

E: Environment

Recognizing environmental issues as important management issues, the Yamaha Group is committed to continuing its contribution to the realization of a better global environment based on its Yamaha Group Environmental Policy. Yamaha is engaged in initiatives through its business activities, products, and services to respond to shared global issues, such as climate change, biodiversity, and the promotion of recycling-oriented society. At the same time, Yamaha is involved in environmental conservation activities, such as the reduction of emissions of chemical substances, prevention of leaking of hazardous materials, the appropriate use of timber, forest preservation, and other activities that contribute to preserving the environment.

Environmental Management

Environmental Policy

The Yamaha Group recognizes that a healthy global environment is imperative to the continuity of its business activities and the sustainability of society. Accordingly, we have established the Yamaha Group Environmental Policy, which defines the environmental issues that the Group should prioritize and describes the approach to be taken in addressing these issues. Initiatives based on this policy are incorporated into our medium-term management plan and into the action plan of individual divisions to guide concrete action.

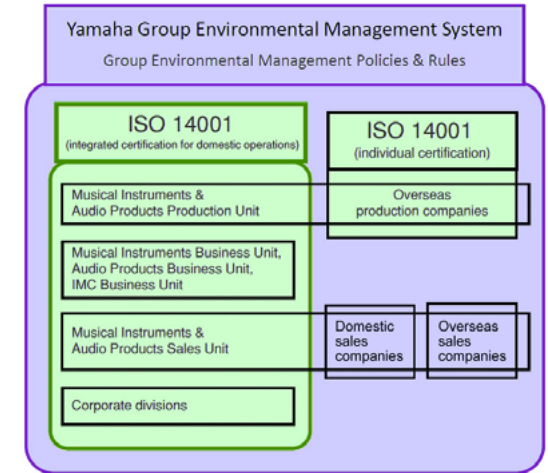
The Yamaha Group Environmental Policy is approved by the president following discussion by the Managing Council of Yamaha Corporation.

[Yamaha Group Environmental Policy >](#)

Environmental Management Systems

The Yamaha Group has created a system for promoting global environmental preservation activities that is overseen by the individual responsible for environmental issues at Yamaha Corporation. In addition, the Working Group for Climate Change, the Working Group for Resource Circulation, and the Working Group for Procurement were established under the Sustainability Committee, which is chaired by the president. These working groups engage in discussions regarding important sustainability issues, such as climate change response and sustainable resource use and procurement, and report on these matters to the Board of Directors. Based on the Group Environmental Management Policies & Rules, we have established an integrated environmental management system for all domestic business sites while overseas sites develop their own environmental management systems. These systems entail the formulation of business site-specific environmental goals along with priority measures and action plans for accomplishing these goals, which shape actual initiatives. The status of these initiatives and the issues faced are confirmed through internal environmental audits to drive a process of ongoing improvement and enhancement of these initiatives. The Environmental Division of Yamaha Corporation is responsible for supporting and leading Groupwide environmental activities. To this end, the division gathers information on regulatory and social trends related to the environment, enacts Groupwide policies and rules, monitors and audits activities, and provides technical support for introducing environmental facilities and performs environmental measurements.

[Sustainability Promotion System >](#)



Acquisition of ISO 14001 Certification

The Yamaha Group has acquired certification under ISO 14001, an international standard for environmental management systems. As of March 31, 2023, Yamaha Corporation and 22 domestic and overseas Group companies had acquired certification. These companies account for approximately 95% of the Group's greenhouse gas emissions (Scope 1 and Scope 2).^{*1} The Group believes that the current scope of certification acquisition is sufficient considering its own environmental load, laws and regulations, and other matters. Going forward, this scope will be expanded as necessary when constructing business sites that may have a large impact on the environment.

^{*1} New production sites (Yamaha Music India Pvt. Ltd. and PT. Yamaha Musical Products Asia) are slated to acquire certification by fiscal 2025.

ISO 14001-Certified Sites

Yamaha Corporation Business Sites in Japan

| Site | Acquisition Date | Integrated Certification Acquisition Date |
|---|------------------|---|
| Takegawa Factory | November 1998 | November 2010 |
| Toyooka Factory (including Yamaha Hi-Tech Design Corporation) | June 2000 | November 2010 |
| Headquarters area | February 2001 | November 2010 |

Domestic Group Manufacturing Companies

| Site | Acquisition Date | Integrated Certification Acquisition Date |
|--|------------------|---|
| Yamaha Fine Technologies Co., Ltd. | March 2001 | November 2010 |
| Sakuraba Mokuzai Co., Ltd. | September 2002 | November 2010 |
| Yamaha Music Manufacturing Japan Corporation | August 2014 | August 2014 |
| Kitami Mokuzai Co., Ltd. | August 2014 | August 2014 |

Resort Facilities

| Site | Acquisition Date | Integrated Certification Acquisition Date |
|--------------------|------------------|---|
| Yamaha Resort Inc. | November 2001 | August 2011 |

Overseas Group Manufacturing Companies

| Site | Acquisition Date |
|---|------------------|
| Yamaha Electronics Manufacturing (M) Sdn. Bhd. | December 1998 |
| Tianjin Yamaha Electronic Musical Instruments, Inc. | December 1999 |
| PT. Yamaha Musical Products | January 2001 |
| PT. Yamaha Music | December 2001 |
| PT. Yamaha Indonesia | May 2002 |
| PT. Yamaha Music | July 2002 |
| PT. Yamaha Electronics Manufacturing Indonesia | January 2003 |
| Yamaha Electronics (Suzhou) Co., Ltd. | March 2004 |
| Hangzhou Yamaha Musical Instruments Co., Ltd. | May 2012 |
| Xiaoshan Yamaha Musical Instruments Co., Ltd. | March 2013 |

Environmental Education and Training

The Yamaha Group offers a variety of education and training opportunities to employees in an effort to raise their knowledge and skills with respect to the environment. Such opportunities include the general education provided to all employees, specialty education for instructor candidates at production sites, and environmental facilities education and training for individuals in charge of environmental facilities.^{*2} Training is performed throughout the year as needed for specific business sites or processes.

^{*2} Environmental facilities are sites with the potential of polluting the environment should an accident occur. Lists of environmental facilities are compiled at each business site, and facilities are managed accordingly.

Specialized Training for Environmental Preservation Staff

The Yamaha Group has established specialized training curricula for employees engaged in areas that require specialized knowledge, including personnel involved in waste management, wastewater treatment facility operation and management, and chemical substance management. Specialized training sessions are conducted after defining and compiling lists of the skills required for processes that have a particularly large impact on the environment and examining the related educational needs. Furthermore, staff of the Environmental Division of Yamaha Corporation perform follow-up monitoring regarding the education of employees responsible for the aforementioned tasks at overseas factories. For example, wastewater managers at Xiaoshan Yamaha Musical Instruments Co., Ltd., in China have received such specialized training in Japan.

In addition, we provide education related to chemical substance management and the prevention of accidents such as leaks of environmental pollutants based on the Yamaha Group Chemical Substances Usage Standard and the Yamaha Group Environmental Equipment Standards. Emergency response drills are also performed.

Furthermore, Yamaha's technical academy program includes the Eco-design Course for product planners, developers, and designers through which education on eco-friendliness in products is provided.

Internal Environmental Auditor Training

Training for the personnel that carry out activities for self-regulating environmental preservation measures is imperative to improving the operation of our environmental management system. The Yamaha Group invites lecturers from external organizations and holds annual seminars to train internal environmental auditors as an initiative to enhance our

environmental preservation activities.

At business sites in Japan, an aggregate total of 1,212 participants have obtained internal environmental auditor qualification, and of these, 326 employees are still currently employed by the Group, which represents approximately 6% of employees at relevant business sites (as of March 31, 2023).

We also hold an Internal Environmental Auditor Brush-Up Seminar to improve the skills of staff members responsible for internal audits in the given fiscal year.

■ Promotion of Eco-Conscious Activities by Employees

The Yamaha Group provides support and training to improve the environmental awareness of all employees and to promote eco-conscious activities by employees in their daily lives. Environment Month and Environment Day campaigns are held every year in June, and these campaigns are used as opportunities for advancing environmental preservation and education activities through joint labor-management efforts.

In March 2023, outside experts were invited to hold an online seminar for Yamaha Group employees in which lectures were provided on biodiversity, sustainable procurement, and other topics.

[Sustainability Management >](#)

Workplace Environmental Education Activities

To foster environmental awareness among employees, the Yamaha Group implements "Cool Biz" and "Warm Biz" programs aimed at cutting back on unnecessary air-conditioning use by encouraging employees to wear cooler attire in the summer and dress warmer in the winter. In addition, environmental education posters are displayed. The Group also endorses the FUJINOKUNI COOL Challenge, a citizen-driven global warming prevention campaign

implemented in Shizuoka Prefecture, and encourages employees to prevent food loss by eating their entire meal at employee cafeterias and to participate in environmental events.

[Climate Change Response Measures >](#)

Environmental Awareness Activities in the Home

The Yamaha Group works with the Yamaha labor union to promote eco-conscious activities in daily life through projects and tools such as the tracking of eco-conscious household activities; "Smart Life in My Home Commitments" conducted by employees based on themes matched to their homes, such as energy conservation; the "My Eco Commitment Coloring Page" for families with children; and the promotion of Green Eco Curtains at homes.

Response to Climate Change

Climate Change Response Measures

Rapid climate change poses a major threat to humanity and to all life-forms on earth. We recognize that helping combat this threat and contributing to the decarbonization of society are corporate responsibilities and important management issues.

Under the guidance of the Working Group for Climate Change, a working group chaired by an operating officer positioned under the Sustainability Committee, which is chaired by the president, the Yamaha Group is working to contribute to the global movement to reduce CO₂ emissions. At the same time, we are preparing for the potential impact of climate change by identifying risks, formulating mitigation measures, and incorporating these into business strategies. Endorsing the goals of Science Based Targets (SBT),¹⁾ the Group received certification from this initiative for its medium- to long-term reduction targets in June 2019. Later, in September 2021, the Company received certification for a new

greenhouse gas emission target of achieving a reduction of 55% in Scope 1²⁾ and Scope 2³⁾ emissions from fiscal 2018 to be achieved by fiscal 2031, substantially higher than the prior target of a 32% reduction. The certification indicates that this new more ambitious target is viable for limiting global warming to 1.5°C above pre-industrial levels. The move was taken in response to the carbon neutrality trends of the international community. Furthermore, the Group declared its endorsement of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)⁴⁾ in June 2019 and commenced initiatives for analyzing the impact of climate change on its finances and disclosing related information.

Going forward, the Yamaha Group will continue to seek to achieve net zero emissions in its operations and across its value chains. At the same time, we will strive to create products, services, and business models that help mitigate climate change and promote the decarbonization of society through energy-efficient products and other means.

Moreover, we will conform our initiatives to the Keidanren Carbon Neutrality Action Plan, which was released by Keidanren, an organization to which Yamaha is a member. The Company has also joined the Japan Climate Initiative and declared its participation in the GX League.

Products that Promote the Decarbonization of Society

Yamaha Fine Technologies Co., Ltd., is engaged in the development, manufacture, and sale of leakage detection systems for the lithium-ion batteries used in hybrid electric vehicles, plug-in hybrid vehicles, and battery electric vehicles. These systems are imperative to the safe electrification of vehicles.



Lithium-ion battery leakage detection system



*1 SBT is an international initiative that encourages companies to formulate greenhouse gas emission reduction targets in accordance with scenarios based on scientific evidence to contribute to the accomplishment of the goals of the Paris Agreement.
 *2 Scope 1 emissions are direct greenhouse gas emissions from a business operator through sources such as fuel use on company premises.
 *3 Scope 2 emissions are indirect greenhouse gas emissions from use of electricity, heat, and steam supplied by third parties.
 *4 TCFD is a task force created by the Financial Stability Board that has released recommendations aimed at facilitating appropriate investment decisions through disclosure of the potential financial impacts of climate change.

