



Roof of Ricoh Manufacturing (Thailand) Ltd. plant

The Ricoh Group considers it essential to simultaneously protect the environment while generating profits. We accordingly practice environmental management ❶, through which we strive to reduce our eco-footprint and improve the Earth’s regenerative capabilities Groupwide. We seek to materialize social sustainability by tackling material issues ❷ 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: ❶ Environment ❷ Materiality

- Key moves**
- Steadily reduced Scope 1, 2, and 3 greenhouse gas emissions in line with the decarbonization roadmap to reach 2030 targets
  - Improved energy efficiency by using power purchase agreements at four domestic and overseas sites and Ricoh-owned facilities
  - More swiftly identified environmental impact reductions by reinforcing product lifecycle assessment structure
  - Published TCFD Report and Circular Economy Report overviewing Ricoh’s efforts to address climate change and contribute to a circular economy (the latter was a first for a Japanese company)

Achieving a Zero-Carbon Society

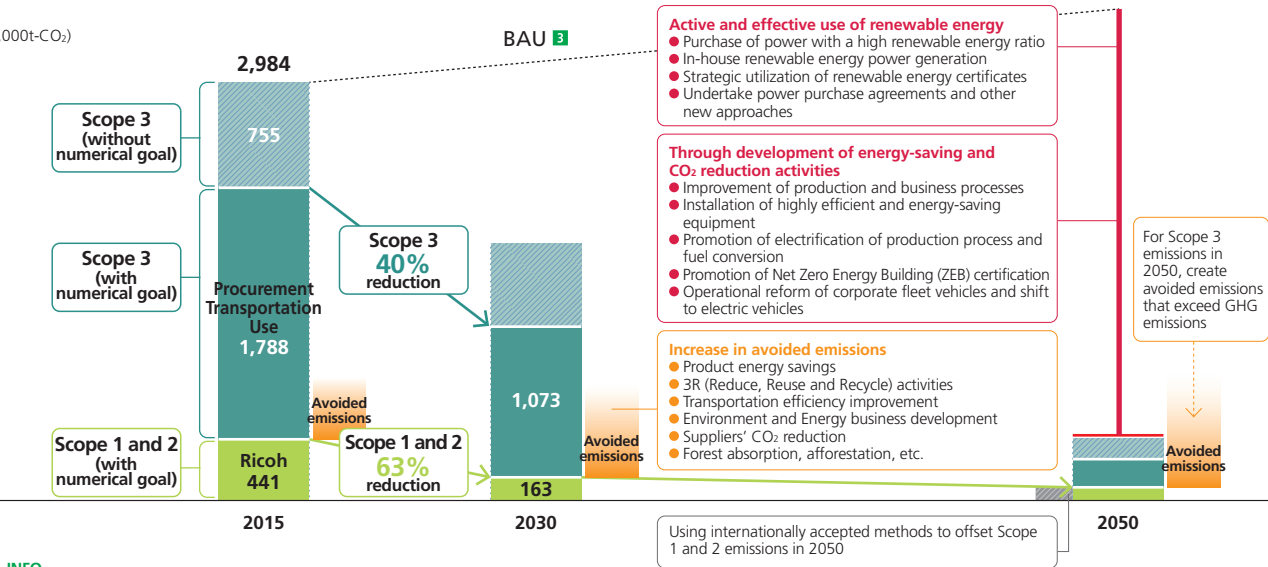
We aim to virtually eliminate greenhouse gas (GHG) emissions across our value chain by 2050. By 2030, we seek to cut Scope 1 and 2 GHG emissions by 63% from fiscal 2015 levels. This ambitious target satisfies the criteria of the Science Based Target Initiatives ❶, a global initiative, for limiting the rise in global temperature to 1.5°C above pre-industrial levels. We

also look to lower Scope 3 supply chain GHG emissions by 40% by 2030 from fiscal 2015 levels and obtain 50% of our electricity from renewable sources. We are pursuing these goals through a sustainability-linked loan agreement we concluded with Mizuho Bank, Ltd., under the Mizuho Eco Finance program.

