

## Editorial Policy

In the Ricoh Group TCFD Report 2022, we report on our efforts toward a zero-carbon society in accordance with the TCFD framework, based on disclosure of information from such sources as our website and the Ricoh Group Integrated Report. This report summarizes the Ricoh Group's basic approach to sustainability, its climate change policy, and the climate change risks and opportunities for us, and it gives examples of our countermeasures and initiatives.

This report is published with the aim of providing a better understanding of the Group's climate change initiatives for all our stakeholders to enable them to offer suggestions for further improving these initiatives. Going forward, we will continue to improve this report to make it even more comprehensive by referring to your opinions.

### **Date of Publishing**

September 2022 (published as an annual report)

### **Reporting period**

FY2021 (April 1, 2021 - March 31, 2022)

\*In some cases, information at the time of publication is included.

## About TCFD



The Task Force on Climate-related Financial Disclosures (TCFD), established by the Financial Stability Board (FSB), published a report in June 2017 recommending disclosure of climate-related information with financial implications in annual financial reporting. It is a framework that requires companies to recognize the risks and opportunities of climate change and incorporate them into their business strategies. Since announcing our endorsement of the TCFD in August 2018, we have been promoting disclosure in accordance with the TCFD framework.

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# 1. Message from the CEO

Over the past few years, there has been a growing demand for ESG initiatives and contributions to the UN Sustainable Development Goals (SDGs).

At Ricoh, we have always valued the “The Spirit of Three Loves,” the founding principles of the Ricoh Group. This spirit of “Love your neighbor”, “Love your country”, and “Love your work” is in line with the SDGs principles that the United Nations has defined as “a society in which no one is left behind”. Based on this “The Spirit of Three Loves”, we have identified seven materialities in two areas — “Solving social issues through our business” and “Strengthening our management foundation” — and have set 17 ESG targets linked to these materialities. Financial and ESG goals are indivisible and are achieved by integrating them into management and business strategies. I call these ESG goals “ Future Financial Goals” in the sense that they are linked to the future financial performance of Ricoh, and likewise in addressing climate change, as I believe that our current efforts will have a significant impact on the future financial performance of Ricoh.

In 1998, Ricoh proposed the concept of “Sustainable Environmental Management,” which aims to simultaneously achieve environmental conservation and profit generation, and since then we have been steadily building up our environmental management activities one by one. As we aim to realize a Zero-Carbon society, which is one of our materialities, we have set an ambitious target of reducing GHG (greenhouse gas) emissions for 2030: 63% reduction (compared to 2015) for our own emissions (Scope 1 and 2) and 40% reduction (compared to 2015) for indirect emissions (Scope 3), based on global targets aiming for a temperature increase of less than 1.5 degrees Celsius. We challenge ourselves to achieve these targets by setting high hurdles.

What is important for society, the company, and our employees to be actively engaged in the process is that we clearly define our goals, as we did when Ricoh became the first Japanese company to join the RE100 in 2017. Although we had no concrete roadmap for achieving 100% in switching to renewable energy, I knew that as CEO, I needed to clearly state the goal that Ricoh should achieve in 2050. Once there is a goal, people will think about what they want to do, what they must do, and what they should do to get to that goal. I also believe that there are many areas along the way that can be solved by technologies. I believe that we can achieve our goal by utilizing not only technologies within the Ricoh Group but also technologies from the world at large.

Furthermore, when we consider the risks associated with climate change, especially the risk of natural disasters, we realize there is a possibility that the Ricoh Group will be severely impacted. We are therefore conducting an impact assessment of our production sites, and have begun to take measures to anticipate future risks.

At the same time, there are significant business opportunities in proactively responding to climate change through mitigation and adaptation. We are committed to working closely with our customers by providing products and solutions to help them decarbonize their operations and to provide solutions to fight infectious diseases, hoping that our business will lead to the realization of a Zero-Carbon society.

Ricoh endorsed the TCFD in 2018 and has been actively disclosing information related to the TCFD since 2019. For the purpose of identifying opportunities and risks related to climate change as well as systematically introducing our decarbonization activities, we have been publishing the TCFD Report since 2021. With this report, we will further engage with our shareholders, investors, and other stakeholders to exchange opinions and improve the level of our decarbonization initiatives and information disclosures.



Finally, there is a Native American saying that goes, ‘We do not inherit the earth from our ancestors, we borrow it from our children.’ We must all be aware that we are conducting our business with a great responsibility for the future, and we will continue to work together with all of our stakeholders to fulfill our responsibility toward the realization of a sustainable society.

**Yoshinori Yamashita**  
President and CEO

## 2. Introduction

### 2-1 Basic Approach to Sustainability Management

Based on the Founding Principles of “Love your neighbor”, “Love your country”, “Love your work” (The Spirit of Three Loves), the Ricoh Group’s mission is “We are committed to providing excellence to improve the quality of living and to drive sustainability.”

The Ricoh Group pursues such sustainability through the Three Ps Balance: Prosperity (economic activities), People (society), and Planet (environment). We will endeavor to resolve social issues through business, reinforce our operational underpinnings, and contribute to society, and will help to reach Sustainable Development Goals (SDGs) agreed to by the global community.

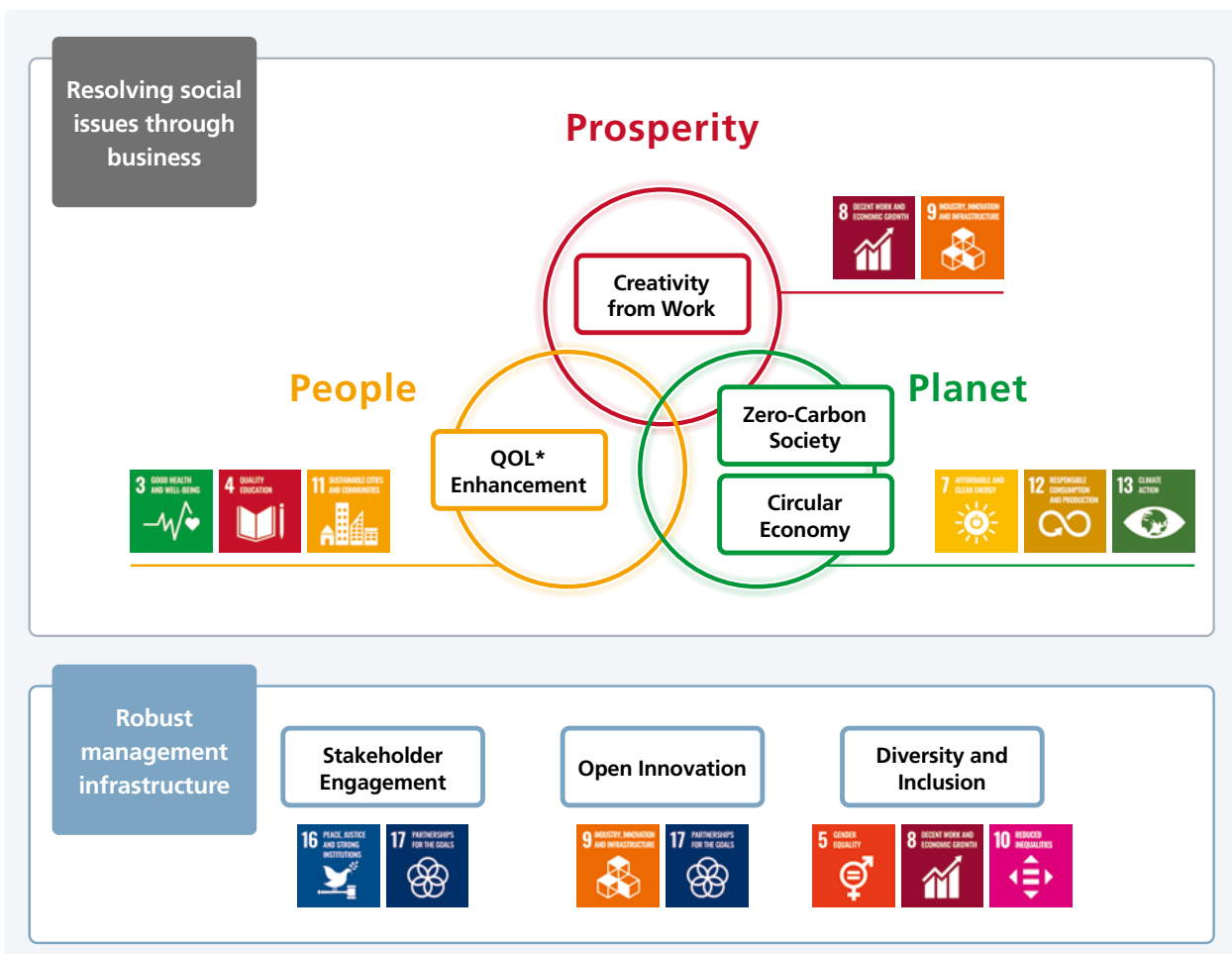


Three Ps Balance

### 2-2 Materiality for the Ricoh Group (Material Issues)

We will work to solve social issues through business based on the material issues identified by reflecting Ricoh’s Mission Statement, Mid-Term Management Plan (MTP) and expectations of our stakeholders.

Since FY2020, we have identified seven materialities in two areas: “Resolving social issues through business,” and “Robust management infrastructure,” and we are developing sustainability activities. One of the seven materialities is the realization of Zero-Carbon Society.














\*QOL: Quality Of Life

## 2-3 ESG Targets

As part of our ESG targets, we have set medium to long-term targets for GHG Scope 1, 2, GHG Scope 3, and the ratio of renewable energy used in electricity consumption as “targets in the Zero-Carbon area”. In order to clarify management responsibility for achieving these initiatives and targets, ESG indicators have been incorporated into executive compensation since FY2020 to enhance the effectiveness of initiatives.

### Ricoh’s approach to seven material issues and ESG targets

Resolving social issues through business		
Materiality (Material issues)	2030 targets	Resolution of social issues and business strategies
<b>Creativity from Work</b>  	Contribute to Creativity from Work of all customers to whom we deliver value	<b>Social issues</b> For sustainable development, companies need to reform employees’ work styles, boost productivity using IT, and increase employee work satisfaction. <b>Business strategies</b> We will help customers achieve Creativity from Work by providing them with digital technologies and services.
<b>QOL Enhancement</b>   	Contribute to the enhancement of social infrastructure for 30 million people	<b>Social issues</b> It is necessary to eliminate disparities in medical, educational, and regional services between developed and developing countries, and between urban and rural areas. <b>Business strategies</b> We will help improve medical, educational, and regional services by utilizing the digital technologies and know-how that we have accumulated for office solutions.
<b>Zero-Carbon Society</b>  	Reduce GHG emissions by 63% for Scope 1 and 2, and 40% for Scope 3 Switch to 50% renewable electricity	<b>Social issues</b> As the impact of climate change is becoming more severe, it is necessary to enhance and speed up countermeasures. <b>Business strategies</b> Upholding the SBT <sup>5</sup> of 1.5°C, we will work to reduce GHG emissions substantially and supply products and solutions that contribute to the decarbonization of society as a whole.
<b>Circular Economy</b> 	Ensure efficient use of resources throughout the entire value chain and achieve 60% or less of virgin material usage rate	<b>Social issues</b> For sustainable use of natural resources, it is necessary to foster recycling and reduce the use of new resources. <b>Business strategies</b> We will further enhance our 3Rs (reduce, reuse, and recycle) measures, reduce the use and foster the substitution of plastic materials, and provide on-demand printing services, helping customers make efficient use of resources.