[Yamaha Eco-Products Program >](#)

Greenhouse Gas Emission Reduction Initiatives

Yamaha Corporation and domestic production sites are advancing energy conservation and other initiatives in manufacturing processes and at offices to achieve the long-pursued target of reducing CO₂ emissions per unit of production by 1% or more each year. For example, we have been introducing renewable energy at our business sites, and were thereby able to transition to renewable energy for 100% of the power used at the Company headquarters in April 2021. We then later switched to Shizuoka Green Electricity, a service that supplies electricity produced through hydroelectric power generation in Shizuoka Prefecture offered by Chubu Electric Power Miraiz Co., Inc., in September 2021. Furthermore, an internal carbon pricing system was implemented in 2022. At overseas production sites, quantitative reduction targets are set on an individual-site basis, and proactive initiatives are being implemented toward the accomplishment of these targets.

In advancing emission reduction initiatives, we manage greenhouse gas emission volumes in accordance with the Greenhouse Gas Protocol.^{*5} In addition, third-party verification has been received for Scope 1 and Scope 2 emissions and certain Scope 3 emissions since fiscal 2017.

*5 The Greenhouse Gas Protocol is a set of standards for calculating and reporting greenhouse gas emission volumes.

[Third-Party Verification >](#)

Greenhouse Gas Emission Reduction Targets, Measures, and Results

Reduction Targets (SBT-Certified)

- Reduce total Scope 1 and Scope 2 greenhouse gas emissions by 55% from fiscal 2018 levels by fiscal 2031 (achieve effective carbon neutrality by fiscal 2051)
- Reduce total Scope 3^{*6} greenhouse gas emissions by 30% from

fiscal 2018 levels by fiscal 2031

*6 Scope 3 emissions are indirect greenhouse gas emissions from areas of the supply chain not accounted for under Scope 1 and Scope 2.

Major Reduction Initiatives

- Energy-saving initiatives including optimization of production methods and equipment placement, installation of highly energy-efficient equipment and LED lighting, and exhaustive management of facility operation times, air-conditioning temperatures, and other energy consumption factors
- Introduction of cogeneration systems and solar power generation systems
- Transition to fuel sources with low greenhouse gas emissions
- Switch to purchasing renewable energy
- Facilitate investment in high-efficiency and renewable energy equipment through internal carbon pricing system
- Improvement of transportation efficiency and shift to low-carbon transportation methods (ships and trains) in distribution
- Development of energy-efficient products (reduction of emissions from large-volume Scope 3 emissions category (product use))



Logo for Shizuoka Green Electricity service providing carbon-free electricity produced in Shizuoka Prefecture



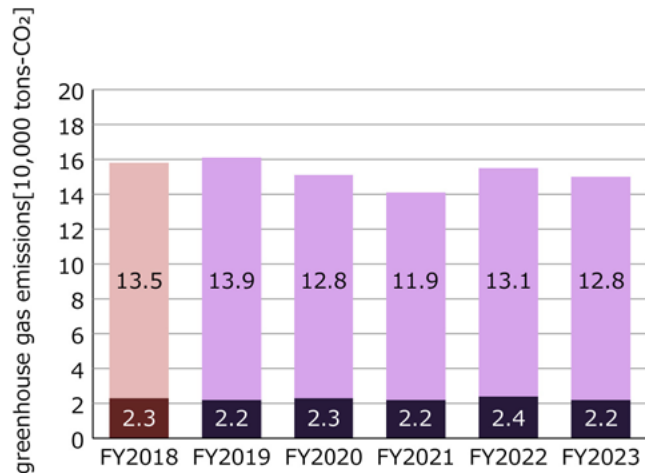
100% Renewable Energy Fujippi mark that can be displayed by business operators in Shizuoka Prefecture using 100% renewable energy

Internal Carbon Pricing

The Yamaha Group introduced an internal carbon pricing system in April 2022 based on the belief that investing in renewable energy and selecting more energy-efficient equipment will be important to mitigating climate change risks. This system entails converting CO₂ emission volumes into monetary amounts based on virtual prices and using these amounts when making investment decisions. This approach motivates the Company to invest in facilities with higher levels of energy efficiency and is expected to drive investment in solar power and other renewable energy generation equipment. For the foreseeable future, the Group will use an internal carbon price of ¥14,000 per every ton of CO₂.

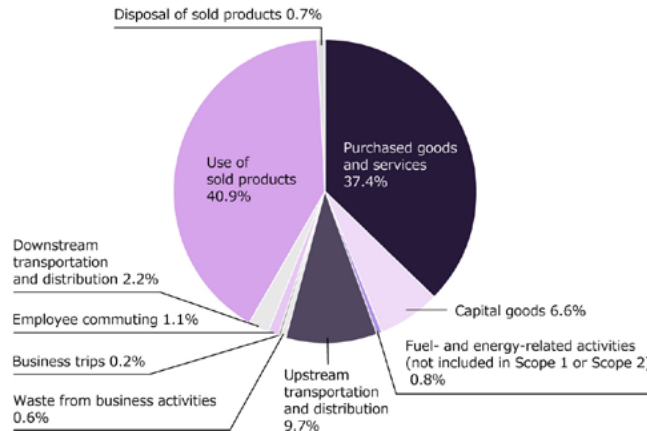
Results

Scope 1 and Scope 2 Emissions (Yamaha Corporation and all production sites)^{*7 *8 *9}



- *7 The scope of data collection is comprised of Yamaha Corporation headquarters and major production sites and resort facilities worldwide (estimated to account for more than 95% of all Yamaha Group sites).
- *8 Figures differ from those previously released as figures were recalculated to further subdivide regional and power company coefficients by base and by fiscal year.
- *9 Figures use the combined value of indirect emissions through purchased electricity and steam, direct emissions of CO₂ through in-house power generation and heat usage, and greenhouse gas emissions from manufacturing processes.

Scope 3 Emissions (Fiscal 2023)



Initiatives at Yamaha Group Bases

Factory Initiatives

Yamaha Music Manufacturing Japan Corporation (Iida Factory)

- Use of appropriate pressure for compressors, partitioning of work booths, introduction of power usage monitors, and conservation of space by consolidating equipment inside factories and rationalizing equipment layouts
- Improvement of air-conditioning efficiency by applying thermal-barrier coating to factory roof

Yamaha Music Manufacturing Japan (Kakegawa Factory)

- Removal of unnecessary lighting, replacement of fluorescent

- lighting with LED lighting, replacement of prior compressors with inverter compressors, upgrading of distribution transformers and air-conditioning equipment, and improvement of air-conditioning control
- Improvement of efficiency during low-load periods by integrating compressor control, investigation and repair of air leaks, and reduction of air pressure
- Reduction of CO₂ emissions by 583 t-CO₂ and electricity usage by 1,034 MWh on an aggregate basis over nine-year period (fiscal 2015-2023)
- Utilization of cogeneration systems to cut CO₂ emissions by 2,900 t-CO₂ a year (equivalent to 420 kL of crude oil a year)

Yamaha Fine Technologies Co., Ltd.

- Efficient management of air-conditioning and sprinkling of water on factory roof to cut peak power consumption during the summer
- Introduction of summer-time system in which work start time is moved two hours ahead to 6:00 a.m. for certain automobile interior parts painting processes that require high levels of air-conditioning (effectively shifting peak power consumption point from 2:00 p.m. to 11:00 a.m. and realizing reduction in peak power consumption of approx. 310 kW in hotter part of the afternoon as well as lowering power consumption by 200,000 kWh during three-month period from July to September)
- Improvement of labor efficiency to shorten facility operating hours, review of workplace layouts to reduce air-conditioning requirements, and revision of how steam is used during winter

Hangzhou Yamaha Musical Instruments Co., Ltd.

- Appropriate operation management of dust collectors
- Shortening of water supply operation times, strategic positioning of lighting, and reduction of lighting usage times
- Installation of automatic control system for dust collectors and digital electricity meters in switchboards to enhance management of electricity consumption and reduce losses from idle power consumption by machinery at night
- Sequential shift from fluorescent lighting to LED lighting



Cogeneration system at Kakegawa Factory



Bulletin board providing notice of energy conservation and other environmental activities



Electric vehicle charging stations that use renewable energy



In-house educational posters promoting the "Cool Biz" and "Warm Biz" programs



Environmental education for employees

Initiatives at Offices

Yamaha Corporation is advancing systematic electricity conservation measures at offices.

Major Electricity Conservation Measures

Reduction of amount of lighting (after verifying lighting levels), introduction of LED lighting, deactivation of lit advertisements, halting of elevator operation, and notification of employees of electricity consumption amounts to raise awareness

Transition to LED Lighting

- Annual electricity savings of 118 MWh at Yamaha Corporation headquarters by replacing approx. 2,500 lights with LED lighting over 10-year period (fiscal 2014-2023)
- Annual electricity savings of 130 MWh at Toyooka Factory by replacing approx. 6,300 lights with LED lighting over seven-year period (fiscal 2017-2023)
- Annual electricity savings of 228 MWh at Kakegawa Factory by replacing approx. 2,500 lights with LED lighting over nine-year period (fiscal 2015-2023)

"Cool Biz" and "Warm Biz" Initiatives

Encouragement of cooler attire, such as not wearing a necktie, during summer (May to October) and setting of air-conditioning temperature to over 28°C

Request that employees wear warmer clothes during winter (November to March) so as not to rely too heavily on heating and setting of heater temperature to under 20°C

Initiatives in Logistics

Energy Conservation and CO₂ Emission Reduction in Logistics

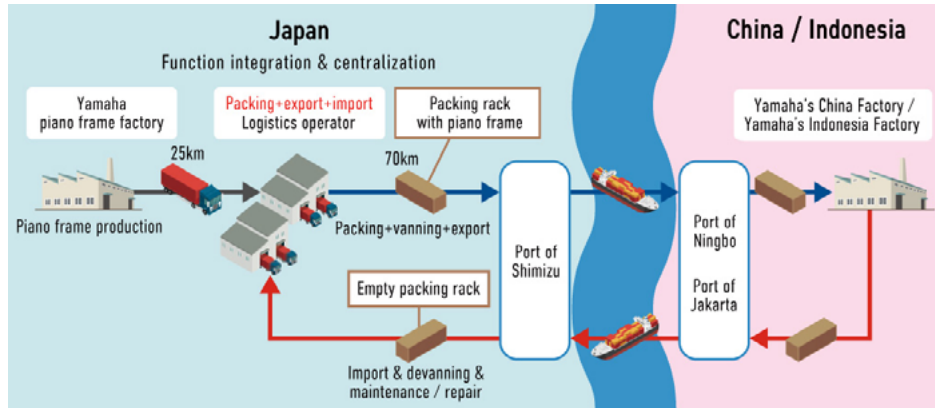
The Yamaha Group is working to increase energy efficiency and reduce CO₂ emissions in logistics operations together with efforts to improve transportation efficiency and shorten transportation lead times. To this end, we are incorporating CO₂ emission reduction initiatives into various activities. For example, we are working to raise truck and container loading ratios, review warehouse locations and transport routes to shorten transportation distances, examine the possibility of incorporating low-carbon transportation methods (ships and trains), revise transportation packing specifications, conduct joint transportation with other companies, and dispose of waste in the area it is produced.

In fiscal 2023, total CO₂ emissions from logistics amounted to 100,138 t-CO₂, a decrease of 17,492 t-CO₂ year on year.

Reducing CO₂ emissions from logistics requires the cooperation of transportation companies. As such, we are working with them to develop the necessary systems by requesting that the transportation companies we work with cooperate in environmental efforts and incorporating environmental matters into questionnaires.

