization and Delivery

Sumitomo Forestry Group commercializes and ships the timber that is procured not only as raw wood but also plywood, commercial timber, building materials and other products.

Relevant Social Issues

In developing and delivering products, we engage in appropriate information disclosure regarding our initiatives related to social challenges from not only the quality as products but also with certification of sustainability and legal compliance.

Relevant Sustainability Initiatives

▶ Sales Initiatives

Shipping and Sales

The Sumitomo Forestry Group fulfills accountability by encouraging sales of certified timber as well as labeling with considerations to traceability.

Increasing support to generate demand for wood not only from Japan but overseas as well as increasing exports of Japanese timber is helping revitalize forestry in Japan.

Relevant Social Issues

Social challenges related to initiatives at the point of sales such as certified and Japanese timber include the depletion of forest resources, illegal logging and regional revitalization.

Our Group believes it is our social responsibility to respond to social challenges related to wood now and into the future by encouraging sales of certified materials and Japanese timber.

Relevant Sustainability Initiatives

▶ Sales Initiatives

Procurement Initiatives

Basic Policy

Sumitomo Forestry Group strives to contribute to a sustainable and prosperous society through business activities that use wood, a renewable resource. To do so, we engage in responsible timber procurement activities in accordance with our Timber Procurement Basic Policy formulated in 2005 and our Timber Procurement Principles and Policies formulated in 2007. To deliver legal and sustainable timber, we only engage in responsible timber procurement.

In 2015 with the Sumitomo Forestry Group Procurement Policy, we expanded our scope beyond timber to include a wide range of other procured products, such as metals, ceramics, resin and other building materials, and based on this policy, are engaged in procurement activities that take into consideration the economy, society and environment.

▶ Sumitomo Forestry Group Procurement Policy

Promotion System of Timber Procurement Management

Sumitomo Forestry Group established the Timber Procurement Committee, chaired by the officer in charge of sustainability promotion at Sumitomo Forestry (director and managing executive officer) and comprising managers from departments in charge of timber procurement. The committee discusses issues related to group-wide timber procurement, including procurement standards and risk assessments for illegal logging.

In fiscal 2019, the Timber Procurement Committee met four times and confirmed legality and conducted a Sustainability Survey for suppliers of imported timber products at all 162 direct import source companies who are covered in the study and 48 companies that our overseas group companies (distribution) procure from. Regularly (once a year or once every two years), we confirm legality and sustainability of both new and ongoing parties we conduct business with.

Timber Procurement Committee meeting

Sustainable Timber Procurement Initiatives

Promoting Initiatives Adhering to the Procurement Policy

Procurement Policy
Under the Sumitomo Group Procurement Policy, Sumitomo Forestry Group carries out due diligence on timber procurement to ensure that the procurement is performed in a sustainable manner with consideration of legal compliance, human rights, labor practices, biodiversity conservation, and local communities.

Sumitomo Forestry Group Procurement Policy

The Sumitomo Forestry Group utilizes wood as a renewable natural resource in its business operations. To contribute to a sustainable society, we are committed to procurement activities that take into account economic, environmental and societal interests and comply with the following policy:

1. **Procurement based on legal and highly reliable supply chains**
   Our procurement activities will strictly adhere to all relevant laws, regulations and societal norms, and be built on mutual understanding and trust with our business partners. Furthermore, to provide the highest quality products and services, we will work with our business partners to ensure that our procurement takes place within a sound and fair supply chain.

2. **Procurement based on fair opportunity and competition**
   We will provide all our suppliers, both Japanese and foreign, a fair opportunity for business. Selection of our business partners will be based on a comprehensive evaluation of the company's reliability and technological expertise, the product's quality, economic efficiency, delivery date and environmental performance, and the company's CSR (Corporate Social Responsibility) initiatives, such as advocacy of basic human and worker rights, anticorruption efforts and so on.
3. **Procurement of sustainable timber and wood products**
   Wood is a renewable natural resource. To actively utilize it, we will work with our business partners on the following initiatives related to the procurement of timber and wood products:
   - Procure timber from forests that are sustainably managed
   - Work to improve the traceability of procured timber and wood products
   - Strictly adhere to the laws and regulations of the countries and regions we log in, protect biodiversity and forests with high conservation value, and respect the cultures, traditions and economies of regions that coexist in harmony with forests.
4. **Communication**
   To ensure the transparency of our procurement efforts, we will disclose information appropriately. In addition, we will communicate with our stakeholders to further improve our procurement activities.

Revised July 23, 2015

Compliance

Timber & Building Materials Business, Housing & Construction Business and each of timber procurement division at each Group company confirm that the timber provided by suppliers has been legally harvested, or that the wood products they provide have been made only from legally harvested timber as a raw material. Each person in charge of procurement is required to follow the Timber Procurement Due Diligence Manual, gather the following information, cross-check relevant documents for each location and tree species, and confirm traceability of the entire supply chain all the way to the logging site.

No.	Category name
1	Supplier name
2	Supplier address
3	Timber type
4	Tree species of timber type
5	Country or region of logging
6	Annual procurement volume (weight, area, volume or quantity)
7	If sold to a legal entity, the name and address of that legal entity
8	Results of supplier surveys and other, inspection records and other
9	Documents certifying that harvesting was conducted in accordance with laws and regulations of the logging country

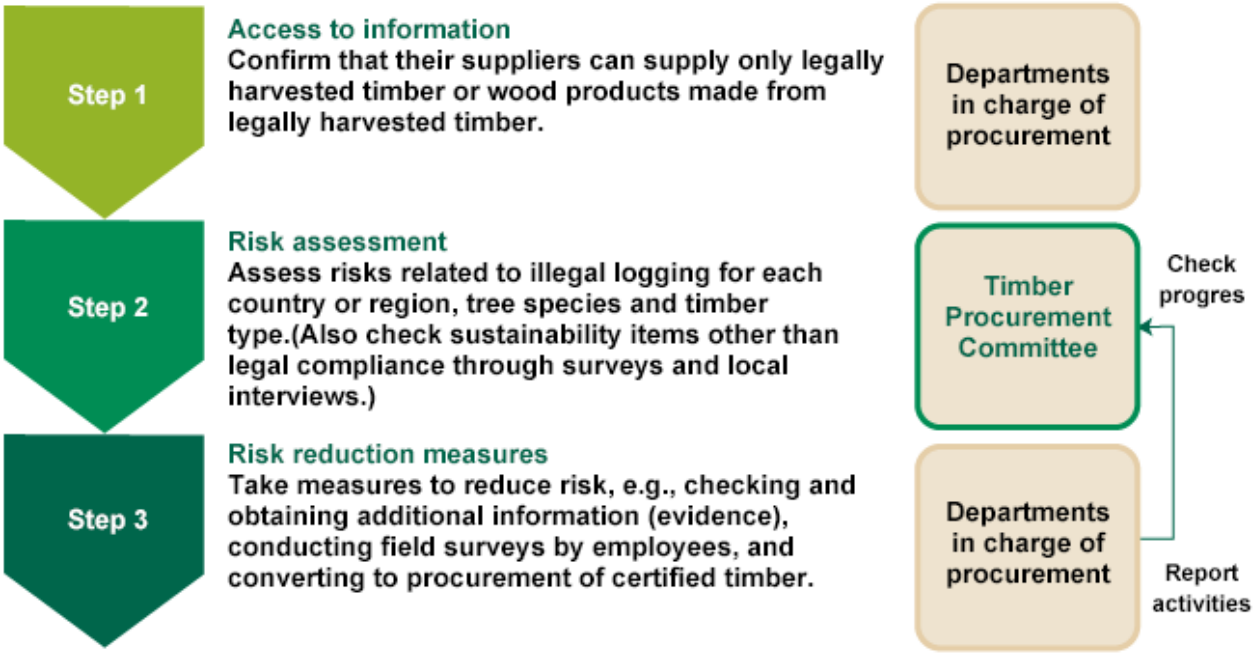
With these information sorted by country, region, tree species, and timber type, risk assessment on the illegal logging or human rights violation is carried out based on procurement standards stipulated by the Committee. Risk categories are A (low risk), B (medium risk) and C (high risk). Timber and wood products in the B (medium risk) and C (high risk) categories should not be solely evaluated with documentation to prove that they are legally harvested according to that country's laws and regulations. In addition, when necessary, company staff are sent for on-site inspections to ensure traceability back to the logging site. In fiscal 2019, we audited 33 companies in Category A, 30 companies in Category B, and 99 companies in Category C before terminating business transactions with 16 of those companies.

Consideration for Human Rights, Labor Practices, Biodiversity Conservation and Local Communities
Following items are checked, through Sustainability Procurement Surveys to suppliers and local interviews for the products that are being procured:

- Whether the rights of workers, local and indigenous community are abused in the area where we procure the products and their raw materials from. If this is the case, whether suppliers check their logging practices take place with consideration for these rights.
- Whether the high conservation values forests are included in the area where we procure the products and their raw materials from. If this is the case, whether suppliers check their logging practices with consideration to forests with high conservation value.

Review
Each procurement division reports the status and progress of these initiatives to the Timber Procurement Committee, facilitating continuous improvements throughout the supply chain. In fiscal 2019, we added necessary items from social and environmental aspects to the questions in the Questionnaire on Sustainable Procurement used up until then to revise this questionnaire into the Sustainability Procurement Survey. We strengthened the management system by scoring survey outcomes to improve the visualization of sustainability initiatives at our suppliers.

Timber Procurement Management System



Reinforcing Measures for the Sustainability of Timber Products

There is increasing concern about deforestation as climate change. Our Group's timber procurement sustainability measures comply with our own Timber Procurement Due Diligence. In May 2019, we newly implemented an Action Plan to further reinforce evaluation standards for sustainability.

Policy on "Sustainable Timber and Wood Products"

We define timber and wood products as sustainable if they fulfill one of the following:

1. Certified timber and pre-certified timber: FSC, PEFC, and SGEC
   (Regardless of CoC connection, we place emphasis on certification at time of production and promote a shift to certified timber)
2. Timber from plantation forests
3. Natural timber where forestry management and distribution can be assessed as sustainable.
   (this does not include timber from conversion forests = timber harvested from natural forests that were converted to farm land such as oil palm plantations)
4. Recycled wood

In the "Mid-Term Sustainability Targets as part of the 2021 Mid-Term Management Plan" announced in May 2019, we will promote the gradual increased use of alternative wood (natural timber from forest thinning or plantation timber) to stop the handling of items that do not fall under our definition of sustainable timber or wood products, even in situations where legality can be confirmed. By our target fiscal year of 2021, we strive to achieve our goal of 100% handling of sustainable timber and timber products.

Percentage of sustainable timber and timber products handled
FY2019 result
89.8%

Percentage of sustainable timber and timber products handled
FY2021 target
100%

▶ About symbol for Independent assurance

Reinforcing Timber Procurement Due Diligence Through Our Action Plan

The Company engages in responsible timber procurement as a Group in accordance with the Sumitomo Forestry Group Procurement Policy. To respond to recent concerns, in May 2019, we created an Action Plan to reinforce on a regular basis our timber procurement due diligence. Major areas of reinforcement to further promote responsible procurement include the appointment of the director in charge of sustainability promotion as the chairman of the Timber Procurement Committee, the holding of regular study sessions for persons in charge of procurement, and for suppliers with low scores, a two-year probation period to implement requested improvement measures and the cessation of transactions in the event that no improvement is seen.

Education for Personnel in Charge of Procurement

Timber Production and Sustainable Forest Management in Indonesia and Malaysia

As concern about deforestation increases worldwide, interest is focusing on efforts by companies with regard to procurement of tropical timber. In this connection, we held a seminar on October 31, 2018 titled “Timber Production in Indonesia and Malaysia and Efforts Toward Sustainable Forest Management.” It was attended by a total of 32 managers and other responsible personnel at international distribution departments handling tropical timber and other imported timber. At the seminar, participants learned the latest information about timber legality certification systems in both countries, the current state of certified timber, and sustainable forest management.

Each year, we keep up with changing circumstances by providing seminars and training sessions on the latest societal and environmental issues. These are separate from the ordinary training provided to all employees by the Personnel Department.

Institute for Global Environmental Strategies (IGES)
A lecture by Research Manager Hiromitsu Samejima

Forest Certification Systems

The Sumitomo Forestry Group operates under a system related to certified timber as one of sustainable timber and wood products defined as the handling of sustainable timber and wood products expands. To share the latest information, we held a Forest Certification Seminar on February 18, 2020 with the participation of 16 people in charge of timber procurement, including Timber Procurement Committee members. This seminar covered the history of the FSC, PEFC, SGEC certification systems and the latest information about the FM and CoC certifications.

Japan Gas Appliances Inspection Association
Forest/EPA Group
FSC-CoC Examiners
Lecture by Kentaro Katase

Reinforcing Engagement with NGOs and Other External Stakeholders

To formulate and implement our Action Plan, to respond sincerely to societal demands and to promote responsible procurement, we organized a stakeholder dialogue with environmental NGOs, ESG specialists and researchers (held in July 2019).

Experts from the certified NPO Sustainable Management Forum of Japan, the World Wildlife Fund (WWF) Japan, FoE Japan, Global Environment Forum、Institute for Global Environmental Strategies, Takasaki City University of Economics and Waseda University participated to discuss various themes, such as the implementation of the Sustainability Procurement Survey, the process and timeframe for demanding improvements, timber from conversion forests and recycled timber.

The scene at the Dialogue Conference

During the discussions, in addition to considering ways to build capacity, participants agreed on the need for adequate communication with suppliers in implementing Sustainability Procurement Surveys and requesting improvement measures in a manner that would enhance the quality of suppliers and consequently, lead to utilization of sustainable forest resources throughout the industry. For timber from converted forests, while keeping close watch on measures for sustainable commodity production in other industries, it should be confirmed that appropriate assessment, such as for forests with high protection value (HCVA), is being conducted. Participants voiced the opinion that recycled timber should be defined as timber that has been used once by the consumer (building materials, etc.) and that wood waste, old fruit trees and such should undergo the same level of due diligence as regular timber.

With these opinions in mind, the Company revised and is implementing its Timber Procurement Management Regulations and its Timber Procurement Due Diligence Manual to fulfill its goal of 100% handling of sustainable timber and timber products as outlined in the Management Plan 2021.

Assessing Timber Procurement by local interviews

Timber Procurement in Romania

Several environmental groups have expressed concerns about forest management and timber production in Romania in terms of whether or not logging has been appropriately conducted. In April 2017, members of the Timber Procurement Committee conducted on-site inspections, first gathering information through meetings with such organizations as the Ministry of Environment and Forests of the Romanian Government, the Embassy of Japan in Romania, ASFOR (Romanian Forest Association), among others. The members also went to a supplier manufacturing facility and inspected representative logging sites of logs that were transported to the facility. At the manufacturing facility, they confirmed that the supplier properly checks transport permits and the logs bundled on the trailer when receiving raw material logs at the lumber manufacturing plants. For example, the visiting team was able to confirm that the supplier was thorough in segregated management to ensure that logs exceeding the amount permitted were not used and that they engaged in such measures as reporting to forestry authorities. The team received an explanation about forest management from a forest ranger at the logging site and checked the actual hammer stamp mark and process when loading the trailer in the field. In addition, they were able to confirm the dedication to preserving the rare forest ecosystem by observing forest conservation areas under the Romanian government’s jurisdiction.

The Company regularly meets with environmental groups that we receive concerns from. In the meeting of January 2019, we obtained information and provided the latest on our Group initiatives.

Inspection of harvest land still covered in snow

Check when loading the trailer

Properly checking the delivery at the plant using tablet terminals

Segregated management of round wood beyond the amount on the permit

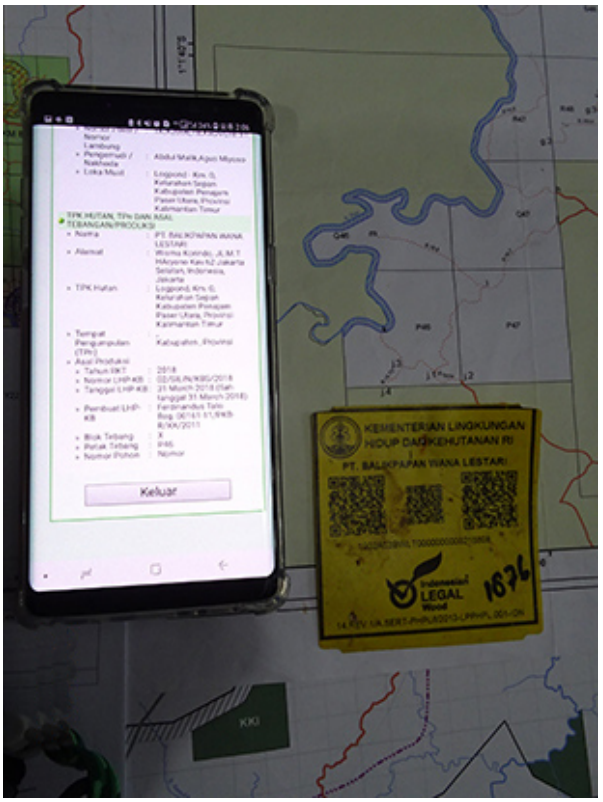
Concrete Form Plywood from Indonesia

In recent years, several environmental groups have expressed their concerns about the legality of the logs used as raw material for plywood manufactured in Indonesia. In Indonesia, the SVLK timber legality verification system is in place, requiring timber product manufacturers and exporters to register by obtaining SVLK business certification issued by an independent evaluation and certification organization recognized by the National Accreditation Committee. Upon doing so, the business obtains documentation (V-Legal documents) from the independent verification and certification body certifying the timber as legal, and expressly confirming the legality of the entire supply chain, from logging to timber processing at manufacturing plants to export. In July 2018, we conducted an on-site inspection of the concrete formwork paneling plywood manufacturing plant that serves as our supplier. At a timber yard near the harvesting site, we were able to use QR-code labeling on tags attached to logs to confirm the harvesting information at the Indonesian Ministry of the Environment and Forestry website, as well as with V-Legal documentation. After the same logs were transported to the plant, we were once again able to use QR codes at a plant timber yard to access the ministry website and V-Legal documents, successfully tracing them back through the transport process to their harvest location.