Robust management infrastructure	
Materiality (Material issues)	Resolution of social issues and business strategies
<b>Stakeholder Engagement</b>  	<b>Requests from society</b> For the sustainable development of society, companies are required to enhance the sustainability of their entire global value chains. <b>Management strategies</b> We will strengthen collaboration with our business partners and build a Win-Win-Win relationship between our company, business partners, and society.
<b>Open Innovation</b>  	<b>Requests from society</b> For sustainable development, innovation needs to be promoted across a range of industrial sectors. <b>Management strategies</b> We will attribute importance to open innovation with universities, research institutes, other companies, and business partners and foster collaboration with these partners to resolve social issues through efficient research and technological development and to create new value.
<b>Diversity and Inclusion</b>   	<b>Requests from society</b> For sustainable development and innovation, it is necessary to promote decent work, which gives satisfaction and is humane, and respect diversity in society. <b>Management strategies</b> We will respect the diversity of employees, uphold the empowerment of self-motivated employees in our management policy, and strive to create workplaces where employees can work with vigor.

\*1 Top score rate: Highest score selecting rate

\*2 Scrum package customers rate in Japan

\*3 Target revised from 20% owing to shortages of information and communication technology (ICT) products

\*4 IPA: Information-technology Promotion Agency, Japan. ITSS is the IT skill standard that this agency defines. There are seven levels, from 0 to 6.

\*5 SBT: Science-Based Targets

## Linkage Between Executive Compensation and ESG Targets

For Board of Directors' remuneration, we have set the annual DJSI\* Rating as an ESG indicator for bonus calculation formulas. For the executive officers' compensation, the degree of achievement of ESG targets set in connection with materiality as well as the degree of achievement of business performance targets and priority measures, are incorporated into the evaluation indicators. Based on this evaluation result, the annual remuneration is determined.

\* Dow Jones Sustainability Indices: Dow Jones & Company of the United States and sustainability investment research firm S&P Global jointly developed these indices, analyzing corporate sustainability from economic, environmental, and social perspectives

ESG targets		FY2021 results	Efforts/topics
KPIs	FY2022 targets (Mid-Term Management Plan)		
Top score rate <sup>*1</sup> in customer surveys	30% or more	Japan: 33% Europe: 28% APAC: 36% Americas: 82%	Customer surveys were used to calculate overall satisfaction of major customers in each region. The scopes and survey methods varied by region, so these scores are not inter-regional comparative scores. In the U.S., we earned high satisfaction rate by performing detailed follow-up through monthly meetings with all customers surveyed (approximately 650 companies).
Fulfilling value proposition for customers <sup>*2</sup>	15% <sup>*3</sup>	13%	In FY2021, we sold 76,000 Scrum packages, and cumulative sales surpassed 210,000 packages since their launch in 2017.
Digital specialist development	IPA ITSS L3 <sup>*4</sup> 1.5 times	1.28 times	We are visualizing the skills of digital experts to raise the level of expertise through Groupwide deployment of online courses and other programs as part of the improvement of a training platform that allows employees to continue learning to become digital experts proactively.
Number of people to whom we have contributed by improving social infrastructure	10 million people	10.82 million people	We have received orders for Road Surface Inspection System in several prefectures and major cities, contributing to the improvement of infrastructure through more efficient road inspections. In February 2022, we also began slope inspection verification testing. We plan to gradually expand the inspection range to include roads, tunnels, slopes, and more, helping to create safe and secure cities.
GHG Scope 1 and 2 reduction rate (vs. FY2015)	30%	42.6%	Through the active use of renewable energy, such as the introduction of onsite PPA in Japan and overseas, we have reduced our GHG Scope 1 and 2 emissions by 26.4kt year-on-year. For Scope 3, we are reducing emissions through the use of shipping company eco-delivery services and the promotion of ENERGY STAR compliant imaging products.
GHG Scope 3 reduction rate (vs. FY2015)	20%	28.5%	
Renewable energy usage ratio	30%	25.8%	
Virgin material usage ratio	85% or less	88.5%	We significantly increased the percentage of post-consumer recycled plastics used in six of our main models of MFPs and printers.

ESG targets		FY2021 results	Efforts/topics
KPIs	FY2022 targets (Mid-Term Management Plan)		
Production sites with RBA <sup>*5</sup> certification	6 sites	3 sites in total	At the sites for which we plan to obtain certification in FY2022, we established systems, held explanatory meetings, formulated plans, conducted internal audits, and carried out other measures, progressing according to our Mid-Term Management Plan.
Suppliers signing on RICOH Group Supplier Code of Conduct	100% signed	86% signed	We established a new purchasing management organization and promoted the signing of codes of conduct by major suppliers of each business unit.
International security standard	Bolstered security based on ISO/IEC <sup>*7</sup> , NIST <sup>*8</sup>		Undisclosed
Evaluation scores given by each partner <sup>*9</sup> (suppliers, distributors/dealers, development partners)			Undisclosed
Attain top levels for primary ESG external evaluations	DJSI, CDP <sup>*10</sup> , etc.	DJSI: World CDP: A-List	We were selected by the DJSI World Index for the second consecutive year. We claimed the top score in our sector and, in the S&P Global Sustainability Awards, were selected for the Gold Class, the highest level of distinction.
Selected as Digital Transformation stock by Ministry of Economy, Trade and Industry (METI)	Selected	Not selected	Digital Strategy Meetings were held every other month and attended by the CEO and other senior management. At these meetings, participants discussed how to deal with DX-specific management issues. Every other week, meetings regarding strategies, measures, and implementation were conducted with the DXOs of individual business units and the implementation of strategies was accelerated.
Increase rate of patent ETR <sup>*11</sup> score (vs. FY2020)	20%	7%	We were selected for Clarivate Top 100 Global Innovators 2022.
Ricoh Family Group engagement score	50th percentile or above in each region	Japan: 51st percentile Americas: 42nd percentile Europe: 29th percentile APAC: 33rd percentile	We held online classes for managers in all group companies in Japan. At offices worldwide, we held training and took actions to improve employee engagement. (Note: Percentile data is based on different benchmark scopes in different regions, and therefore these scores are not inter-regional comparative scores.)
Woman-held managerial position rate	Global: 16.5% or more (Japan: 7.0% or more)	Global: 15.6% (Japan: 6.3%)	In October 2021, we formulated our Global D&I Policy, and top management made announcements on the occasion of the policy's formulation. We also reinforced our talent management for women and young employees.

\*6 RBA: Responsible Business Alliance

\*7 ISO/IEC: International Organization for Standardization/International Electrotechnical Commission

\*8 NIST: National Institute of Standards and Technology

\*9 Evaluation score: These are results of partner assessments of Ricoh.

\*10 CDP: Evaluations from international non-government organizations working on climate change and other environmental fields.

\*11 ETR: External Technology Relevance. Scores show the number of patents cited by other companies.

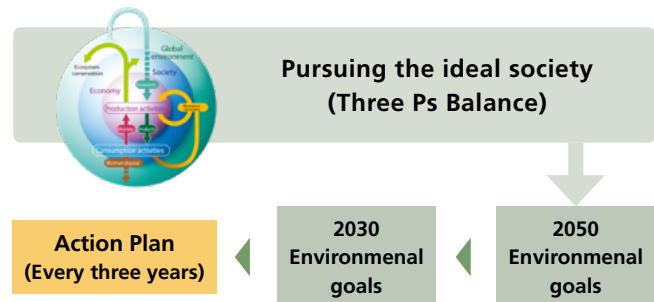
### 3. Ricoh Group's Efforts on Climate Change

#### 3-1 Ricoh Group's Environmental Vision and Goal Settings

##### 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."**

The Ricoh Group uses the backcasting method to set goals. In this approach, we first set final goals and then determine target values as milestones on the journey to these goals. As the milestones toward the final goal of the Three Ps Balance, we have set environmental goals for 2030 and 2050 in the areas of zero-carbon and resource conservation.



#### 3-2 Climate Change Goals and Achievement Approaches

Based on the Paris Agreement, the Ricoh Group has set a long-term environmental goal of "aiming for zero GHG emissions across the entire value chain by 2050." In addition, we have set ambitious environmental goals for "63% reduction in Scope 1 and 2 GHG emissions in 2030 compared to 2015", which is certified as "SBT1.5°C" level by the International Climate Change Initiative SBTi (Science Based Targets Initiative).

In order to achieve this goal, we have formulated a roadmap to reduce GHG emissions by 2030, and are promoting thorough energy-saving activities and actively utilizing renewable energy. For this reason, we became the first Japanese company to participate in "RE100", a global initiative aimed at converting electricity used to renewable energy by 100%.

##### Aims of participating in "RE100"

- 1 Clarify our corporate stance on the active use of renewable energy globally and raise internal awareness
- 2 To encourage the development of energy-related businesses which are currently being promoted
- 3 To improve our reputation in ESG investment and various corporate evaluation systems.
- 4 To express the need for renewable energy from the standpoint of electricity consumers, and to encourage changes on the supply side



## 2050 Ricoh's Approach Towards Achieving Net Zero

### Approach in achieving net-zero emissions: "Active use of renewable energy" and "Development of exhaustive energy-saving and CO<sub>2</sub> reduction activities"

As a result of the Paris Agreement coming into effect (2016), the momentum to set a target to limit the Post-Industrial Revolution temperature increase to well below 2°C above preindustrial levels has increased. The Ricoh Group endorsed SBTi's "Call to Action" and received SBT2.0°C certification for its target for reducing GHG in 2017.

In this process, the year 2015 was set as the reference year for the reduction target, which was the year with the most recent data. The target was later revised in 2020 and was certified for the SBT 1.5°C. As a result, the reduction ratio for Scope 1, 2 (63%), and 3 (40%) are in accordance with the criteria set by the SBT (equivalent reduction rate for total emissions). In addition, as three categories, Category 1 (procurement), Category 4 (transportation), and Category 11 (use), account for more than two-thirds of the total emissions in Scope 3, they were included in the target in accordance with the SBT setting criteria.

#### Ricoh Group environmental goals (Zero-Carbon)

##### Goals for 2050

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

##### Goals for 2030

- GHG Scope 1\*<sup>1</sup> and 2\*<sup>2</sup>: 63% reduction compared to 2015 level
- GHG Scope 3\*<sup>3</sup>: 40% reduction compared to 2015 level
- Switch 50% of electricity used in business operations to renewable energy

\*1 GHG Scope 1: All direct GHG emissions from our manufacturing plants, offices, vehicles, etc.