[ESG Data >](#)

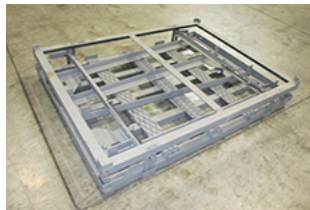
Environmental Management | [Response to Climate Change](#) | Sustainable Resource Use | Prevention of Pollution and Chemical Substance Management
 Environmentally Friendly Products and Services | Protection of Biodiversity



Distribution flow using returnable packing racks



Returnable packing rack for grand piano frames



Folded returnable packing rack (when being returned)

Resource Conservation and CO₂ Emission Reduction in Piano Frame Transportation

Previously, the Yamaha Group has used disposable iron packing racks when transporting piano frames from Japan to overseas factories. However, we are gradually introducing returnable packing racks for piano frames that can be used multiple times in order to conserve resources. In addition, by shortening transportation routes and improving load efficiency, the Company has achieved a 100-ton reduction in CO₂ emissions associated with the disposal of iron packing and a 1,600-ton reduction in iron resource consumption. Going forward, we will examine the possibility of

shortening transport distances and reducing disposable packing material use, including for parts aside from piano frames.

Standardization of Packaging for Shipping Components and Materials to Conserve Resources and Reduce CO₂ Emissions

The Yamaha Group is pursuing enhanced efficiency in transportation by increasing the number of products shipped per container through the use of more compact packaging that

better matches the sizes of the containers used during shipping. For example, a 17.0% reduction in the size of the packaging used for Yamaha P series digital pianos resulted in a 12.5% increase in container packing rates. This change led to an annual reduction of 269 in the number of 40-foot high-cube containers used together with a 26-ton decrease in annual CO₂ emission volumes.



Loading container with pre-standardization packing boxes (left) and loading container with standardized packing boxes (right)

CO₂ Absorption through Tree Planting Activities in Indonesia

After conducting Yamaha Forest tree planting activities in Indonesia over the period from 2005 to 2016, the Company

confirmed the growth status of the forest via satellite imagery and estimated the volume of CO₂ absorbed by the trees in 2017. The Company estimates that approximately 42,000 t-CO₂ had been absorbed leading up to 2017, and that 6,000 t-CO₂ have been absorbed on a consistent basis each year thereafter.

[Protection of Biodiversity >](#)
[ESG Data >](#)

| Endorsement of the TCFD Recommendations

Rapid climate change poses a major threat to humanity and to all life-forms on earth.

We recognize that helping combat this threat and contributing to the decarbonization of society are corporate responsibilities and important management issues.

In fiscal 2019, the Yamaha Group declared its endorsement of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and commenced initiatives for analyzing the risks and opportunities for its business created by climate change. This information is reflected in management strategies, and information on the financial impacts of these risks and opportunities is disclosed.



| Yamaha's Initiatives

■ Governance

Climate change and other important sustainability issues are discussed at meetings of the Sustainability Committee, which is an advisory body to, and chaired by, the president that was established in January 2021. Matters discussed by this committee are regularly raised to the Board of Directors, which confirms the progress of and oversees measures. The Sustainability Committee met six times in fiscal 2023.

In November 2022, a discussion forum was arranged with sustainability experts as part of our efforts to heighten awareness regarding climate change and other social issues.

The Working Group for Climate Change, an organization

positioned under the Sustainability Committee, leads discussions on measures for responding to climate change-related risks and opportunities, and relevant topics are also examined by the Working Group for Resource Circulation and the Working Group for Procurement. The results of these discussions are reported to the Sustainability Committee.

In fiscal 2022, Yamaha revised its sustainability priorities (materiality), the management issues with the potential to impact corporate value over the medium to long term, to include climate change among these issues. The Make Waves 2.0 medium-term management plan launched in April 2022 defines "set sustainability as a source of value" as one of its key policies, thereby positioning response to climate change as a central theme of the plan. Moreover, the Company has introduced frameworks for reflecting the degree of accomplishment of targets for CO₂ emissions reductions and other non-financial indicators into officer compensation.

■ Strategy

Scenario analyses have been performed to confirm the potential impacts of climate change on the Yamaha Group. A number of scenarios were used including those projecting global warming of between 1.5°C and 2°C above pre-industrial levels, which involve significant transition risks, and scenarios assuming global warming of 4°C above pre-industrial levels, which forecast substantial physical risks, as well as various other scenarios.¹ Applied to all businesses, these assessments were used to identify short-term, medium-term, and long-term risks and opportunities.² Given the potentially large impact on business activities, strategies, and financial performance from climate change, the related risks and opportunities are regularly reviewed, and strategies are revised as necessary (see table below).

*1 NZE Scenario (net zero emissions by 2050 and global warming of 1.5°C above pre-industrial levels, 2022 World Energy Outlook, International Energy Agency (IEA)); Sustainable Development Scenario (global warming of less than 2°C above pre-industrial levels, 2022 World Energy Outlook, IEA); Representative Concentration Pathway (RCP) 2.6 (global warming of less than 2°C above pre-industrial levels); RCP 8.5 (global warming of 4°C above pre-industrial levels); Announced Pledges Scenario; Stated Policies Scenario (Business as Usual); etc.

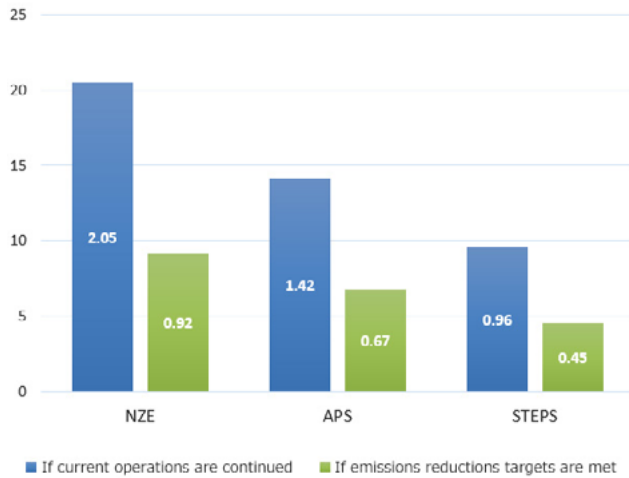
*2 Risks and opportunities are classified as "short-term" if their impacts will be most strongly felt over the next several years, "medium-term" if their impacts will be felt leading up to 2030, and "long-term" if the impacts will appear in 2050.

High-Materiality Risks and Opportunities and Response Strategies

| Category | | Risks and Opportunities | Yamaha's Response Strategies | Scenario Analyses | |
|------------------|---|--|---|--|--|
| | | | | Scenarios Projecting Global Warming of 1.5-2°C | Scenarios Projecting Global Warming of 4°C |
| Transition risks | Institution or increase of carbon prices | <ul style="list-style-type: none"> Increases to production or procurement costs due to introduction of carbon taxes Potential for \1.0-2.0 billion increase in Group energy costs by fiscal 2031 (see graph to right) | <ul style="list-style-type: none"> Exhaustive energy conservation and advancement of conventional energy use reduction plan focused on utilization of renewable energy (rise in energy costs to be limited to \0.4-0.9 billion by achieving energy conservation targets) Promotion of investment in low-emissions equipment through introduction of internal carbon pricing system (¥14,000 per t-CO₂) Promotion of emissions reduction together with suppliers | Increased impact ↗ | Continuation of current level of impact → |
| | Withdrawal from timber businesses | <ul style="list-style-type: none"> Increase in withdrawals from timber businesses due to popularization of forest-associated carbon credits | <ul style="list-style-type: none"> Increasing of rate of sustainable timber use Advancement of Tone Forest activities to achieve sustainable procurement of timber suited to musical instrument production | Increased impact ↗ | Increased impact ↗ |
| Physical risks | Increasing frequency and severity of natural disasters | <ul style="list-style-type: none"> Halts to production due to damages to production bases or disruptions to supply chains resulted from natural disasters | <ul style="list-style-type: none"> Reevaluation of flooding risks and potential damages to Yamaha Group bases (manufacturing, sales, and logistics) to enact preemptive measures in preparation for natural disasters | Continuation of current level of impact → | Increased impact ↗ |
| | Changes to the environments of regions from which Yamaha procures timber | <ul style="list-style-type: none"> Difficulty procuring timber as a result of changes to the environments of regions from which procured timber is produced stemming from climate change (see table below) | <ul style="list-style-type: none"> Increasing of rate of sustainable timber use Development of new materials and timber processing technologies to provide substitutes for scarce timber used currently (retention and enhancement of timber-related technologies and procurement expertise) | Increased impact ↗ | Increased impact ↗ |
| Opportunities | Development of substitutes for timber and establishment of new quality standards | <ul style="list-style-type: none"> Improvement of competitiveness and reputation among customers and investors by utilizing eco-friendly alternative materials in products | | | |
| | Growth demand for products and services associated with increase in time spent indoors spurred by rising temperatures | <ul style="list-style-type: none"> Higher demand for telecommunications equipment in conjunction with increases in teleworking and online events and gaming Growing demand for audio equipment in conjunction with rise in video distribution and emergence of hybrid live streaming events as de facto standard | <ul style="list-style-type: none"> Supply of solutions for remote and online events that combine acoustics, signal processing, and telecommunications technologies Creation of new customer experiences through remote concerts, lessons, and ensemble performances | Increased impact ↗ | Increased impact ↗ |

Environmental Management | [Response to Climate Change](#) | Sustainable Resource Use | Prevention of Pollution and Chemical Substance Management
 Environmentally Friendly Products and Services | Protection of Biodiversity

Projected Impact of Carbon Pricing in Fiscal 2031 by Scenario (Billions of yen)



NZE Scenario¹

Announced Pledges Scenario²

Stated Policies Scenario³

¹ Scenario targeting effectively net zero emissions by 2050

² Scenario assuming the implementation of adaptive climate change response measures based on current government policies and regulations and technological progress

³ Scenario assuming that countries will enact their stated climate change response policies and accomplish their announced targets

Potential Changes in Timber Procurement Region Environments from Base Year

■ None (100% or more) ■ Minor (95–100%) ■ Moderate (80–95%) ■ Large (80% or less)

| Tree Species | Region | Rise in Average Global Temperature from Pre-Industrial Levels (°C) and Potential Change in Procurement Region Environments (%) | | | | | | | | | |
|--------------------------|---------------|--|------------|-------|--------------|-------|-------|--------------|-------|---------------|--|
| | | 0.6°C* | 1.0°C | 1.5°C | 2.0°C | 2.5°C | 3.0°C | 3.5°C | 4.0°C | 4.5°C or more | |
| Conifer species A | North America | 100 | 100 | 99 | 98 | 96 | 94 | 92 | 90 | Less than 90 | |
| Conifer species B | Europe | 100 | 101 | 84 | 74 | 62 | 47 | 31 | 11 | Less than 11 | |
| Broadleaf tree species A | Asia | 100 | 101 | 105 | 107 | 109 | 111 | 113 | 115 | More than 115 | |
| Broadleaf tree species B | Asia | 100 | 101 | 103 | 104 | 104 | 104 | 103 | 101 | Less than 101 | |
| Broadleaf tree species C | Europe | 100 | 102 | 96 | 86 | 72 | 55 | 37 | 14 | Less than 14 | |
| | Europe | 100 | 100 | 100 | 99 | 98 | 96 | 94 | 92 | Less than 92 | |
| | | | | | 2°C scenario | | | 4°C scenario | | | |
| RCP 8.5 (4°C scenario) | | Today | 2040s | | 2060s | | 2080s | | 2090s | | |
| RCP 2.6 (2°C scenario) | | Today | 2040–2090s | | | | | | | | |

* "Today" represents the average between 1986 and 2005.
 Source: Yamaha Corporation

■ Risk Management

Process of Identifying and Assessing Climate Change-Related Risks and Opportunities

Having established the guidance of the Risk Management Committee, Yamaha has implemented Companywide frameworks for assessing all of the climate change and other risks faced in its corporate activities. These frameworks are utilized to identify and assess climate change-related risks.