In terms of the procurement of raw material logs used to process plywood, the Company continues to work with suppliers on various initiatives as we strive to fulfill our “Mid-Term Sustainability Targets as part of the Mid-Term Management Plan” to achieve the target of 100% handling of sustainable timber and timber products.

Confirming tags attached to the logs at the plant timber yard

Confirming tags at an intermediate timber yard



Confirming the harvest site from tag information at the logging company (1)

Confirming the harvest site from tag information at the logging company (2)

In terms of concrete formwork plywood for the construction of sports facilities, in November 2018, environmental NGOs reported to the Organizing Committee their concerns that the Company's supplier may be using raw material logs that were not appropriately managed or harvested. With this, we responded by submitting relevant documents and explaining to the Olympic Organizing Committee that these types of raw material logs were not part of the Company's supply chain. As a result, the Olympic Organizing Committee concluded that the concerns were unfounded and not eligible for reporting, which was disclosed in February 2019 on their website.

Plywood from Sarawak, Malaysia

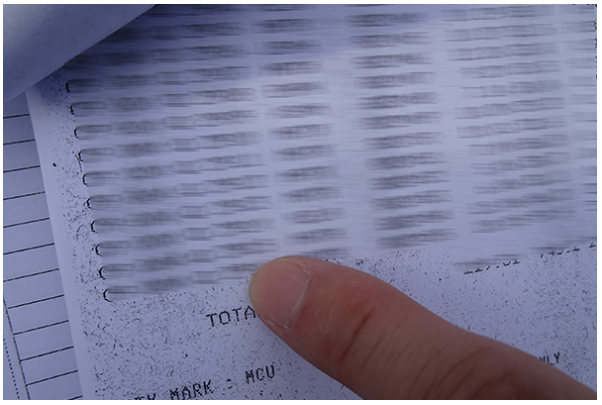
In recent years, as is the case with Indonesia, several environmental groups have expressed their concerns about the legality of the logs used as raw material for plywood manufactured in Sarawak, Malaysia. Sarawak Forest Corporation was established in 2003 for the purpose of eliminating illegal logging in Sarawak, Indonesia. Thereafter, the Sarawak Timber Legality Verification System (STLVS) was created in 2015 to further strengthen efforts to eliminate illegal logging, reflecting the trend of elimination of illegally logged timber in countries such as the United States, the EU, and Australia. Sumitomo Forestry conducted an on-site audit of a plywood production plant of one of its suppliers in September 2019 to primarily confirm whether the STLVS was properly in operation from the logging sites to the plant landing.

We were able to confirm that tracking is possible from logs arriving at the plant to the harvesting district via identification processes such as orange tags proving royalty payments (for processing domestically), white tags (for log production) as well as markings and relevant transfer permits from regional forest offices through the detailed logging plans and tree logging lists required by STLVS. In addition, a signature from a representative in charge of the regional forest office on the back of the export application (K2) necessary to export plywood products confirms the products satisfy all of the STLVS standards.

Logs for Plywood Stacked at a Log Pond

Log Production Tag (White) and Royalty Tag (Orange) at the Log Pond

Logs Stacked at the Landing of the Plywood Production Plant



Confirming the Royalty Number Written on the Log Delivery Ledger

Promoting Certified Timber

Sumitomo Forestry Group works with its procurement partners to build a reliable supply chain and to procure sustainable timber. As an index to confirm whether timber was obtained from forests with sustainable forest management, we support and utilize the Forest Certification System, a third-party certification system.

Furthermore, the Company itself receives the Forest Certification and we believe we can contribute to the system's wider use by providing the market and consumers certified timber.

Sumitomo Forestry Group has obtained FM certification (forestry certification system) for 221,000 hectares and CoC certification for 9 organizations.

Status of Sumitomo Forestry Group Forest Certification/ CoC Certification*1 (FSC-C113957)

Organization	Certification System	Date Certified	Certification Number	Certification Issuing Body
Sumitomo Forestry Co., Ltd. Timber and Building Materials Division, International Marketing Department, Branch	FSC®	November 1, 2019	JIA-COC-190013 / JIA-CW-190013	Control Union Certifications
	PEFC	December 14, 2017	CEF1201	Control Union Certifications
Sumitomo Forestry Co., Ltd. Timber and Building Materials Department, Timber and Building Materials Division, Hokkaido Branch MOCCA (Timber Solutions) Department, Housing and Construction Division	SGEC	January 24, 2017	JIA－W045	Japan Gas Appliances Inspection Association (JIA)
Sumitomo Forestry Co., Ltd. Hokkaido Branch, Timber and Building Materials Division Construction Materials Development Department, Housing and Construction Division	SGEC	October 1, 2017	JAFTA-W038*2	Japan Gas Appliances Inspection Association (JIA)
Sumitomo Forestry Wood Products Co., Ltd.	SGEC	September 25, 2016	JAFTA-W017	Japan Gas Appliances Inspection Association (JIA)
Sumitomo Forestry Crest Co., Ltd.	FSC®	March 3, 2020	SGSHK-COC-006693	SGS
	SGEC	December 26, 2017	JAFTA-W041	Japan Gas Appliances Inspection Association (JIA)
Nelson Pine Industries Ltd. (NPIL) (New Zealand)	FSC®	June 21, 2019	SAI-COC-001290 / SAI-CW-001290	QMI-SAI CANADA Limited
PT. Kutai Timber Indonesia (KTI) (Indonesia)	FSC®	January 10, 2020	TT-COC-002009	BM TRADA
PT. Sumitomo Forestry Indonesia	FSC®	April 26, 2016	TT-COC-005903	BM TRADA
Sumitomo Forestry (Singapore) Ltd.	FSC®	December 5, 2018	NC-COC-005542 / NC-CW-005542	NEP Con

*1 CoC (Chain of Custody) certification is a system that covers the processing and distribution of forest products. In addition to determining whether the forest product was from a certified forest (certified timber) at each stage of processing and distribution, it certifies risk assessments for uncertified timber. When all companies in the entire process obtain CoC certification, a certification mark can be displayed on the product.

*2 Includes operators other than Sumitomo Forestry Group companies due to being a comprehensive certification.

Major Forest Certification Systems

FSC (Forest Stewardship Council®) (FSC-C113957)

FSC is an organization founded in 1993 led by World Wide Fund for Nature (WWF) and consists of representatives from environmental organizations, forest workers, timber users and traders, human rights organizations, and local forestry unions. It is considered a pioneer amongst forest certification system operators.

Adhering to the 10 principles and 56 regulations encompassing environmental impact, local society, and indigenous people's rights, FSC-accredited certification bodies will undertake reviews. Recently, country or regional standards as well as the review procedure for small-scale forest owners have been introduced to provide greater support for diverse forests and owners.

PEFC (Programme for the Endorsement of Forest Certification)

Forestry organizations of 11 European countries established PEFC together in 1999 as an organization to mutually authenticate the system of each country. PEFC does not directly authenticate an individual forest, but when the PEFC's required conditions that adapted “the inter-governmental process” implemented by 149 countries is met, the country's own forest certification system is authenticated by PEFC. Joined by non-European countries in 2003, the organization originally called Pan European Forest Certification Schemes changed its name to Program for the Endorsement of Forest Certification. Since then, PEFC has shown drastic growth, and to date its total certified area is the largest across the world.

Sustainable Green Ecosystem Council (SGEC)

SGEC authenticates forest management that demonstrates both rich natural environment and sustainable timber production in Japan. With reverence for Japan's indigenous natural environment, social customs, and culture, the review premises on seven criteria. SGEC can also authenticate forestry operations and distribution systems under CoC. SGEC joined PEFC in November 2014 and submitted a mutual authentication application to PEFC in March 2015, which was mutually approved in June 2016.

Promoting the Use of Certified Timber

The most important aspect of selling certified timber is managing the procurement of certified timber separately from other types of timber. With CoC certification, because we are inspected by a third party, we are able to guarantee that timber and other products are from certified forests and sell them to our customers.

Sumitomo Forestry Group has set a goal to achieve by 2020 to at least a 12% sales volume ratio of imported certified timber and other products. In fiscal 2019, the actual figure was 10.7%.

Furthermore, for sales of SGEC certified timber, Japan's forest certification system, we have set a sales volume target of 85,000 square meters or more by 2020. In fiscal 2019, the actual figure was 71,000 square meters.

Sumitomo Forestry supplied raw wood cut from the Mombetsu company-owned forest to use as raw materials of timber products for new competition facilities for sporting events. After delivering these raw materials, some media outlets published a story about the company-owned forest being certified but that no Free, Prior and Informed Consent (FPIC) had been obtained from the indigenous people for the logging. Our company addressed these concerns with everyone involved through by explaining the following:

- Since starting our own company-owned forest business in 1926, Sumitomo Forestry has not confirmed any concerns from or demands made by indigenous people about its business areas or management methods.
- Sumitomo Forestry requires materials from certified forests for all relevant facilities, and our certified timber complies with all timber procurement standards for sporting events.
- When Sumitomo Forestry supplied logged materials for relevant facilities from the Mombetsu company-owned forest in 2017, for this forest certification, the standards, regulations, guidelines and evaluation criteria related to FPIC have been gradually put in place since 2015. The Mombetsu company-owned forest was up to date with all of the required measures at that time.

The Sumitomo Forestry Group will listen carefully to all of its stakeholders in the future in an effort to ensure even more sustainable forest management.

Smooth Response to the Clean Wood Act

The Act on Promotion of Use and Distribution of Legally-Harvested Wood and Wood Products (the Clean Wood Act) was enacted in May 2017 to encourage use of timber from trees harvested in compliance with the laws and regulations of Japan and other countries and to create a market where illegally logged timber, which damages the environment, is not made available. Sumitomo Forestry was the first in the country to register the Timber and Building Materials Business, which imports and sells timber, as a Type 1 Wood-Related Entity on November 22, 2017. This same division was registered as a Type 2 Wood-Related Entity on August 1, 2018. Subsequently, Sumitomo Forestry Wood Products was registered as a Type 1 and Type 2 Wood-Related Entity (purchase and sale of timber) on February 20, 2018, and furthermore, the Housing and Construction Division (on March 16, 2018) and Sumitomo Forestry Crest (on May 9, 2018) were registered as Type 2 Wood-Related Entities as part of our efforts to procure legal timber throughout the entire Group.

Registered Wood Related Entity	Type	Registration Date	Registration Number	Agency Issuing Registration
Timber and Building Materials Division	Type 1, Type 2 Wood Related Entity	November 22, 2017	No. JIA-CLW-Ⅰ Ⅱ 17001	Japan Gas Appliances Inspection Association
Building Materials Procurement and Logistics Department, Housing and Construction Division	Type 2 Wood Related Entity	March 16, 2018	No. HOWTEC-CLW-II 0001	Japan Housing and Wood Technology Center
Sumitomo Forestry Wood Products	Type 1/Type 2 Wood Related Entity	February 20, 2018	No. JIA-CLW-Ⅰ Ⅱ -3	Japan Forest Technology Association
Sumitomo Forestry Crest Co., Ltd.	Type 2 Wood Related Entity	May 9, 2018	No. JIA-CLW-Ⅱ 18002	Japan Gas Appliances Inspection Association

Participation in JBIB (Japan Business Initiative for Biodiversity)

Sumitomo Forestry participates as a member of the Japan Business Initiative for Biodiversity (JBIB), made up of companies that engage in activities aimed to conserve biodiversity. In fiscal 2019, the supply chain working group continued to conduct research and worked on creating lists of disclosed information that could be used to assess risk that began in fiscal 2018 and participated in seminars lead by third-party certification companies as well as NGOs to deepen understanding about biodiversity conservation.

Communication with Our Business Partners

In the distribution operations of timber and building materials, given that it is characterized as being a regional industry, Sumitomo Forestry maintains close communication with the suppliers and purchasers of timber and building materials in each region.

Main Communication Activities with the Business Partners of the Timber and Building Materials Division

Name/Scale	Description
The Sumirin club -a membership organization to communicate with regional suppliers of timber and building materials Number of members: 880 companies (as of July 2019)	Established in different regions around Japan as a forum for communication with business partners for distribution operations of timber and building materials. Training sessions and informational exchange meetings are held two or three times a year in each region, allowing members to deepen mutual friendships, promote product R&D, enhance production and distribution, and support improvements in the industry as a whole.
Publication of Building Materials Monthly Monthly print run of approximately 4,200 copies	With a history spanning more than half a century, this monthly magazine publishes timely information and topics regarding timber, building materials and the housing industry from our distinct perspective.

Sales Initiatives

Basic Policy

Sumitomo Forestry Group engages in responsible procurement in accordance with the Sumitomo Forestry Group Procurement Policy to further expand the amount of sustainable timber and wood products handled and used. The Mid-Term Sustainability Targets sets a numerical target that commits to 100% sustainable timber and wood products handled and used by the Group by the end of fiscal 2021. We promote even greater standardization of sustainable wood materials and construction materials in society by using a PDCA cycle to drive initiatives further toward reaching this target.

Promotion for Sales of Environmentally-friendly KIKORIN-PLYWOOD

Sumitomo Forestry has set a ratio of products that use certified timber and plantation trees from the procurement of import wood board products such as plywood as a 2020 target and it strives to expand this. Among these products, JAS Plywood that uses 50% or more FSC-certified or PEFC-certified timber and sustainable plantation timber is marketed as KIKORIN-PLYWOOD, and some of its revenue is invested in plantation businesses in Indonesia. This product made using 50% or more certified timber or plantation timber, was praised as being environmentally conscious. It received an encouragement prize in the 1st EcoPro Awards* on September 12, 2018. It accounted for about 11% of our plywood sales volume during fiscal 2019, amounting to about 51,417 m³. We will contribute to environmental protection by expanding this volume by about two-fold in fiscal 2020 to 100,000 m³.

KIKORIN-PLYWOOD

* Hosted by the Japan Environmental Management Association for Industry. It was established in fiscal 2004 in order to help further develop and spread the use of Japanese eco-products by broadly communicating information about eco-products among current and prospective clients while also supporting the efforts of the relevant suppliers. The EcoProducts Awards were renovated in fiscal 2018, now presented as the EcoPro Awards.

Sales of KIKORIN-PLYWOOD

2015	2016	2017	2018	2019
28,100m³	30,200m³	46,255m³	50,541m³	51,417m³

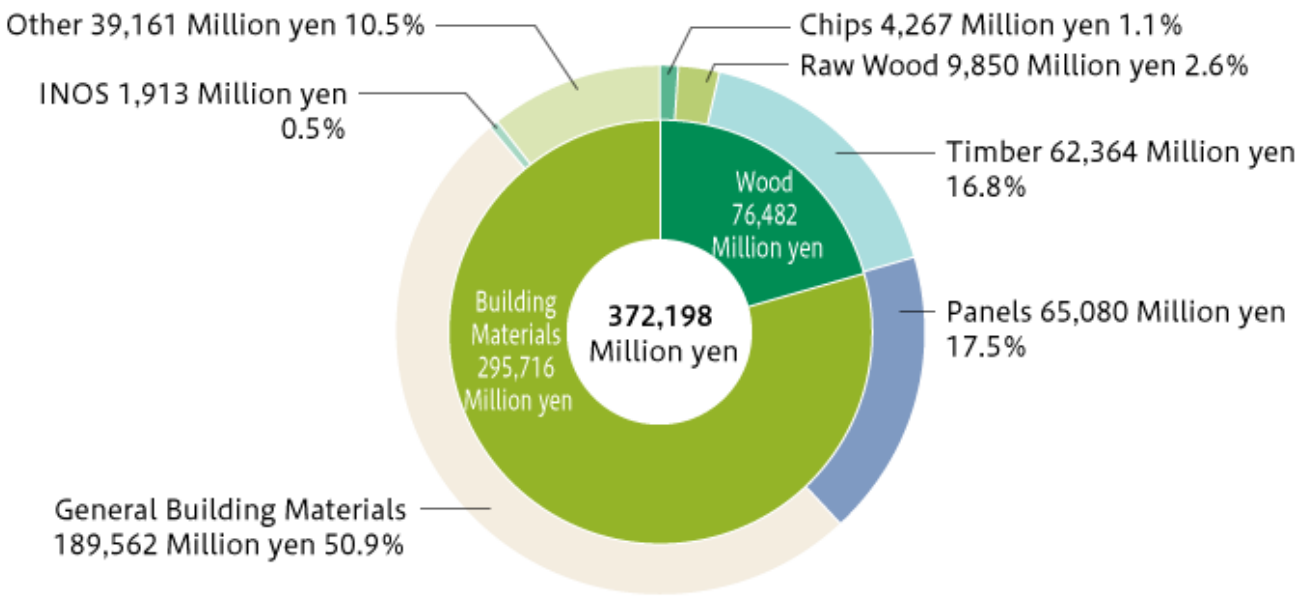
Exporting Domestic Timber

Overseas demand for timber is forecast to grow in emerging countries including China propelled by economic development and population growth. Under these circumstances, Japanese timber exports have also been on the rise in recent years, and a target of 262,000 m³ has been set for Japanese timber export volume within our Mid-Term Sustainability Targets, to be reached in fiscal 2021 as we explore overseas market opportunities for Japanese timber.