\*2 GHG Scope 2: Indirect GHG emissions from the consumption of electricity and heat that we purchase

\*3 GHG Scope 3: Emissions in the supply chain from business activities (procurement, transportation and use categories)

As an approach to achieving the long-term Net Zero target by 2050, the Ricoh Group has embraced the following measures.

#### 1. Active use of the renewable energy sources

- Purchasing electricity with a high ratio of renewable energy
- On-site renewable energy self-generation at offices and plants
- Strategic use of renewable energy certificates
- Introduction of new approaches such as power purchase agreements (PPAs).

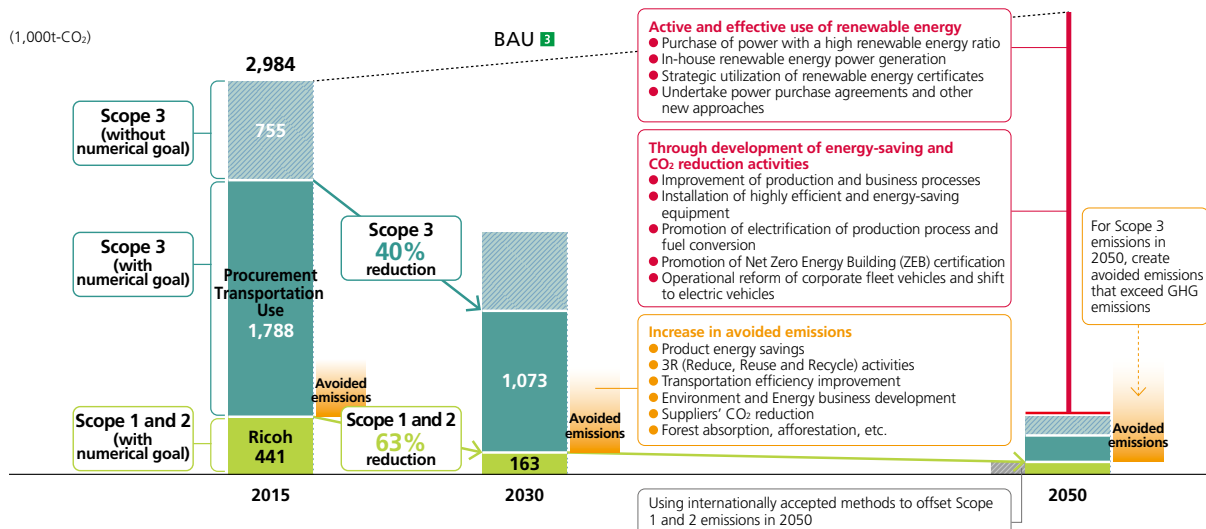
#### 2. Development of exhaustive energy conservation and CO<sub>2</sub> reduction activities

- Improve production and business processes
- Introduce high-efficiency, energy-saving equipment
- Electrify production processes and promote fuel conversion
- Promote electrification of production processes and fuel conversion
- Promote conversion of company buildings to ZEB
- Reform company-owned vehicle operations and conversion to EVs

### Countermeasures to neutralize GHG emissions (residual) that cannot be reduced by 2050

Offset the residuals of Scope 1 and 2 using internationally recognized methods (e.g., forest absorptions/afforestation effects). Generate a contribution to reductions that exceeds the amount of emissions for the residual amount of Scope 3.

- Procurement and products: Effects of 3R activities and collaboration with suppliers to reduce CO<sub>2</sub>
- Transportation: Improvement of transportation efficiency
- Products: Energy-saving effects of products and services
- Other: Creation of new businesses related to the environment and energy, etc.



# Road Map for Zero-Carbon Society to Achieve 2030 Targets

## 2030 Scope 1, 2: Initiatives and plans to achieve 63% reduction

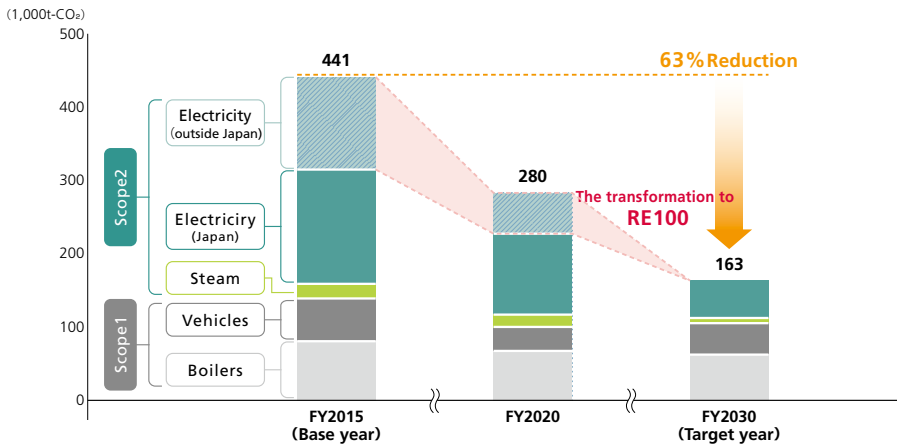
### Active use of renewable energy

We will promote purchasing renewable electricity certificates and introducing on-site PPAs, and aim to complete the transformation to RE100 by 2030 in overseas countries. In Japan, we will work with companies willing to lobby the government to reduce the cost of renewable electricity and expand procurement methods, and will strive to accelerate the introduction of renewable energy.

### Promoting energy saving activities

We will promote improvement of manufacturing processes, introduce high-efficiency and energy-saving equipment, and electrify facilities at our production sites. At non-production sites, in Japan, we will expand the number of ZEB office buildings, and at overseas sites, we will promote the office relocation to energy-efficient offices. As for company vehicles, we will work to ensure that all company vehicles are driven in an environmentally friendly manner, and we will promote the conversion to Electric Vehicles (EVs), Fuel Cell Vehicles, and other energy-saving vehicles.

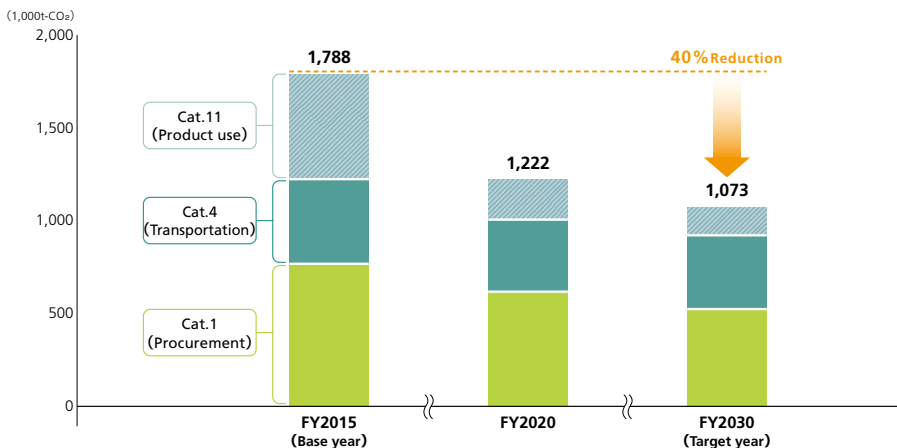
We will also work in the area of Scope 1 issues where electrification is difficult, such as the use of steam from boilers, and will make effective use of waste heat loss from heat pumps, etc., and strive to introduce future technologies, such as hydrogen.



## 2030 Scope 3: Initiatives and Plans for 40% Reduction

We will work together with the entire value chain, including suppliers, customers, and transportation contractors, to achieve a Scope 3 reduction.

<b>Cat.1 Procurement</b>	<ul style="list-style-type: none"> <li>● Improve recycle rate of products/components/materials</li> <li>● Global supply of recycled products</li> <li>● Improve reliability of products/components by extending their product lifespan, etc.</li> </ul>
<b>Cat.4 Transportation</b>	<ul style="list-style-type: none"> <li>● Collaborate with contractors (e.g., use of EV vehicles, LNG-fueled vessel, etc.)</li> <li>● Improvement of loading efficiency (downsize of packaging, etc.)</li> </ul>
<b>Cat.11 Product use</b>	<ul style="list-style-type: none"> <li>● Provide energy-efficient products and solutions</li> <li>● Encouraging customers to set energy-saving settings when they use the product.</li> </ul>



### 3-3 Efforts to Save Energy and Introduce Renewable Energy

The Ricoh Group has been promoting energy-saving activities as well as the active use of renewable energy.

In 2018, nine sales companies in Europe and Ricoh Industrie France S.A.S., a production company in France, switched 100% of the electricity used in their reuse and recycling processes to renewable energy sources. In 2019, five A3 MFP assembly plants in China, Thailand, and Japan, as well as Ricoh UK Products Ltd., our manufacturing and business development base in central England, were converted to use renewable energy.

In fiscal year 2021, we switched 100% of the electricity used at our headquarters in Japan, our thermal media production facility in China (Rico Thermal Media (Wuxi) Co. Ltd. and our production site in Thailand, Yamanashi Electronics (Thailand) Co., to electricity generated from renewable energy sources.

In addition, five of Ricoh Japan's offices have received ZEB\* Ready or higher certification through energy conservation and the introduction of solar power generation or energy storage devices.

ZEB\* is an abbreviation for Net Zero Energy Building, a building in which the annual energy consumption of the building is significantly reduced. ZEB (100% or more reduction), Nearly ZEB (75% or more reduction), and ZEB\* Ready (75% or more reduction) compared to energy conservation standards. ZEB Oriented (a building that has taken measures to achieve further energy savings in addition to a high-performance envelope and high-efficiency energy-saving equipment as a building designed to be ZEB Ready).

\*Net Zero Energy Building : A building in which the amount of building energy consumed per year is significantly reduced. ZEB (100% or more reduction), Nearly ZEB (75% or more reduction), ZEB Ready (50% or more reduction), ZEB Oriented (buildings that are designed to be ZEB Ready and have a high-performance exterior and high-efficiency energy-saving equipment, as well as further energy saving actions taken to achieve energy efficiency )

#### Initiative 1: Installation of Waste Heat Recovery Heat Pumps at Production Sites

Contribution to Scope1

- In February 2022, waste heat recovery heat pumps were installed at the South Plant of the Numazu Plant.
- The waste heat being released into the atmosphere from the chiller/refrigerator cooling tower on the rooftop of Plant No. 8 in Numazu Plant will be used to generate hot water at 65°C, which is used in the dissolving process. By reducing the amount of steam consumption by approximately 60% (estimated value), both cost and CO<sub>2</sub> emissions reduction (up to 540 tons/year) can be achieved. The ROI is approximately 5 years
- While promoting Scope 2 reductions by switching to renewable electricity, we are also tackling Scope 1 issues such as the use of steam, on which reductions are difficult to achieve



#### Initiative 2: Introduction of New On-Site PPA\* Model at Four Locations Globally ( In and Outside of Japan)

Contribution to Scope2

- In FY2021, on-site PPA was introduced at Ricoh (Thailand) Ltd., Ricoh Manufacturing (Thailand) Ltd., Ricoh (Thailand) Ltd., Ricoh Manufacturing (Thailand) Ltd., Ricoh Elemex Corporation, and Ricoh Industries, Ltd.
- The total amount of electricity generated by these six sites, including those already installed, was 5.88 GWh/year (CO<sub>2</sub> reduction effect: approx. 3,235 tons/year), which is equivalent to approx. 1.3% of the total electricity consumption of the entire Group.
- The cost reduction effect of Ricoh Manufacturing (Thailand) Ltd. was approximately 180 million yen over 12 years.
- RICOH ELEMEX, which started its operation in October 2021, is the first on-site PPA facility in Japan for the Ricoh Group.