Risks are assessed and categorized from the perspectives of potential damages and frequency. This approach is utilized to

determine the effective financial and strategic impact of said risks on the Yamaha Group's business, and this information is used as the basis for the formulation of risk countermeasures.

Based on the results of scenario analysis, the Working Group for Climate Change, an organization positioned under the Sustainability Committee, determines and assesses the potential damages and frequency of the risks identified through scenario analyses. The working group then compiles lists of risks based on the risk categories put forth by the TCFD. The potential damages of the risks contained on these lists are assigned one

of three ranks based on the portion of revenue represented by said damages, and the potential frequency is given one of four ranks. This approach is used to identify material risks. A similar approach is employed in specifying material opportunities.

Climate Change-Related Risk and Opportunity Management Process

The Working Group for Climate Change meets four times a year, and these meetings are attended by officers and division management responsible for organizations pertaining to such functions as production, procurement, logistics, the environment, finances, and corporate planning. Meetings of this working group are used to monitor and revise measures for responding to the identified material risks and opportunities.

In addition, measures are discussed as necessary by other working groups, such as the Working Group for Procurement and the Working Group for Resource Circulation, which provide advice pertaining to the identification of themes for countermeasures as well as the allocation of resources and decide upon indicators for monitoring progress.

Material risks and opportunities warranting measures that exceed the scope of responsibilities of the working groups are reported to the Board of Directors, which will then examine the potential response measures.

Relationship between Management of Climate Change-Related Risks and Comprehensive Risk Management

The Risk Management Committee is tasked with identifying material risk scenarios pertaining to all of the risks faced in the Company’s corporate activities, formulating measures to mitigate the potential impacts of risks, and managing the progress of said measures.

Based on instructions from the Risk Management Committee, the

Working Group for Climate Change identifies and assesses risks and coordinates and supports the related response measures.

The Sustainability Committee, of which the Working Group for Climate Change is a part, and the Risk Management Committee

are both chaired by the president of the Company to allow for organic coordination between the activities of these committees.

Identified Climate Change-Related Risks and Opportunities and Potential Impacts

| Category | | Impact Level, Potential Impacts |
|------------------|-----------------------|---|
| Transition risks | Government regulation | <ul style="list-style-type: none"> • Large impacts on R&D, production, and sales plans stemming from restrictions on greenhouse gas emissions seen around the world and other current regulations • Widespread impacts on R&D, product, and production plans from future regulations |
| | Technologies | <ul style="list-style-type: none"> • Need to address important management tasks of reducing costs and developing low-carbon technologies |
| | Markets | <ul style="list-style-type: none"> • Concern for impacts on material procurement and costs associated with efforts to reduce greenhouse gas emissions |
| | Reputation | <ul style="list-style-type: none"> • Impacts on revenue and stock price from changes in social reputation |
| Physical risks | Direct operations | <ul style="list-style-type: none"> • Concern for potential impacts on important factories from storms or floods resulted from climate change |
| | Procurement | <ul style="list-style-type: none"> • Concern for impacts on ability to procure materials due to changes to the environments of regions from which Yamaha procures timber stemming from climate change • Concern for impacts on production plans and water costs at certain factories due to widespread droughts as a result of climate change |
| Opportunities | Market | <ul style="list-style-type: none"> • Potential growth in demand for products and services due to changes in lifestyles arising amid climate change |
| | Products and services | <ul style="list-style-type: none"> • Possible rises in demand for products and services that do not entail greenhouse gas emissions |

Environmental Management | [Response to Climate Change](#) | Sustainable Resource Use | Prevention of Pollution and Chemical Substance Management
 Environmentally Friendly Products and Services | Protection of Biodiversity

■ Metrics and Targets

Reductions to CO₂ emissions are managed in a comprehensive manner encompassing the entire Yamaha Group and its supply chains. To facilitate these efforts, the Greenhouse Gas Protocol is used as the standard for calculating total greenhouse gas emissions (Scope 1, Scope 2, and Scope 3 emissions), and third-party verification is received for these calculations.

Yamaha has set the medium-term targets of reducing total Scope 1 and Scope 2 greenhouse gas emissions by 55% (a target certified by Science Based Targets as sufficient for helping limit average global warming to below 1.5°C) and total Scope 3 greenhouse gas emissions by 30% from fiscal 2018 levels by fiscal 2031. In addition, we have set a long-term target for Scope 1 and Scope 2 emissions of achieving carbon neutrality by fiscal 2051.

Targeting effective zero emissions of greenhouse gases across its value chain, Yamaha announced its commitment to achieving net zero emissions, as defined by Science Based Targets, in June 2023 (see diagram on next page).

As short-term milestones on our path toward this larger target, we aim to achieve a 5% improvement in energy efficiency during production and a 10% rate of renewable energy use by fiscal 2025.

[Scope 1, Scope 2, and Scope 3 emissions >](#)

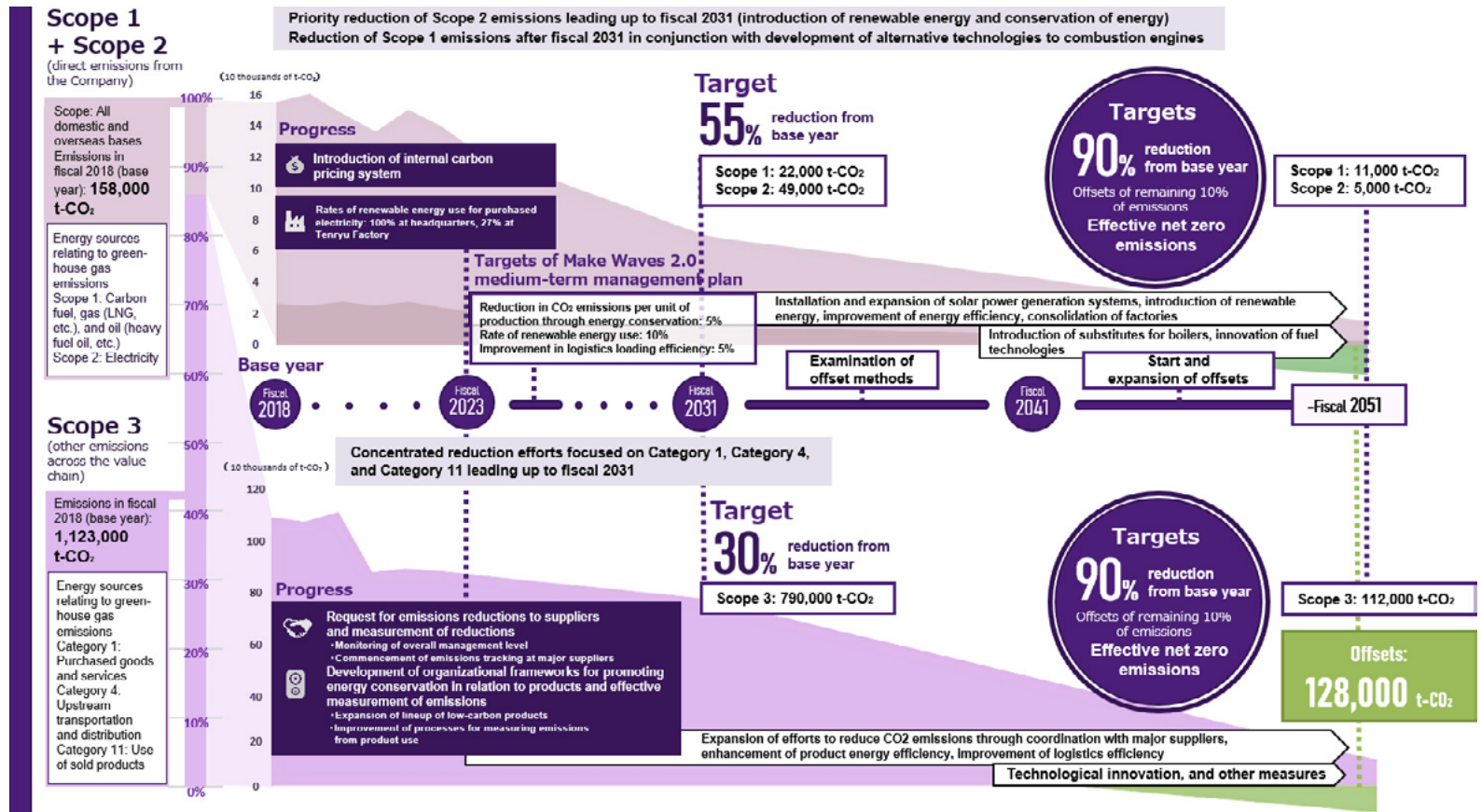
Yamaha aspires to protect forest resources and biodiversity as it responds to the risks

associated with companies withdrawing from timber businesses and changes to the environments of regions from which it procures timbers. To guide these efforts, we have set the target of achieving a 75% rate of sustainable timber use by fiscal 2025.

Decarbonization Plan

Reductions to CO₂ emissions are managed in a comprehensive

manner encompassing the entire Yamaha Group and its supply chains. By pursuing steady reductions in greenhouse gas emissions (Scope 1, Scope 2, and Scope 3), Yamaha seeks to combat rapid climate change, which is a threat to human society as well as to all living organisms on the planet, and to contribute to the realization of a decarbonized society.



Sustainable Resource Use

Resource Conservation and Waste Reduction

The world is pressed with the urgent task of moving toward more sustainable production and consumption to escape from the cycle of massive production and waste that is destroying our environment and depleting our resources. In response to this expectation, the Yamaha Group strives to use less resources in its products from a variety of standpoints, such as lowering product size and weight, integrating several products into one, and reducing the amount of and, when possible, completely eliminating, product packaging and cushioning. Moreover, we are working to reduce resource use by extending product lifespans, developing instrument maintenance and repair service systems, and collecting and reusing products through services such as those offered in our piano renewal business. Other measures for making the best use of finite resources include reassessing our use of plastic, which contributes to global warming and pollution; switching to paper and other renewable materials; and lowering waste emissions and recycling in manufacturing processes.

Unit Approach for Conserving Resources and Extending Product Lifespans

Based on the desire for our customers to be able to continue using their beloved instrument for a long time, Yamaha has adopted an approach of using replaceable units to conserve resources while extending product lifespans. For Electone™ units, for example, we offer services to upgrade products to a higher grade or newer model purely through unit exchanges. These services include the installation of grade-up units that can transform Electone™ units into higher grades as required based on the skill of the user and their intended application as well as vitalize units for raising the performance of older Electone™ models to the level of the latest models. We thereby help customers to continue using their

beloved Electone™ even longer. The Group is also selling add-on units so that customers can enjoy their pianos for a longer time in a range of situations. Such units include the Piano Silent Unit, which adds a silent function, and the Disklavier Control Unit, which adds a wealth of content and colorful functions to pianos incorporating an automatic performance function.

[Electone™ Vitalize/Grade-Up Units \(in Japanese only\) >](#)
[Silent Piano Retrofit Unit \(in Japanese only\) >](#)
[Disklavier Control Unit \(in Japanese only\) >](#)

Instrument Maintenance and Repair Service Systems

It is possible to use high-quality instruments for many years with proper maintenance and repairs and replacements of parts. Accordingly, the Yamaha Group is developing maintenance and repair service systems for acoustic instruments such as pianos and wind instruments.