In fiscal 2019, exports of domestic timber declined 29.3% to 126,900 m³ compared to the previous term due to a market crash caused by the trade war between the United States and China at the beginning of the fiscal year, and a flood of damaged materials into the European market, and then another subsequent market crash caused by the spread of the novel coronavirus infection (COVID-19) at the end of the fiscal year.

In fiscal 2020, we expect exports to rise to fiscal 2018 levels in light of the containment of COVID-19 in China and market recovery.

Fiscal 2019 Breakdown of Net Sales in the Timber & Building Materials Business (Non-consolidated)



Manufacturing Business

Business Overview

The Manufacturing Business in japan produces construction articles such as doors and windows, interior wood materials, and staircase materials. Overseas, we produce wooden board products such as plywood, medium-density fireboard (MDF) and particleboard and various building materials such as flooring, furniture and kitchen cabinets at each location in South East Asia, Oceania, and North America. We supply them all over the world including Japan.

Main Business Figures (FY2019 Result)

Recycling rates at manufacturing plants

Japan 99.0%

Overseas 97.5%

Value Chain of Manufacturing Operations

Product Development/Raw Material Procurement

We work to meet customer's needs not just through design in slab and board operations and building material and timber product operations, but also by moving forward with product development that optimizes the characteristics of raw materials and procurement that takes into account the sustainability of raw materials.

Relevant Social Issues

Forests around the world continue to decline due to practices such as illegal logging and excessive slash-and-burn farming, making sustainable timber procurement a crucial issue.

We procure plantation timber and certified timber which are legal and highly sustainable in order to achieve ongoing timber and materials procurement that considers sustainability and biodiversity.

Relevant Sustainability Initiatives

▶ Procurement Initiatives

Manufacturing

By operating according to the ISO9001 International quality management system and through management that meets or exceeds JIS/JAS product quality requirements, we manufacture high-quality products and strive to build products with even greater safety. We are also focusing on greater energy and resource savings and recycling in manufacturing processes.

Our Group also regards the establishment of a safe, healthy work environment for all employees working in each manufacturing plant as our responsibility, and we therefore continually pursue a goal of zero occupational injuries.

Relevant Social Issues

We recognize that it is crucial that we strive (1) to manufacture and market safe, reliable products, (2) to create positive work environments, and (3) to reduce environmental impact. We will manufacture safe, reliable products while valuing customer feedback.

We recognize that establishing safe, stable working environments and reducing the environmental impact at manufacturing plants is a material issue. Therefore, we are working to enhance safety measures, improve working environments, and reduce greenhouse gas emissions while increasing recycling rates.

Relevant Sustainability Initiatives

- Product Safety and Quality Control
- Occupational Health and Safety

Delivery

We ship and sell processed and manufactured products not only in Japan, but in countries around the world.

We have been moving forward with continual improvements such as redesigning packaging to cut waste, revising delivery methods to provide customers with greater ease of access, and reductions in greenhouse gas emissions.

Relevant Social Issues

We do business in each country from a compliance perspective for shipments and product sales. The extent to which delivery can be made more efficient by reducing the greenhouse gas emissions associated with transport has become a societal issue. We promote initiatives to improve load efficiency and transport waste on return trips after the delivery of construction materials.

Relevant Sustainability Initiatives

- Product Safety and Quality Control
- Reducing CO_2 Emissions from Transportation

Procurement Initiatives

Basic Policy

The Sumitomo Forestry Group promotes the procurement of legal and sustainable materials while working with procurement suppliers through the manufacturing business in efforts such as sustainability procurement surveys and on-site field surveys for not only domestic timber in Japan but also hardwood from North America, and plantation timber from New Zealand and Indonesia.

We encourage the use of certified timber and plantation materials for new raw materials during raw material procurement and promote suppliers to understand and practice the Sumitomo Forestry Group Procurement Policy for raw materials currently in use. These efforts promote procurement of legal and sustainable raw materials.

Promoting Sustainable Timber Procurement

PT. Kutai Timber Indonesia (KTI), a production site in Indonesia, has been working to build a system for sustainable forest management in cooperation with local plantation cooperative associations to heighten the ratio of plantation timber used as raw materials.

KTI also began reforestation with fast-growing trees such as Falcata (Albizia falcataria) in 1999. With the system of "social forestry", KTI has aimed to support the environment, community and economy by distributing seedlings to local residents for free to plant on the lands they own and promises to purchase timber when the trees are mature at its market value. In addition, the KTI Reforestation Cooperative supported by KTI (KBM KTI)* has acquired the FSC-FM certification for forests owned by KTI (KAM-KTI)*.

View of Plantation Forest

In the future, KTI will strive to expand the manufacture and sales of products with high environmental value by expanding the area of certified forests and procuring sustainable timber in order to fulfill the requirements of many of our business partners.

* KAM KTI: FSC-C023796, KBM KTI: FSC-C133562

Promotion of the Plantation Timber and Certified Timber Utilization

PT. Sinar Rimba Pasifik uses sustainable timber that takes into consideration the environment and at the same time, manufactures high-quality wood interior materials (floors, stairs, counters, etc.) of a consistent design and supplies products primarily for Sumitomo Forestry Home houses. The timber used as the main raw material procured for these products is solely plantation timber or certified timber.

Timber Storage Warehouse

In fiscal 2019, approximately 60% of our overall timber used was imported from North America, and all of the imported timber from North America is certified timber based on American Hardwood Export Council (AHEC) or Quebec Wood Export Bureau (QWEB). The remaining 40% of our overall timber used is materials purchased from a forestry company in Indonesia (Perum Perhutani), all of which are materials that have received SVLK (Sistem Verificasi Legalitas Kayu) certification.

We will continue to pursue sustainable timber and manufacture and sell high-value-added products that use verified as legal and sustainable timber.

Product Safety and Quality Control

Basic Policy

In response to legal requirements and customer requests, we use PDCA cycles as we work to ensure and improve product safety and quality at each stage of our business activities, from planning and product development to production and sales. Moving forward with continual improvement is a policy we pursue in our manufacturing operations in order to elevate the quality of the products and services we provide.

Product Safety and Quality Control in the Domestic Manufacturing Operation of Wood Building Materials

Basic Policy for Product Safety and Quality Control

Sumitomo Forestry Crest Co., Ltd. has established a quality policy based on ISO 9001 as described below. Each plant and division has formulated specific quality targets and action plans in line with our quality policy, and is committed to maintaining safety and improving quality.

Operating in keeping with the 2015 version of the ISO 9001 quality management system, we strive to elevate quality and service by reinforcing its integration with our actual business operations.

Sumitomo Forestry Crest Co., Ltd.'s Quality Policy

1. Comply with all relevant laws, regulations and requirements in the provision of safe, reliable products.
2. Strive to understand customer needs and provide appealing products to improve customer satisfaction.
3. Constantly work to improve the quality management system in the pursuit of QCD.

Framework for Product Safety and Quality Control

Since October 2010, Sumitomo Forestry Crest Co., Ltd. has been operating with integrated ISO 9001 at its plants nationwide. Having developed a framework for quality control based on the quality policy as well as a strict framework for process control, the company manufactures products of high quality. Furthermore, by utilizing a quality information management system, the company endeavors to reflect customer feedback and demands at production sites.

Internal audits are also carried out twice a year at all plants for the purpose of following the PDCA cycle for the quality management system established under ISO 9001. In order to ensure product safety and quality, we have put in place a system in which any key information on a product defect can be communicated by the person in charge through an emergency contact network to the company president within two hours of obtaining the information.

Promotion of Quality Improvement Activities Based on Company-Wide Targets

Sumitomo Forestry Crest Co., Ltd. has set quality targets at each plant and division, and is promoting quality improvement activities.

During fiscal 2018, it strived to enhance and maintain quality control systems at manufacturing locations as well as at business partners' plants.

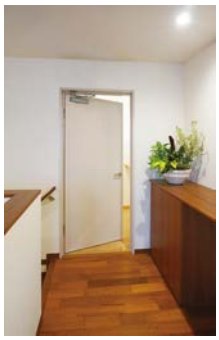
These management control systems were maintained in fiscal 2019 including measures to help prevent human error through standardization of procedures, revision of logs, work operation standardization and QC process chart compliance. Complaints related to manufacturing mistakes declined 48% compared to fiscal 2018.

In fiscal 2020, we will further improvements according to a new quality policy.

Quality Check in Plant

Sumitomo Forestry Launches Full-Scale Sales of Light, Low-Cost and Attractively-Designed Wooden Fire-Prevention Door Using Balsa

Sumitomo Forestry Co., Ltd. launched in May 2015 full-scale sales of own branded wooden fire-prevention doors, made from “balsa” known as the lightest timber in the world, which are lighter, less-expensive and more attractively-designed than existing products. The product was developed to meet the needs of wooden fire-prevention doors in three- and four-story buildings in urban areas, and in constructions for mixed use such as medical facilities with adjacent accommodation. The doors are also environmentally-friendly products, with the raw material balsa being sourced from plantation timber raised from saplings and processed by a Group company, PT. Kutai Timber Indonesia (KTI).



Own branded wooden fire-prevention doors made from balsa

Safety and Quality Control in Overseas Manufacturing Business

Basic Policy and Framework for Product Safety and Quality Control

Group companies engaged in the manufacture of wood building materials overseas have acquired quality certifications such as ISO 9001, Japanese Industrial Standards (JIS) and Japanese Agricultural Standards (JAS). In line with the requirements of these certifications, each company has established policies and standards for quality control, and through education and training, strives to ensure that its employees understand them well. Furthermore, each company is making ongoing improvements to quality control management systems by means of annual certification audits through external organizations as well as periodic internal audits.

The quality standards of every company are being further improved to provide greater safety by focusing on communication and feedback from users about product safety and quality, especially in the production of products for Japan which demands the utmost safety and quality.

▶ Quality Management

Updating to ISO9001:2015

Six consolidated companies have completed their update to ISO9001:2015: Nelson Pine Industries (NPIL), Kutai Timber Indonesia (KTI), Rimba Partikel Indonesia (RPI), AST Indonesia (ASTI), Canyon Creek Cabinet (CCC), and Vina Eco Board (VECO).

Under the new quality management system, we will move forward with even greater continual improvement, maintaining and increasing the safety and quality of our products.

Three-Company Technical Study Session on Particle Board

In 2018, three particle board companies, KTI and RPI of Indonesia and VECO of Vietnam, began holding study conferences aimed at mutually elevating their levels of particle board manufacturing technology, while improving quality. While the effort is similar to those conducted in the past, leadership by national staff is leading to greater awareness among all companies. These study session have been held three times in January, June, and October during fiscal 2019.

Occupational Health and Safety

Occupational Health and Safety Initiatives

Initiatives in Japan

Basic policy of Sumitomo Forestry Crest Co., Ltd. is to move “from zero accidents to zero danger.” Its goal is to achieve zero occupational injuries by nipping danger in the bud. To achieve this, Sumitomo Forestry Crest began operating an Occupational Health and Safety Management System (OHSMS) in July 2012, and acquired OHSAS 18001 certification in February 2013. In addition, with OHSAS18001 set to migrate to ISO 45001 in March 2021, we acquired the ISO 45001 certification in January 2020 after undergoing a migration evaluation. Through repeating the PDCA management cycle with near miss incident reports submitted voluntarily by employees (568 reports by 509 employees in fiscal 2019), and sharing opinions through small-circle activities at each workplace (held weekly), efforts are being made to reduce risks while engaging in production. There were no occupational accidents in fiscal 2019.

Number of Occupational Injuries in the Manufacture of Wood Building Materials in Japan

FY2015	FY2016	FY2017	FY2018	FY2019
0	1	0	1	0

* The number of work-related accidents resulting in payment of compensation benefits for absence from work in accordance with the Industrial Accident Compensation Insurance Act is disclosed.

Safety Patrols and Risk Assessments

Each plant of Sumitomo Forestry Crest regularly conducts safety patrols at the workplace. Any sign of danger discovered in these patrols is immediately addressed with safety measures to prevent that risk from being realized. Furthermore, Sumitomo Forestry Crest is committed to ensuring the safety of its workplaces, responding from the following three perspectives by identifying operations and facilities at risk, such as of workers getting caught in or between machinery.

1. Reduce the frequency with which sources of danger are approached (keep people away, use of protective equipment etc.)
2. Reduce the likelihood of accidents (covers, auto-shut off, etc.)
3. Reduce the severity of injuries (protective gear, lower speeds, etc.)

A safety patrol

Overseas Initiatives

We are proactively moving forward with risk assessments (aiming for safety assessments of equipment once a month by 100 people) and danger prediction training (aiming to train employees once a month to avoid unsafe actions and increase sensitivity to unsafe conditions) at overseas manufacturers*, particularly in Indonesia. We also implemented safety promotion procedures of group companies that have more developed initiatives in our efforts to ensure workplace safety.

* Six consolidated group companies: Nelson Pine Industries (NPIL), Kutai Timber Indonesia (KTI), AST Indonesia (ASTI), Sinar Rimba Pasifik (SRP), Canyon Creek Cabinet (CCC), and Vina Eco Board (VECO).

Risk prediction training for local employees at Indonesian manufacturers

Number of Occupational Injuries in the Manufacture of Wood Building Materials in Overseas

FY2015	FY2016	FY2017	FY2018	FY2019
18	16	23	11	10

* Indicates the number of injuries eligible for compensation benefits for a temporary absence from work under the Industrial Accident Compensation Insurance Act of Japan.

Forest Management

Business Overview

Sumitomo Forestry is expanding sustainable forest management founded in basic policy of sustainable forestry that plants, cultivates, harvests and replant trees. We currently own and manage about 48,000 hectors of forest in Japan and roughly 230,000 hectors of plantation forest land overseas. Our Group uses our expertise in extensive forest management cultivated worldwide to develop a sustainable plantation business in harmony with each local community and environment.

Main Business Figures (FY2019 Result)

Managed and owned forest area during FY2019

Japan: Approx. 48,000 ha
Overseas: Approx. 231,000 ha

Domestic and overseas certified forest area

Japan: Approx. 48,000 ha
Overseas: Approx. 174,000 ha

Carbon stocks of forests in Japan and overseas during FY2019

Japan: 13,300,000 t-CO_2
Overseas: 9,330,000 t-CO_2

Value Chain of Forest Management

Seedling Farming and Cultivation

We are contributing to the sustainability of forest resources and active resource production through efforts such as the construction of greenhouse-type cultivation facilities with proper environmental management using proprietary production technology for seedling containers.

We also engage in tree cultivation under the concept of “the right tree in the right place,” with consideration of soil conditions at a given plantation, orientation and geography, etc.

Relevant Social Issues

In addition to resource recycling and other environmental issues, we have taken the first step toward sustainable forest management. These steps are related to solving broad social challenges such as regional revitalization with the establishment of seedbeds, in addition to resource recycling and other environmental challenges.

Relevant Sustainability Initiatives

- Sustainable Forest Management
- Protecting and Utilizing Domestic Forest Resources

Cultivation

The Sumitomo Forestry Group manages a total of approximately 48,000 hectares of company-owned forests in Japan and a total of around 230,000 hectares of company-owned plantation forest area overseas.

The Group works to maintain and enhance the public functions of forests by carrying out underbrush clearing, pruning, thinning and other appropriate management required for them to grow.

Relevant Social Issues

Forests are managed in a way that allows the diverse needs for timber to be lastingly satisfied by maintaining a healthy ecosystem throughout the forest while receiving the benefit of the timber it provides. Within Japan, this management not only contributes to revitalizing the forestry industry, but also to addressing both economic and environmental challenges, such as climate change measures and biodiversity conservation.

Relevant Sustainability Initiatives

- Protecting and Utilizing Domestic Forest Resources
- Forest Management Overseas
- Consulting Business
- Reforestation Activities Contributing to the Society

Logging/ Transport

The Sumitomo Group logs in forests it owns or manages based on long-term logging plans. The timber that is harvested is transported to business partners and plants.

Relevant Social Issues

Sumitomo Forestry Group realizes sustainable forest management through long-term planned harvesting to address a variety of social challenges, including resource recycling and response to climate change as well as the conservation of biodiversity.

In addition, ensuring the safety of every worker is an important issue when harvesting trees. Sumitomo Forestry Group pays close attention to the occupational health and safety of every employee who is working for the Group, including business partners.

Relevant Sustainability Initiatives

- Sustainable Forest Management
- Occupational Health and Safety in the Forestry Business

Site Preparation/ Planting

The Sumitomo Forestry Group prepares plantations that have been harvested to build an environment allowing subsequent planting.

Relevant Social Issues

The Sumitomo Forestry Group always recognizes sustainability from an environmental perspective in a cycle that starts with planting, cultivation, harvest, use, and back to planting. We strive to address social challenges such as use of Japanese timber and forest revitalization.

Sustainable Forest Management

Basic Policy

Forests perform a variety of functions for the public good, such as storing and purifying water, preventing floods and landslides, and absorbing and retaining CO_2, which is linked to global warming, preserving biodiversity, production of timber, and recreation.

On a basis of appropriate management, the Sumitomo Forestry Group advances sustainable forest management both in Japan and overseas to ensure that timber resources will be available in perpetuity while preserving the public functions of forests. In upstream forest management, middlestream timber distribution and downstream construction of wooden houses, the Sumitomo Forestry Group also promotes the acquisition of FSC forest certification as well as PEFC forest certification and the mutually authenticable SGEC forest certification both domestically and abroad.

In the domestic forestry business, production in company-owned forests is aimed at realizing profitable forestry together with ensuring legality with due consideration for biodiversity and unique local cultures. By practicing sustainable forest management, we have obtained and maintain certification of 100% of certifiable forests.

We operate under the following philosophy when obtaining new forests in our overseas forestry business.