\* Abbreviation for Power Purchase Agreement: The on-site PPA model is a form of contract in which a power generation company installs power generation units on the site or roof of their customers, and the customer purchases the renewable electricity without purchasing the units.



Roof of Ricoh Manufacturing (Thailand) Ltd. plant



Roof of Ricoh Elemex Corporation plant

### Initiative 3: Expansion of ZEB Office Buildings and Application to Business Proposals for Customers

Contribution to Scope2

- Since 2021, Ricoh Japan Miyazaki Office and Obihiro Office were certified as "ZEB" and Tsukuba Office was certified as "Nearly ZEB". In addition, Ueda Office, Odate Office, and Ricoh Environmental Business Development Center were certified as "ZEB Ready". As of April 2022, the total of 11 sites have been certified as "ZEB Ready" or higher.
- Ricoh Japan intends to have all new office buildings\*1 be at least "ZEB Ready". Each building will be a showcase for customers, introducing visitors to the company's decarbonization practices.

\*1: Owned by the company/Rented a whole building

#### Definition of ZEB status and installation examples in Ricoh Japan (Operation start date)

<b>ZEB</b>	Buildings that have reduced primary energy consumption by 100% or more through energyconservation (50% or more) + energy generation <ul style="list-style-type: none"> <li>● Wakayama Office (April 2020)</li> <li>● Obihiro Office(December 2021)</li> <li>● Miyazaki Office (January 2022)</li> </ul>
<b>Nearly ZEB</b>	Buildings that have reduced primary energy consumption by 75% or more through energyconservation (50% or more) + energy generation <ul style="list-style-type: none"> <li>● Gifu Office (March 2019)</li> <li>● Kumamoto Office (March 2022)</li> <li>● Tsukuba Office (March 2022)</li> </ul>
<b>ZEB Ready</b>	Buildings that have reduced primary energy consumption by 75% or more through energyconservation (50% or more) + energy generation <ul style="list-style-type: none"> <li>● Akashi Office (May 2020)</li> <li>● Kakegawa Office (August 2020)</li> <li>● Odate Office (April 2021)</li> <li>● Ueda Office (October 2021)</li> </ul>

#### ZEB Office Buildings



Miyazaki Office (new)



Obihiro Office (new)

#### Nearly ZEB Office Buildings



Tsukuba Office (new)

### Initiative 4: Introduction of Comprehensive Evaluation System for Renewable Electricity

Contribution to Scope2

- In addition to its competitive price, we comprehensively evaluate the fact that it is an additional power source that promotes new development, that the environmental burden is lower, and that it is a power plant funded by the local community.
- At a site where it is decided to procure renewable electricity in Japan, we select an electricity supplier using this system. By utilizing this system, Ricoh has converted 100% of the electricity used at its Head Office (Ota-ku, Tokyo) to renewable electricity from FY2021 (CO<sub>2</sub> reduction effect: 2,000 tons/year; Renewable electricity: 4.3 GWh/year).

Evaluation items	
Price	High score for cost effectiveness
Additionality	High score for newer power plants
Renewable energy type	High score for low environmental impact
Proximity	High score if power plant and purchasing office are close to each other
Power configuration	High score if the electricity itself is renewable energy
Evaluation of retail contractors	Points are awarded for the most recent CDP climate change score of A- or higher
Evaluation of power generators	Points are awarded for the most recent CDP climate change score of A- or higher
Local investment ratio	High score for high local investment ratio
Other local contributions	Qualitative evaluation of local donations, job creation, etc.



## 4. Information Disclosure Based on the TCFD Framework

In August 2018, the Ricoh Group expressed its support for the TCFD recommendations. Taking the opportunity to express our support, we proceeded with discussions on climate change risks and opportunities in line with the TCFD framework and discussed with executives at the ESG Committee. The biggest issue was the definition of risk. As the Ricoh Group aims to realize a zero-carbon society, we are progressing activities in line with the SBT 2 °C level target which have already been incorporated into our activities, and the biggest risk for the company is that it assumes that society will rapidly shift to the 1.5 °C target level in the future.

Therefore, based on the IPCC’s 1.5 °C special report, we decided to revise the target in line with the highest standard, SBT 1.5 °C. Based on this decision, we revised our 2030 environmental goals and obtained SBT 1.5 °C certification in 2020.

Going forward, we will continue to actively promote efforts and disclosure toward the realization of a zero-carbon society through consideration in line with the TCFD framework.

### Efforts to Address the Four TCFD Recommendations and Progress in FY 2021

	Ricoh's approach	Progress in FY 2021
<b>Governance</b>	<ul style="list-style-type: none"> <li>● The Board of Directors and CEO-chaired ESG Committee established to ensure management-level supervision for climate change-related activities</li> <li>● The ESG Committee discusses proposals for decarbonization roadmaps, confirms progress toward environmental goals, and decides on investments in decarbonization-related projects</li> <li>● The Group's climate change action plans approved by the ESG Committee and implemented under the leadership of the ESG Management Division</li> <li>● Introduction of an ESG-linked executive remuneration system for executives and management that varies depending on the degree of achievement of the "GHG reduction target"</li> </ul>	<ul style="list-style-type: none"> <li>● Deliberation and decision on climate change-related matters by the ESG Committee (held four times)               <ul style="list-style-type: none"> <li>▶ Climate change risks and opportunities in line with TCFD</li> <li>▶ Progress on decarbonization activities</li> <li>▶ Conformance between decarbonization activities and GHG reduction scenarios</li> </ul> </li> </ul>
<b>Strategy</b>	<ul style="list-style-type: none"> <li>● Contribution to SDGs given priority in formulating a Mid-Term Management Plan</li> <li>● "Zero-carbon Society" included in material issues. Manage specific numeric targets as ESG targets</li> <li>● Risks and opportunities identified through scenario analysis and at ESG Committee meetings</li> </ul>	<ul style="list-style-type: none"> <li>● Implement measures aligned with decarbonization roadmap (renewable energy comprehensive evaluation system, achieve RE100 at main sites, etc.)</li> <li>● Progress in activities for decarbonization and customer appeal</li> <li>● Concluded "Mizuho Eco Finance" agreement with Mizuho Bank, Ltd., with the aim of promoting decarbonization activities</li> </ul>
<b>Risk management</b>	<ul style="list-style-type: none"> <li>● 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</li> <li>● Categorize risk levels based on financial impact, urgency, and risk management level, and prioritize the order of measures to address them</li> </ul>	<ul style="list-style-type: none"> <li>● Documentation of initial response, reporting procedure, establishment and roles of each response division in the event of an emergency</li> <li>● Preparation of BCP (business continuity plan) for each region and business, such as implementation of regular facilities inspections and disaster prevention training</li> <li>● Flooding risk investigation for key domestic sites</li> </ul>
<b>Indicators and target</b>	<p><b>Goals for 2050</b></p> <ul style="list-style-type: none"> <li>● Aim for zero GHG emissions across the entire value chain</li> <li>● Switch to 100% renewable electricity</li> </ul> <p><b>Goals for 2030</b></p> <ul style="list-style-type: none"> <li>● GHG Scope 1 and 2: 63% reduction compared to 2015 level</li> <li>● GHG Scope 3*1 : 40% reduction compared to 2015level</li> <li>● Switch to 50% renewable electricity</li> </ul>	<p><b>Performance in FY2021</b></p> <ul style="list-style-type: none"> <li>● GHG Scopes 1 and 2compared to 2015 level: 42.6% reduction</li> <li>● GHG Scope 3 compared to 2015 level: 28.5% reduction</li> <li>● Renewable energy usage ratio: 25.8%</li> </ul>

\*1: Procurement, use, and transportation categories

## 4-1 Governance

With a spirit of corporate ethics and legal compliance, the Ricoh Group is working to enhance our corporate governance to strengthen our competitiveness while ensuring management transparency, so that our overall corporate activities, including the activities of our management, are in compliance with social common sense and meet the expectations of our diverse stakeholders.

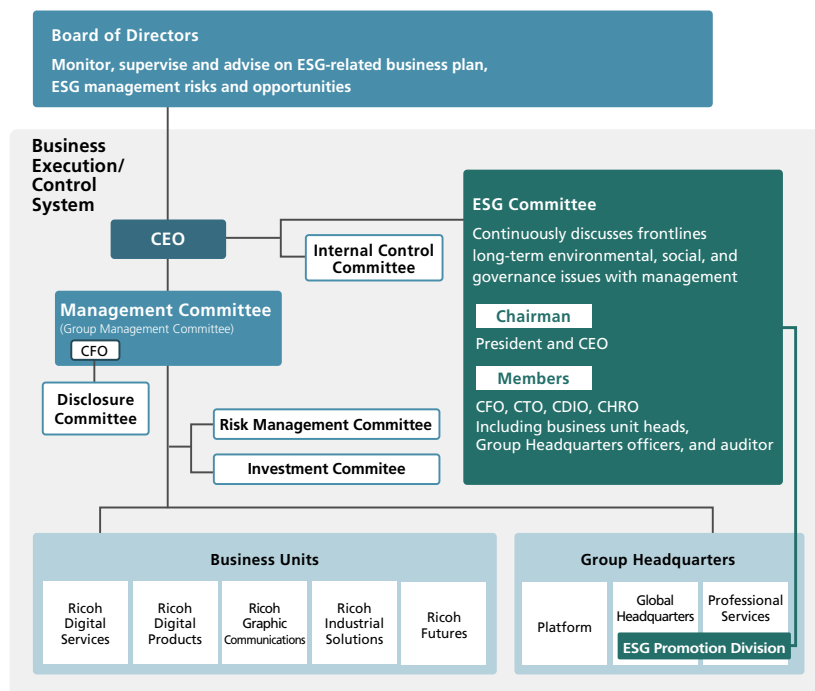
Through these efforts, we will strive to achieve sustainable growth while enhancing both corporate and shareholder value. In addition, we have established the “RICOH Way” as corporate philosophy and values based on the founding principles (“The Spirit of Three Loves”—“Love your neighbor” “Love your country” “Love your work”) formulated by Kiyoshi Ichimura, our founder, in 1946. Moreover, we are committed to “create new values that benefits the people and society, and fulfill our responsibility to improve the quality of life and create a sustainable society.”