- Ricoh Group environmental goals (zero-carbon)**
- Goals for 2030**

  - GHG Scope 1 and 2: **63% reduction** ❷ vs. FY2015
  - GHG Scope 3: **40% reduction** ❷ vs. FY2015 (procurement, use, and transportation categories)
  - Switch 50% of electricity used in business operations to renewable energy
- Goals for 2050**

  - Achieve zero GHG emissions across the entire value chain
  - Switch 100% of electricity used in business operations to renewable energy



**INFO**

**❶ Science Based Targets Initiative** This global initiative certifies that companies' GHG reduction goals are in keeping with scientific evidence

**❷ GHG Scope 1, 2 and 3**

- GHG Scope 1: GHG directly emitted by Ricoh Group factories, offices, vehicles, etc.
- GHG Scope 2: GHG produced by heat/power purchased by the Ricoh Group
- GHG Scope 3: Supply chain emissions from corporate activities (excluding GHG Scope 1 and 2)

**❸ BAU** Business As Usual, representing emissions levels in the absence of additional initiatives

Endeavors and achievements for Zero-Carbon society in fiscal 2021

We have conserved energy and tapped renewables at domestic and overseas sites to help restrict the global temperature rise to 1.5°C. Efforts have included formulating a GHG reduction roadmap to 2030 and streamlining production processes to consume less energy. We have deployed highly efficient, energy-saving equipment, acquired Net Zero Energy Building ❹ certification at domestic business sites, purchased electric corporate fleet vehicles, and reviewed logistics processes. We are striving to increase renewables in our energy mix by strategically deploying measures that match local circumstances. For example, we have augmented our solar power facilities by employing PPA models at four sites in Japan and abroad. We maintain renewable power contracts with retail electricity providers and procure renewable power certificates. We plan to switch to entirely renewable energy at our overseas sites by 2030. We use 100% renewable electricity to manufacture our A3 MFPS worldwide. We are focusing on measures to reduce GHG emissions from our supply chain. Efforts include various

initiatives, such as making products smaller and lighter, reducing, reusing, and recycling, designing products for long-term use, launching products with exceptional energy-saving performances, and overhauling logistics.

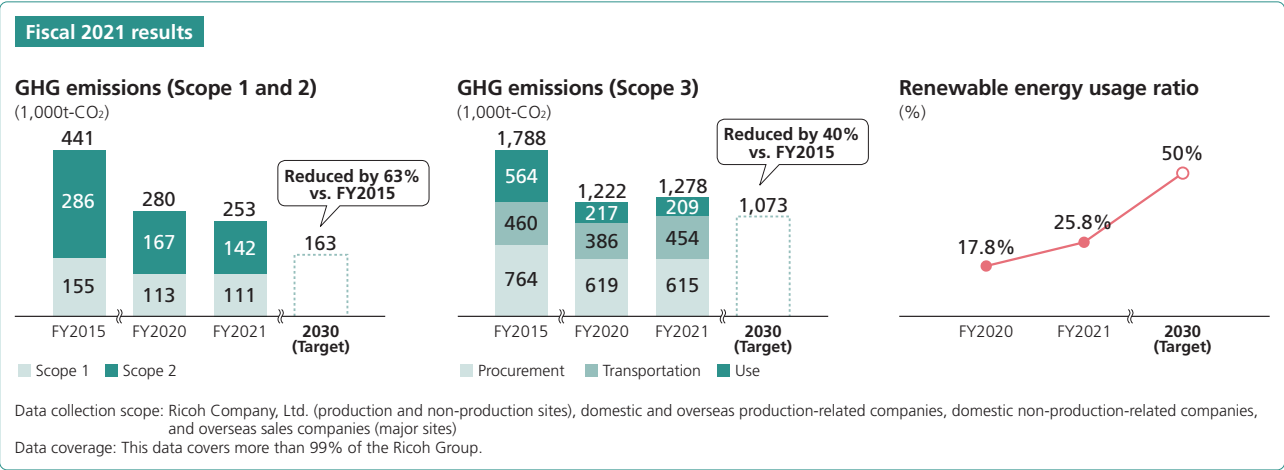
As a result of our efforts, our combined direct (Scope 1) and indirect (Scope 2) GHG emissions totaled 253,300 metric tons in fiscal 2021; this was 9.5% less than a year earlier and 42.6% down from fiscal 2015. Renewables represented 25.8% of our electricity usage in the period under review, up 8.0 percentage points from the previous term. GHG emissions from the supply chain, encompassing procurement, transportation, and use category (Scope 3), were 1,278,000 metric tons in fiscal 2021, down 28.5% from the fiscal 2015 base year. We aim to cut Scope 1 emissions by increasing the proportion of electric models in our vehicle fleet and electrifying boilers and other production equipment. Scope 2 reductions will entail accelerating renewable electricity deployments at domestic sites after completing that process at overseas operations.