1. To build good relationships with surrounding villages and local communities.
2. The major presumption is that HCVA[*1], HCSA[*2] and FPIC[*3] are to be implemented. It is also possible to eliminate environmental risk, and there must be no identified past environmental problems.
3. FSC®-FM certification must be obtained (FSC-CW and PEFC certification are also desirable). (FSC-C113957)

※1 High Conservation Value Assessment: inspection and assessment to establish conservation policies for areas specified as having high conservation value, such as rare flora and fauna habitat.

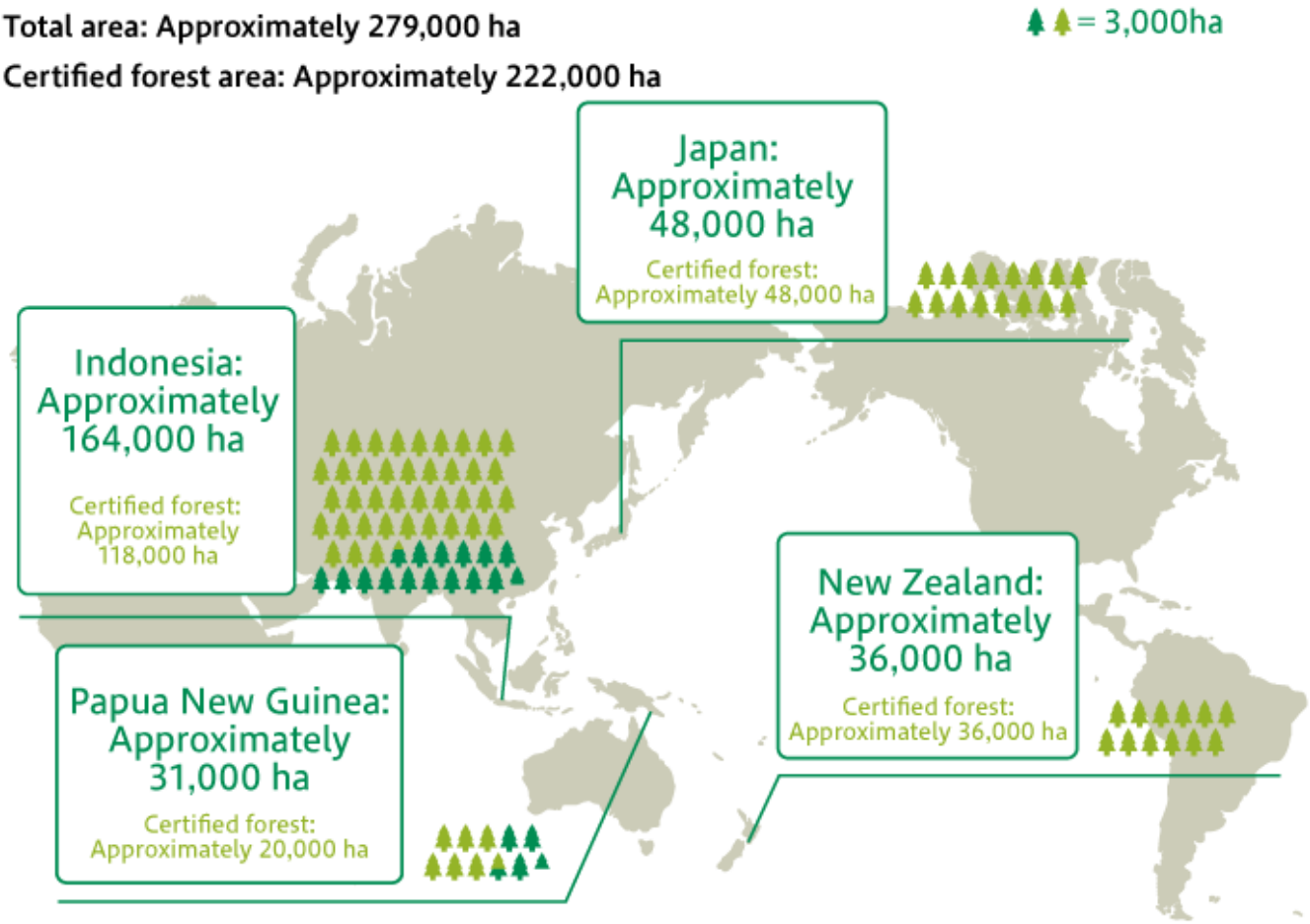
※2 High Carbon Shock Assessment: inspection and assessment to specify and restrict development in areas with high carbon absorption volumes so that the volume of carbon retained by forests does not decline when forest land is converted to other uses.

※3 Free Prior Informed Consent: Prior sharing of information and consensus formation with indigenous people and others in cases where there is likelihood that operations could impact the lands, territories or resources of indigenous people.

▶ Sumitomo Forestry Group Human Rights Policy

Forest Management and Timber Usage

Area of Forest Managed and Owned in Fiscal 2019



Niihama Forest

New Zealand Forests

Area of Forest Managed and Owned by the Sumitomo Forestry Group

As of March 31, 2020

Country	Company	Managed Area (ha)	Certified Area (ha)	Plantation Area for Social Forestry (ha)	FM Certification System*1	Certification Number	Certification Issuing Body
Japan	Sumitomo Forestry	47,967	47,736	-	SGEC	JAFTA-010	Japan Forest Technology Association (JAFTA)
Indonesia	PT. Mayangkara Tanaman Industri (MTI)	104,664	74,870	-	PHPL*2	015.4/EQC-PHPL/IX/2018	PT Equality Indonesia
	PT. Wana Subur Lestari (WSL)	40,750	40,750	-	PHPL*2	10-PHPL-006	PT Almasentra Konsulindo
	PT. Kutai Timber Indonesia (KTI)	5,873	0	-	-	-	-
	Koperasi Serba Usaha Alas Mandiri KTI (KAM KTI)	-	1,005	1,005	FSC®	SA-FM/COC-002083	Woodmark
	Koperasi Bromo Mandiri KTI (KBM KTI)	-	1,003	1,003	FSC®	SA-FM/COC-005493	Woodmark
	Other*3	-	0	10,743	-	-	-
	Subtotal	151,287	117,628	12,751			
Papua New Guinea	Open Bay Timber Ltd. (OBT)	31,260	12,854	-	FSC®	NC-FM/COC-005600	Nature Economy and People Connected
			7,006	-	FSC®	NC-CW/FM-003093	Nature Economy and People Connected
	Subtotal	31,260	19,920	-			
New Zealand	Tasman Pine Forests Ltd. (TPF)	36,360	36,360	-	FSC®	SGS-FM/COC-010806	SGS South Africa (Pty) Ltd
Total		266,874	221,644	12,751			

Total (Managed Forest Area and Plantation Area for Social Forestry)	279,625

*1 Forest Management (FM) certification authenticates sustainable forest management by having a third-party inspect based on objective indicators with focus on: (1) compliance with laws and system frameworks, (2) forest ecosystem and biodiversity maintenance and conservation, (3) respect for rights of indigenous people and local communities, and (4) maintenance and enhancement of forest productivity.

*2 Pengelolaan Hvtan Produksi Lestari (PHPL) is an Indonesian certification of sustainable production forest maintenance.

*3 The plantation area includes data for environmental reforestation for social contribution and consulting businesses for third-parties.

Seedling Farming and Cultivation: A First Step Toward Sustainable Forest Management

Securing superior seedlings is a crucial first step toward sustainable forest management. Stable production of superior seedlings enables appropriate forest establishment. Sumitomo Forestry was the first to modernize seedling production. We are contributing to the sustainability of forest resources and active resource production through efforts such as the construction of greenhouse-type cultivation facilities with proper environmental management. With the opening of a new facility in Minamiaizu, Fukushima Prefecture in fiscal 2019, we have established a system capable of cultivating 1.9 million seedlings a year with six locations throughout Japan. We produce our own seedlings to plant in Indonesia and Papua New Guinea as well. Our sustainable forest management plants, cultivates, harvests, and replants trees in New Zealand and every other region where we do business.

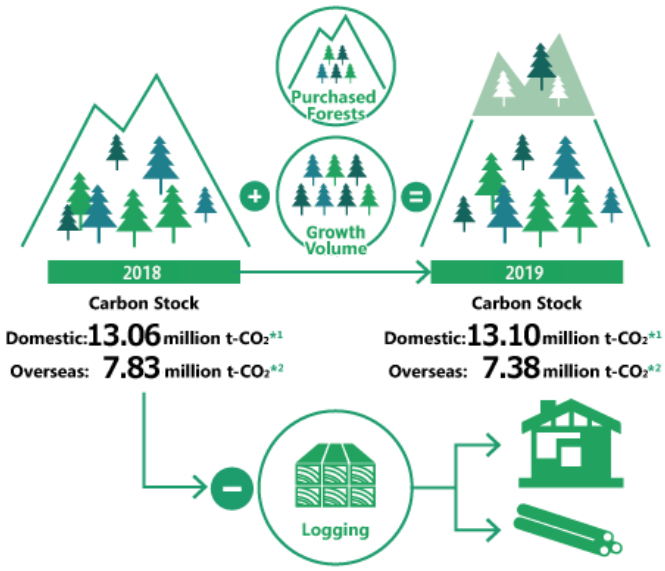
Cultivation: Preserving the Public Functions of Forests Through Appropriate Management

The Sumitomo Forestry Group manages a total of approximately 48,000 hectares of company-owned forests in Japan and a total of around 230,000 hectares of company-owned plantation forest area overseas. The Group works to maintain and enhance the public functions of these forests by carrying out underbrush clearing, pruning, thinning and other appropriate management required for them to grow.

Carbon stocks* of forests in Japan owned by Sumitomo Forestry Group at the end of fiscal 2019 were 13.3 million t-CO_2 (+200,000 t-CO_2 from the previous year). Carbon stocks at overseas plantation forests were 9.33 million t-CO_2 (+1,950,000 t-CO_2).

* The amount of CO_2 absorbed by forests and stored as carbon. Calculated using a formula that multiply volume density, carbon content, and other coefficients set per type of tree against the accumulated amount in the forest. Furthermore, if there is a purchase of large forest during this period, they are omitted as its increase of accumulated amount within the last year cannot be identified. Natural trees and planted trees are within the scope in Japan but only planted tree are included for overseas.

Carbon Stock of Forests in Japan and Overseas



*1 Domestic: Carbon stock as of the beginning of each fiscal year

*2 Overseas: Carbon stock as of the beginning of each calendar year

Logging and Transport: Supplying Timber Products Through Systematic Logging

The Sumitomo Forestry Group logged approximately 70,000 m³ of trees in Japan and approximately 850,000 m³ of trees overseas in fiscal 2019 in forests it owns or manages based on long-term logging plans. Harvested trees are milled and processed before finally reaching the market as products such as housing and furniture. In the case of timber turned into structural members for housing, the products are used for several decades. Even after being dismantled or at the end of their product life, wooden construction and timber products can be reused as fiberboard or other wood materials in construction or as raw material for making paper, and all that time it will continue to retain CO_2. The CO_2 released when timber is ultimately burned as a wood fuel is what has been absorbed from the atmosphere as trees grow, and therefore it does not represent an increase in CO_2 in the atmosphere over the life cycle of the tree.

▶ Carbon Stock in the Housing and Construction Business

Site Preparation and Planting: Preparing for the Next Cycle

Harvesting and using timber alone will lead to a diminishing of forest resources. The Sumitomo Forestry Group therefore promotes sustainable forest management by always planting new trees after logging.

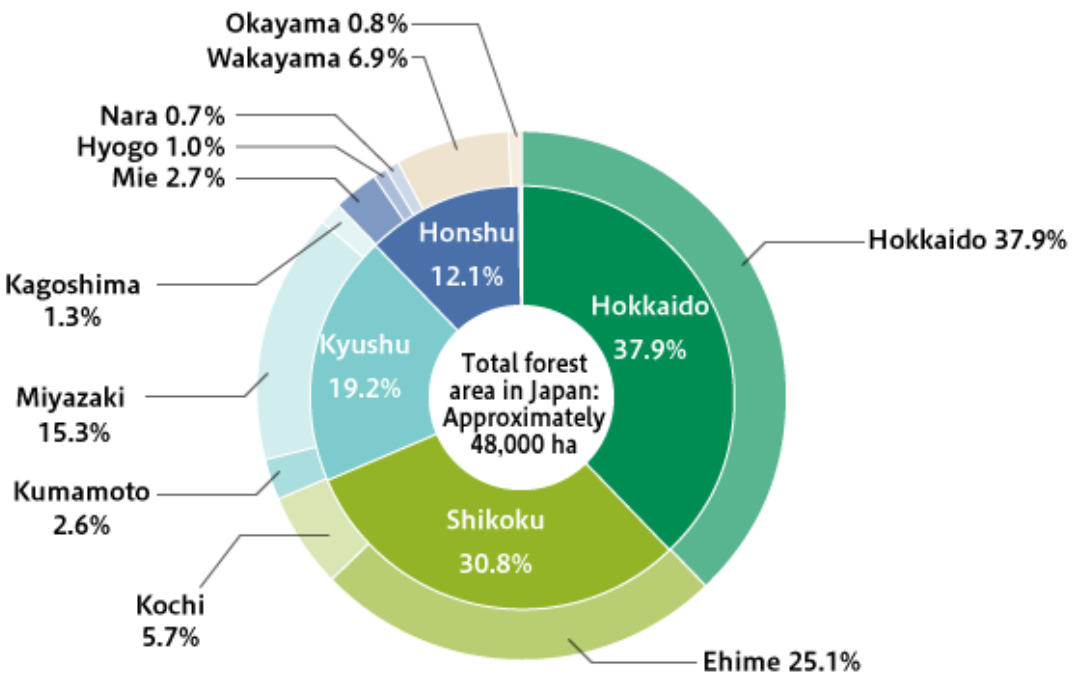
In fiscal 2019, we planted forests on 159 ha in Japan, and on 7,430 ha overseas. The newly planted trees will absorb CO_2 during their growth and retain it as carbon.

Protecting and Utilizing Domestic Forest Resources

Basic Policy

In recent years, the degradation across Japan of artificial forest plantations of cedar, Japanese cypress and other species has resulted in the alarming loss of the multifaceted functions of forests, such as water source recharge. The reasons for this devastation include the stagnation of timber value and worsening profitability as well as the inability for proper thinning or other management of the forests. In order to prevent further devastation of forests by revitalizing the forestry industry, the government of Japan has set a goal of raising Japan's timber self-sufficiency rate to roughly 50% by 2025. We will contribute to the targets laid out by the government of Japan while expanding our managed forest area, developing and introducing forestry machinery compatible with Japanese terrain and other such conditions, increasing the cultivation of fast-growing trees, spearheading planting and cultivation technologies, pioneering container seedling businesses, and promoting business solutions that leverage ICT.

Breakdown of Company-Owned Forests



Preserving and Increasing Forest Resources Through Management of Company-Owned Forests

The Sumitomo Forestry Group owns a total of approximately 48,000 hectares (about 1/800 of the national land area) of forest land area. Company-owned forests are categorized as either “commercial forests,” where the production of timber is the priority, or “environmental forests,” where conservation of the environment is the focus.

Sumitomo Forestry acquired a forestry certification from Japan's Sustainable Green Ecosystem Council (SGEC)[*1] for all company-owned forests[*2] in 2006 and third-party evaluations have confirmed that the forests are being properly managed, including with regard to measures to conserve biodiversity. New forest purchases after the acquisition of the forest certification have each been under evaluation for certification and our certification rate is 100%.

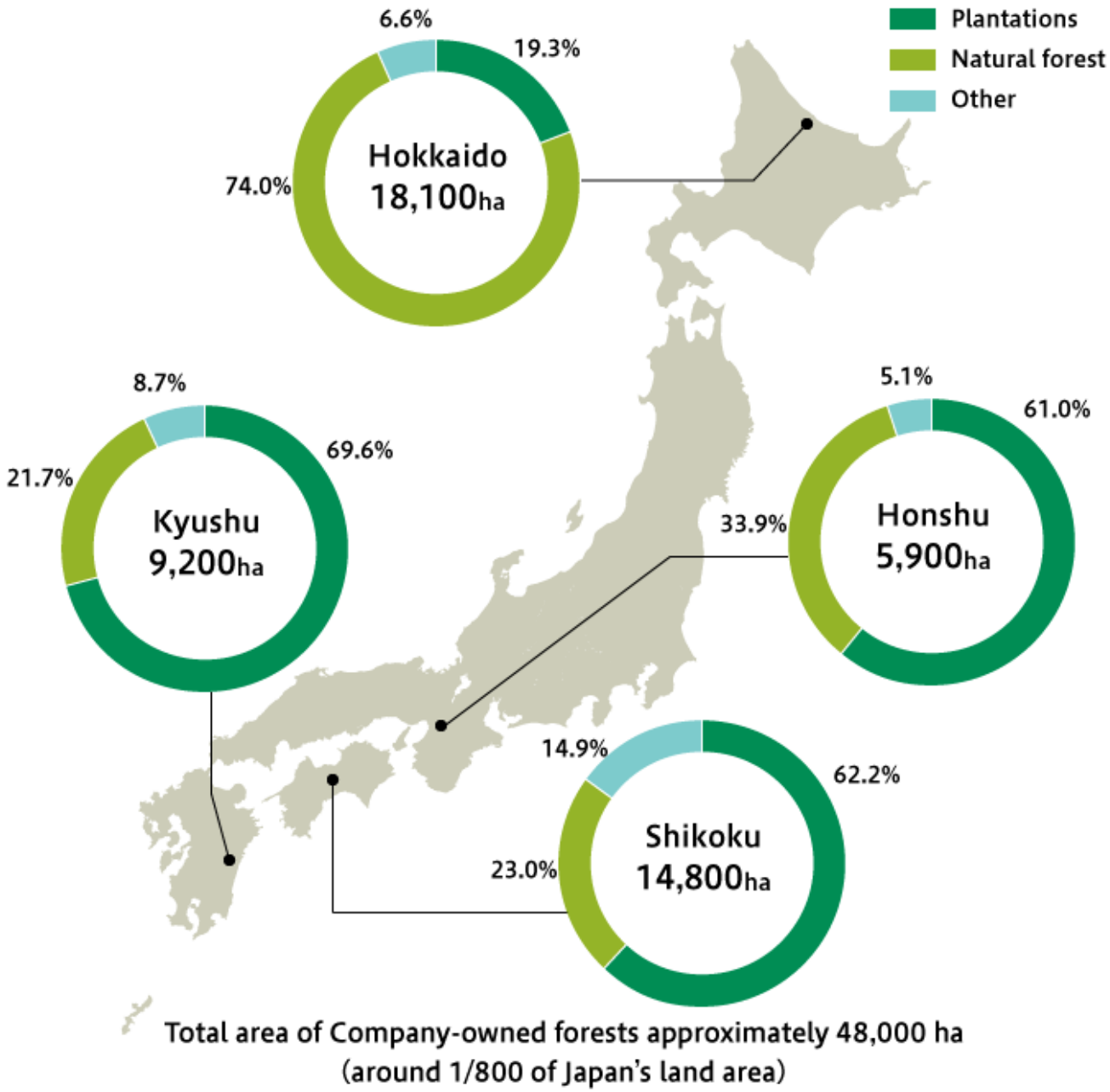
Forest operations include appropriate thinning, which helps to preserve and increase forest resources, while taking into consideration the surrounding environment including the ecosystem. Sumitomo Forestry also aims for highly productive management of its forests based on operational plans that follow the principle of performing the appropriate management for the appropriate tree species on the suited land.

