

ENVIRONMENT

The Ricoh Group considers it important to simultaneously protect the environment while generating profits. We accordingly practice environmental management, through which we strive groupwide to reduce our eco-footprint and improve the Earth's regenerative capabilities. **1** We seek to materialize social sustainability by tackling material issues **2** of contributing to carbon neutrality and a circular economy. We have set environmental goals for 2030 and 2050. We have also formulated ESG targets linked to material issues, and are deploying measures to reach them under mid-term management plans.

Ricoh Group environmental declaration

We proactively reduce environmental impact and strive to improve the Earth's self-recovery capabilities to achieve a zero-carbon society and a circular economy through business.

WEB Refer to our website: **1** Environment **2** Materiality

Achieving a zero-carbon society

We are endeavoring to virtually eliminate greenhouse gas emissions across our value chain by 2050. In view of an accelerating global decarbonization shift, we seek to reduce our Scope 1 and 2 greenhouse gas emissions by 63% from the fiscal 2015 level by 2030. This ambitious target meets the Science Based Targets Initiative **1** criteria for helping limit the rise in global temperature to 1.5°C above pre-industrial levels. In fiscal 2020, we doubled our 2030 reduction target for

Scope 3 greenhouse gas emissions from our supply chain to 40%. In the same year, we lifted our goal for sourcing renewable energy from at least 30% to 50%. We will speed up initiatives to eliminate our carbon emissions.

We are drawing on sustainable funding to help reach our objectives, a good example being a sustainability-linked loan agreement that we concluded with MUFG Bank, Ltd.

Ricoh Group environmental goals (zero-carbon)

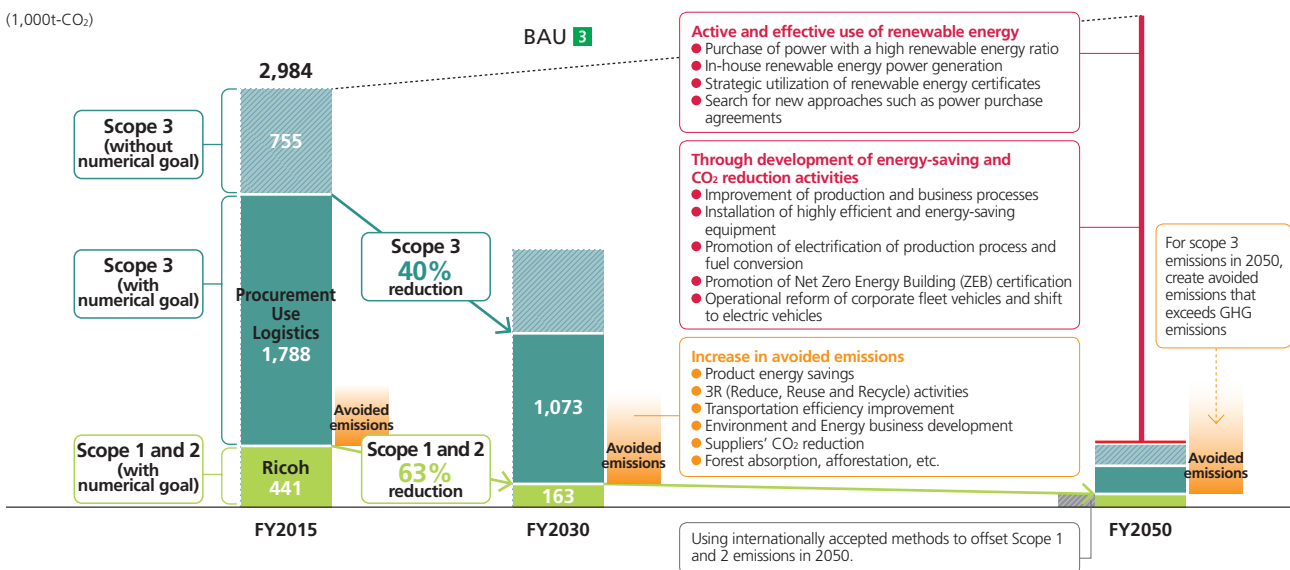
Goals for 2030

- GHG Scope 1 and 2: **63% reduction** **2** vs. fiscal 2015
- GHG Scope 3: **40% reduction** **2** vs. fiscal 2015 (procurement, use, and logistics categories)
- Switch to 50% renewable energy

Goals for 2050

- Targeting zero GHG emissions across the entire value chain
- Switch to 100% renewable electricity