Based on these DNA, we regard management strategies and ESG initiatives as an axis and position them as an essential part of generating future finances. Especially with regard to climate change, which has become an urgent social is

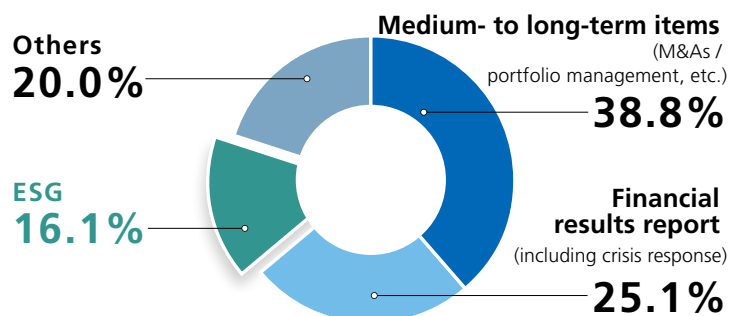
### ESG Promotion System

In May 2018, the Ricoh Group established the ESG committee to ensure that the group’s medium- to long-term issues in environmental, social and governance-related areas are discussed at the management level on an ongoing basis in order to raise the quality of management of the entire group. Meetings are held on a quarterly basis to facilitate cross-divisional discussion on sustainability issues, and the heads of business divisions related to topics selected for each session also participate. (Figure 1)

In addition, the Board of Directors allocates about 15% to 20% of its agenda to deliberations on ESG issues, and continuously promotes discussions on ESG-related issues as important management themes.(Figure 2)



(Figure 1) ESG Promotion System



(Figure 2) Time allocation by agenda item at the Board of Directors in fiscal 2021

## ESG Committee

The ESG Committee has the following specific responsibilities:

- Formulate the Ricoh Group Sustainability Strategy to resolve social issues through business, such as initiatives toward introducing SDGs into the foundation of the Company's management
- Identify medium- to long-term sustainability risks and opportunities as well as material issues faced by the entire Group (including those regarding investment decisions on risks and opportunities related to climate change and resource conservation)
- Supervise and advise on sustainability strategies, material issues, and progress on KPIs for each business division throughout the entire Group
- Identify sustainability issues to be submitted for discussion at the Board of Directors meetings

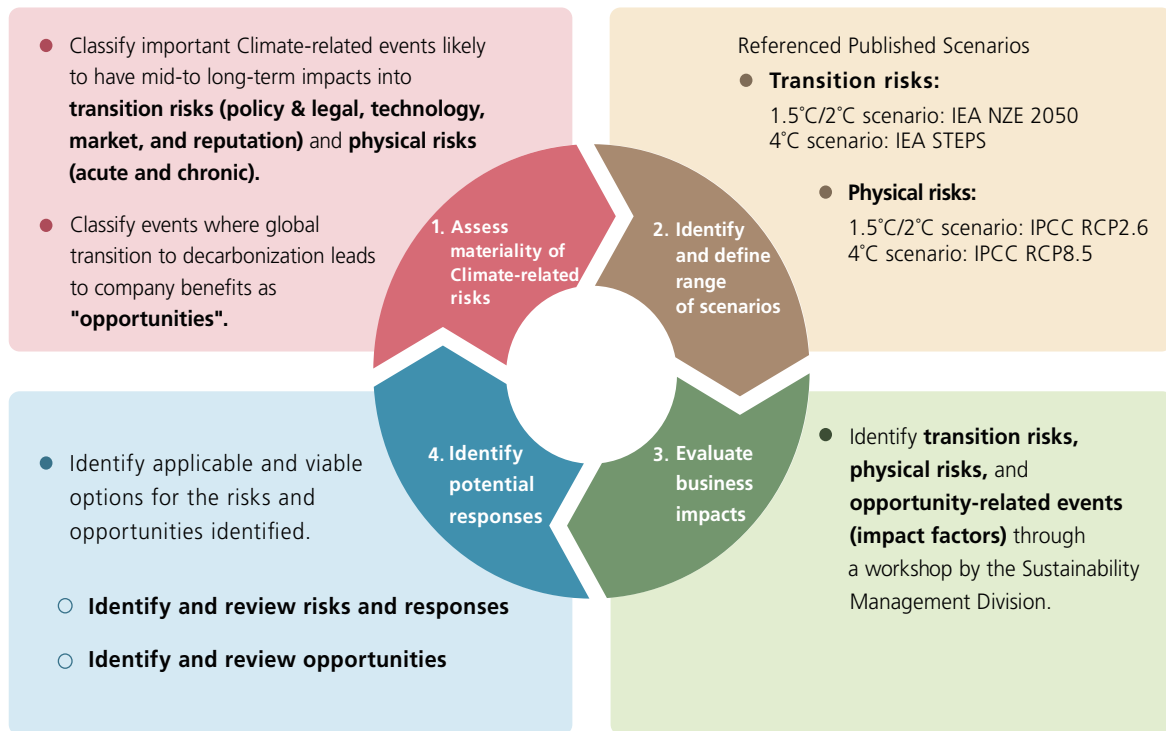
The committee is chaired by the CEO and consists of members of the group management committee (GMC), corporate auditors and an Executive Officer in charge of ESG. In fiscal 2021, ESG Committee met four times and held discussions as shown on the right.

FY2021	Month	Agenda
<b>First Meeting</b>	<b>May</b>	<ul style="list-style-type: none"> <li>● Report on the results of company-wide ESG targets for FY2020</li> <li>● Approval of the Human Rights Due Diligence Development Plan</li> <li>● Pollution prevention measures</li> <li>● Status of response to ESG evaluation / improvement</li> <li>● The FY2021 integrated report</li> </ul>
<b>Second Meeting</b>	<b>July</b>	<ul style="list-style-type: none"> <li>● Climate change risks and opportunities (comply with TCFD)</li> <li>● Harmonization of GHG (greenhouse gas) reduction scenarios for decarbonization activities</li> <li>● Report on the progress of Human Rights Due Diligence Development Plan</li> </ul>
<b>Third Meeting</b>	<b>December</b>	<ul style="list-style-type: none"> <li>● ESG external evaluation results report</li> <li>● Progress of decarbonization activities</li> <li>● Progress of human rights initiatives</li> </ul>
<b>Fourth Meeting</b>	<b>March</b>	<ul style="list-style-type: none"> <li>● Strengthen supply chain ESG initiatives</li> <li>● Report on the progress of Human Rights Due Diligence Development Plan</li> <li>● Issues and responses to ESG evaluation</li> <li>● Planning of the Integrated Report for FY2022</li> </ul>

## 4-2 Strategy

### Scenario Analysis for Climate Change

The Ricoh Group conducts annual analysis and evaluation in four steps during the scenario analysis review process.



#### Step 1: Assessment of the importance of climate change-related risks

First, we forecast social and regulatory trends in 2030 and 2050. And next, we listed a wide range of risks and opportunities associated with climate change in companies, based on the risks and opportunities set out in the TCFD recommendations. The scope of the analysis included our own operations, as well as upstream and downstream activities.

Risks are generally classified into two categories. One is the transition to a low-carbon society. The other is the physical risk of intensifying climate change. Transition risk will break down into policy regulations, markets, technologies, reputations (changes in customer reputation, changes in investor reputation), etc. Physical risk is classified into chronic risks (e.g., rise in average temperature, changes in precipitation and weather patterns, rise in sea level) and acute risks (e.g., extreme weather events).

#### Step 2: Identify scenarios

To examine transition risks, we referred to the report of the International Energy Agency (IEA) since we are aiming for the SBT 2°C /1.5°C target. We selected the IEA SDS (Sustainable Development Scenario), which is a scenario that is consistent with the Paris Agreement and has a 50% probability of limiting emissions to 1.65°C. We also referred to the NDCs (greenhouse gas emission reduction targets based on the Paris Agreement) submitted by each country.

To address an uncertain future, we need to select and set up multiple temperate scenarios, including scenarios below 2°C. Therefore, referring to information from the United Nations Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), we selected two scenarios: the 2°C/1.5°C scenario (RCP2.6) [Scenario 1] and the 4°C scenario (RCP8.5) [Scenario 2]. We thought that dividing the average temperature increase into two extreme cases, the lowest and the highest, would help eliminate the unexpected.

In order to sustain our existing major businesses, the printing and thermal businesses, we need to make assumptions about changes in the supply of forest and paper resources and the scale and frequency of natural disasters such as typhoons, torrential rains, and floods in our supply chain, including our production sites, due to future climate change through 2050.

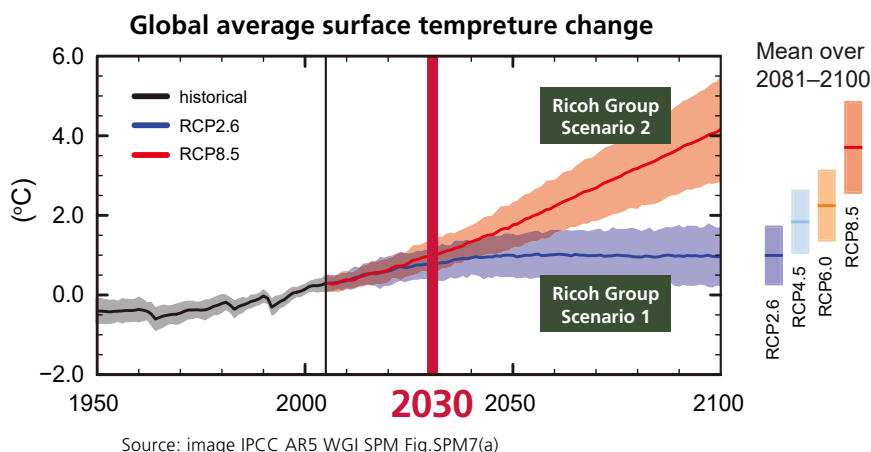


The new socioeconomic scenario, “Shared Socioeconomic Pathways (SSP),” is used as a prerequisite for a sub-2°C social and economic environment, referring to the SSP1 (Sustainability) storyline of a world of growth and equality with an emphasis on sustainability.

In the 4°C scenario, we assumed a situation in which countries do not promote climate protection policies, limited voluntary activities by companies to address global warming issues, a transition to zero-carbon society does not progress, temperature rise is not mitigated, and more severe extreme weather conditions will occur frequently (SSP3: Regional Rivalry)

Since the Fifth Assessment Report of the IPCC shows no significant difference between the two scenarios in terms of temperature increase in 2030 (see \*1 graph), Scenario 1 mainly assesses the risk of transition to a Zero-Carbon society, while Scenario 2 assesses the physical risk from extreme climate change.

1: Forecast of temperature rise as of 2030 by 2 scenarios.



Source: image IPCC AR5 WGI SPM Fig.SPM7(a)

**Scenario 1** Analysis based on RCP2.6

**A world where the average global temperature rise by 2100 is kept below 2 °C**

- Dynamic policies such as the introduction of carbon taxes as well as the development of innovative technologies for renewable energy will proceed.
- A society in which changes associated with the transition to a zero-carbon society are likely to have a significant business impact will emerge.

**Scenario 2** Analysis based on RCP8.5

**A world where the average global temperature will rise by 4 °C by 2100**

- Extreme weather due to climate change increases risks of unexpected storm and flood damages, depletion of raw materials, and outbreaks of infectious diseases.
- A society in which physical damages by climate change is likely to affect businesses will emerge.