Life cycle assessment initiatives

We undertake life cycle assessments (LCAs) every year to calculate avoided carbon emissions from our products and solutions. The emissions avoided from using our offerings totaled 1,033,000 metric tons in fiscal 2021. We initiated LCAs in the 1990s, primarily for our imaging products. We have presented qualitative information about our products since the EcoLeaf environmental label launch in 2002 in conformity with the Type III environmental declarations of ISO 14025. We are disclosing information in line with EcoLeaf calculation and disclosure standards for key imaging North America products.

LCA disclosure will extend to products we sell in Japan and Europe. Customers have stepped up efforts to lower Scope 3 emissions since the Paris Agreement. They have increasingly asked us about our products and services' decarbonization and carbon offset benefits.

The LCA Usage Working Group launched in fiscal 2021 to strengthen this initiative. Key persons were appointed in each business unit to promote internal LCA development. We will utilize LCA in new businesses, products, and services to expand our groupwide reduction contribution.

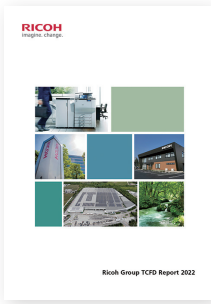


Information disclosure based on TCFD framework <sup>1</sup>

Climate change is one of Ricoh's critical management issues. We identify associated risks and undertake Zero-Carbon initiatives in keeping with the Task Force on Climate-related Financial Disclosures (TCFD) framework.

As an environmental management pioneer, we have focused on providing products and solutions to help customers decarbonize while creating businesses in response to climate change.

The Ricoh Group TCFD Report <sup>2</sup> has been published since fiscal 2021. It includes recognition of climate change risks and opportunities based on scenario analysis, specific plans and achievements in line with the decarbonization roadmap, and case studies.



<sup>1</sup> WEB Refer to our website: <sup>1</sup> Information disclosure based on TCFD framework <sup>2</sup> Ricoh Group TCFD Report

Climate change risks and Ricoh's countermeasures

Transition risks: Analyzed based on 2°C/1.5°C scenario<sup>\*1</sup> Physical risks: Analyzed based on 4°C scenario<sup>\*2</sup>

Impact on Ricoh Group's business		Impact <sup>*3</sup> Urgency <sup>*3</sup> Ricoh's actions	
Transition risks	Carbon taxes and emissions trading systems applied to suppliers	Carbon pricing (carbon tax/emissions trading) will be applied mainly to material suppliers with high GHG emissions, and the price will be passed on to raw materials, resulting in higher procurement costs.	2 3 <ul style="list-style-type: none"><li>Reducing new resource inputs by selling refurbished devices and using recycled materials</li><li>Actively supporting suppliers' decarbonization activities and addressing the risk of rising procurement costs</li></ul>
	Response to accelerated transition to a decarbonized society by consumers and investors	Due to demands for achieving ahead of schedule 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.	1 3 <ul style="list-style-type: none"><li>Actively promoting energy-savings and renewable energy initiatives that contribute to SBT 1.5°C targets (strategic use of renewable energy certifications, deployment of PPA model, etc.)</li><li>Financing using sustainability-linked loans</li></ul>
Physical risks	Rapid increase of natural disasters	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.	Domestic offices 1 5 <ul style="list-style-type: none"><li>Addressing supply chain risks</li></ul> Overseas offices 2 3 <ul style="list-style-type: none"><li>Enhancing risk countermeasures for domestic sites</li></ul> Supply chain 3 1
	Regional epidemics of infectious diseases	Impact on production plans due to parts supply disruption <ul style="list-style-type: none"><li>Insufficient inventory due to lower operating rates at production sites</li><li>Decrease in sales opportunities due to difficulty of face-to-face business</li></ul>	2 2 <ul style="list-style-type: none"><li>Reinforcing infectious disease BCP</li><li>Digitization of operation and negotiation, decentralization of production bases/automation of processes, additional stocking of parts and products</li></ul>
	Declining forest resources	Global warming causes increased forest damage from wildfires, pests, etc., worsening the stable supply of raw materials for paper and increasing the cost for paper procurement.	1 2 <ul style="list-style-type: none"><li>Reducing base paper usage by using environmentally friendly linerless labels</li><li>Promoting forest conservation activities</li></ul>