Repair Technician Training

The Piano Technical Academy for training piano tuners and the Wind Instrument Technical Academy for fostering technicians specializing in wind instruments have been set up at factories producing the respective instruments. At these facilities, Yamaha Group instructors with exceptional insight pertaining to instruments support those aspiring to become specialist technicians with finely tuned curricula grounded in their expertise. After completing these programs, the newly trained repair technicians provide after-sales services at Yamaha Group sales agents across Japan.

[Piano Technical Academy \(in Japanese only\) >](#)
[Wind Instrument Technical Academy \(in Japanese only\) >](#)

Maintenance Support for Musical Instrument Users

We are providing knowledge and skills regarding musical instruments by offering maintenance guidebooks and holding

maintenance workshops to ensure that musical instruments are consistently maintained in the best condition.

Effective Resource Use through Product Collection and Restoration

Yamaha collects and restores instruments that are no longer played at homes or other locations to make effective use of these secondhand products. For example, Yamaha Piano Service Co., Ltd., repairs, repaints, tunes, and adds additional muffling materials before returning instruments to market as refurbished pianos. Meanwhile, Yamaha Music Japan Co., Ltd., is conducting the Future for Instruments Project in which it offers appraisal and buyback services for instruments that are no longer used to encourage users to return their instruments to Yamaha. The purchased instruments are restored for reuse through maintenance by Yamaha technicians to promote the effective use of finite resources.

[Piano Renewal Business \(in Japanese only\) >](#)
[Future for Instruments Project \(in Japanese only\) >](#)

Utilization of Sustainable and Recyclable Materials

The Yamaha Group is developing alternative materials that can be substituted for scarce timber and adopting sustainable materials, such as biomass-derived resins, for use in its products. In addition, we use recycled polystyrene in portions of speaker boxes while incorporating recycled plastics into other products.

[Yamaha Eco-Products Program >](#)

Reduction of Plastic Packaging Use

Yamaha is endeavoring to reduce its usage of plastic packaging as society reassesses the use of disposable plastic items from the perspective of preventing global warming and pollution. As part of these efforts, we plan to stop using plastic packaging for newly launching small products in fiscal 2025.



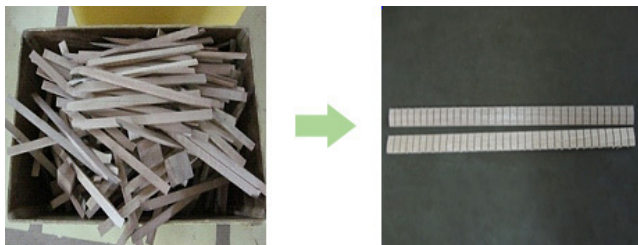
Wireless earphones sold without plastic cushioning



Wind instrument cleaning swabs with packaging made from paper as opposed to plastic

Effective Use of Timber Resources

The Yamaha Group is working to reduce losses by improving the yield ratio in timber processing while also reusing and recycling wood chips from production processes. The Company is using offcuts in other components and either using, selling, or disposing such offcuts as raw materials, fertilizer, or fuel. In recent years, the Company has also been conducting unique initiatives, such as using sawdust produced in the wood manufacturing process at Japanese factories that manufacture pianos as bedding for cows.



Timber offcuts previously disposed of as waste being repurposed as corner block (structural reinforcement materials inside guitar bodies)

[Timber Resource Initiatives >](#)

Exhibition of Upcycling Guitar at "Musical Instrument Wood" Exhibition

Since December 2022, the Yamaha Ginza Shop has been holding the "Musical Instrument Wood" Exhibition, which provides information on the wood used in musical instruments and on Yamaha's wood and forest preservation efforts. One prototype product displayed at this exhibition is the Upcycling Guitar, an instrument made by upcycling¹ the unused materials² produced during the manufacture of various musical instruments. This concept guitar is a product of our research on raising the value of instruments themselves in a manner that does not depend on the rarity of the materials from which they are made. This new undertaking, which is aimed at ensuring Yamaha is always able to supply quality instruments, is displayed at the "Musical Instrument Wood" Exhibition along with exhibits on wood and columns describing the relationship between wood characteristics and sound and other not commonly known aspects of musical instrument production.

¹The act of recycling something that would have otherwise been disposed of in such a way that grants the resulting product a new and higher value than the original item

²Wood materials and offcuts not used as a result of the rigorous screening process that is part of musical instrument production

["Musical Instrument Wood" Exhibition \(in Japanese only\) >](#)



Upcycling Guitar



"Musical Instrument Wood" Exhibition at the Yamaha Ginza Shop

Waste Reduction and Resource Recycling

The Yamaha Group has established systems for recovering and separating waste in order to reduce waste produced at factories and offices and promote recycling. Targets have been established with this regard as part of the Group's environmental management system.

In Japan, the Yamaha Group had a recycling rate of approximately 99% as of March 31, 2023.

Furthermore, regular on-site inspections of waste processing subcontractors are carried out to verify that waste is being processed appropriately as part of our efforts to fulfill our waste processing responsibilities.

Waste Reduction Initiatives

| Office | Details |
|---|--|
| Toyooka Factory | We process waste containing rare metals from the R&D Department as a valuable resource and make effective use of this resource. |
| Kakegawa Factory | In 2021, the Company began using sawdust created through timber processing to produce cat litter and other items. |
| Xiaoshan Yamaha Musical Instruments Co., Ltd. | The company has reduced paint process-related waste by keeping the circulating water used in the musical instrument painting booths clean to enable longer usage, which resulted in annual waste reductions of approximately 120 tons. |
| Yamaha Fine Technologies Co., Ltd. | The company takes steps to cut down on car part rejects by reducing equipment defects and quality defects. The result was a 16% reduction in overall factory waste production coupled with energy and resource savings achieved through improved productivity. |

Environmental Management | Response to Climate Change | [Sustainable Resource Use](#) | Prevention of Pollution and Chemical Substance Management
 Environmentally Friendly Products and Services | Protection of Biodiversity



CD dryer (Toyooka Factory)



CD dryer (Kitami Mokuzai)

For details regarding waste, please refer to the [ESG Data](#) page.

■ Product and Packaging Recycling

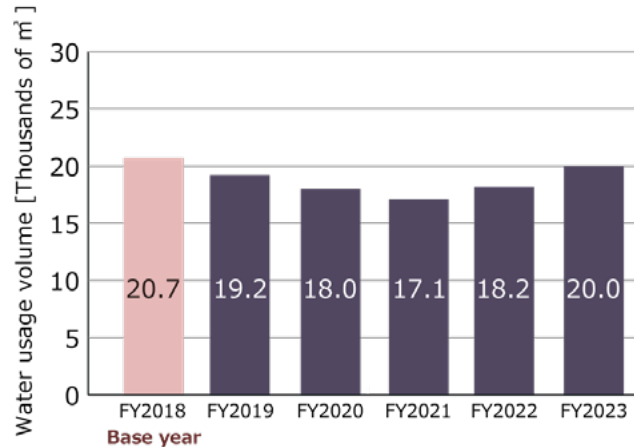
The Yamaha Group complies with laws and ordinances related to recycling products and packaging in relevant countries and regions, including the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union. In addition, we are promoting efficient use of resources in Japan by establishing locations for collecting used Electone™ products across the country to recover and recycle.

| Preservation of Water Resources

The Yamaha Group uses water to wash products and cool facilities. The Group evaluates water resource-related risks through comprehensive risk assessments conducted on a Groupwide basis as well as through surveys and water-related risk evaluation tools at all business sites. These measures are used to evaluate physical water stress, water quality, regulatory risks related to water resources, and reputational risks. In fiscal 2020, we began acquiring third-party verification for Groupwide water intake volumes to further improve management practices. The Group does not have large-scale production activities in areas where water resources are lacking, and we have therefore judged that our operations do not have a large impact on the environment through water intake. Furthermore, the Group requires high-transaction-value suppliers that use large amounts of water to

provide reports describing water intake volume, the water-related risks they recognize, examples of damage, and other matters to maintain an understanding of water-related risks across the value chain. We have also been receiving third-party verification for Groupwide water usage data from as early as fiscal 2020 in order to improve management and facilitate the sustainable use of water resources. Currently, the Group is working to reduce water use in the plating and washing processes involved in wind instrument manufacturing by reusing cooling water, recycling wastewater from production processes using reverse osmosis membrane equipment, and implementing measures to prevent leakage in water-using facilities. For these efforts, we have set the target of reducing water use by 15% or more by fiscal 2031 in comparison with the fiscal 2015 level in order to facilitate greater efficiency in water use.

Water Usage*



* Water usage represents the total amount of groundwater intake and tap and industrial water purchases.
 * Note: The scope of calculation for greenhouse gas emission and water usage volumes encompasses the Yamaha Corporation headquarters and major production sites and resort facilities worldwide and accounts for more than 95% of all Yamaha Group sites.

[Protection of Biodiversity \(Water Quality Preservation\) >](#)
[Prevention of Pollution \(Monitoring of and Compliance with Laws and Regulations\) >](#)
[Third-Party Verification \(in Japanese only\) >](#)

For details regarding water usage and reuse, please refer to the [ESG Data](#) page.

■ Resource Conservation and Recycling Initiatives

Xiaoshan Yamaha Musical Instruments

Xiaoshan Yamaha Musical Instruments Co., Ltd., which manufactures wind instruments and percussion instruments in China, has been reusing approximately 80% of wastewater for manufacturing processes since it installed a wastewater treatment facility that purifies wastewater to the level of pure water. (This facility has brought this company in compliance with legal provisions for the inspection and improvement of corporate pollution resulting from electroplating of Zhejiang Province.*)

In addition, Xiaoshan Yamaha Musical Instruments has adopted a cooling method that uses a circulating water supply to cool the annealing furnaces used for heat treating the copper tube components of wind instruments, resulting in annual reductions in water use of approximately 5,700 tons.

* Legislation passed in Zhejiang Province promotes environmental preservation in electroplating factories by requiring companies engaged in electroplating processes to conform to 56 items related to environmental preservation systems and equipment. Standards for metals such as copper and nickel are stricter than those for general factory wastewater.



Wastewater treatment facility



Cooling unit using circulated water

Yamaha Musical Products Indonesia

Wind instrument manufacturer PT. Yamaha Musical Products Indonesia has introduced a wastewater treatment facility that enables the reuse of more than 60% of wastewater. Furthermore, wastewater treatment processes have been rationalized to reduce the use of chemicals.

In addition, Yamaha Musical Products Indonesia has installed equipment to allow cyclical reuse of the wash water used in recorder production processes. This equipment has reduced water use by approximately 12,000 tons per year. In 2019, such equipment was deployed for other processes, cutting water use by about an additional 1,300 tons.



Wastewater treatment facility

Hangzhou Yamaha Musical Instruments

In response to increasingly strict wastewater standards, piano and guitar manufacturer Hangzhou Yamaha Musical Instruments Co., Ltd., has installed a wastewater treatment facility capable of purifying wastewater to the point that it can be reused. The wastewater treated in this facility is used for cooling water and other applications, resulting in annual reductions in water use of roughly 10,000 tons.



Wastewater treatment facility



Reuse of wastewater for cooling water

Yamaha Music India

Yamaha Music India Pvt. Ltd., which completed construction in 2019, has introduced a completely closed wastewater treatment facility. Wastewater generated from the manufacturing process is 100% reused and is not emitted outside the factory.



Wastewater treatment facility



Reuse of 100% of manufacturing process wastewater

Yamaha Music Manufacturing Asia

PT. Yamaha Music Manufacturing Asia, a manufacturer of electronic instruments, installed reverse osmosis membrane equipment in 2019 to treat wastewater for reuse in the manufacturing process. In addition, it is conserving approximately 120,000 kWh of power a year by spraying mist on chillers to augment their cooling capabilities.