**Step 3: Business Impact Assessment**

Regarding the risks and opportunities listed in Step 1, we will evaluate and consider possible business impacts while discussing with internal stakeholders based on our business model.

Specifically, we held a workshop in the Sustainability Department to identify the impact factors of events that lead to transition risks, physical risks, and opportunities. On top of that, we consulted with related departments such as the Corporate Planning Department, Material Procurement Department, Risk Management Department, and General Affairs Department to organize and consolidate business impacts qualitatively, and to estimate the economic impact assuming future scenarios as of 2030

The risks and opportunities associated with climate change compiled are finalized by the ESG Committee after deliberations from a management perspective.



**Step 4: Consider and implement countermeasures**

As for the risks related to climate change determined by the ESG Committee, we place them in the priority management risk category as necessary, and plan and execute specific measures such as management and action plans.

## 4-3 Climate Change Risks and Countermeasures

Risks identified from the results of scenario analysis conducted in accordance with the four steps are evaluated and weighted according to risk levels in the Ricoh Group's risk management system. Since FY2021, the disclosure has been enhanced to more clearly show the impact on business by dividing risks into five levels, instead of the conventional three levels of large, medium, and small, to indicate the degree of impact and urgency. In addition, for Physical Risk 1, "Rapid increase in disasters," we have assessed each of our domestic sites, overseas sites, and supply chains to clarify the degree of impact and urgency according to the scope of the event.

Risk levels		Level of urgency Degree of severity, greater than 50% probability of occurrence	
Degree of impact *1			
1	Impact on profit: ¥1.0 billion or less	1	Within 30 years
2	Impact on profit: Up to ¥20.0 billion	2	Within 10 years
3	Impact on profit: Up to ¥50.0 billion	3	Within 5 years
4	Impact on profit: Up to ¥100.0 billion	4	Within 3 years
5	Impact on profit: Over ¥100.0 billion	5	Within 1 year

\*1. Consideration of reputational damage and impact on business transactions

We reassessed the impact of natural disasters, which are increasing year by year, within our supply chain, including our own business sites, and decided to invest in specific countermeasures to address the risk of flooding in Japan, particularly by prioritizing major production sites with high risk. Natural disaster risk is an urgent issue that could have a significant impact on our business if postponed.

Although the risk of infectious diseases associated with climate change is not as urgent, once an infectious disease does occur, it can cause significant financial losses, so we will continue to strengthen our BCP. We also reaffirmed that proactive responses to climate change mitigation and adaptation have great potential to generate financial benefits in the future.

### Ricoh Group's Financial Effects in FY 2021

Impact of Climate Change on Ricoh group		Financial impact	Urgency	
Transition risk	<b>Transition risk 1 (2°C/1.5°C scenarios*1)</b> <b>Carbon taxes and emissions trading systems applied to suppliers</b> <ul style="list-style-type: none"> <li>Carbon pricing (carbon tax and emissions trading) was applied and the price will be passed on to raw materials, and procurement costs will increase.</li> <li>The impact of carbon pricing (carbon tax and emissions trading) on the Ricoh Group is negligible (planned GHG reduction under the SBT 1.5°C target)</li> </ul>	2	3	
	<b>Transition risk 2 (2°C/1.5°C scenarios*1)</b> <b>Response to accelerated transition to decarbonized society by consumers and investors</b> <ul style="list-style-type: none"> <li>Due to the advanced 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 electricity are incurred.</li> </ul>	1	3	
Physical risk	<b>Physical risk 1 (4°C scenarios*2)</b> <b>Rapid increase of natural disasters</b> <ul style="list-style-type: none"> <li>Due to climate change, extreme weather has become more severe, causing more wind and flood damage than expected at primary production sites (China, Thailand, Japan)</li> <li>Production stops and sales opportunity losses due to disruption of the supply chain, etc.</li> </ul>	Domestic offices	1	5
		Overseas offices	2	3
		Supply chain	3	1
	<b>Physical risk 2 (4°C scenarios*2)</b> <b>Regional epidemics of infectious diseases</b> <ul style="list-style-type: none"> <li>Impact on production plans due to parts supply disruption</li> <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	
	<b>Physical risk 3 (4°C scenarios*2)</b> <b>Declining forest resources</b> <ul style="list-style-type: none"> <li>Forest damage such as caused by forest fires and increase of pests due to global warming results in deterioration of stable supply of paper raw materials and leads to a rise in paper procurement costs.</li> </ul>	1	2	

\*1 2°C/1.5°C scenario: A world in which average temperature increase is limited to less than 2°C over the period to year 2100.

\*2 4°C scenario: A world in which the average temperature increases 4°C over the period up to year 2100.

## Addressing climate change risks

2°C/1.5°C scenarios

Transition Risk1: Carbon taxes and emissions trading systems applied to suppliers

### Risk scenario

- Carbon pricing (carbon tax and emissions trading) will be applied to all suppliers, and procurement costs will rise as prices are passed on to raw materials.
- Carbon tax calculations are based on the latest information in the “2021 Inevitable Policy Response (IPR)” report commissioned by the Principles for Responsible Investment (PRI).
- Pilot version of emissions trading has started in China, and the direction of carbon pricing is being finalized in Japan within this year, so it is assumed that it will be introduced within a few years.

Impact  
Up to  
¥20.0  
billion

Urgency  
Within 5  
years

## Transition Plan

### Reduction of new resources by selling recycled machines and utilizing recycled materials

The Ricoh Group is working to improve resource efficiency by promoting 3R\*’s of its products. In order to reduce the amount of new resources input, we are focusing on miniaturization and weight reduction of products, expansion of the use of recycled materials, and design of products that are easy to recycle at the manufacturing stage. We are also developing non-petroleum-based materials to prepare for risks such as resource shortages, environmental impacts, and waste.

Currently, we are expanding our global collection, recycling, and sales of used products. For example, in Japan there are a reuse rate of 80% that guarantees the product according to predetermined quality standards. In our global site, there are re-use machines with a reuse rate of about 90% or more that are sorted and regenerated according to local standards. Compared to new machines, the reconditioned machine released in June 2021 has reduced CO<sub>2</sub> emissions by 62% in the manufacturing process and 19% in the entire life cycle.

As from 2016, Ricoh developed recycled materials for interior materials that can be used repeatedly as raw materials for commercially available recovered materials, and installed them on multifunction machines together with exterior recycled materials developed in the same way. In addition, recycled plastic made of 100% commercially available recovered materials is used for toner bottles. This recycled plastic toner bottle is used in more than 95% of the office toner bottles manufactured by the Ricoh Group.

\*1: Reduce Reuse Recycle



Fish box used in the market  
Plastic packaging container



Waste plastic for home appliances



Used for paper feed trays of  
multifunction printers

## Actively support supplier decarbonization activities and address the risk of rising procurement costs

The Ricoh Group is striving to strengthen our environmental conservation efforts in cooperation with suppliers in order to reduce the environmental impact of our entire supply chain. We have established “Green Procurement Standards” and procure raw materials and parts used in our products by following these standards. The “Supplier Code of Conduct” encourages our suppliers to minimize energy consumption and greenhouse gas emissions in accordance with our environmental management system.

In addition, we not only promote CO<sub>2</sub> reduction activities for Zero Carbon on our own, but also in collaboration with our suppliers; In March 2022, we held a Zero Carbon meeting for suppliers and requested them to set Scope 1 and 2 reduction targets that meet the SBT2°C level. In order for the suppliers to achieve these targets, we are providing support, including individual consultation based on the practical examples and expertise of the Ricoh Group, on how to identify Scope 1 and 2 and how to switch to electricity with a lower CO<sub>2</sub> emission factor.



### 2°C/1.5°C scenarios

#### Transition Risk 2: Response to accelerated transition to decarbonized society by consumers and investors

##### Risk scenario

- The transition to a decarbonized society will be rapid, and it will become commonplace for companies to achieve the 1.5°C target and RE100.
- Companies will be forced to achieve 100% energy efficiency as soon as possible because customers will leave the company unless they use carbon-neutral products.
- Assumed that the transition to a decarbonized society progresses rapidly within a few years

Impact  
¥1.0 billion or less

Urgency  
Within 5 years

### Transition Plan

#### Active development of energy-saving and renewable energy measures that contribute to the SBT 1.5°C target (strategic use of renewable energy certificates, etc.)

Ricoh set the Ricoh Group Environmental Goals in April 2017. It aims to reduce Scope 1 and 2 GHG by 30% by 2030 (compared to FY2015) and to reduce GHG emissions across the value chain to zero by 2050 and was certified by the Science Based Targets (SBT) Initiative, an international climate change initiative to align with the Paris Agreement’s 2°C target. At the same time, we became the first Japanese company to join RE100, an international initiative aimed at supplying 100% renewable energy for electricity used in business.

Furthermore, in order to realize a “decarbonized society,” we revised the Ricoh Group Environmental Targets in 2020, setting the target for reducing GHG by 63% (compared to 2015) for Scope 1 and 2 and by 40% (compared to 2015) for Scope 3 in fiscal 2030. This is a challenging target which will be recognized as the “1.5°C target” by the SBT.

In 2021, we accelerated our decarbonization activities by raising our global renewable energy ratio target for 2030 from 30% to 50%. The number of Ricoh Group’s RE100 sites in fiscal 2021 reached 166 (approximately 20% of all sites).



## Sustainability Link Loan Financing

Ricoh is actively promoting financing through the use of its sustainability initiatives. In April 2020, Ricoh signed its first Sustainability Linked Loan with MUFG Bank, Ltd. in recognition of its proactive efforts on Zero Carbon initiatives. The Sustainability Link Loan is a financial product targeted for companies that have set high environmental goals and are actively addressing climate change issues, and by meeting those goals, companies are eligible to receive preferential interest rates. Under this agreement, the interest rate will be determined by our progress in achieving the target for reducing GHG set by Ricoh in line with the SBT Initiative's "1.5°C Target". A unique feature of the Sustainability Link Loan is that the funds can be used for business purposes without limitation. Ricoh plans to use a portion of the funds to expand the introduction of renewable energy and to invest in energy-saving equipment as part of its efforts to achieve its target for reducing GHG. Subsequently, in March 2022, we signed a financing agreement with Mizuho Bank, Ltd. for an Environmental Assessment Loan product called "Mizuho Eco Finance". This financing agreement was made under the framework of the "Financing Operation to Support Climate Change Response" conducted by the Bank of Japan, and Mizuho Bank determined that the financing agreement would contribute to address climate change.

Furthermore, in July 2022, we signed a financing agreement with Sumitomo Mitsui Trust Bank, Limited for "PIF (Positive Impact Financing)," a type of investment and financing for commercial companies that does not limit the use of funds, in line with the financial principles advocated by the United Nations Environment Program and Financial Initiatives. Positive Impact Finance aims to contribute to the achievement of the SDGs through corporate activities by comprehensively analyzing and evaluating the positive and negative impacts of corporate activities on the environment, society, and the economy. The PIF signed this time adopted goals in five areas as evaluation items, including ESG goals that lead to the "realization of a Zero Carbon Society". This indicates that the Ricoh Group's sustainability initiatives are expanding into the area of financing that contributes to business growth.