(1,000t-CO₂)



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1 Science Based Targets Initiative

This international initiative certifies that companies' greenhouse gas reduction goals are in keeping with scientific evidence

2 GHG Scope 1, 2 and 3

- GHG Scope 1: All direct GHG emissions from our manufacturing plants, offices, vehicles, etc.
- GHG Scope 2: Indirect GHG emissions from the consumption of electricity and heat that we purchase
- GHG Scope 3: Emissions in the supply chain from business activities (excludes GHG Scope 1 and 2)

3 BAU

Abbreviation for Business As Usual, representing emissions levels in the absence of additional initiatives

Key Moves

- Doubled greenhouse gas emissions reduction target for 2030 to 40%
- Lifted goal for sourcing renewable energy by 2030 from at least 30% to 50%
- Completed switch to 100% renewable electricity usage at headquarters by leveraging comprehensive assessment system for renewable electricity
- Endorsed climate change-related initiatives, Uniting Business and Governments to Recover Better, and Business Ambition for 1.5°C
- Launched One Million Trees Project to conserve forests

Decarbonization endeavors and achievements in fiscal 2020

In addition to promoting energy-saving activities through improving production processes, introducing high-efficiency equipment, and reviewing logistics, we are also expanding the use of renewable energy to achieve our 2030 target.

We launched a comprehensive renewable electricity evaluation system in fiscal 2021 to increase renewables as a proportion of total energy consumption at domestic sites and ensure energy quality. Under the system, we screen and select renewable electricity suppliers for Group companies based on economic viability and environmental and regional contributions. Those companies can thus deploy renewable energy more effectively. Through this system, we switched to 100% renewable energy at headquarters



The new Wakayama Branch Office acquired ZEB certification

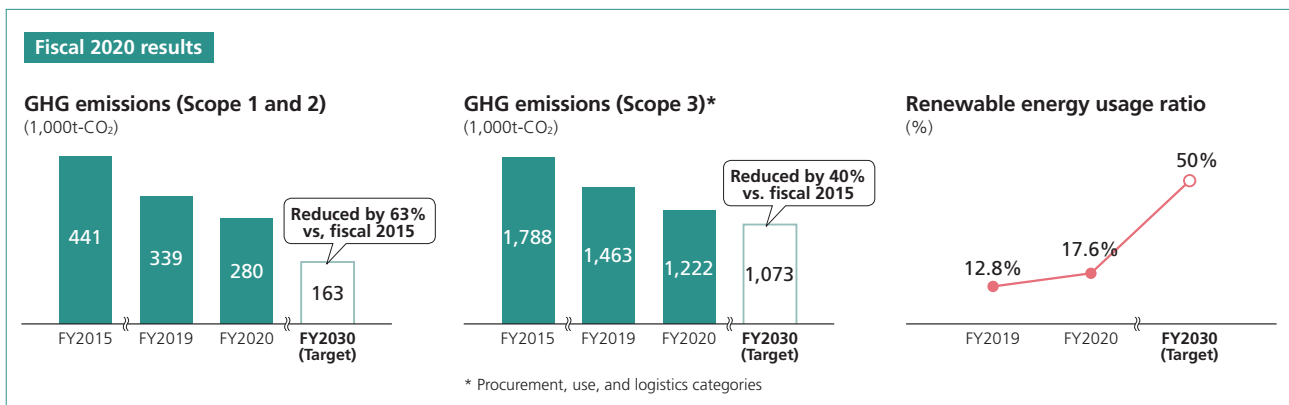


Private power generating equipment at a RE100 certified British plant

from fiscal 2021. The 4.3 gigawatt-hours annual renewable energy consumption would reduce our carbon dioxide emissions by 2,000 metric tons per year. We are in the process of seeking Net Zero Energy Building **4** certification for our domestic sales sites—five sites are already certified to date.

For key overseas sites, we aspire to switch entirely to renewable energy by fiscal 2030. Our Chinese plant that initiated mass production from July 2020 employs solar power for its generating equipment and displacement ventilation and air conditioning systems. It also uses natural lighting and ventilation. Thus, the plant's greenhouse gas emissions are 70% lower than those of conventional production facilities. The number of Group sites using 100% renewable power is rising every year, particularly in Europe, China, and elsewhere in Asia. We will keep endeavoring to enhance the quantity and quality of procured energy.