*1 Japan's own forestry certification system through which forest management is verified as sustainable by third parties. Certification is based on seven criteria that include the preservation of biodiversity and the conservation and maintenance of soil and water resources. Due to the June 2016 approval of mutual recognition of the PEFC*3 international forest certification system, international recognition has increased.

*2 The forests owned by Sumitomo Forestry exclude the lands leased to Kawanokita Development Co., Ltd., which is a Group company responsible for operating a golf course, and the surrounding forest. Newly purchased forests are excluded because they underwent expanded inspections during the subsequent fiscal year.

*3 The programme for the Endorsement of Forest Certification Schemes is an international NGO that mutually authenticates certification standards created in each country and region as criteria to be shared internationally. Forest certification systems in 49 countries have joined PEFC of which 44 have been mutually recognized as forest certification systems.

Distribution and Area of Company-Owned Forests (as of March 31, 2020)



Forest Revitalization Initiatives

Seedling Production for Regional Revitalization

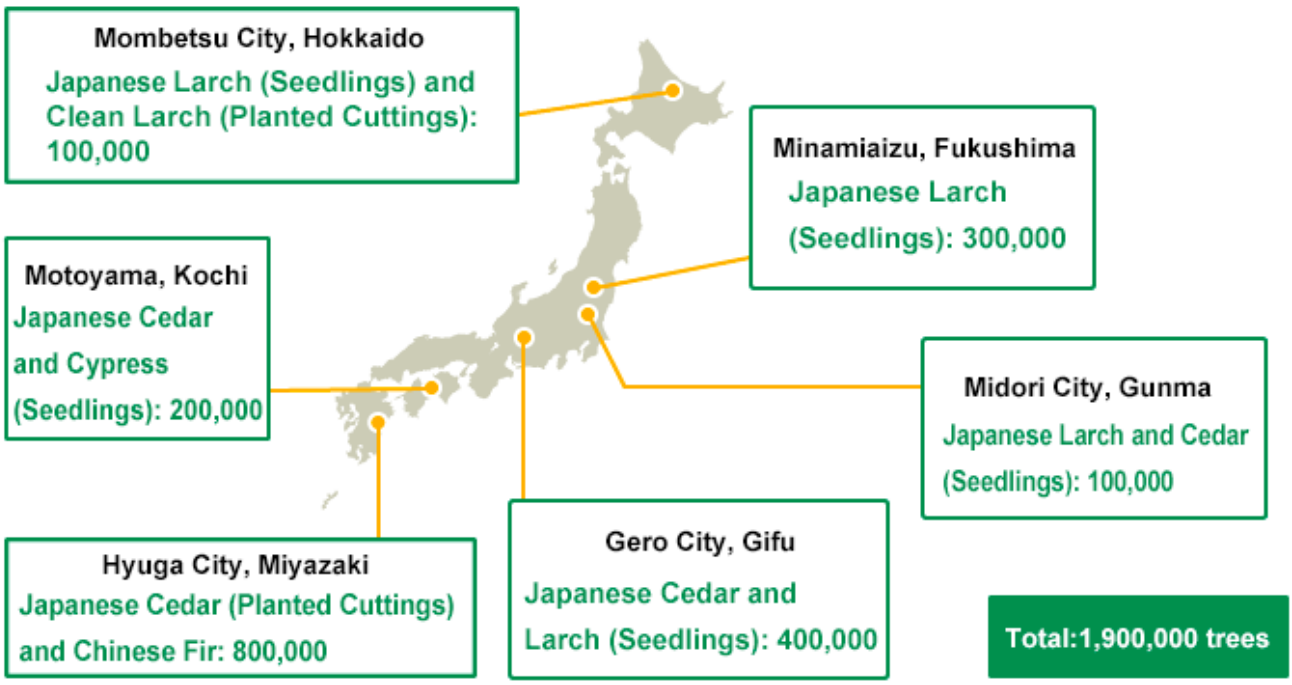
Increasing number of municipalities are working to foster forest resources that are not yet effectively utilized as one part of regional revitalization measures. Areas of clear cutting is expected to increase in the future as the harvesting period approaches for cedar and Japanese cypress planted after World War II, and a stable supply of seedlings is desired for reforestation. However, due to circumstances such as a lower number of producers, it is expected that the resources will be insufficient.

Sumitomo Forestry was the first to modernize seedling production. We are contributing to the sustainability of forest resources and active resource production through efforts such as the construction of greenhouse-type cultivation facilities with proper environmental management using proprietary production technology for seedling containers.

More specifically, starting from the development of an environmental control greenhouse facility in Hyuga City, Miyazaki in 2012, we established the know-how for production in Mombetsu City, Hokkaido as well. The production per unit of area significantly increased by controlling the temperature and humidity and allowing cultivation throughout the year compared to conventionally raising seedlings in the open. We opened greenhouse facilities in Gero City, Gifu Prefecture in fiscal 2016, in Motoyama City, Kochi Prefecture in May 2017, and in Midori City, Gunma Prefecture in fiscal 2018 as well as in Minamiaizu, Fukushima Prefecture in fiscal 2019 to establish a system capable of cultivating 1.9 million seedlings a year throughout Japan.

We are also linking to local municipalities to contribute to the revitalization of the region by establishing greenhouses with local employment as well as the development and standardization of new technology related to seedling cultivation in addition to as well.

Cultivating Sumitomo Forestry Seedlings Throughout Japan



Efforts in Fast-Growing Trees

Sumitomo Forestry has begun efforts in fast-growing tree forests that are gaining more attention in recent years. Fast-growing trees are trees such as Chine fir, chinaberry, willow and white birch that grow quickly and allow harvests in a short cutting cycle compared to Japanese cedar or Japanese cypress.

The Hyuga Forestry Office is conducting a test harvest of Chinese fir in the Hitoyoshi company-owned forest in Kumamoto prefecture. This test monitors aspects that include the reduction in weeding and a growth comparison with Japanese cedar through growth surveys and other research to examine the potential as a new tree species for garden vegetation.

In addition, Sumitomo forestry is also advancing the implementation of plans for test harvesting these fast-growing trees with the Forest and Landscape Research Center

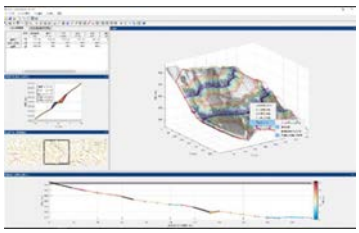
.

Chinese fir

Launch of FRD Forestry Roadway Design Support System

Forests in Japan often have insufficient forest roads or strip roads in place which prevent smooth management of forests and transport of the timber that is harvested. Currently, when constructing forest roads or strip roads, lines are drawn by hand over a paper topographical map before visiting the site to see if that plan for the road network can be executed as is. This process of examination is usually done over and over again. The work to create these line drawn plans as well as check and verify the site rely heavily on individual intuition and experience as well as cost a vast amount of time and labor.

This software takes advantage of precise topographical data obtained from aerial laser and other measurements to design forestry road networks such as forest roads and strip roads. The main feature is a function for automatic design able to automatically create the line drawings by inputting the site of departure and destination in the operation screen. This feature creates line drawn plans based on parameters, including requirements such as longitudinal slope and the curvature radius, width, and operation costs specified in advance. In addition, we have devised a way for software to recognize dangerous terrain. This software packs more features than necessary for the job, such as allowing the design of safety lines that reflect areas which should be avoided due to potential collapse and other circumstances when creating a plan. The on-site exploration of the line drawn plans for roadways designed in the software offers efficient on-site verification.



Automatic Design Screen (Image)

Spearheading Forest Revitalization and Developing Power Assist Suits for the Forestry Industry

The Forestry Assist Suit Research and Development Consortium led by Sumitomo Forestry exhibited its third prototype of the first power assist suit for the forestry industry developed in fiscal 2017 that is able to reduce physical labor by 17% at the Intentional Robot Exhibition 2017. In fiscal 2018, we tested the enhanced fourth prototype, featuring improvements making it easier to put on and take off, as well as more effective functionality. In fiscal 2019, we further enhanced the fifth prototype with success in a roughly 30% (6 kg) weight reduction and decrease in the physical strength necessary to traverse terrain. This consortium is comprised of the Forest Research and Management Organization, ATOUN Inc. and the Nara Institute of Science and Technology. Development is moving forward with the aim of practical application by 2025.

Prototype Testing

In addition to assisting operators while they walk when traversing up and down slopes, this forestry power suit can also reduce the load on the shoulders and feet of workers when carrying heavy seedling packs and planting tools for several dozen kilometers. Practical applications of the power assist suit for the forestry industry would reduce the physical burden on workers and improve work efficiency by alleviating concerns about exhaustion on steep slopes while allow each person to carry a larger amount of seedlings and tools.

Forest Management Overseas

Basic Policy

As national governments throughout Southeast Asia strengthen their promotion of natural forest conservation, they are implementing restrictions on harvesting and exports, among other measures that reduce the supply of natural wood. In addition, as momentum toward SDGs and sustainable development increases, it has become necessary to convert to timber obtained through forest plantation and certified forest management practices that ensure both environmental consciousness and stable supply. The Sumitomo Forestry Group implements forest plantation operations that take local communities and ecosystems into consideration to enable a stable and sustained timber supply while helping to reduce the impact on natural forests.

Overseas Plantation Area (Unit: ha)

Country		Name of Plantation Business	Managed Area	Plantation Area for Social Forestry	Planted Area in FY2019	Logged Area in FY2019
Indonesia	Industrial tree plantation	PT. Mayangkara Tanaman Industri	104,664	-	2,787	2,396
		PT. Wana Subur Lestari	40,750	-	2,766	2,463
		PT. Kutai Timber Indonesia (KTI)	5,873	-	0	172
	Social forestry	PT. Kutai Timber Indonesia (KTI)	-	5,779	-	-
		Koperasi Serba Usaha Alas Mandiri (KAM KTI)	-	1,005	-	-
		Koperasi Bromo Mandiri KTI (KBM KTI)	-	1,003	-	-
		PT. Rimba Partikel Indonesia (RPI)*1	-	416	-	-
		Other*2	-	4,548	-	-
		Subtotal	151,287	12,751	5,553	5,031
Papua New Guinea	Industrial tree plantation	Open Bay Timber Ltd. (OBT)	31,260	-	491	200
New Zealand	Industrial tree plantation	Tasman Pine Forests Ltd. (TPF)*3	36,360	-	1,386	776
Total			218,907	12,751	7,430	6,007

*1 The land area is calculated by conversion from the number of seedlings distributed at RPI. Vegetation determined to have withered is included in the harvest.

*2 Others includes data of environmental reforestation for social contribution and consulting business for other companies

*3 Includes plantation forest and logged area for land afflicted by forest fires in February 2019.

Forest Management Overseas

The Sumitomo Forestry Group is expanding three approaches to conducting plantation forest operations; industrial tree plantation, environmental reforestation, and social forestry. The purpose of industrial tree plantation is to produce wood and increase the supply of plantation timber (raw material). By zoning its managed land appropriately, the Group aims to achieve both the conservation of valuable ecosystems and the development of local communities through plantation forest operations.

In addition, the Group also conducts environmental reforestation, planting trees for environmental conservation. It aims to contribute to environmental conservation through the expansion of forested areas and the fulfillment of the ecosystem services function of forests, by actively planting trees on land where natural regeneration would otherwise be difficult. The Group has also been engaged in “social forestry” which shares the economic benefits of forest plantation with local communities while enlisting the cooperation of local residents.

Sustainable Plantation Business by Leveraging Forestry Certification System

Of an approximately 30,000-hectare plantation owned and managed by OBT* of Papua New Guinea, about two-thirds, or 20,000 hectares, has received FSC® forest certification*1. Under the goal to plant on the 500-hectare land a year, OBT practices sustainable forest management that lays basis for communities and environment to function in harmony. The area planted in fiscal 2019 was 491 hectares. Approximately 36,000 hectares managed by Tasman Pine Forests Ltd. (TPF) of New Zealand has been FSC®-FM certified*2. In fiscal 2019, they planted approximately 1,386 hectares of forest, carrying out sustainable forest management in harmony with the local community and environment.

* OBT: CW certification FSC-C019117, FM certification FSC-C103694, TPF: FM certification FSC-C132002

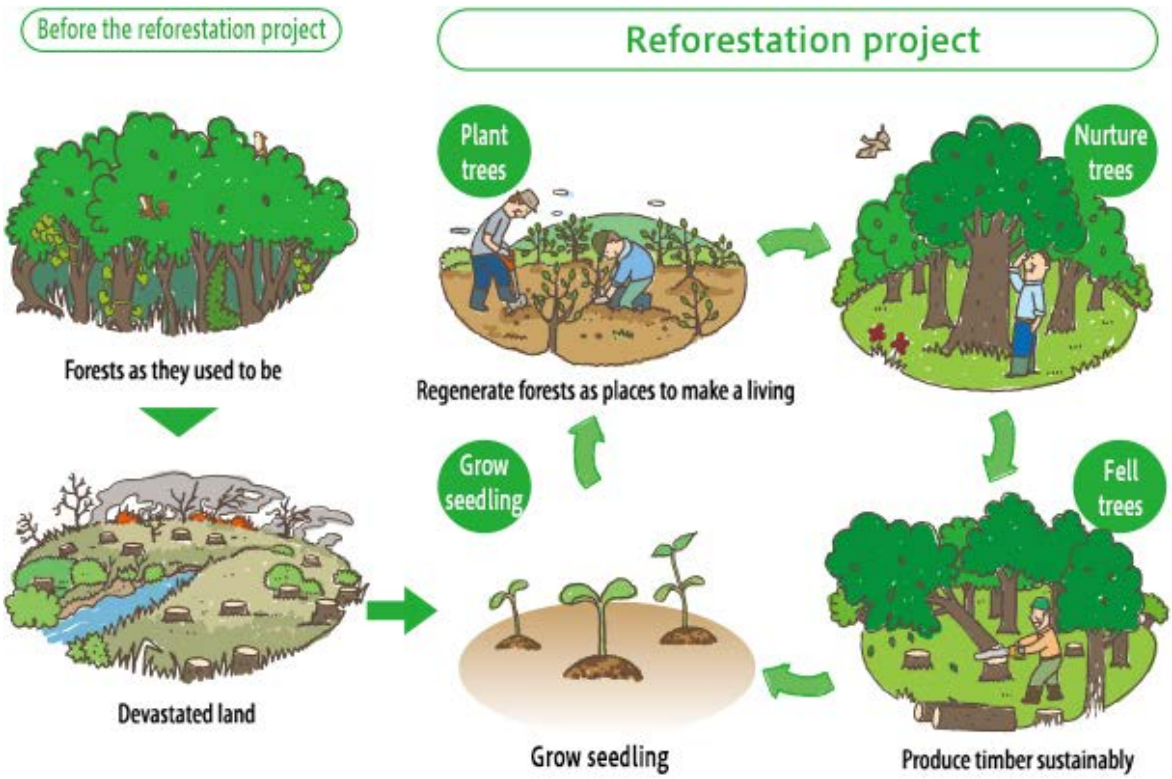
* TPF plantation area includes plantation forest afflicted by fire.

Plantation Forest Operations in West Kalimantan, Indonesia (Industrial Tree Plantation)

Since 2010, under the license from Indonesian Ministry of Environment and Forestry permitting utilization of timber from commercial forests*, Sumitomo Forestry has been committed to a large-scale forest plantation business conducted in cooperation with the ALAS Kusuma Group, a company involved in forestry management and plywood manufacturing in Indonesia. The project covers areas in which forest degradation has advanced due to commercial harvesting from the 1960s to the mid-1990s in addition to repeated illegal logging and slash-and-burn farming practices. In these types of lands, Sumitomo Forestry Group actively uses devastated forests that are not economically viable as plantation forests while taking on the responsibility of preserving forests with high conservation value. In addition, we believe it is important to prevent further degradation of forests by providing an economic infrastructure to local communities through businesses.