<sup>\*1</sup> 2°C/1.5°C scenario: a scenario where the global average temperature increase is below 2°C by 2100

<sup>\*2</sup> 4°C scenario: a scenario where the global average temperature increase is 4°C by 2100

<sup>\*3</sup> For impact and urgency, please refer to "risk levels" on page 86.

Opportunities associated with climate change

Areas of contribution	Overview of FY2021 results	
Contributions to climate change mitigation	Approx. ¥1,000 billion	<ul style="list-style-type: none"><li>Sales of products that contribute to decarbonization (environmental label certification)</li><li>Sales from negotiations involving ESG response</li><li>Sales in products and parts reuse and recycling businesses</li><li>Sales in energy saving and energy creation businesses</li><li>Contributions of new businesses (sales of environmentally-friendly linerless labels, sales of PLAiR)</li></ul> Approx. ¥930 billion Approx. ¥20 billion Approx. ¥30 billion Approx. ¥20 billion —
Contributions to climate change adaptation	Approx. ¥90 billion	<ul style="list-style-type: none"><li>Sales of solutions that support new workstyles (Scrum package solutions and Scrum assets<sup>*1</sup>/WTA<sup>*2</sup>)</li><li>Contributions of new businesses (sales of energy harvesting<sup>*3</sup> products, etc.)</li></ul> Approx. ¥90 billion —

<sup>\*1</sup> Scrum assets: An issue adaptation-type solution model for SMEs sold in Japan

<sup>\*2</sup> WTA (Work Together, Anywhere): A packaged solution sold in Europe

<sup>\*3</sup> Energy harvesting: Environmental power generation that generates electricity from light, heat, and vibration present in the surrounding environment

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 drawn on its principles to foster effective resources usage across the product life cycles.

We established goals for 2030 and 2050, and are stepping up efforts to use fewer new resources and recycle them and reduce or replace plastics from fossil resources.

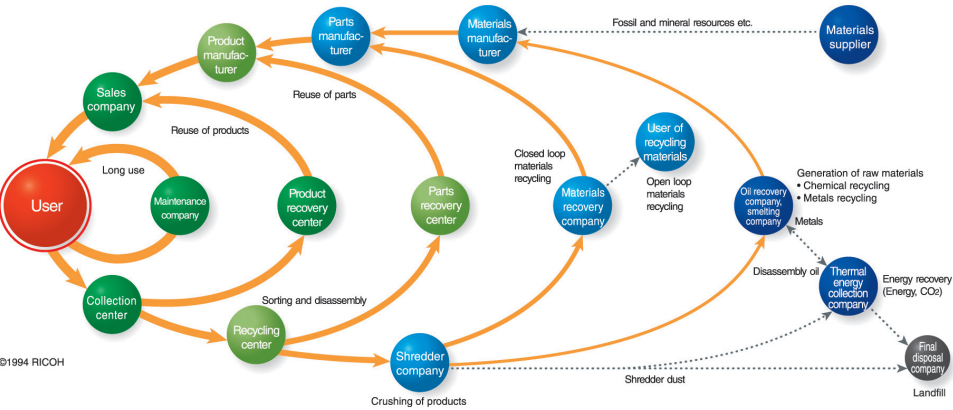
In March 2022, we published the Ricoh Group Circular Economy Report 2021 <sup>3</sup>. We were the first Japanese company to publish

such a document. We presented activities in line with the Disclosure and Engagement Guidance to Accelerate Sustainable Finance for a Circular Economy, which Japan's Ministry of Economy, Trade and Industry and Ministry of the Environment published in January 2021.