### 4°C scenario

#### Physical Risk 1. Rapid increase of natural disasters

##### Risk scenario

- Due to climate change, extreme weather conditions are becoming more severe, causing more wind and flood damage than expected, resulting in production stoppages and increased loss of sales opportunities due to supply chain disruptions.
- Assessed both the impact of the disaster (physical damage to our own site globally) and long-term product supply delays (impact on sales due to product shortages).
- Estimated financial impact based on past damage at production sites in Thailand (The floods in Thailand in 2011 had a negative impact on the Ricoh Group's sales of approximately 8 billion yen).
- Frequent occurrence of heavy rains and floods, said to occur once every 100 years, both in Japan and global.

##### Domestic offices

Impact	Urgency
¥1.0 billion or less	Within 1 years

##### Overseas offices

Impact	Urgency
Up to ¥20.0 billion	Within 5 years

##### Supply chain

Impact	Urgency
Up to ¥50.0 billion	Within 30 years

## Mitigation Plan

### Risk assessment and actions for natural disasters

For our domestic business locations, we have assessed the flood risk by considering the hazard maps of the national and local governments, as well as the recent amount of precipitation.

As for overseas business locations, we have leveraged the "Aqueduct Water Risk Atlas" of the World Resources Institute (WRI), an international environmental NGO, while assessing flood risks at 14 major overseas business locations in FY2021 with the cooperation of Sompo Japan Insurance Inc.

Based on the hazard maps of each country, we have assessed "Inland Inundation" (=Flood), which occurs when the volume of water on land cannot be drained away due to heavy rain, typhoons, rising rivers, etc., and "Storm Surge", which occurs when sea water rises due to storms, changes in air pressure, etc. and surges ashore. We have also assessed the frequency of these two types of flooding. The frequency and area of occurrence of these two risks were also identified.

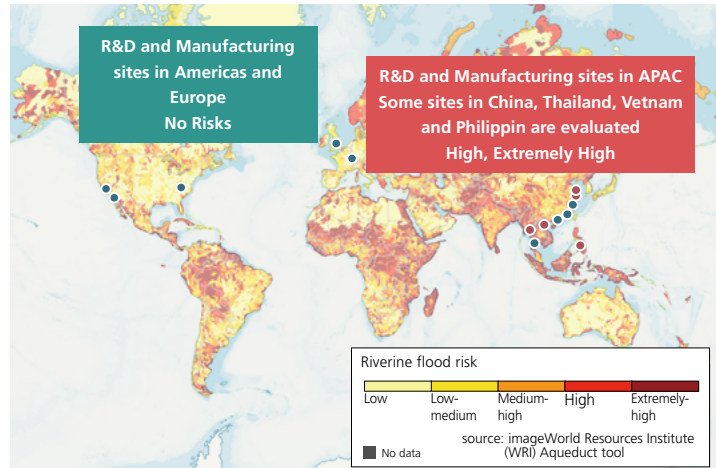
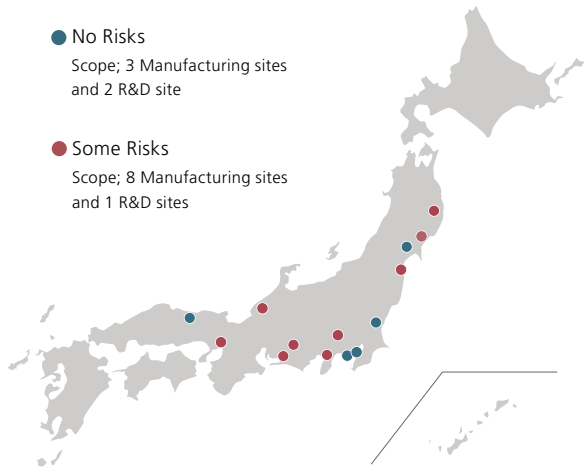
## Risk of Water Damage at Major Overseas Locations (Supported by Sampo Japan Insurance Inc.)

Risk of Flooding		
Reproduction period (years)	Number of locations	Ratio (%)
Once in 50 years	1	7.14%
Once in 200 years	1	7.14%
Once in 250 years	1	7.14%
Once in 500+ years	3	21.43%
N/A	8	57.14%
<b>Total</b>	<b>14</b>	<b>100.00%</b>

High Tide Risk		
Reproduction period (years)	Number of locations	Ratio (%)
Once in 50 years	0	0.00%
Once in 100 years	1	7.14%
Once in 250 years	1	7.14%
Once in 500+ years	1	7.14%
N/A	11	78.57%
<b>Total</b>	<b>14</b>	<b>100.00%</b>

As a result, the production and R&D bases where risks are a concern in the Ricoh Group are as follows.

- Japan: 9 out of 14 locations at risk (5 without risk)
- Global: 5 out of 14 locations at risk (9 without risk)



### Supply chain risk addressing

In the risk management process, the department that manages production operations globally becomes the main district for addressing risks, formulating business continuity plans (BCP) throughout the supply chain from parts procurement to production and sales, and reviewing them as necessary. Specific measures include securing surplus inventory of products and parts at production plants in Thailand, Japan, China, and other countries, as well as selecting multiple suppliers for important parts, in preparation for delays and suspensions in parts supply, production suspension of production plants, and suspension of transportation activities.

### Strengthen risk response at Japanese sites

In the recent years, the risk of damage from flood disasters has been increasing in Japan due to climate change, and in particular, the damage caused by the typhoons and heavy rains in 2019 was devastating. While the impact on the Ricoh Group was minimal, in accordance with our group-wide risk management process, we conducted a detailed investigation of the flood disaster risk (which we consider to be a serious risk to our management) not only at our production and R&D sites but also at our major sites in Japan, and reported the estimated damage and proposed countermeasures based on the investigation results at a management meeting. Based on the results of the investigation, an improvement plan was decided for the three sites that were assumed to be particularly high-risk, which led to the start of necessary construction work, including the installation of watertight panels and flood walls, from FY2021. In addition, as the risks of flood damage continue to change, we are developing a system to immediately detect changes in risk leading to preventive actions.



Installation example of water gate barrier at Ricoh Ikeda Plant



Installation example of flood wall at Ricoh Numazu Plant

## 4°C scenario

### Physical Risk 2. Regional epidemics of infectious diseases

#### Risk scenario

- Climate change causes outbreaks of mosquito-borne infectious diseases
- Impacts are based on the assumption of regional outbreaks occurring approximately every 10 years
- Financial impact is estimated based on COVID-19 impact

Impact  
Up to  
¥20.0  
billion

Urgency  
Within 10  
years

#### Mitigation Plan

##### Strengthening the BCP against infectious diseases

The Ricoh Group has established a system to deal with the risk of infectious diseases based on the following policies, and is taking the necessary measures.

- ① Give priority to maintaining the lives and health of Group employees and their families
- ② Prevent the increase in the number of infected people as much as possible, taking into consideration the impact on society.
- ③ Make efforts to continuously provide services and products that are demanded by society and customers.
- ④ Strive to maintain the management base.
- ⑤ Strengthen BCP against infectious diseases

As in the case of natural disasters, the department in charge of global management of production operations will formulate a BCP for the entire supply chain, from parts procurement to production and sales. In addition, we are strengthening our BCP for countermeasures against infectious diseases, including the use of IT for business operations and negotiations, decentralization of production sites/automation of processes, and stockpiling of parts and products.

## 4°C scenario

### Physical Risk 3. Declining forest resources

#### Risk scenario

- 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.
- As a result, the price of paper, a key material in the thermal business, soared, putting pressure on business profits.

Impact  
Up to  
¥10.0  
billion

Urgency  
Within 10  
years

#### Mitigation Plan

##### Reducing use of release paper with Environmentally Friendly Paperless Labels

In general, it is common practice to use release paper for adhesive labels. In recent years, however, there has been a desire to reduce waste and CO<sub>2</sub> emissions, and we have developed the silicone top liner-less label (SLL) as a thermal label that does not use release paper.

Since SLLs do not use release paper, they contribute to the reduction of environmental impact (reduction of CO<sub>2</sub> emissions).

##### Ricoh's Forest Conservation Activities - 1 Million Future Forest Projects

The Ricoh Group has been promoting GHG emission reductions while at the same time engaging in forest conservation activities around the world, which are becoming increasingly important as a source to absorb CO<sub>2</sub>. In the "1 Million Forests for the Future Project," which was launched with the goal of planting 1 million new trees between FY2020 and

FY2030, we have planted a cumulative total of 240,000 trees since FY2020. In the "1 Million Forests for the Future Project," which was launched with the goal of planting 1 million new trees between FY2020 and FY2030, we have planted a cumulative total of 240,000 trees since FY2020.

In addition, we are participating in the "30 by 30 Alliance for Biodiversity," which aims to prevent biodiversity loss and conserve more than 30% of land and sea as natural environmental areas by 2030, and are promoting forest conservation in cooperation with local governments and other organizations.

Since February 2020, Ricoh Japan, our sales company in Japan, has been promoting activities to plant mangrove trees in Indonesia and the Philippines in conjunction with deliveries of products with high energy-saving performance. When proposing our products to customers, we present our contributions to the SDGs and are developing our efforts for the SDGs in partnership with our customers by planting trees in line with the delivery results of our products.



#### 4-4 Opportunities for Climate Change

The Ricoh Group recognizes that climate change is not only a business risk, but also an opportunity to enhance the value of its products and services and its corporate value. At present, our environmentally friendly office equipment & services, infectious disease control solutions, and environmental and energy businesses are contributing to sales of around 1 trillion yen.

The Ricoh Group has been committed to the development of energy-saving technologies in the course of its environmental management efforts since the 1990s, and has continued to provide customers with products and services that contribute to "Mitigation to climate change". We will continue to pursue thorough energy-saving performance in the products and services we continue to sell.

In addition, as climate change becomes more prominent, sales of products and services that can contribute to "Adaptation to climate change" are growing. As the impact of climate change is expected to increase in the future, we will strive to develop products and services that can avoid or reduce the impact of climate change that has already occurred or is expected to occur in the future, and provide them to our customers.