Reverse osmosis membrane equipment

Yamaha Musical Products Asia

At PT. Yamaha Musical Products Asia, which commenced production in fiscal 2021, we have introduced a state-of-the-art wastewater treatment facility designed for the purpose of reusing wastewater in manufacturing processes.



Wastewater treatment facility

Prevention of Pollution and Chemical Substance Management

Environmental Pollution Prevention Frameworks

The Yamaha Group established the Yamaha Group Environmental Equipment Standards in 2014 to guide efforts to prevent environmental pollution during the course of its business activities. These Group standards contain provisions regarding the installation, management, and operation of environmental facilities. Compliance with these standards is being pursued in a systematic matter based on road maps set on an individual production site-basis, and we plan to achieve full compliance with these standards at all domestic and overseas production sites in fiscal 2024. In this manner, we aim to keep the number of accidents resulting in environmental pollution at zero.

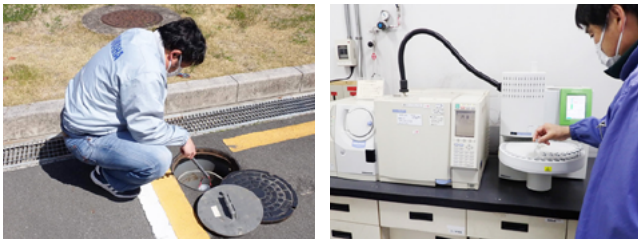
As of March 31, 2023, 18 of 19 sites were in full compliance with the Yamaha Group Environmental Equipment Standards.

Monitoring and Legal Compliance

With the goal of reducing the environmental impact of its business activities and ensuring compliance with environmental laws, Yamaha Group divisions in charge of environmental measurement regularly monitor gas, wastewater, noise, odor, and other emissions to confirm the status of the management of these emissions and to assess compliance in accordance with the annual plans created by the Yamaha Corporation Environmental Division and the management divisions of individual business sites.

In monitoring environmental impacts, we employ our own standards, which are stricter than existing legal standards. In the event that measurements exceed standards or are unusual in some way, we take immediate emergency and corrective measures.

In addition, we have systems in place to facilitate quick responses to revisions to laws and regulations. The Yamaha Group collects the latest information on regulatory reforms, and the Yamaha Corporation Environmental Division compiles, checks, and communicates this information to business sites to ensure consistent compliance on a Groupwide basis. Furthermore, the Group has established working groups at business sites comprised of members of the management and production divisions of the respective sites to advance risk reduction measures. Legal compliance frameworks are developed through coordination among Group companies worldwide. Particularly strong coordination is being practiced with companies in China, where environmental laws have been amended frequently in recent years.



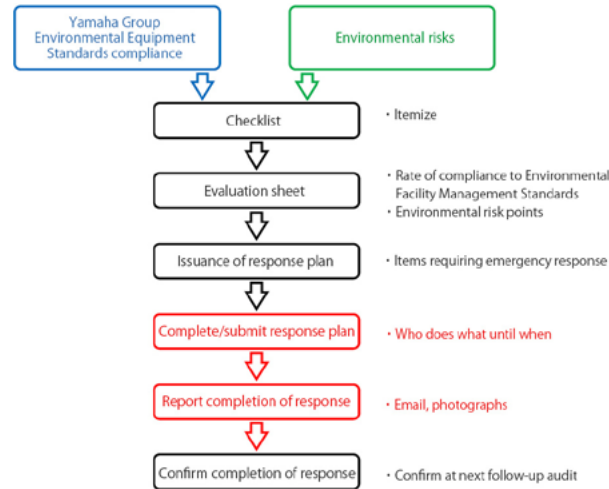
Environmental measurements being performed

■ Environmental Audits

The Yamaha Group conducts internal environmental audits according to the ISO 14001 integrated management system standard in order to prevent environmental accidents and violations of law. In addition, we conduct environmental audits calling on the expert knowledge of the Yamaha Corporation Environmental Division and in accordance with the Yamaha Group Environmental Equipment Standards. Yamaha auditing staff acquire internal environmental auditor certification based on ISO 14001 standards as well as official qualifications related to environmental preservation, such as Pollution Control Manager and Working Environment Measurement Expert certifications. Shared Groupwide checklists are used to score compliance with equipment standards at business sites and environmental risks. By clarifying priorities and items requiring a response, the Company is

pursuing efficient improvements to mitigate risks.

In addition, the frequency of audits is determined based on risk levels, and audits are conducted regularly. In fiscal 2023, we conducted environmental audits at two sites.



Environmental audit conducted by auditing staff of Yamaha Corporation Environmental Division

■ Emergency Preparedness

The Yamaha Group implements frameworks and conducts training sessions to prevent environmental pollution caused by leaks of hazardous substances and oils from business sites as part of its efforts to ensure preparedness for emergency situations, such as

natural disasters or accidents. The Yamaha Group identifies risks using uniform Groupwide evaluation standards and implements improvement measures and refines procedures pertaining to emergency response measures at business sites deemed to face significant risks through these evaluations. Additionally, business sites have prepared procedures, equipment, and stockpiles to respond to such emergency situations and are conducting emergency response training.



Emergency response training

Pollution and Hazardous Substance Response Measures

The Yamaha Group constantly monitors wastewater to prevent wastewater from business sites from negatively impacting water and related habitats. Furthermore, we conduct regular surveys on the impact of wastewater on life-forms and the water quality in waterways to which wastewater is discharged. In the past, the Group has conducted cleanup measures at two sites where soil and groundwater contamination occurred due to chlorine-based organic solvents. We have already completed groundwater cleanup activities at the Toyooka Factory of Yamaha Corporation. In addition, conditions at Yamaha's headquarters have been restored to near-standard



Groundwater purification equipment at our headquarters

levels, and we continue to advance cleanup activities today. We have completed soil contamination cleanup activities at both sites.

At the main factory of Yamaha Music Manufacturing Japan Corporation, the Company upgraded wastewater processing equipment in 2018 in order to improve earthquake resistance and processing capabilities. This new equipment can process twice as much wastewater as the previous equipment and has been designed to withstand an earthquake with an intensity of 6 upper to 7 on the Japanese seismic scale.



Wastewater processing equipment at the main factory of Yamaha Music Manufacturing Japan

Waste Disposal Initiatives

| Site | Details |
|---------------------------|--|
| Toyooka Factory | Treatment processes were adopted for acids and waste alkali, which were previously condensed due to difficulties associated with wastewater processing. This enabled the factory to eliminate all emissions of specified controlled industrial waste from waste liquids. |
| Kakegawa Factory | The Company has installed more wastewater processing equipment and begun the in-house processing of wastewater containing adhesive agents generated in the piano manufacturing process. These efforts have led to annual waste reductions of approximately 90 tons. |
| | The Company has augmented its ability to process wastewater containing adhesive agents. These efforts have led to annual waste reductions of approximately 270 tons. |
| Kitami Mokuizai Co., Ltd. | A liquid waste reduction CD dryer has been installed, resulting in a 50% reduction in emissions of wastewater, sludge, and other waste. |

Chemical Substance Management and Emission Reduction

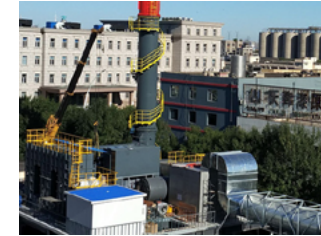
Based on the Yamaha Group Chemical Substances Usage Standard, the Yamaha Group practices exhaustive management of chemical substances regulated under the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (the "PRTR Act") and takes steps to reduce emissions of these substances from its production processes and products. These precautions are part of our efforts to minimize the negative impact on people and the environment from chemical substance use. At domestic Group companies, safety data sheets¹ pertaining to materials containing chemical substances are managed in an integrated manner via a database, evaluations of the dangers of these substances and their potential impacts on the environment are performed, and the necessary steps are taken to mitigate risks.

At present, the chemical emissions that occur in the course of production processes at Yamaha Group companies mainly consist of volatile organic compounds (VOCs)² from product coating and adhesive processes. The Group constantly monitors VOC emissions and is working to reduce such emissions by installing treatment equipment and using alternative substances. (For details regarding VOC emissions, please refer to the ESG Data page.)

Factories in China have completed the introduction of VOC treatment equipment, resulting in a reduction of approximately 90% in emissions of such substances. Meanwhile, PT. Yamaha Music Manufacturing Asia is implementing thinning agent recycling initiatives and has been able to achieve a reduction in emissions of these substances of approximately 70%.

^{*1} Safety data sheets are used to record information on the potential dangers and handling methods for chemical substances and products containing chemical substances regulated under the Industrial Safety and Health Act, the Poisonous and Deleterious Substances Control Act, and the PRTR Act.

^{*2} VOCs are substances used in thinning agents as coatings and adhesives thought to be one factor in the release of photochemical oxidants and suspended particulate matter.



VOC treatment facility at Tianjin Yamaha Electronic Musical Instruments, Inc.



VOC treatment facility at Hangzhou Yamaha Musical Instruments Co., Ltd.



VOC treatment facility at Xiaoshan Yamaha Musical Instruments Co., Ltd.



VOC treatment facility at Yamaha Electronics (Suzhou) Co., Ltd.

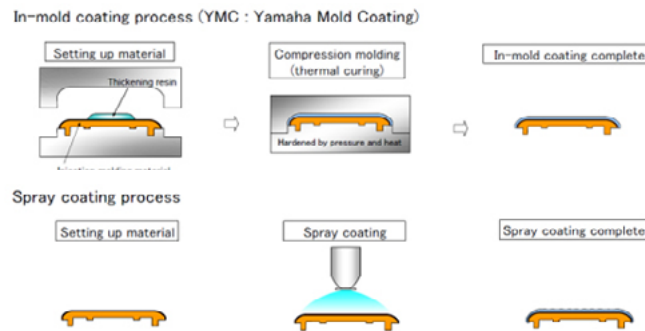
Reduction of Chemical Substance Emissions in Coating Processes

Coating processes are performed to give musical instruments and automotive interior components their beautiful appearance and durability. In these processes, the Yamaha Group continues to research and introduce coating methods that lower environmental impacts by reducing the use of coating agents and the emission of organic solvents. To date, we have developed applications for electrostatic coating, powder coating, and flow coating matched to our products, and are making use of these applications in the production process.

Yamaha Music Manufacturing Japan Corporation has been replacing the coating agents used for parts from agents containing organic solvents to water-based coating agents in the piano manufacturing process. Water-based coating also has the positive effect of improving the work environment.

Similarly, Yamaha Fine Technologies Co., Ltd., has developed an in-mold coating method that completes the coating process inside of the mold. This method has been adapted for automobile interior components. By switching from traditional spray coating to in-mold coating, this company has achieved adhesion efficiency³ of more than 90% while lowering the amount of organic solvents released into the atmosphere using less coating. Ventilating operations in the workplace have been significantly reduced as well, contributing to a reduction in the amount of energy used. Through this coating method, we were able to reduce the amount of styrene used in fiscal 2023 by 11.9tons.

³Adhesion efficiency is the ratio of materials adhering as a coating compared to total used.



■ Protection of the Ozone Layer

The Yamaha Group has historically worked to reduce usage of fluorocarbons to protect the ozone layer. We have eliminated the use of all specified chlorofluorocarbons (CFCs) and

hydrochlorofluorocarbons (HCFCs). Since eliminating the use of all specified CFCs in manufacturing processes in fiscal 1994, we have been using HCFCs, which have a lower ozone depletion potential compared to specified CFCs, in the degreasing process for metal materials. However, we also eliminated the use of all HCFCs in fiscal 2006 because of its large contribution to global warming.

| Environmental Accidents and Litigation

In fiscal 2023, the Yamaha Group did not conduct any serious violations of any laws, receive fines, pay fees, or be named in any lawsuits with respect to environmental concerns. The Group did not experience any accidents having an effect on the outside environment, nor did we receive any significant complaints.