<sup>3</sup> WEB Refer to our website: <sup>3</sup> Ricoh Group Circular Economy Report

Comet Circle™ concept for realizing a circular economy



Comet Circle™

Four Action Guidelines

- (1) Identify and reduce environmental impacts from lifecycle perspectives
- (2) Deploy reuse and recycle practices with lower environmental impacts
- (3) Establish a circular business model
- (4) Partner with stakeholders

Ricoh Group environmental goals (resource conservation)

Goals for 2030	Goals for 2050
● Virgin material usage ratio for products <sup>1</sup> : 60% or less	● 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 2020 level
- Display resin identification code and single material use  
Goals for 2025: Clearly indicated on all parts and all packaging materials

Water Policy

1. We base our actions on the recognition that all people have the right to use safe and secure water resources.
2. We understand our business impact on water resources, factoring in regional characteristics and setting activity targets.
3. We manage water resources in compliance with laws and regulations, international standards and initiatives, and public policies.
4. We innovate technologies to help resolve internal and external water resource issues.
5. We endeavor to raise awareness among all employees, with each of them engaging with stakeholders to help resolve community water resource issues.
6. We consider resource conservation, climate change, and pollution prevention when procuring raw materials, products and services, and equipment.

INFO

<sup>1</sup> Virgin material usage ratio for products  
Ratio of virgin material use to total resource input



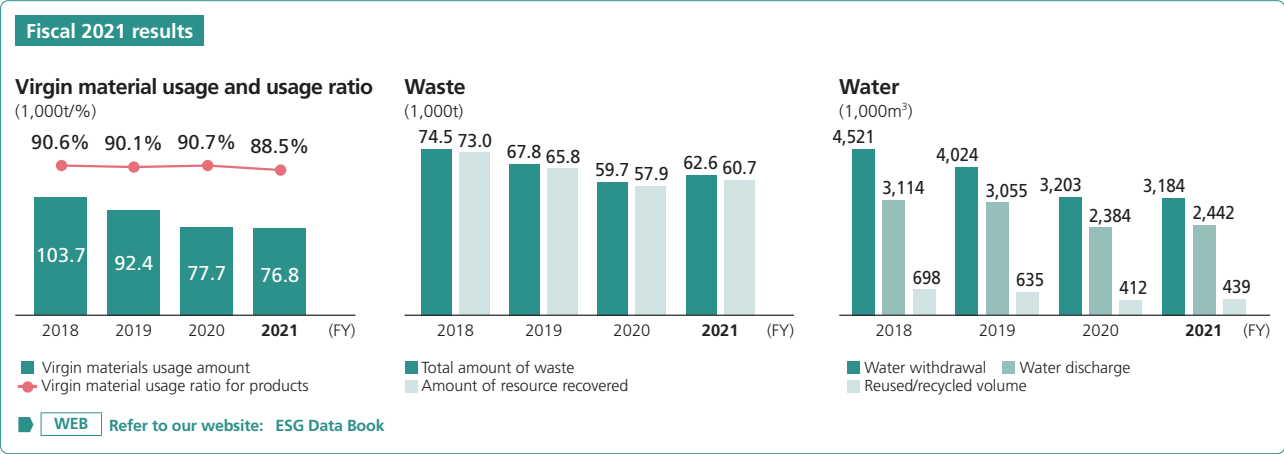
Resource conservation initiatives and fiscal 2021 results

In product initiatives, cross-organizational working group activities are promoting efforts to achieve resources conservation targets for 2030 and 2050.

In fiscal 2021, worldwide sales of recycled machines were higher than a year earlier. During the term, we started a program in Japan to disassemble, clean, refill, and ship used toner bottles to customers. The aggregate weight of toner shipped in reused bottles increased 12% from previous year. We will broaden business continuity planning to include recycling parts to mitigate the impact of shortages. We increased the total weight of recycled materials used by 32% in fiscal 2021. We did that by incorporating at least 5% of recovered plastic materials by weight in mainstay MFPs and printers. As a result, the new resource usage ratio for fiscal 2021 was 88.5%, and the new resource usage volume was 76,800 metric tons.