Our combined direct (Scope 1) and indirect (Scope 2) greenhouse gas emissions were 280,000 metric tons in fiscal 2020. This was 17.4% lower than a year earlier and 36.5% down from fiscal 2015. Renewables accounted for 17.6% of our electricity usage in fiscal 2020, up 4.8 percentage points from a year earlier.



Information disclosure based on TCFD framework **3**

Climate change is one of Ricoh's critical management issues. We identify associated risks and undertake decarbonization initiatives in keeping with the Task Force on Climate-related Financial Disclosures (TCFD) framework. We strive to reduce exposure to increasingly severe natural disasters by formulating and swiftly deploying risk management and business continuity plans.

Ricoh has been involved in environmental management from early on. Tackling climate change will present opportunities for us to increase the value of our products and services. We are accordingly striving to deliver products and solutions that help our customers decarbonize while creating new businesses.

WEB Refer to our website: **3** Information disclosure based on TCFD framework

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4 Net Zero Energy Buildings (ZEBs)

These structures consume less energy every year. A ZEB conserves more than 100% of its standard primary energy. The savings for Nearly ZEB and ZEB Ready are 75% or 50% or more.

Approaches to four TCFD recommendations and fiscal 2020 progress

Governance	Action	<ul style="list-style-type: none"> CEO-chaired ESG Committee supervises climate change issues at the management level ESG Committee manages progress toward environmental goals and deliberates on decarbonization-related investments Sustainability Management Division drives forward with companywide climate change initiatives based on ESG Committee decisions
	Progress in fiscal 2020	<ul style="list-style-type: none"> Deliberation and decision on climate change-related matters by the ESG Committee (held four times) (see page 65) <ul style="list-style-type: none"> Climate change risks and opportunities in line with TCFD Progress on decarbonization activities Enhancement of renewable energy measures to accelerate decarbonization activities Introduction of an ESG-linked executive remuneration system that varies depending on the degree of achievement of the GHG reduction target for executives and the management
Strategy	Action	<ul style="list-style-type: none"> Contribution to SDGs given priority in formulating a Mid-term Management Plan Zero-carbon Society included in the material issues Risks and opportunities identified through scenario analysis and approved by ESG Committee
	Progress in fiscal 2020	<ul style="list-style-type: none"> Conducted a cross-divisional workshop to consider risks and countermeasures related to natural disasters Progress in activities for decarbonization and customer appeal Concluded an agreement of Sustainability Linked Loans with MUFG Bank to promote decarbonization initiatives
Risk management	Action	<ul style="list-style-type: none"> The Risk Management Committee established to manage major focus managerial risks, which are risks that can significantly affect business performance categorized into two groups: strategic risks and operational risks
	Progress in fiscal 2020	<ul style="list-style-type: none"> Documentation of initial response, reporting procedure, establishment and roles of each response division in the event of an emergency Developed regional and operational business continuity plans that encompass regular facilities inspections and disaster drills Intensively surveyed flood risks and formulated response plans for 19 key sites in Japan
Metrics and targets	See page 41 for details on Ricoh Group's environmental goals and page 42 for decarbonization endeavors and achievements in fiscal 2020.	

Risks from climate change and Ricoh's actions

Transition risks: Analysis based on 2°C and 1.5°C scenarios Physical risks: Analysis based on 4°C scenario

	Impact on Ricoh Group's business	Financial impact	Urgency	Ricoh's actions	
Transition risks	Carbon taxes and emissions trading systems applied to suppliers	<ul style="list-style-type: none"> Carbon pricing (carbon tax emissions trading) will be applied mainly to material suppliers with high GHG emissions. The price will be passed on to raw materials, and procurement costs will increase. 	Medium	Medium	<ul style="list-style-type: none"> Reducing virgin materials by sales of recycled machines and utilization of recycled materials Actively supporting suppliers' decarbonization activities and addressing the risk of procurement cost increase
	Response to accelerated transition to a decarbonized society by consumers and investors	<ul style="list-style-type: none"> Due to the advance demands for achieving the target of 1.5°C and achieving RE100, additional costs for implementing measures such as energy-saving/renewable energy facility investment and switching to renewable energy are incurred. 	Small	Medium	<ul style="list-style-type: none"> Active development of energy-savings and renewable energy measures that contributes to the SBT 1.5°C Financing by sustainability linked loans
Physical risks	Rapid increase of natural disasters	<ul style="list-style-type: none"> Due to climate change, extreme weather has become more severe, causing production stops and sales opportunity losses due to disruption of the supply chain, etc. 	Medium	High	<ul style="list-style-type: none"> Supply chain risk addressing Strengthen risks response at Japanese sites
	Regional epidemics of infectious diseases	<ul style="list-style-type: none"> Impact on production plan due to parts supply disruption Insufficient inventory due to lower operating rates at production sites Decrease in sales opportunities due to difficulty of face-to-face business 	Medium	Low	<ul style="list-style-type: none"> Strengthening business continuity plans against infectious diseases IT-based operation and negotiation, decentralization of production bases/automation of processes, additional stock of parts and products
	Declining forest resources	<ul style="list-style-type: none"> Global warming has led to an increase in forest damage caused by wildfires, insects, etc., which has worsened the stable supply of raw materials for paper. 	Small	Low	<ul style="list-style-type: none"> Reducing use of base paper with Environmentally Friendly Paperless Labels Promoting forest preservation activities