Environmentally Friendly Products and Services

| Environmentally Friendly Design and Green Procurement

The Yamaha Group performs product life-cycle assessments that cover all product life-cycle stages, ranging from material procurement to production, transportation, use, and disposal, and uses other methodologies to identify the characteristics of the environmental impacts of its various product lines. This information is used to practice environmentally friendly design based on the major environmental impact characteristics of specific products.

For chemical substances contained in our products, we have created standards for use in products, established a management system, and perform green procurement.

[Yamaha Group Environmental Policy >](#)

■ Major Product Characteristics Identified through Life-Cycle Assessments and Measures

Note: The size of each circle indicates the relative environmental impact associated with the respective stage in the product life cycle.

Acoustic Instruments Characteristics

- No energy consumption during use (lack of need for electricity, etc.)
- Long lifespans (often used for several decades)
- Primarily made using renewable timber, but present risks of deforestation and resource depletion via illegal thinning
- Lack of material recycling infrastructure like that seen for household appliances

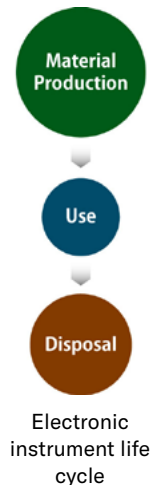
Measures

- Sustainable timber procurement that does not contribute to deforestation or resource depletion
- Extension of lifespans through enhancement of maintenance services and reuse frameworks
- Development of material recycling frameworks



Electronic Instruments Characteristics

- Lower energy consumption than standard household appliances as most products do not have idle power consumption
- Lifespan on par with standard household appliances
- Large environmental impact from manufacturing metal components due to need for excavation and smelting, environmental pollution risks from runoffs attributable to plastics and chemical substances



- Lack of material recycling infrastructure like that seen for household appliances

Measures

- Reduction of use and replacement of substances that impact the environment
- Extension of lifespans through retrofitting
- Utilization of biomass and other renewable resources
- Development of material recycling frameworks

AV Equipment and IT Equipment

Characteristics

- Relatively large energy consumption due to constant operation of some IT equipment and idle power consumption of AV equipment
- Lifespans heavily influenced by specifications and versions of connected equipment
- Large environmental impact from manufacturing metal components due to need for excavation and smelting, environmental pollution risks from runoffs attributable to plastics and chemical substances
- Lack of material recycling infrastructure like that seen for household appliances

Measures

- nergy-efficient design
- Reduction of use and replacement of substances that impact the environment
- Utilization of biomass and other renewable resources
- Development of material recycling frameworks



Management of Chemical Substances Contained in Products

Some chemical substances contained in distributed or sold products require proper treatment at the time of disposal or have the potential to adversely impact people’s health or the environment. For this reason, countries around the world have been strengthening restrictions on chemical substances contained in products and requiring data disclosure.

With this regard, Yamaha Corporation has established the Standards for Chemical Content in Products. These standards are used to manage chemical substances in products during design and development to help ensure legal compliance and reduce environmental impacts. The standards are revised when necessary in response to legislative changes, the accession of voluntary standards, and other factors.

Management System for Chemical Substances Contained in Products

In order to manage the chemical substances contained in products, it is imperative to identify and control the chemical substances contained in the parts and materials that make up finished products. The Yamaha Group has implemented a management system for such chemical substances, and supplier cooperation is requested as we conduct surveys of the chemical substances contained in parts and work to manage these substances.

Furthermore, the Yamaha Group has adopted the industry-standard format for the communication of information on the chemical substances contained in products.¹ We also have systems in place for furnishing flexible responses to the ongoing addition of chemical substance regulations, such as the expansion of the list of substances of very high concern in the European Union’s Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulations.² At the same time, Yamaha holds

briefing sessions to gain the understanding and cooperation of suppliers in regard to managing the chemical substances used in components.

^{*1} The Group uses the chemSHERPA® (chemical information SHaring and Exchange under Reporting PARTnership in supply chain) standard endorsed by the Joint Article Management Promotion-consortium (JAMP) for providing information on chemical substances contained in products. Through the adoption of such standards, parts manufacturers are able to use the information on chemical contents that they receive from material manufacturers to convey information on the chemical contents of parts to the entities they supply.

^{*2} Substances of very high concern are substances, such as carcinogens, for which disclosure and management are required under REACH regulations should an amount exceeding a defined threshold be contained within a product.

Promotion of Green Procurement

In accordance with the Yamaha Group Green Procurement Policy, the Yamaha Group promotes green procurement in which it sources materials with low environmental impacts throughout the entirety of product life cycles, spanning from resource extraction to disposal. The policy compiles our requests of suppliers, and we ask suppliers to cooperate with surveys on the chemical substances used and contained in the articles they supply as well as the status of chemical substance management. Information on chemical contents and chemical substance management practices received from suppliers is compiled in a database for use in confirming the chemical substances contained in products and in complying with environmental regulations. The policy is revised as necessary by changes in the global regulatory climate.

[Yamaha Group Green Procurement Policy >](#)

Yamaha Eco-Products Program

The Yamaha Group launched the Yamaha Eco-Products Program in 2015. This program is designed to clarify environmental standards for products and promote environmentally friendly products. A Yamaha Eco-Label is affixed to those products

meeting our environmental standards, thus certifying them as Yamaha Eco-Products. Our objective is to provide straightforward information on the environmental considerations incorporated into products to assist customers in the decision-making process when selecting a product.

A total of 16 new product models were certified under the Yamaha Eco-Products Program in fiscal 2023. As of March 31, 2023, the number of certified products, including prior products, was 484, of which 16 were newly developed products bearing the Yamaha Eco-Label.

In fiscal 2023, sales of Yamaha Eco-Label certified products accounted for approximately 15% of total net sales.

■ Products Certified in Fiscal 2023



SR-C30A sound bar
 Reason for certification: Energy conservation (reduced electricity consumption when in network standby mode)



Packaging for CLSS3 cleaning swabs for wind instrument mouthpieces and saxophone necks
 Reason for certification: Resource conservation (elimination of plastic packaging)



Yamaha Eco-Label

[Sustainable Consumption >](#)
[Yamaha Eco-Products Program >](#)

| Products Supporting the Reduction of Environmental Impacts

Yamaha Group products are not only for general consumers but also for businesses. Some of our products help to reduce the environmental impact of our customers' business activities or can be used to reduce environmental impacts during the use of

products manufactured by the customer. The Group works to reduce environmental impacts throughout society by means of the development and promotion of such products.

| Products / Services | Environmental characteristics / Benefits | Related pictures |
|--|--|------------------|
| ADECIA remote meeting sound solution | Contribution to reduction of CO ₂ emissions through remote communication that does not require movement by people | |
| Unified communications speakerphone | Contribution to reduction of CO ₂ emissions through remote communication that does not require movement by people | |
| Micro prober flexible printed circuit conduction and insulation inspection devices (Yamaha Fine Technologies Co., Ltd. product) | Waste reduction and resource conservation benefits from improved yield rates for product subject to tests | |
| Helium leak tester (Yamaha Fine Technologies Co., Ltd. product) | Support for compliance with automobile environmental regulations and reductions in environment impacts from driving | |
| Hydrogen leak detector (Yamaha Fine Technologies Co., Ltd. product) | Promotion of hydrogen as next-generation form of energy | |

Protection of Biodiversity

Biodiversity Protection and Preservation Initiatives

The destruction of the natural environment is resulting in biodiversity being lost at an ever-accelerating pace. The Yamaha Group conducts business activities that utilize natural resources, such as the timber used as a raw material to make a variety of products including acoustic musical instruments, and the ecosystems that produce these resources, which are comprised of diverse living organisms. We therefore have a responsibility to protect and preserve forests and the biodiversity therein as a company that uses timber. The Group promotes appropriate business activities and timber use as well as environmental preservation activities based on its recognition of this responsibility.

[Yamaha Group Sustainability Policy >](#)
[Yamaha Group Environmental Policy >](#)
[Sustainable Resource Use >](#)

Timber Resource Initiatives

Many of the instruments that the Yamaha Group produces, such as pianos and string, percussion, and wind instruments, are primarily made of wood. Large amounts of timber are also used when making electronic musical instruments, speakers, and soundproof rooms, due to the merits of wood in terms of acoustic performance, function, design, and texture.

Considering the diverse variety of timber used in its business operations, the Group established the Yamaha Group Timber Procurement Policy, which sets forth directives for timber usage in order to better conserve this precious resource and to ensure its availability for continued use in the future, without depleting biodiversity or damaging ecosystems. The Group has also established the Yamaha Supplier CSR Code of Conduct, which clearly stipulates points related to the harvesting and trading

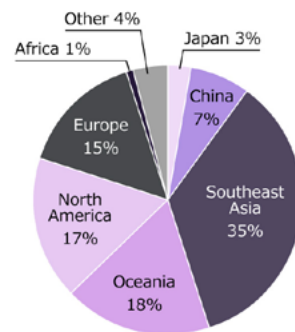
of timber resources that suppliers are requested to observe. This policy and code guide the Group in conducting sustainable procurement and in fully utilizing timber, a highly renewable resource, without waste.

[Yamaha Group Timber Procurement Policy >](#)
[Yamaha Supplier CSR Code of Conduct >](#)

Breakdown of Timber Resources Used by the Yamaha Group by Origin (Fiscal 2023)

Breakdown of Timber Purchase Volumes by Location

Overall Volume: 845,000 m³



Note: Figures exclude products that are not Yamaha brand or original equipment manufacturer (OEM)/original design manufacturer (ODM) products.

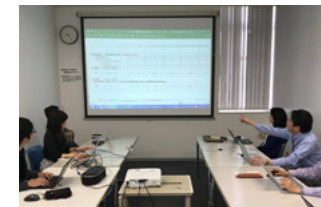
For details regarding specific volume figures, please refer to the [ESG Data](#) page.

Timber Due Diligence

Sustainable use of timber requires consideration for forest conservation and for timber resource volumes. At the same time, it is crucial to contribute to community development through employment opportunities and infrastructure to sustain the economic viability of the supply chain. The Yamaha Group has established a due diligence system to prevent the procurement of timber from illegal sources, and promotes a strict confirmation process for the legality of timber harvesting through site visits and surveys of documents for procurement sources. In addition to environmental considerations, the Group is expanding the use of

certified timber, which is produced in socially and economically sustainable forests and contributes to the advancement of the community.

The Yamaha Group conducts surveys targeting all business partners from which timber was purchased to assess the place of origin, the legality of harvesting, and the sustainability of relevant resources. Based on the results, we perform stricter verification of legality for timber deemed to represent a high risk by undertaking further investigations including local site visits and assessments by a committee comprised of members of the Timber Procurement Division and the Sustainability Division. We confirmed that 99.6% (volume ratio) of procured timber was low risk in fiscal 2023. The Yamaha Group conducts such surveys each year with the cooperation of suppliers and is aiming to achieve a 100% rate of low-risk timber procurement. Additionally, we are actively adopting certified timber. Certified timber constituted 53.2% of timber purchased in fiscal 2023 (by volume, 5.6% of which was from newly adopted sources). The medium-term management plan announced in April 2022 put forth the target of achieving a ratio of sustainably sourced timber of 75% by fiscal 2025, and we have formulated internal standards to evaluate the sustainability of non-certified timber to further us toward this goal. Going forward, the Yamaha Group intends to expand usage of certified timber and other timber that complies with its internal standards.



Legality assessment meeting



Site visit

■ Cultivation of Quality Timber through Coordination with Local Communities (Tone Forest Activities)

The Yamaha Group uses a diverse variety of timber to produce musical instruments and other products. However, concerns regarding the sustainability of these resources have arisen in light of the recent declines in timber resource volume and quality. The Group aims to address these concerns through Tone Forest activities, which are being advanced through coordination with local communities for the purpose of developing sustainable forests to ensure that high-quality timber suited to musical instrument production can be secured in a sustainable manner. We partner with government agencies and academic institutions to advance these activities around the world.