The plantation land used in these operations exists in tropical peatland which plays an extremely vital role in the carbon water cycle on a global scale. Sumitomo Forestry launched these operations by conducting detailed typographical survey and a boring test to understand the peat distribution and depth at a level never achieved in the world before. We properly manage water according to the wealth of data gained through these surveys to control greenhouse gas emissions from peatlands and forest fires. This peatland management model is the first in the world to contribute greatly to measures that combat climate change. Even today, Sumitomo Forestry continues in efforts to improve peatland management models by using satellites, drones, and other leading-edge technologies.

* Issued by the Indonesian government, this is a business license to engage in industrial tree plantation operations in Indonesia. The license is valid for 60 to 100 years.



2012	• Signed a contract with International Finance Corporation (IFC)—member of the World Bank Group for the provision of advisory services. In accordance with the concept of High Conservation Values Forests (HCVF)* that draws great attention in recent years, Sumitomo Forestry conducted assessments on its operational properties with IFC and investigated whether the property use plan is implemented as stated and adequate consideration is made for biodiversity and livelihood of local residents. The reports of the investigation results were audited by a third-party organization, and valuable comments made by stakeholders on the report were adapted in the business plan.
2013	• Held public hearings where stakeholders such as local residents, companies in the communities, academics, NGOs, and government officers were invited to share the results of the investigations. • Obtained the PHPL certification, formally called Sertifikat Pengelolaan Hutan Produksi Lestari issued by Ministry of Forestry (Departemen Kehutanan) on sustainable forest management.
2015	• Held public hearings with stakeholders prior to plantation forest harvest with the aim of deepening stakeholders' understanding about our businesses and consideration to environment and social issues that we promote. This venue also actively pursued cooperation from our stakeholders to prevent forest fires. Participants not only shared a lot of positive feedback but also gave us comments fruitful in the formulation of our business plans.
2016	• Advanced efforts with the Indonesian Ministry of Environment and Forestry to build a model for sustainable plantation forest operations and peat management methods in peatlands through our businesses and research activities. • The Commissioner of Peat Land Recovery visited the local grounds to observe the peat management technology. Gained high praise for groundwater level control technology and the newest initiatives founded in data as well as introduced both in an international venue for government officials as beneficial examples for Indonesia.
2017	• Entered into a Memorandum of Understanding (MOU) with the Indonesian Ministry of Environment and Forestry for a pilot project that aims to examine unique water level management technologies to sustainably manage peatlands and establish peatland management models in Indonesia. The term of this project is set for five years. The project is being conducted with the cooperation of the Ministry of the Environment and Forestry as well as the Peatland Restoration Agency. • The peatland management technology from this project was introduced as an example of excellent, leading-edge peat management at the November 2017 United Nations Climate Change Conference (COP23) held in Bonn, Germany.
2018	• In 2018, the Group formulated a grievance mechanism with the help of the IFC. Together with the University of Indonesia, we also conducted a social survey of operational and surrounding areas on a three-year plan. • We reported on peatland management technology at the December 2018 United Nations Climate Change Conference (COP24) held in Poland.
2019	• We announced initiatives related to WSL peatland management and plantation operations at The Seventh Tokyo International Conference on African Development (TICAD7) held in Yokohama in August. We introduced for the first time in the world that tropical peatland forest not only acts as the lungs of the Earth but also a heart that circulates water around the globe. • We also announced a peatland management system that prevents fires at a side event of the United Nations Climate Action Summit held in New York in September. • At the United Nations Climate Change Conference (COP25) held in Madrid in December, we presented water management technologies and the preservation of rare species.

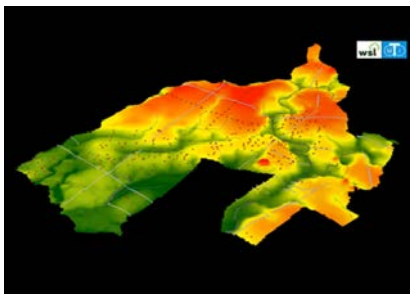
* In considering the value of forests, it goes beyond their value as absorbers of greenhouse gases, outlining methods of extracting each one of the many aspects of value forests contain. These aspects include their value as habitats of rare, endangered animal species, as water resources, as providers of essential natural services such as soil erosion control, and as land that has an intimate relationship with the lifestyles and cultures of local communities.

Conservation of Peat Swamp Forests

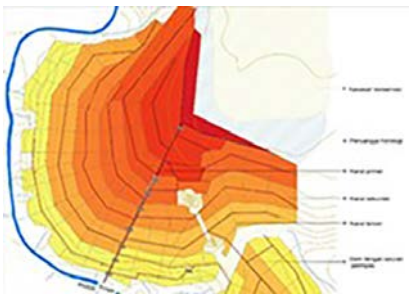
Conventionally, reforestation in peatlands* pushed water out of the soil and dried the land by digging many drainage routes for planting. However, drying-out land results in the decomposition of organic matter in the peat soil and acts to heighten global warming due to the emission of greenhouse gases. Dried peat, once ignited, is very difficult to extinguish, creating the risk of large-scale forest fires. The soil needs to always be in a damp state to prevent fires, but this means maintaining a constant groundwater level throughout the year through proper water level management is extremely vital. Therefore, in drawing up a forestation plan, the Sumitomo Forestry conducts detailed measurements and surveys based on which the following areas are identified: (1) forests to be protected with riparian forest and high rarity value, (2) areas to set as buffer zones between protection zones and plantation zones, and finally (3) areas the final determination as plantation zones. In plantation zones, water routes that function as round log transport, water level control, and fire belts are constructed while allowing a constant water level in the peatlands to always be maintained without affecting the rivers by not directly connecting the water routes and the rivers. Maintaining a constant groundwater level not only prevents forest fires and minimizes the breakdown of peats but also limits the emission of greenhouse gases. These results have been announced at relevant government agencies, universities and other institutes in addition to the United Nations Framework Convention on Climate Change (COP25), and some aspects have even been adopted as new policy measures.

Regions where peatlands thrive, such as the Amazon, the Congo Basin, and Indonesia, have the most rainfall throughout the world. Tropical forests and peatlands act as a pipeline dispersing water into the air from a large amount of rainwater accumulated in the ground during the monsoon season through evaporation. The tremendous evaporation from these tropical forests and peatlands has the potential to act as a necessary water cycle function not only locally but at a continental and global scale. The collapse of the world's water cycle will result in abnormal weather and adversely impact agriculture, which will cause even greater food shortage issues. Sumitomo Forestry recognizes this fact in its peatland operations. Our presentation at The Seventh Tokyo International Conference on African Development (TICAD7) held in Yokohama in August 2019 advocated the importance of proper tropical forest and peatland management because these regions act as the heart of the Earth circulating water throughout the planet.

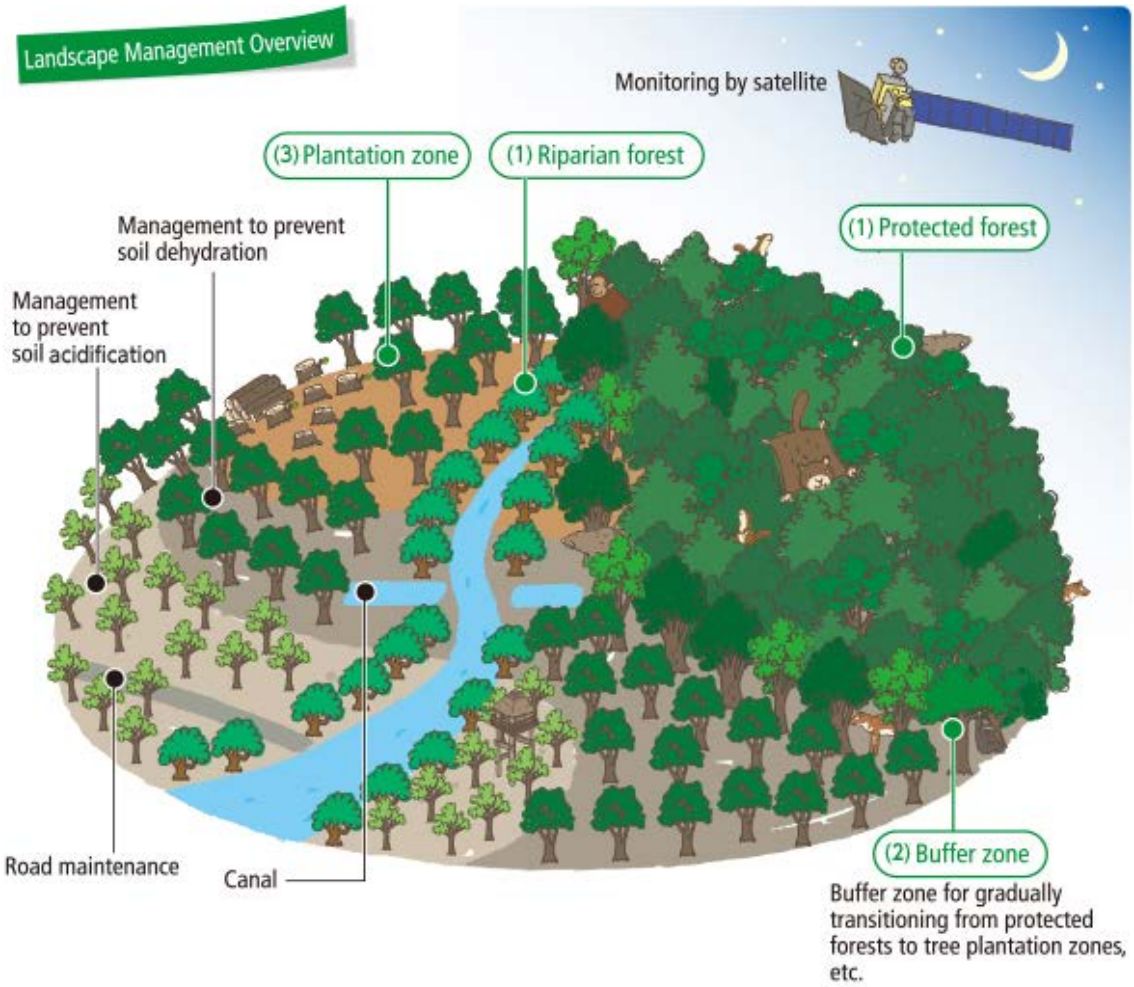
* Characteristics of the peat soil found in the peat swamps is known to emit enormous amounts of greenhouse gases, typically carbon dioxide and methane gas, if the soil was inappropriately exploited. Owing to joint researches by Japanese and Indonesian academic institutes, this project takes consideration to minimize greenhouse gas emissions that accrue as the peaty soil dissolves during exploitations.



Landscape management of plantation forest operation designed based on detailed data



Monitoring the water level in peatlands



Tasman Pine Forests Ltd. (TPF) Forest Fire Response

Forest fires that hit farmland in the Nelson region of New Zealand on February 5, 2019 burned nearly 2,300 ha of forest. The damage from this fire included about 1,300 ha of TPF-owned plantation forest.

In response to this disaster, TPF worked with Fire and Emergency New Zealand (FENZ), local municipalities, and forestry associations and other relevant agencies to continuously conduct awareness-raising activities about fire in the local community and take other proactive fire-fighting measures. We also increased fire-fighting equipment provided to FENZ and strengthened patrols.

Specific measures included enhancements to the Fire Index bulletin board that shows the fire risk level, distribution of leaflets to evoke caution in the local community, the creation of a system to always have fire-fighting helicopters on standby when the risk of fire is high, stockpiling of fire extinguishing agent, new preparation and management of fire water ponds, fire-fighting equipment acquisition and training, increase in the number of people conducting patrols, and preparations of forest routes.

TPF continues to put in place measures to minimize damage caused by forest fires as much as possible.

Occupational Health and Safety in the Forestry Business

Domestic Initiatives in Forestry

In Japan, the Sumitomo Forestry Group manages approximately 48,000 hectares of company-owned forests. Contractors conduct planting, weeding, improvement cutting, thinning and clear cutting operations. For the purpose of preventing occupational injury to these contractors, the Group conducts safety patrols and holds Workplace Safety Conferences at each forestry office once every half year.

In fiscal 2019, there was 1 instance of occupational injury requiring payment of compensation benefits for absence from work in accordance with the Industrial Accident Compensation Insurance Act in Sumitomo Forestry-owned forests. As a result, with the contractors involved, response measures to prevent recurrence were discussed and agreed. Additionally, warnings were issued to other contractors through the Workplace Safety Conferences.

A safety patrol

Number of Occupational Injuries Involving Contractors at Forestry Work Sites in Company-Owned Forests

FY2015	FY2016	FY2017	FY2018	FY2019
1	3	1	4	1

* The number of work-related accidents resulting in payment of compensation benefits for absence from work in accordance with the Industrial Accident Compensation Insurance Act is disclosed.

Overseas Initiatives in Forestry

The Sumitomo Forestry Group manages a total of approximately 230,000 hectares of company-owned plantation forests overseas. As in company-owned forest, overseas plantation companies (Open Bay Timber Ltd., PT. Mayangkara Tanaman Industri, PT. Wana Subur Lestari and Tasman Pine Forests Ltd.) take thoroughgoing companywide safety measures and are thoroughly equipped to prevent occupational injury. Regular safety lectures are also provided.

Some examples from efforts at Tasman Pine Forests Ltd. include (1) thorough equipment inspections before work every day, (2) regular meetings with logging contractors to evoke caution about safety management and real-time reports in the event of an accident, (3) health and safety assessments of logging contractors and Tasman Pine Forests employees through third-party occupational health and safety experts, and (4) on-site visits by employees in charge to keep everyone alert.

Number of Occupational Injuries Involving Contractors at Forestry Work Sites

Open Bay Timber Ltd.	PT. Mayangkara Tanaman Industri PT. Wana Subur Lestari	Tasman Pine Forests Ltd.
0	0	2

* The number of work-related accidents resulting in payment of compensation benefits for absence from work in accordance with the Industrial Accident Compensation Insurance Act of Japan is disclosed.

Lectures Given by External Experts

The Sumitomo Forestry Group in Japan has enhanced educational activities at its Workplace Safety Conferences, including occupational safety instructions using examples of common forestry accidents, as well as environmental education, lectures given by experts on such topics as emergency first aid, and on-site safety guidance. Furthermore, so as to prevent lack of concentration when performing dangerous work by becoming accustomed to the work, the Group conducts safety education repeatedly.

At the Workplace Safety Conferences held at various forestry offices in fiscal 2019, a total of 30 business partners (approx. 120 persons) participated in lectures by experts from the Forestry and Timber Manufacturing Safety & Health Association on accident prevention measures based on analysis of causes of recent forestry occupational injuries, and on-site emergency training.

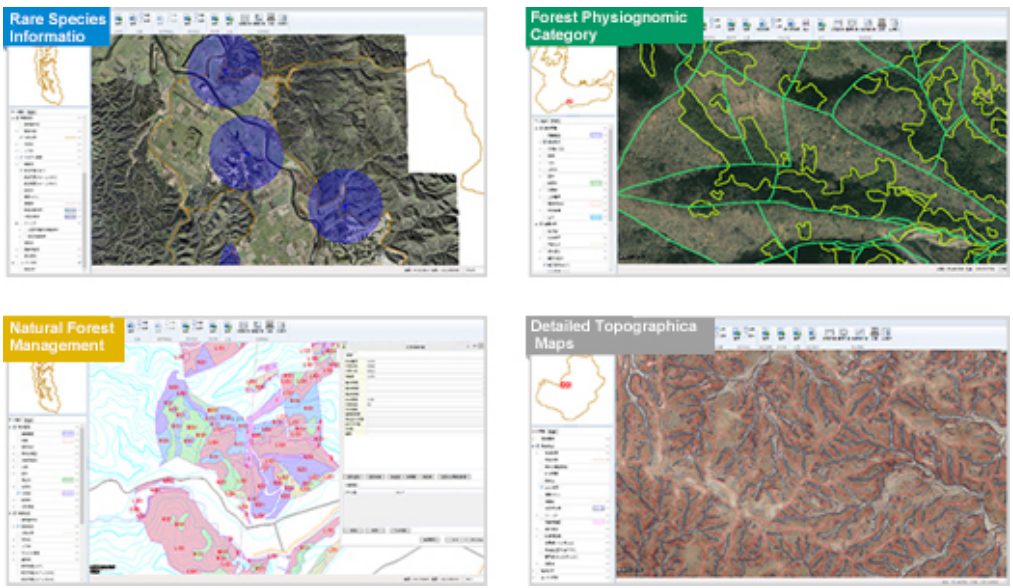
VR Experience (Osaka Office)

Consulting Business

Domestic Case Example

Supporting Municipalities in Introducing Forestry ICT Platforms

While quantitative forest resources are analyzed through aerial surveys and forest resource data systems are prepared in some advancing areas, many of the forests in Japan do not have sufficient forest resource information. Sumitomo Forestry built the Forestry ICT Platform together with AS Locus Corporation as a measure to address this situation. The Forestry ICT Platform is a holistic system with a wide range of functionality related to advance forest resource information as well as forests and forestry that has been provided to municipalities throughout Japan and organizations in the forestry business since fiscal 2013. The key distinctive feature of this platform is that it is provided in regionally customized form, with a variety of forest and forestry-related data and functions optimized for local characteristics. We have supported 13 municipalities with the platform as of the end of fiscal 2019.



Supporting the Creation of a Forest and Forestry Master Plan for Itoshima City, Fukuoka Prefecture

Sumitomo Forestry is providing consulting in planning of forest maintenance and forestry development conducted by local municipalities by taking advantage of its wealth of knowledge in forest management cultivated in company-owned forests over a long period of time. As part of these efforts, we supported the creation of a Forest and Forestry Master Plan in Itoshima City, Fukuoka Prefecture as an initiative to use local forest resource since January 2016.