Opportunities for climate change

Contribution areas related to climate change	Achievements in fiscal 2020
Contributions to climate change mitigation	<p>Approx. ¥960 billion</p> <ul style="list-style-type: none"> Sales of products contributing to decarbonization (with eco-label certifications): Sales of major business negotiations based on ESG performances: Sales in the products and parts recycling business: Sales in energy creation and energy saving business: Creating and developing new businesses; Sales of eco-friendly products such as Silicone-top linerless labels and Foamed PLA sheets: <p>Approximately ¥900 billion Approximately ¥10 billion Approximately ¥30 billion Approximately ¥20 billion</p>
Contributions to climate change adaptation	<p>Approx. ¥70 billion</p> <ul style="list-style-type: none"> Solution sales to support new ways of work (Scrum packages, Scrum assets*1 and WTA*2): Creating and developing new business; Sales of dye-sensitized solar cells: <p>Approximately ¥70 billion</p>

*1 Packaged solutions sold to small and medium-sized companies in Japan *2 Work Together, Anywhere: Packaged solutions in Europe

 [Refer to our website: Information disclosure based on TCFD framework](#)

Social leadership: Spearheading and participating in key national and international initiatives

We have led the way in key initiatives in Japan and overseas.

We frequently offer recommendations to the government to drive climate change measures and expand the use of renewable energy in Japan.

April	2017	Becomes the first Japanese company to join RE100
August	2018	Commits to recommendations of Task Force on Climate-Related Financial Disclosures
October	2018	Signs Japan Climate Action Summit declaration
January	2020	Becomes the only Asian company on RE100 Advisory Committee
March	2020	Obtains Science-Based Targets approval for setting emissions reduction goals that help limit global temperature rise to 1.5°C above pre-industrial levels
June	2020	Signs Uniting Business and Governments to Recover Better statement, with Jake Yamashita attending a meeting with Japan's Minister of the Environment to exchange views about climate change issues
September	2020	Shortlisted for RE100 Leadership Awards
October	2020	Commits to Business Ambition for 1.5°C
November	2020	On behalf of Ricoh as a Japan Climate Initiative member, Jake Yamashita proposes renewable energy deregulation to Japan's Minister for Regulatory Reform
March	2021	Joins WIPO GREEN

Realizing a circular economy

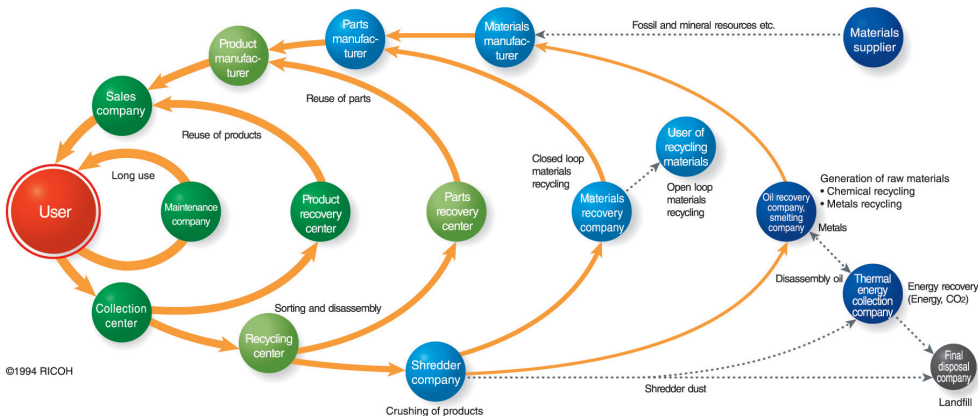
Interest in a circular economy has been surging in recent years. In 1994, the Ricoh Group created the Comet Circle™ concept for materializing such an economy. We have since drawn on its principles to foster effective resources usage across the product life cycles.