■ Initiatives in Tanzania (African Blackwood)

African blackwood (*Dalbergia melanoxylon*), an important material used for woodwind instruments, is classified as near threatened by the Red List of Threatened Species, which is compiled by the International Union for Conservation of Nature and Natural Resources, and a downward trend in the resource volume has been seen in recent years. In 2015, Yamaha began investigations of African blackwood looking at matters such as ecology, resource stocks, and forest management status in Tanzania, where this tree is grown. Seeking to create a business model that can utilize African blackwood timber in musical instruments in a sustainable manner, we have been working to introduce cultivation techniques, improve land utilization practices, and develop material usage technologies from the perspectives of forest preservation, musical instrument production, and local communities. These activities have been selected for subsidy programs by various third-party institutions, including as a base of pyramid (BOP) business by the Japan International Cooperation Agency (JICA) over the period from 2016 to 2019 and as a Forestry Agency subsidy project in 2015 and 2021. We are moving ahead with these activities with the cooperation of numerous research institutions, NGOs, and other organizations.

Currently, three communities are taking part in the regular African blackwood planting activities Yamaha commenced in 2015. In fiscal 2023, we planted approximately 3,500 seedlings, making for an aggregate total of around 15,000 saplings planted across an area of roughly 8.5 ha over the six years of these activities. Data on the growth status of the planted saplings and their surrounding environment has been used to develop a fundamental understanding of how to foster quality trees. Meanwhile, we have been working together with local NGOs and community members to make sapling cultivation, tree planting, and other forest management activities entrenched practices within communities. In addition, Yamaha commenced the trial introduction of fast-growing Meliaceae family plants into community farms in 2021. These plants have the potential to be used as timber after a mere 15 years, thereby presenting the possibility for benefits from timber production in the medium term while also generating the synergetic benefits of helping preserve African blackwood and other scarce resources through improvements to community land utilization practices.

Moreover, there are still numerous cases in which African blackwood timber produced in Tanzania cannot be used for producing musical instruments due to flaws such as cracks or breaks. Yamaha is moving ahead with the development of elemental technology for improving the usage inefficiency of such unutilized resources with the goal of increasing the value of these resources to provide additional incentives for preserving forests.



Growing sapling at test cultivation site



Fast-growing sapling planted on a trial basis

■ Initiatives in Hokkaido (Sakhalin Spruce)

Kitami Mokuzai Co., Ltd., a Hokkaido-based company that manufactures piano soundboards, signed an agreement with the Okhotsk General Subprefectural Bureau and the town of Engaru, Monbetsu-gun, Hokkaido Prefecture in 2016 under which these organizations have been working together to foster sustainable forests and expand the demand for Sakhalin spruce (*Picea glehnii*) plantation timber.

These activities were expanded on in 2021 with the conclusion of a comprehensive cooperation agreement between Hokkaido Prefecture and Yamaha Corporation, based on which we are advancing Tone Forest activities across the entirety of Hokkaido Prefecture. Sakhalin spruce trees have continued to be cultivated in Hokkaido Prefecture due to their value as a timber resource, and have even been employed in Yamaha piano soundboards in the past.

The agreement with Hokkaido Prefecture calls for us to help the prefecture once again achieve a reliable supply of high-quality Sakhalin spruce trees that can be used in producing piano soundboards and to transmit the prefecture's forestry culture to future generations.

In October 2022, we held a tree planting event at an Engaru Town Sakhalin spruce plantation located close to Kitami Mokuzai. In this third iteration of this event, a group of approximately 70 people comprised of employees of Kitami Mokuzai, members of their families, and Yamaha representatives gathered to plant some 600 Sakhalin spruce saplings. Moreover, we displayed an exhibit introducing these activities to the general public at the Mokuiku Plaza in the Chi-Ka-Ho event that took place as part of Sapporo City's Mokuiku Festa 2022 in January 2023. In addition, we arranged a handmade castanet making event that utilized unused timber materials produced during the thinning of Sakhalin spruce trees and forestry processes related to painted maple trees (*Acer pictum* subsp. *mono*). We also planned a workshop as part of the forest education aspect of our Tone Forest activities with the goal of making children more familiar with instrument production and trees. This workshop took the form of a

castanet making event that saw participation by 53 individuals over its four-day span at the Yamaha Ginza Shop in March 2023.

Yamaha is advancing basic research on how to foster Sakhalin spruce timber for use in musical instrument production at both existing plantations and new locations. For example, we are engaged in joint research on the growth and quality of Sakhalin spruce plantation timber together with universities and research institutions as well as forestry surveys of publicly and privately owned forests.



Tree planting event arranged as part of the agreement with the Okhotsk General Subprefectural Bureau and the town of Engaru (October 2022)

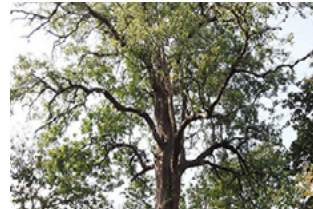


Castanet making event held at the Yamaha Ginza Shop (completed castanets can be seen in bottom right corner)

■ Initiatives in India (Indian Rosewood)

Indian rosewood (*Dalbergia latifolia*) is a valuable tree species associated with Southern India that is also an important material for musical instrument production used in guitar side and back panels. In 2022, Yamaha commenced surveys on Indian rosewood forests, cultivation, and replacement conditions and on supply chains that can connect trees in forests centered on the Southern Indian states of Karnataka and Kerala to musical instrument materials. Indian rosewood timber traded on the Indian market sometimes originates from trees grown in the wild and other times comes from trees raised to provide shade in coffee plantations. However, natural replacement of trees in forests is not advanced in either case, creating concerns for the sustainability of this resource. Going forward, Yamaha intends to create and verify a business model for

producing quality Indian rosewood timber through cooperation with local companies, NGOs, and research institutions.



Adult Indian rosewood tree in Karnataka State




Indian rosewood logs and cross section (bottom right corner) collected from government-managed lumberyard

■ Environmental Considerations for Timber Resources in Product Creation


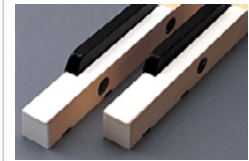

The Yamaha Group is proactively utilizing wood cultivated specifically for industrial purposes on planned plantations as well as certified wood, which is properly managed so that the lumbering process does not harm the forest or ecosystems. The goal of measures is to use the high-quality renewable resource of trees on a sustainable basis. In addition, the Group focuses on developing alternative materials that accurately reproduce the superior sound quality of scarce wood materials best suited for instruments.

■ Products Designed with Consideration for Timber Resources



Products Designed to Conserve Natural Timber Resources

| Products / Services | Overview | Related pictures |
|------------------------|---|---|
| RGX-A2 electric guitar | Use of afforested timber in place of natural timber |  |

Products Using Alternatives for Scarce Timber

| Products / Services | Overview | Related pictures |
|--|--|---|
| Acoustalon™ glass-strengthened plastic resin | Use of substitutes for scarce timber in marimba sound board parts |  |
| Ebony-style natural wood | Substitute for black piano key parts made from scarce ebony |  |
| Carbon bows | Use of substitutes for brazilwood (Paubrasilia echinata) and other scarce timber |  |

Products that Limit Chemical Substance Use (Enhancement of Timber Using A.R.E.*)

| Products / Services | Overview | Related pictures |
|---|--|---|
| YVN500S acoustic violins, L Series acoustic guitars, etc. | Use of A.R.E. treatment on body materials to improve sound characteristics without using chemical agents |  |
| Yamaha Hall in the Yamaha Ginza Building | Use of A.R.E. treatment on stage floor to improve sound characteristics without using chemical agents |  |

* Acoustic Resonance Enhancement (A.R.E.) is Yamaha's proprietary technology for artificially stimulating the same changes in wood that occur during natural aging in a short time to improve acoustic characteristics. Through precise control of temperature, humidity, and atmospheric pressure using a specialized device, the acoustic properties of the new wood can be manipulated to realize a more ideal condition that is similar to the acoustic characteristics of wood materials in instruments that have been played for years. Prior timber enhancement technologies often utilize chemical agent-based enhancement methods. A.R.E., however, does not use any chemical agents in the processing stage. Therefore, this technology has a lower environmental impact.

Environmental Protection and Preservation Initiatives

■ Preservation of Forests and Natural Environments

The Yamaha Group is committed to the preservation of forests and natural environments, and we are therefore engaged in forestry activities around the world with the goal of regenerating natural forests and recovering biodiversity in a manner that is matched to the conditions of the given regions.

■ Yamaha Forest Activities in Indonesia

Over the period spanning from 2005 to 2016, Yamaha carried out Yamaha Forest activities together with local subsidiaries in Indonesia to contribute to the local community through tree planting. In these activities, we planted tree types selected based on academic studies, and approximately 170,000 trees were planted across an area of 176.7 ha. The Company has confirmed the status of forest growth using satellite imagery and estimated the CO₂ emissions absorbed by the planted trees. The Company estimates that approximately 42,000 t-CO₂ have been absorbed to date.

■ Enshunada Coastal Forest Recovery Support

In 2007, Yamaha Corporation signed a supporter of future forests in Shizuoka agreement with Shizuoka Prefecture and Hamamatsu City. Based on this agreement, Yamaha Corporation has been working to support the reforestation of the Enshunada Coastal Forest owned by Hamamatsu City. These activities include continuously

planting saplings in a coastal forest that was seriously damaged by pine weevils. To date, we have planted more than 3,000 trees of species including wax myrtle (*Myrica rubra*), Ubame oak (*Quercus phillyraeoides*), Japanese spindletree (*Euonymus japonicus*), and Chinese hackberry (*Celtis sinensis*). In recent years, we have been placing particular emphasis on black pine (*Pinus thunbergii*), which is resistant to pine weevil damage, in our tree planting activities. The planted trees have been growing steadily.

These activities were given the certification label (smile label) by the office overseeing supporters of future forests in Shizuoka in the Forest Resources Division of the Environmental Protection Bureau of Shizuoka Prefecture's Community and Environmental Affairs Department. This label certifies that these activities serve as a physical contribution (smile 1), a financial contribution (smile 2), and a partnership with the region (smile 3).



Tree planting event (2022)



Grown pine tree



Smile 1:
Physical contribution



Smile 2:
Financial contribution



Smile 3:
Partnership with the region

■ Chemical Substance-Related Initiatives

To limit the impact of chemical substances on the environment and ecosystems, the Yamaha Group is working to enhance management and reduce usage of chemical substances while implementing measures to prevent leakage.

[Prevention of Pollution and Chemical Substance Management >](#)

■ Water Quality Preservation

The Yamaha Group is building treatment facilities and conducting monitoring and audits to prevent wastewater from business sites from negatively impacting water and related habitats.

Yamaha Music Manufacturing Japan Corporation, which is located within the Yamaha Corporation Toyooka Factory, conducts the production of wind instruments. Wastewater containing chemical substances from the wind instrument production process at this company is detoxified before being released into waterways. Regular assessments of the impact of wastewater on ecosystems are conducted. Moreover, the impact of such factory wastewater is evaluated using the bioresponsive Whole Effluent Toxicity method,* and these evaluations have confirmed that the impact on ecosystems is minimal.

* The Whole Effluent Toxicity method is a wastewater management method that evaluates whether wastewater from factories and business sites is harmful to ecosystems by measuring the impact on the existence, growth, and reproduction of aquatic organisms, such as algae, water fleas, and fish in diluted wastewater.

[Prevention of Pollution and Chemical Substance Management >](#)