This plan is the foundation for measures related to proper forest maintenance and effective use of city lumber in Itoshima, which is positioned as the basic plan under which businesses are to build supply chains for city use of timber that takes advantage of ICT promoted by Itoshima.

As methods to create this master plan, we are zoning areas that consider attributes such as the growth rate and accessibility of forests as well as the environmental conservation functions after grasping the amount of forest resources within the city limits through aerial laser measurement. Sumitomo Forestry formulated a harvesting plan and a plan for a transportation network that would be optimal to haul timber cultivated in the forest out by defining policies for conducting operations in the forest for each zone. Moreover, we also examined the systems to build to execute measures that follow this master plan.

Sumitomo Forestry is currently assisting in the setup of an execution framework for this plan and will continue to support so that this master plan will contribute to regional reforestation.

Comprehensive Partnership Agreement to Turn Forestry to a Growth Industry with Nagato City, Yamaguchi Prefecture

Sumitomo Forestry entered into a comprehensive partnership agreement to turn forestry and timber industry to a growth industry with Nagato City, Yamaguchi Prefecture in September 2019 for the purpose of promoting development of the forest and timber industry in Nagato City in order to revitalize the local economy.

In April 2017, the Forestry Agency selected Nagato City was selected as a region to turn forestry and timber industry to a growth industry by the Forestry Agency and has worked toward that goal. The Nagato City launched a committee to promote turning forestry and timber industry to a growth industry with various subcommittees to conduct repeated assessments through local representatives and experts toward revitalization of forestry.

The partnership agreement between Sumitomo Forestry and Nagato City aims to increase local production of raw wood, secure and train forestry workers, and expand timber demand. By treating the forests throughout Nagato City as a single entity, we will also execute efficient forest maintenance and promote sustainable forest management to further turn forestry to a growth industry.

(Partnership Agreement Overview)

- Promote harvest and replanting
- Stably produce and use container seedlings
- Develop and standardize container seedling production technology and train business operators
- Establish and manage organizations central to forest management
- Identify the quantity of forest resources and the intention of forest owners
- Adopt and effectively utilize ICT in forestry and wood material industries
- Adopt and effectively utilize forestry machinery in forest operations
- Take advantage of business approaches that heighten motivation of forest owners and forestry businesses
- Secure human resources and support their retention in forestry and timber industries
- Build a cooperative supply chain with local city sawmills and other forestry businesses
- Drive demand for timber produced locally both inside and outside of the city

Partnership Agreement for Forestry and Timber Industry with Nagano Prefecture

Sumitomo Forestry entered into a partnership agreement for forestry and timber industry with Nagano Prefecture in December 2019 for the purpose of revitalizing the local economy by nurturing sustainable forests.

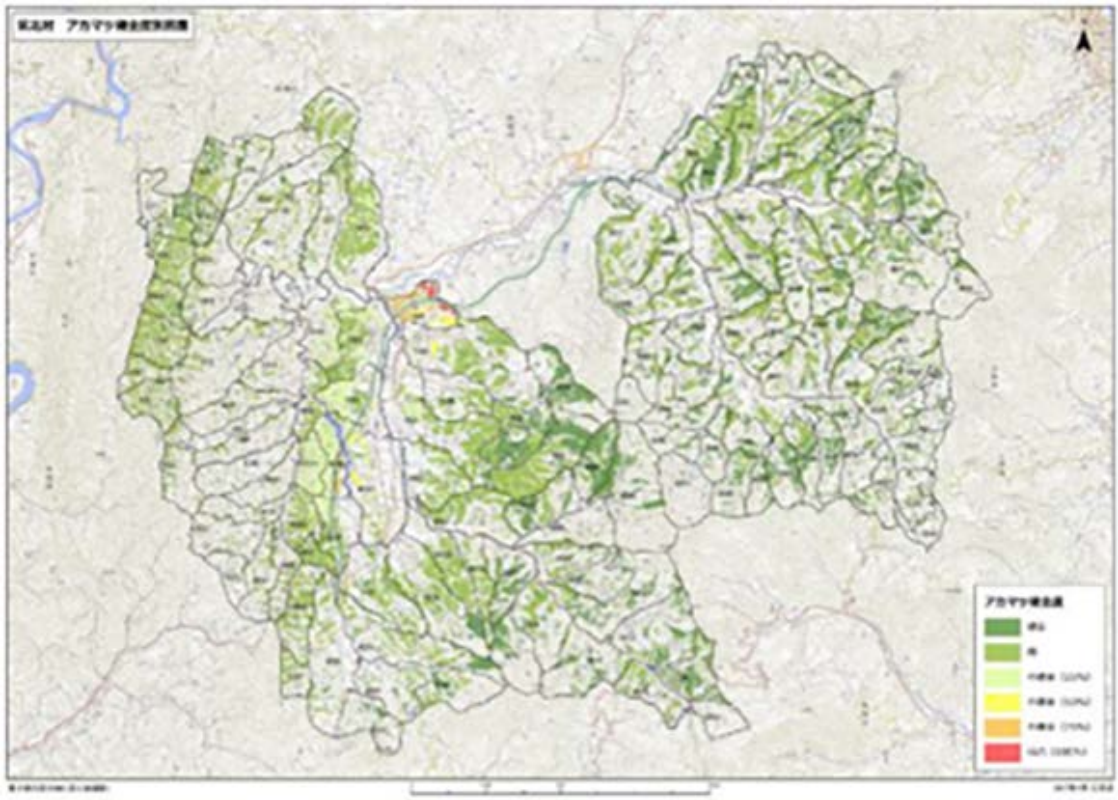
Nagano is one of only a few prefectures in Japan that has 1.06 million hectors of forest (third largest forest area in the nation). This prefecture is pushing forward a wide range of measures to revitalize forestry in recent years founded in Japanese larch and other plantation forest resources. Nagano is advancing distinct initiatives from the "Nagano Model" smart precision forestry to adopt ICT into forestry as well as the Nagano F Power Project and Shinshu Premium Japanese Larch sales.

In Nagano Prefecture, Sumitomo Forestry has not only used a local construction promotion grant to create the Shiojiri City Forest Vision since fiscal 2016 but has also put together major projects for effective forest use. We assessed the quantity of forest resources in Chikuhoku between fiscal 2016 to fiscal 2018 and created the Basic Chikuhoku Forest and Forestry Plan according to a poll on the intentions of forest owners. The conclusion of this partnership agreement will promote a higher level of forest business management, forestry and wood material industries, deepen cooperation between each field of technical development and research, strengthen raw wood production capabilities in Nagano Prefecture, heighten demand for Nagano timber, and train forestry workers.

(Partnership Agreement Overview)

1. Define items related to proper forest business management
   (1) Exchange information and cooperate in technology related to a forest business management system (new forest management system)
   (2) Interact and cooperate with human resources
2. Define items related to the revitalization of forestry and wood material industries
   (1) Work together to regulate the supply and demand of seedlings
   (2) Work together toward the effective use of forestry machinery
   (3) Work together to facilitate higher labor saving and efficiency of forest operations
   (4) Work together to promote use of Nagano timber in fields other than housing
3. Define items related to the technological development and research of forest and wood materials
   Work together across various technological development and research fields related to forests and timber from cutting to replanting and cultivation, such as labor-saving techniques and technology to preserve large and quality trees.

Case examples of the basic Chikuhoku research (surveys on the health of Japanese Red Pine/Surveys on the intentions of forest owners)



Overseas Case Example

Corporate needs for forest management are diverse. In recent years, a considerable number of companies have been conducting forest conservation and planting activities in developing countries to mitigate the impact on forests in overseas countries and regions where they engage in various business activities, and to otherwise fulfill their corporate social responsibilities.

Drawing on its knowledge of forest management in Japan and overseas, Sumitomo Forestry implements its consulting business for the restoration of degraded forests in tropical regions, the rehabilitation of biodiversity, and for the protection and cultivation of forests that takes into account local communities.

Mitsui Sumitomo Insurance Co., Ltd.'s Paliyan Wildlife Sanctuary Reforestation Project (Environmental Reforestation / Social Forestry)

Mitsui Sumitomo Insurance Co., Ltd. has been involved since 2005 in efforts to restore the devastated forests in the Paliyan Wildlife Sanctuary (Gunung Kidul Regency in the Special Region of Yogyakarta) in Indonesia. Sumitomo Forestry has provided associated consulting services.

During the first phase of activities to March 2011, around 300,000 trees were planted on 350 hectares of land. As second phase of activities since April 2011, with a goal of creating a framework for local people to voluntarily protect their abundant forest areas, Sumitomo Forestry has been providing support for an agricultural guidance program aimed at improving the livelihoods of local residents, the establishment of an inclusive organization to examine ways of managing protected forests, and an environmental education program in cooperation with local schools. As third phase of activities since April 2016, we have been supporting additional planting in areas with few trees in protected forests as well as social forestry through local communities around protected forests. We are also furthering the seedling cultivation at local special needs schools.

As part of this project, the Company has also opened the doors to its plantation forests, seminar house and other related facilities in a positive effort to make information on its experiences and know-how on forest restoration available to the public. These have been well attended by local elementary and middle school students, by Indonesian and foreign university students and experts in such fields as forestry, the environment and education, as well as by many government officials.

Seedling farm set up at a special needs school to cultivate seedlings together with the special needs school students.

Technical Support (Citizen Participation Type Reforestation) Consulting Services Related to Indonesian Forestry Conservation Plans Through Environment Programs for Free Capital Assistance (Environmental Reforestation / Social Forestry)

The Japan International Cooperation System is working in citizen participation type reforestation in Manupeu Tanah Daru National Park and Laiwangi Wanggamet National Park in Indonesia (East Nusa Tenggara), Bromo Tengger Semeru National Park (East Java) and Gunung Ciremai National Park (West Java) over five years starting in 2015. Sumitomo Forestry has been involved as a consultant in these activities. Reforestation was conducted in 2015 and fiscal 2016. In fiscal 2017, Sumitomo Forestry implemented fire prevention measures through maintenance such as cutting grass, patrols, and environmental education for citizens. We also engaged in efforts to raise awareness of local residents about preserving the environment and forests while also building a conservation system with the participation of the local community as a way to further the conservation of plantation forests in the future. Sumitomo Forestry handed over the project results to the Indonesian government during fiscal 2019, and the local efforts were completed in March 2020. We have summarized the knowledge obtained through this project in a book distributed to all relevant agencies in Indonesia in order to help future forest conservation efforts.

▶ Biodiversity Conservation in Company-Owned Forests in Japan and Plantation Forests Overseas

Presenting a Textbook Providing This Project Knowledge

Environmental Education for Local Elementary School Students (Manupeu Tanah Daru National Park)

Reforestation Activities Contributing to the Society

Reforestation Activities Contributing to the Society

Distribution of Free Seedlings and Buy Back Guarantee of Logs

Indonesian Group companies KTI and RPI distribute free tree seedlings to local communities guaranteeing that the companies will buy round logs as raw materials at the current market value once the seedlings grow into harvestable woods. In November 2015, KTI's aforementioned operations were recognized by the Indonesia Ministry of Environment and Forestry and awarded the Minister's Prize for contributing to local communities by generating stable income while protecting communal societies as well as environments.

Local KTI Staff Celebrate the Minister's Prize

Number of Seedling Stocks Given to Indonesia

Company	FY2019 result
KTI	470,000 trees
RPI	15,000 trees

Promoting Certification of Forests Together With Local Communities

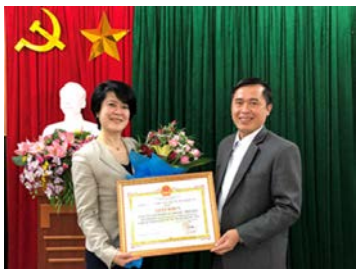
KTI organized KSU ALAS MANDIRI KTI (KAM KTI)*, which is a community plantation cooperative association. In 2008, KTI obtained the first FSC®-FM certificate for the 152-hectare plantation and has expanded its certification to 1,005 hectares in 2015. Koperasi Bromo Mandiri-KTI (KBM KTI)*, which is a second reforestation cooperative with the same certification, acquired a certificate for 206 hectares in January 2017. In 2020, the area expanded to 1,003 hectares and it has been supplying raw wood to KTI. The area of certified forest has reached a total of 2,008 hectares. These certified forests will strengthen the manufacture and sale of products with high environmental value based on a growing supply of certified timber materials.

View of Plantation Site

* KAM KTI: FSC-C023796, KBM KTI: FSC-C133562

Contributing to Reforestation in Collaboration with Governments

Since 2013, Sumitomo Forestry has teamed up with the Japan International Cooperation Agency (JICA) to engage in forest management activities with Dien Bien Province in Vietnam, including forest conservation and planting of deforested areas. Our comprehensive support has also included livelihood assistance to help reduce excessive dependency on forests. Among Vietnam's poorest areas, Dien Bien has suffered severe forest depletion due to practices by local residents such as expansion of farmland and burning of fields. Given its importance as the location of a hydroelectric generator dam and sources of water crucial for all of Vietnam, however, we assist with a portion of the support that JICA provides to the province, such as the formation of organizations to protect forests, conservation activities, forest planting, fruit tree and vegetable cultivation support, as well as helping to provide feed for fish and livestock. As of fiscal 2019, we had reforested a total of approximately 28.8 hectares in six locations.



Award ceremony

In Dien Bien Province, where open livestock grazing has been the local custom, the resulting damage to planted tree seedlings has become an issue as it prevents them from taking root and growing. We are therefore promoting a forestation model that introduces the use of protective barriers. The seedling survival rate has increased compared to previous forestation models, thus confirming the effectiveness of the forestation model using protective barriers. The results have been acknowledged by the provincial Rural Agricultural Development Bureau, and received an award in October 2018.

Environmental Energy Business

Business Overview

In the renewable energy field, the Sumitomo Forestry Group is focusing development particularly on the wood biomass power generation business, which uses fuel such as wood chips made from waste building materials or unused timber from forests.

Main Business Figures (FY2019 Result)

Power generation capacity (based on fixed cases)

Value Chain of Environmental Energy Business

Procurement

The Sumitomo Forestry Group aims to further use of scrap wood produced during construction and renovation of housing and unused forest resources as fuel for wood biomass power generation plants to generate energy and promote the business while also enhancing forest value.

Relevant Social Issues

We promote the use of construction debris and unused forest resources, generating fresh demand for timber at the fuel procurement stage of the energy business, evitalizing the timber industry, which is a crucial issue for local businesses.

Relevant Sustainability Initiatives

▶ Procurement Initiatives

Production

The Sumitomo Forestry Group strives to recycle wood waste into wood resources through our business operations supplying chips as fuels including for biomass power generation plants. We make chips from waste wood such as offcuts produced in the logging process for timber as well as wood waste produced on construction sites, in addition to unused forest resource from plantations.

Relevant Social Issues

The Sumitomo Forestry Group strives to develop and standardize renewable green energy while expanding the applications for wood and increasing its asset value.

Relevant Sustainability Initiatives

▶ Procurement Initiatives

Power Generation/ Wholesales

The Sumitomo Forestry Group aims to build a 300 MW power generation capacity system in the future. The wood biomass power generation business at the core of these efforts is expanding our energy business by leveraging the characteristics and conditions of each area in five regions.

Relevant Social Issues

Insufficient supply of clean, sustainable energy services is now seen as a social challenge. The trend toward expansion of renewable energy is not only occurring in Japan but worldwide. However, many countries are still in the middle of trials for renewable energy.

Our Group strives to expand and standardize the renewable energy business.

Relevant Sustainability Initiatives

▶ Contributing to the Reduction of Greenhouse Gases Through the Renewable Energy Business

Procurement Initiatives

Promoting the Use of Unused Forest Resource

Unused forest resource is left-over wood biomass generated from logging or thinning of standing trees in forests. Wood biomass power generation plants are operating in each area and the demand for wood biomass is growing following the adoption of the FIT law (Feed-in Tariff for Renewable Energy). By using unused forest resource, we can expect an effective increase in the value of forests while also promoting renewable energy. In fiscal 2019, the Group used 284,000 tons of unused forest resource. We will continue to work on building up systems for the efficient, stable collection of unused forest resource.

Amount of unused forest resource from domestic forest (FY2019)

284kt

Unused forest resource

Adoption of High-Performance Silviculture Machines

Effectively Extracting Unused Forest Resource

Mombetsu Forestry Office introduced Scandinavian harvesters and forwarders able to turn in small circles in 2015 to begin efforts to deliver log harvest/thinnings (unused forest resource) as biomass power generation plant fuels.

Moreover, by selecting forestry equipment with high-level driving performance in narrow forest areas, operators are able to execute all harvesting and transport operations while on the machine. We consider this is an initiative that improves safety and will play a role even in eliminating occupational injuries.

Scandinavian harvester*1

Scandinavian forwarder*2

*1 Self-propelled high-performance forestry machine that brings together each operation to cut, de-limb, and vertically cross-cut*3 timber, which had traditionally been done with a chainsaw

*2 Self-propelled high-performance forestry machine that collects and feeds vertically cross-cut timber on a cargo bed

*3 To cut crude timber to a standard length

Fuel Manufacturing (Chips, Pellets)

New Wood Pellet Company Established to Use Unused Forest Resource for Electric Power Generation Fuel

Forests are approaching the cutting cycle throughout Japan while the challenge is the cycle of these forests from harvest through use and reforestation. Encouraging further use of forests from use of unused forest resource to other wood resources helps realize a sustainable society.