Factoring the 3Rs of reduce, reuse, and recycle and long-term usage into designing products is imperative to materialize a circular economy. In 1993, we formulated the Policy on Recyclable Design and cultivated a range of expertise,

including grade labeling on plastic molded parts, strength design to allow reuse, high-value-added parts reuse, high-quality materials recycling, disassembly, and sorting improvements, and strength design to use fewer packaging materials.

We have established goals for 2030 and 2050, and are endeavoring to use fewer virgin materials and recycle them. We also formulated a policy on plastic usage in Ricoh products and are accelerating efforts to reduce or replace plastics from fossil resources by 2030.

Comet Circle™ concept for realizing a circular economy



Comet Circle™

Five key points

- (1) Reduce environmental impact at every product lifecycle stage, not just as a product manufacturer and distributor but also through upstream and downstream activities
- (2) Prioritize inner loop
- (3) Undertake multitiered recycling
- (4) Pursue and secure economic viability
- (5) Establish partnerships and share information at every stage

Ricoh Group environmental goals (resource conservation)

Goals for 2030

● Virgin material usage ratio for products **1: 60% or less**

Goals for 2050

● Virgin material usage ratio for products: **12% or less**

Ricoh Group Plastic Policy for products

Ricoh has set targets for resource conservation for the realization of a circular economy. We are promoting a comprehensively efficient use and recycling of resources and switching to sustainable resource use to achieve this. In addition, while aiming to address social issues by shifting to a circular economy and tackling ocean micro-plastic pollution, we established a plastic policy for products and packaging materials as shown below and are developing relevant business activities.

- 1. Breakaway from dependence on virgin plastic derived from fossil resources
- 2. Material recyclable design

Specific targets and goals for plastic

- Use of post-consumer recycled plastics for imaging products
Goals for 2030: Post-consumer recycled plastic content rate of 50% or more
- Reduction in packaging materials for virgin plastic derived from fossil resources
Goals for 2030: 50% or more, compared to the conventional model
- Display resin identification code and single material use
Goals for 2025: Clearly indicated on all parts and all packaging materials

Resource conservation initiatives and fiscal 2020 results

One key product initiative has been to set up a cross-organizational working group to drive efforts to achieve resources conservation targets for 2030 and 2050. Setting weight targets for new and upgraded models has enabled us to reduce the sizes and weights of imaging business offerings. Efforts to recycle products and parts and increase the number of machines incorporating at least 5% recovered plastic materials reduced our fiscal 2020 consumption of virgin materials by 45.4% from fiscal 2007. The virgin material usage ratio was 90.7%.

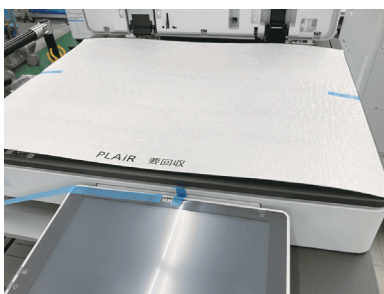
We are helping to shrink our environmental footprint at every operational stage, from procurement to design, production, sales, and collection. For example, recycled materials (recovered plastic materials and electric furnace steel plate*) account for around 17% of the weight of materials in the main units of the RICOH IM 7000/8000/9000. We launched these high-speed digital monochrome MFPS in January 2021. We lowered the weight of plastics and plastic bags for product packaging by 36%. We also developed digital full-color recycled MFPS, introduced in June

2021, by using advanced recycling technologies to sort, reclaim, and inspect reused parts. These models thus incorporate an average of 81%^{*2} reused parts by weight. We lowered the environmental impact of entire product lifecycles, including transportation, use, disposal, and recycling, by about 19%^{*2}. We developed PLAiR sheet, which employs a plant-derived polylactic plastic for cushioning. We have labeled this sheet as requiring collection and recycling.

We develop production processes and approaches to minimize resource losses. We are constantly mindful of the need to streamline production simultaneously and decrease emissions. We are thus steadily reducing emissions volumes. We extensively reuse waste as a resource. The waste recycling rate from our business sites has reached around 98%.