We collect used products for reuse and recycling in line with our

Comet Circle™ concept. We have kept our incineration and landfill rates below 4% worldwide since early this century. We are working on production processes and setups that minimize resource losses and thereby streamline manufacturing while lowering emissions. In fiscal 2021, our emissions rose 4.7% from a year earlier because our operations recovered from the impact of the pandemic. However, the waste recycling rate from our sites was around 98%. In addition, we actively minimize contamination risk by regularly visiting waste contractors to confirm that waste is disposed properly. We also regularly audit waste storage on our own sites. We recognize that water resources are vital for business and that everyone has the right to safe and secure water. We monitor water consumption at all of our plants. We assess risks using the Aqueduct Water Risk Atlas of the World Resources Institute, an international environmental nongovernment organization. We reflect regional characteristics and public policies in endeavoring to use water responsibly.



Pollution prevention initiatives

We formulated Basic Rules for the Management of Chemical Substances to help safeguard human health and the environment. We aim to reduce the risks of such chemicals by using them properly in our operations and products.

- Basic policy on chemical substances management**
- (1) Comply with laws and regulations

(2) Manage substances across entire lifecycles

(3) Minimize risks through preventive measures

(4) Develop and deploy technologies
- (5) Consider and address risk tradeoffs

(6) Engage with communities

(7) Constantly enhance employee skills

Reducing risks related to business growth

When obtaining land or buildings through business acquisitions, we conduct environmental due diligence in line with internal rules to assess risks. These risks include soil and

groundwater contamination, polychlorinated biphenyl, and asbestos. We assess potential impacts on our business growth and act accordingly.

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

Conserving biodiversity

We established the Ricoh Group Biodiversity Policy in fiscal 2009 to help create a prosperous and sustainable economy. We formulated the Regulation of Ricoh Group Products Made of Wood\* in fiscal 2010 to prevent deforestation and procure raw materials. We consider labor and other social aspects.

We undertake initiatives based on our policies and rules to lower the environmental impacts of our operations while maintaining and enhancing the Earth’s regenerative capacity.

\* We based these regulations on our 2003 Environmental Standards for Paper Product Procurement.

Biodiversity Policy

Society has developed thanks to the earth’s abundant natural resources. However, we recognize that the very diversity of life that has supported our environment is in decline; so, in response, we have formulated this biodiversity policy.

Basic Policy

Given that we gain a lot of benefit from living things and pursue business activities that have an impact on biodiversity, we will reduce the impact of our activities on biodiversity and engage proactively in its protection.

Regulation of Ricoh Group Products Made of Wood

From the viewpoint of global environmental conservation and biodiversity protection, this provision shall be established to confirm that the wooden raw materials used in Ricoh brand products and their accessories are legally obtained with consideration for the sustainability of the place of origin in environmental and social aspects prior to the decision of procurement.

Scope

It shall apply to paper products marketed under the Ricoh Group brand (PPC paper, thermal paper, etc.) as well as materials made of wood, which accompany with Ricoh Group brand products (seals, manuals, packaging material, cushion material, etc.).

Requirements for raw materials

1. Confirmation of legality of lumber in the country of origin at the time of production.
2. Wood produced from a forest where sustainable forest management is practiced without adverse environmental or social impact at the time of production.
3. The products delivered to the Ricoh Group do not use wood procured by a “Supplier with Problems.”

Protecting Tomorrow through the One Million Trees Project

Conserving forests is essential to protect biodiversity, prevent global warming, and ensure sustainable community development. We undertake extensive efforts to those ends, striving to conserve forests and increase tree numbers. We collaborate with diverse stakeholders. These include environmental nongovernment organizations, local governments, community residents, and other experts. To further accelerate these efforts, we joined

the “30by30 Alliance for Biodiversity” in April 2022, founded by 17 organizations from industry, the private sector, and government, including Japan’s Ministry of the Environment.

Goal	Progress
● Plant one million trees from fiscal 2020 through 2030	● 241,000 trees planted thus far: 92,000 in fiscal 2020 and 149,000 in fiscal 2021



Ricoh Japan helps safeguard ecosystems by planting mangroves in Indonesia and the Philippines in proportion to unit sales of energy-efficient MFPs.

We planted 135,000 trees in fiscal 2021.



We own Ena Forest in Gifu Prefecture, Japan. There, we undertake regular activities with the local community to protect endangered animals.

We undertook 12 conservation projects in fiscal 2021.

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