The Sumitomo Forestry Group leverages the wood procurement network throughout the entire Group. This led to a joint venture with the Electric Power Development Company to establish a manufacturing and sales company for wood pellets*1 in July 2018. The new company aims for use of unused forest resource from forests in Japan*2 as fuel for power generation in addition to examining the largest wood pellet supply system in Japan for the purpose of commercialization by 2021. Proper management of forests and a stable supply of domestic timber secure sources for sustainable wood resources.

Forests have a variety of public welfare benefits from the production of timber to the cultivation of groundwater, the prevention of sediment run-off and absorption of carbon dioxide. Through these efforts, Sumitomo Forestry and Electric Power Development Company promote domestic reforestation and regional revitalization as well as sustain and conserve the social welfare functions of forests by using unused forest resource as renewable energy.

*1 Wood ground, dried and compressed into a pellet form

*2 Unused wood biomass generated from logging or thinning of standing trees in forests

▶ Material Issue 1: Ongoing Timber and Materials Procurement that Considers Sustainability and Biodiversity

Production with Consideration for Environmental Conservation

Japan Bio Energy Co., Ltd. Recognized as Superior Industrial Waste Disposal Operator

Japan Bio Energy Co., Ltd., which manufactures and sells wood biomass chips, was recognized as a superior industrial waste disposal operator in May 2016 by Kawasaki City.

The system to recognize superior industrial waste disposal operators evaluates and certifies superior industrial waste disposal operators through the prefecture or city. In order to receive this recognition, the business must satisfy a full set of criteria including legal compliance, business transparency, efforts in environmental friendliness, and a healthy financial strength. The validity of certification in industrial waste disposal is extended from five to seven years by receiving recognition through this system.

Rovander Foundation Filler Made with Incineration Ash, Has Been Certified As a Hokkaido Government-Certified Recycled Product

At Mombetsu Biomass Electric Power Co., Ltd., incinerator ash emitted by the biomass boiler is used to manufacture foundation fill material (product name “Rovander”) for forest roads. This environmentally-friendly product is aimed at building a cyclical operation in which the amount of waste is controlled, reducing environmental impact by helping maintain forests using a by-product of power generated with timber resources.

In addition, Rovander has been recognized as meeting environmental safety standards, and is a Hokkaido Government-certified Recycled Product.

The Hokkaido Government-certified Recycled Product mark

Contributing to the Reduction of Greenhouse Gases Through the Renewable Energy Business

Basic Policy

Sumitomo Forestry joined the international RE100 initiative that aims for 100% renewable energy in March 2020. We aim to utilize 100% renewable energy for the electricity used in our Group business activities and for the fuel used in our power generation operations by 2040.

The Sumitomo Forestry Group is advancing renewable power generation by establishing solar power generation systems at model homes as a prerequisite for power use at companies in addition to its wood biomass power generation and solar power generation businesses.

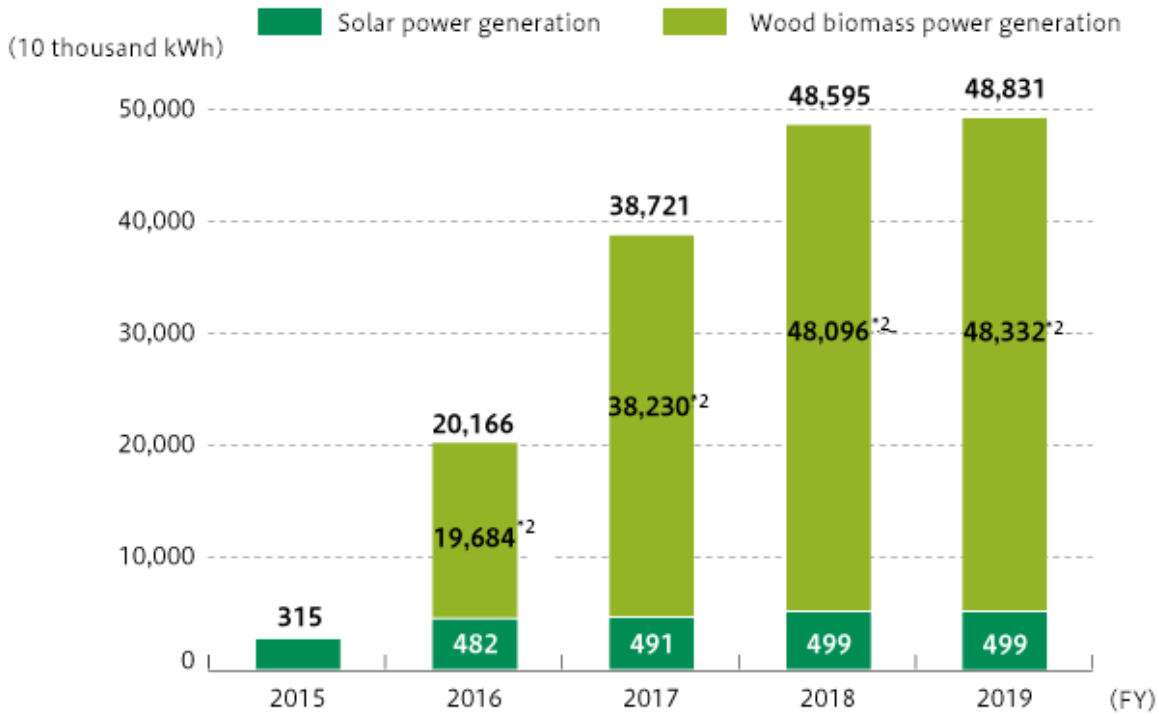
In fiscal 2019, the combined output of power generation that resulted from all of these efforts was 488,310,000kWh.

The amount of CO_2 emissions reduced by power generated businesses.

99,483 t-CO_2e

* CO_2 emission reductions compared to the electricity purchased from power companies. These emissions are calculated using the CO2 emission coefficients of mainly Hokkaido Electric Power and Tohoku Electric Power.

Trends in the Amount of Renewable Energy Generation*1



*1 Results are only for solar power generation in fiscal 2015

*2 The amount of electricity generated from wood biomass power generation covers only consolidated subsidiaries and includes the use of coal as an auxiliary fuel to ensure smooth operation and maintenance

- HIGHLIGHT 5: Aiming for 100% Renewable Energy by 2040
- Material Issue 3: The Reduction of the Environmental Impact of Our Business Activities

Wood Biomass Power Generation Business

The Sumitomo Forestry Group operates wood biomass power generation facilities that are fueled by recycled chips primarily using leftover from construction as raw materials, wood not suitable as a building material, and thinning leftover in forests and other unused forest resource.

The CO_2 emitted by burning wood does not contribute to CO_2 in the atmosphere as part of the life cycle of the timber because the CO_2 in the atmosphere is absorbed through photosynthesis as the trees grow (concept of carbon neutrality). Therefore, the Group has been engaged in wood biomass power generation as a type of business that contributes greatly to the advancement of forestry, such as the effective use of wood, reductions in CO_2 emissions and the maintenance of local forest environments.

In February 2011, the Sumitomo Forestry Group entered this sector with the operation of the urban-oriented Kawasaki Biomass Power Generation Plant (generation capacity: 33 MW), which primarily uses scrap construction wood as fuel. Thereafter, full operations began at the Mombetsu Biomass Power Plant in December 2016 with a generation capacity of 50 MW, the Tomakomai Biomass Power Generation Plant in April 2017 with a generation capacity of 6.2 MW and the Hachinohe Biomass Power Generation Plant in April 2018 with a generation capacity of 12.4 MW. All of these plants generate power primarily from unused forest resource from Japan. Once the Kanda Biomass Power Generation Plant begins full operation in 2021, the Group will have a total power generation capacity of roughly 177 MW, which will supply electricity to approximately 374,000 households.

Drawing on past experience in the wood biomass power generation business, the Group will continue to expand renewable energy business operations suited to local conditions and other requirements, aiming to build a power generation system with a capacity of 300MW primarily generated from wood biomass.

Mombetsu Biomass Power Plant

Hachinohe Biomass Power Generation Plant

The Group's Wood Biomass Power Generation Business

Business	Location	Power generation capacity	Start of operations	Main features
Kawasaki Biomass Power Generation Business (Joint investment with Sumitomo Joint Electric Power Co., Ltd. and Fuluhashi EPO Corporation)	Kanagawa Prefecture Kawasaki City	33MW	February 2011	• Largest biomass power generation facility in Japan that primarily burns scrap wood as fuel • Utilizes recycled chips produced from construction debris and waste pallets from Tokyo and surrounding suburbs, as well as pruned branches • Equipped with environmental mechanisms, such as flue gas desulfurization equipment, an exhaust gas denitrizer and a bag filter, the urban-sourced biomass power generation plant clears Kawasaki City's strict environmental standards

Business	Location	Power generation capacity	Start of operations	Main features
Mombetsu Biomass Power Generation Business (Joint investment with Sumitomo Joint Electric Power Co., Ltd.)	Hokkaido Mombetsu City	50MW	December 2016	• Unused timber and forest material is primarily procured from within a 75km radius of the power plant and turned into chips at an adjacent plant before being used as fuel. • Palm kernel shell, plus some coal is also partially used as an auxiliary fuel
Tomakomai Biomass Power Generation Business (Joint investment with Mitsui & Co., Ltd., Iwakura Corporation and Hokkaido Gas Co., Ltd.)	Hokkaido Tomakomai City	6.2MW	April 2017	• All of the fuels are from unused forest resource in Hokkaido.
Hachinohe Biomass Power Generation Business (Joint investment with Sumitomo Osaka Cement Co., Ltd. and East Japan Railway Company)	Aomori Prefecture Hachinohe City	12.4MW	April 2018	• Unused forest resource from forestlands in the Sanpachi-Kamikita-Shimokita region of Aomori Prefecture, timber offcuts, and railway forest thinnings from the nearby railway lines will be used as the main source of fuel • Some palm kernel shell will be used
Kanda Biomass Power Generation Business A joint capital venture between Renova Inc., Veolia Japan K.K., Kyuden Mirai Energy Co. Inc., and Mihara Group K.K.	Fukuoka Prefecture Miyako District	74.9MW	June 2021	• Fuel uses thinnings and unused forest resource from northern Kyushu in addition to American pellets and Indonesian palm kernel shell

Solar Power Generation Business

Sumitomo Forestry owns a solar power generation facility that generates 3,429 kW in Kashima City, Ibaraki Prefecture.

The Company gives consideration to mitigating the environmental impact of the power generation facility and expanding applications for the use of timber by installing some wooden mounting frames that are mainly made of domestically produced Japanese cedar.

Solar panels and environmentally friendly wooden frames

Business Responding to the Super-Aging Society

Contributing the Super-Aging Society Through Our Business

The rate at which Japan's population is aging continues to accelerate even after having become a super-aged society in 2010. In October 2018, the aging rate reached 28.1%*, and is estimated to exceed 30% by 2025. This rapidly advancing trend toward a super-aged society is one of the most critical societal issues Japan faces.

In order to address this issue, we are making use of the experience and knowledge in creating comfortable living spaces that we have cultivated over many years in the housing business. We apply this know-how as we strive to enhance both quality and quantity in implementing various services centering on enabling the elderly to continue living with vitality for every possible day in safely living environments.

* Source: Annual Report on the Aging Society, 2019 ed.

Expanding Services for Customer Need

Sumitomo Forestry provides long-term care for the elderly through Sumirin Fill Care Co., Ltd. (Shinjuku-ku, Tokyo) and Sumirin Care Life Co. (Chuo-ku, Kobe).

Sumirin Fill Care provides comprehensive services to each resident through staff arrangement that exceeds the number required under nursing care insurance standards. In May 2018, Gran Forest Nerima-Takamatsu opened as the 16th private-pay elderly care facility, with nursing care and day services. The facility provides 766 living spaces through Sumirin Fill Care. During the three years since fiscal 2016, it has added 322 living rooms to the total by opening five private-pay elderly care facilities with nursing care within the 23 wards of metropolitan Tokyo and one facility in Kobe. The company is operating a total of three day-care facilities for the elderly.

Sumirin Care Life Co. has operated three large-scale private-pay elderly care facilities in Kobe that combine independent living and nursing care services up until now. Sumirin Care Life has at least double the number of staff on duty as required under nursing care insurance standards. With staff on site 24 hours a day, all facilities also include partnerships with participating general hospitals as part of the high level of overall service provided. The quality of service has earned high praise from external institutions. Elegano Nishinomiya, an elder residential facility with 309 living rooms and peripheral services, opened in Nishinomiya City, Hyogo Prefecture in May 2020. Elegano Nishinomiya brings the number of living spaces available in combination with the existing four facilities to a total of 998 rooms. The company also operates a total of seven Service Stations offering in-home nursing such as visiting nurse services, and day-care services.

The Mid-Term Sustainability Targets increase the total number of living spaces through the construction of new facilities with the goal of expanding service in the future.

The total number of living spaces
FY2021 Target
2,014rooms

The total number of living spaces
FY2019 Results
1,455rooms

Gran Forest Nerima-Takamatsu

Efforts to Help Extend Healthy Lifespans from the Customer's Perspective —Providing Visibility Using ICT, and Health Maintenance Programs with Specialist Support—

With the segment of the population requiring nursing care expected to increase drastically from 2025, when all members of the Baby Boom generation will have reached old age, attention is focusing on a wide range of efforts to help the elderly maintain activities for daily living (ADL) and extend their healthy lifestyles.

Sumirin Fill Care is adopting the ICT-equipped Life Rhythm Navi*1 Plus Doctor resident monitoring system in private-pay elderly care facilities that have opened since fiscal 2016. The system analyzes data from numerous sensors such as bed sensors, motion-detection sensors, and temperature/humidity sensors. It provides a detailed real-time grasp of the interior environments of living spaces, as well as residents' sleep states and activities, converting all of this information into data.

Bringing “visibility” to resident monitoring data in this way can be useful in preventing falls and in keeping up on the condition of each resident. Advice from specialized medical institutions based on the data makes it possible to effectively maintain and improve the medical condition of each patient. Also, implementing the system in conjunction with nurse-call functions enables unified management of information from residents, enhanced information sharing and collaboration among staff, which is expected to help reduce staff workloads.

A system using Sumirin Fill Care's Life Rhythm Navi Plus Doctor won the highest honor in the Living of the Year 2017 prize contest (hosted by the Council of Senior Housing Industry Executives) for advanced systems using ICT. In fiscal 2018, Sumirin Fill Care made still more progress with this system, developing and making available the Forest Life daily health support service program.

Forest Life focuses attention on four elements that determine healthy lifespans: high-quality sleep, comfortable living environments (air quality), healthy diet (swallowing function*2) and appropriate exercise (walking function). This is a service aimed at extending the healthy lifespans of residents by using ICT technology to bring visibility to their status in terms of these four elements, in combination with guidance by doctors and rehabilitation specialists based on data that has been rendered “visible”.

In fiscal 2018, the system was adopted in a verification trial at Gran Forest Gakugei Daigaku, a private-pay elderly care facility operated by Sumirin Fill Care. In fiscal 2019, this program expanded to Sumirin Fill Care private-pay elderly care facilities with nursing care services that have opened since fiscal 2016, aiming to adopt and provide Forest Life in all of its facilities.

Life Rhythm Navi

*1 Life Rhythm Navi is a registered trademark of EcoNaviSta Ltd.

*2 The function by which food in the mouth is transported to the stomach.

Elderly Living Spaces Combining the Sumitomo Forestry Group Living Environments and Nursing-care Expertise: Elegano Nishinomiya Opens as the Largest Elder Residential Facility with Peripheral Services in Japan

Elegano Nishinomiya is a mixed-use facility combining our own nursing-care insurance business. The facility also offers a lifestyle program that brings the peace of mind necessary for nursing-care to a wide range of residents from those living independently to those needing assisted living or nursing care. A variety of innovations are intended to help all residents' live more energetic lives.

These facilities employ the living environment expertise cultivated at the Sumitomo Forestry Group. The vaulted dining room where daily meals are served has a private Japanese-style dining space where residents may share meals with their family surrounded by the warmth of wood. Elegano Nishinomiya also incorporated housing exteriors and a promenade (playground) emanating the feel of the changing seasons through a design created with the help of Sumitomo Forestry Landscaping. On the care floor terrace for residents requiring long-term care, there is a garden with flowers to enjoy while sitting in a wheelchair. These ingenuities bring the joy of green spaces to everyone. The nursing-term care living spaces are equipped with bedside tables that encourage more pleasant sleep through the power of wood and indirect lighting (researched and developed by the Tsukuba Research Institute).

More enhanced medical support is available to all residents from neural examinations through an MRI for the early detection of dementia and tumor maker tests that help with the early diagnosis of cancer. To maintain the health of residents, the exercise room provides water beds that offer massages through the power of water and various other prevention training machines right for seniors in addition to lessons from sports instructors.

Liberal arts programs offer everything from games like go and mahjong to pottery, watercolor painting, calligraphy and flower arrangement classes. Skilled artisans teach the programs that residents can choose from various times throughout the day according to their skill level and health whether beginner or a person who requires long-term care. College and graduate students majoring in music from Kobe College also perform regular concerts.

All units are all equipped with Wi-Fi environments as a new service to distribute information through a channel dedicated to Elegano Nishinomiya. Beds for residents requiring nursing-care are also fitted with sleep sensors from Paramount Bed to collect sleep data, which helps support the daily health of residents.

Sumirin Care Life enhances living environments so that each resident can live life in their own way. We are also advancing even more high quality services by unifying nursing-term and nursing staff, external medical institutions, expert teachers, nutritionists, care managers and many other professionals.

Exterior view of Elegano Nishinomiya

Vaulted Dining Room

Outdoor Terrace to Easily Enjoy the Garden Even in a Wheelchair