We engage in activities that reflect our acknowledgment that risk management is a top priority. For example, we visit waste contractors to confirm that they treat waste properly. We also conduct internal audits of waste storage conditions to prevent contamination.

We recognize that water resources are indispensable for business activities and that safe and secure water use is everyone's right. Accordingly, the Ricoh Group closely monitors water consumption at all of its global production sites. We assess risks using the Aqueduct Water Risk Atlas of the World Resources Institute, an international environmental nongovernment organization, and strive to use water resources appropriately, taking into account regional characteristics and public policies.



Plant-derived polylactic plastic sheet PLAiR

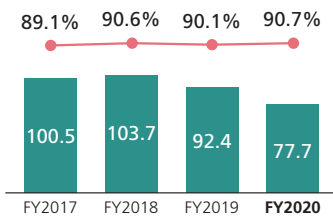
*1 In principle, these steel sheets are made from 100% steel scrap
*2 For RICOH MP C4504RC SPF, as of June 2021, based on Ricoh research

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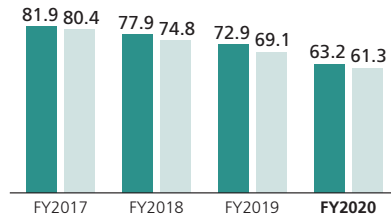
1 Virgin material usage ratio for products
Ratio of virgin material use to total resource input

Fiscal 2020 results

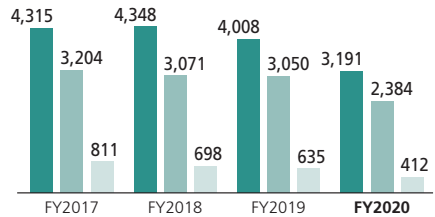
Virgin material usage and usage ratio (1,000t/%)



Waste (1,000t)



Water (1,000m³)



■ Virgin material usage amounts
● Virgin material usage ratio for products
■ Total amount of waste
■ Amount of resource recovered
■ Water withdrawal ■ Water discharge
■ Reused/recycled volume

WEB Refer to our website: [ESG Data Book](#)

Pollution prevention initiatives 1

We formulated our Basic Rules for the Management of Chemical Substances to minimize the adverse effects of chemical substances on human health and the environment. We are endeavoring to reduce the use and emissions of hazardous chemical substances used in our operations and products.

We prohibit or restrict the use of certain substances at our business sites in manufacturing stages. If using such substances is unavoidable, we assess potential contamination and human health impacts and minimize the risks of using them.

We also recognize the impact of chemical contamination as

a serious financial risk. We accordingly established the Environmental Risk Assessment Standard for Land and Building Transactions and Leases. We monitor soil and groundwater contamination, polychlorinated biphenyl, asbestos, and other environmental regulatory requirements as part of the efforts to lower operational risks.

We collaborate with suppliers to ensure compliance with national laws and regulations worldwide. We also manufacture products that meet stricter internal standards than those of environmental labels and other legislative requirements.

WEB Refer to our website: [Promotion of sustainable environmental management—Working on pollution prevention](#)

Conserving biodiversity 2

We believe that conserving biodiversity as an underpinning of ecosystem services leads to creating a prosperous and sustainable economy. Accordingly, we established the Ricoh Group Biodiversity Policy. We are undertaking initiatives to lower the environmental impact of our operations while maintaining and enhancing the Earth's regenerative capacity.

We have mapped the relationships between product life cycles, land use, and other business elements and the ecosystem. Based on the results, we are working with our business units to implement activities that consider biodiversity throughout the supply chain.

WEB Refer to our website: [Promotion of sustainable environmental management—Conservation of biodiversity](#)

Biodiversity conservation through business activities:

Regulations of Ricoh Group Products Made of Wood

We established the Regulations of Ricoh Group Products Made of Wood to safeguard the environment and biodiversity. The rules prohibit the use of wood feedstock from particular forests and define requirements for raw materials suppliers. They apply to all Ricoh and Ricoh family brand product materials incorporating wood, including paper products, product manuals, packaging and cushioning, and pallets.

Forest conservation activities:

One Million Trees Project

Conserving forests is essential to protect biodiversity and prevent global warming and ensure sustainable community development, so we undertake extensive efforts to that end. We collaborate with an array of stakeholders, including environmental non-governmental organizations and other experts, local governments, and community members worldwide to conserve forests and increase tree numbers.