Opportunities at Ricoh group (Contribution areas related to climate change)	Results in 2021
<b>Contribute to climate change mitigation</b>	<b>Approx. 1,000 billion yen</b>
<p>Ricoh has been providing customers with products and services that can contribute to "mitigation of climate change" while working on environmental management since the 1990s. We will continue to pursue thorough energy-saving performance for products and services that can contribute to the mitigation of climate change.</p>	<ul style="list-style-type: none"> <li>● Sales of products contributing to society's decarbonization <span style="float: right;">Approx. 930 billion yen</span></li> <li>● Sales of major business negotiations based on ESG performances <span style="float: right;">Approx. 20 billion yen</span></li> <li>● Sales in the products and parts recycling business <span style="float: right;">Approx. 30 billion yen</span></li> <li>● Sales in energy creation and energy saving business <span style="float: right;">Approx. 20 billion yen</span></li> <li>● Creating and developing new businesses; Sales of eco-friendly products such as Siliconetop linerless labels and Formed PLA sheets <span style="float: right;">—</span></li> </ul>
<b>Contribute to climate change adaptation</b>	<b>Approx. 90 billion yen</b>
<p>Ricoh will endeavor to develop products and services that can contribute to "adaptation". The products and services can avoid or mitigate the effects of climate change which has already occurred or predicted in the future.</p>	<ul style="list-style-type: none"> <li>● Solution sales to support new ways of work (Sales of Scrum packages*1, Scrum assets *1 and WTA *2) Includes approximately 35 billion yen in sales of non-face-to-face infectious disease countermeasure solutions such as the "Telework All-in Package". Includes approximately 46 billion yen in sales of non-face-to-face infectious disease countermeasure solutions such as the "Telework All-in Package". <span style="float: right;">Approx. 90 billion yen</span></li> <li>● Creating and developing new business; Sales of dye-sensitized solar cells <span style="float: right;">—</span></li> </ul>

\*1: Packaged solutions for small and medium-sized companies to be sold in Japan

\*2: Work Together Anywhere: packaged solution to be sold in Europe

\*3: Energy Harvesting: An environmental power generation system that generates electricity from light, heat, and vibration in the surrounding environment.



## Contribution Area of "Mitigation to Climate Change": Approx. 1,000 billion yen

### Mitigation Plan① Development of decarbonization-contributing products : Approx. 930 billion yen

In order to deliver environmentally responsible products to our customers, we are actively acquiring environment labels both in and outside of Japan. Under the International Energy Star Program, which promotes the energy saving of office equipment, 95% of our printing and imaging products, including those released in FY2021, have acquired Energy Star Certification, demonstrating our commitment to Zero-Carbon.

We are also promoting environmentally responsible production by operating the Ricoh Sustainable Products Program, which evaluates products based on our own strict standards for energy and resource savings, contamination prevention, user comfort, and ease of use.

\*1: Assume that 40 MFDs will operate 20 days in an office that outputs 50,000 copies per month

\*2: Value based on the measurement method specified in the International Energy Star Program

Goals and Results of achieving the ratios of the products complying with the RSPP rank\* (%)



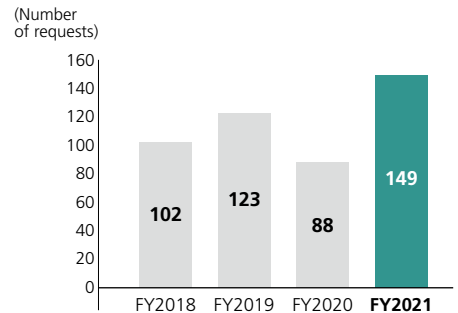
\*Ratio of certified with Sustainable Products rank/Sustainable Product-Premium rank



### Mitigation Plan② Sales from negotiations involving ESG response: Approx. 20 billion yen

In recent years, there has been a tremendous increase in ESG requirements from our customers. In particular, Public Sector Organizations and global companies in Europe are accelerating their movements to embed ESG initiatives as a condition for selecting suppliers. For example, at a procurement meeting for public procurement in Spain, in some cases, more than 10% of the assessment was based on CSR aspects such as status of obtaining environmental labels and energy-saving capabilities, in addition to product price and services. Furthermore, in Japan, we have been receiving an increasing number of inquiries from our customers regarding our ESG initiatives every year, which has contributed to strengthening our customer relationships and driving our business.

Trends in the number of requests for benchmarking and lectures on SDGs/ESG (Japan)



#### Revenue Calculation Criteria for Business Negotiations Incorporating ESG Initiatives

- Sales order amount if business negotiations are successful.
- In the case of existing customers, actual sales performance of the target country or region in the targeted fiscal year.

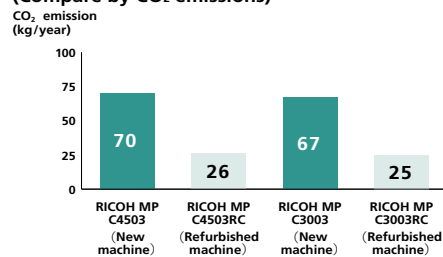
**Mitigation Plan<sup>3</sup> Sales in products and parts reuse and recycling businesses: Approx. 30 billion yen**

Since 1994, we have been actively engaged in the product and parts recycling business, taking advantage of our 3R (reduce, reuse, recycle) technologies and global product recycling system. We promote the 3Rs based on the "Comet Circle," our original concept for realizing a resource-recycling society, and have maintained a high level of 80-90% use of reusable parts in our recycled products. By expanding our product lineup in line with the recent trend toward a circular economy, we will not only meet the needs of our customers, but also contribute to the realization of a decarbonized and resource-recycling society.

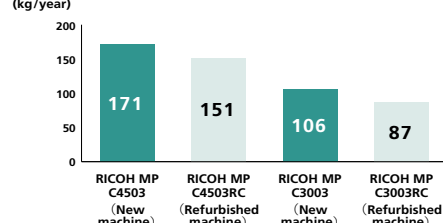


A more detailed description of the product and parts remanufacturing business is provided in the Ricoh Group Circular Economy Report.

**Environmental load ratio in the manufacturing process (Compare by CO<sub>2</sub> emissions)**



**Results of LCA\*1 ratio (Compare by CO<sub>2</sub> emissions)**



\*1: Life Cycle Assessment

**Mitigation Plan<sup>4</sup> Sales in energy saving and energy creation businesses: Approx. 20 billion yen**

As the trend toward decarbonization accelerates, we offer decarbonization solutions to our customers in Japan in terms of "reducing", "choosing", "generating", and "supplying" energy. We are promoting energy-saving and energy-creation-related businesses, such as O&M (operation & maintenance) of customers' solar power generation facilities, maintenance of EV charging facilities, and the lighting and air conditioning control systems, utilizing the monitoring services we have nurtured in the field of IT/networking equipment.

**"Reducing energy": RICOH Smart MES (Lighting and Air Conditioning Control System)**

By utilizing our unique sensing and cloud technologies, we can achieve energy saving while maintaining worker productivity and comfort. "No one is in a place where there is no one to reduce the illuminance of the lighting, put the air conditioning in energy-saving mode", "Adjust the brightness of the lighting by the window using the outside light in bright daytime", "Minimize the variation in temperature by the point of the office", "Business hours By automatically operating air conditioning from the front and welcoming customers at the appropriate temperature" and performing fine-grained control of lighting and air conditioning from the cloud automatically, lighting and air conditioning can be effectively used according to time and place while reducing the load on operation. In addition to saving energy, it also contributes to the improvement of comfortable work and workplace. For example, the brightness and color temperature of office lighting can be changed to encourage people to return home at the right time, and by acquiring and analyzing temperature and humidity data for each area of the office, it is possible to optimize the layout to suit the actual office usage.



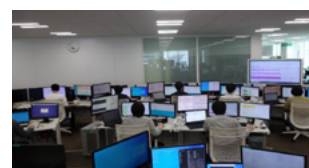
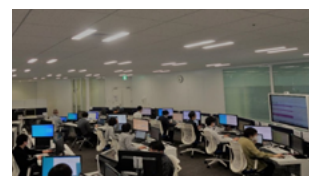
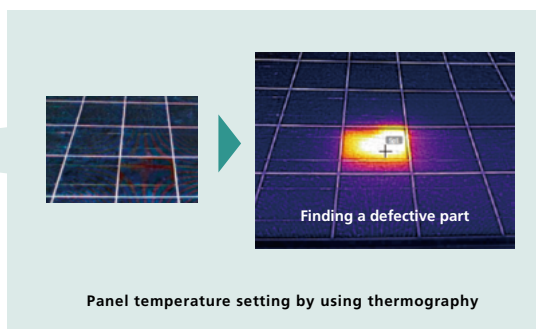
### “Choosing Energy”: EV Charger Installation and Maintenance

As the trend toward decarbonization accelerates, the power source of automobiles is shifting from internal combustion engines to electric motors, especially in Europe and China. This trend is also accelerating in Japan, thus it is considered inevitable that companies will switch to electric vehicles (EV) from the perspective of Zero Carbon and economic efficiency and, therefore, the establishment of infrastructure and promotion of plans are being required at an early stage. Ricoh Japan provides total support from sales to installation, operation, and maintenance of EV charging facilities to contribute to the reduction of GHG emissions caused by global warming.



### “Energy Convergence”: Use of Storage Batteries

We support the creation of systems for storing and effectively utilizing energy, as in, for example, using electric vehicles as storage batteries and deploying stationary and portable storage batteries. Ricoh Japan offers a wide lineup of these storage batteries, from easy-to-install types to large-capacity, long-hour storage types. Since portable storage batteries do not require any installation work and are mobile, they can be used immediately in time of emergency. These batteries are effective not only for realizing Zero Carbon but also for business continuity planning in the event of a natural disaster, as they enable the continuation of operations and equipment that should not be stopped in the event of power outages.



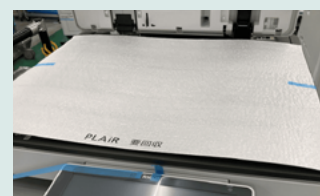
### “Converting Energy” Utilization of storage batteries

We support to create systems for storing and effectively utilizing energy, such as using electric vehicles as storage batteries and deploying stationary and portable storage batteries. Ricoh Japan offers a wide lineup of these storage batteries, from easy-to-install types to large-capacity, long-hour storage types. Since portable storage batteries do not require any installation work and are mobile, they can be used immediately in time of emergency. These batteries are effective not only for the realizing Zero Carbon but also for business continuity planning in the event of a natural disaster, as they enable to continue operations and equipment that should not be stopped in the event of power outages.



### Mitigation Plan 5 Foamed PLA Sheet “PLAiR” : New plastic material made of plants and air

Using Ricoh’s unique foaming technology, we have developed “PLAiR”, a foamed PLA (polylactic acid) sheet, which is a compostable plant-based resin that decomposes into water and carbon dioxide under certain environmental conditions, such as in soil or compost. This “PLAiR” is expected to be utilized as substitutions for plastic containers and packaging materials in a wide range of industries. We started the sample shipping in 2020, and have adopted this PLAiR as a part of the cushioning material for MFPS released in June 2021. We are aiming to expand its sales in the future by selling raw material to a wide range of industries, providing manufacturing solutions, and producing under license.



- Realization of new carbon-neutral material with compostability
- Developed a foamed PLA sheet that has both suppleness and strength using Ricoh’s unique foaming technology

## Contribution Area of "Adaptation to Climate Change"

### Adaptation 1 Solutions to support new ways of working- Sales of Scrum Package: Approx. 90 billion yen

The Scrum Package provided by the Ricoh Group is a combination of Ricoh's own and business partners' edge devices, software, and cloud services to support customers' new ways of working and digitizing their business operations. By providing services suitable for the New Normal era, we are contributing to the reduction in CO<sub>2</sub> emissions associated with the improvement of our customers' productivity.



In recent years, with the declining working population and work style reforms due to the declining birthrate and aging population, productivity improvement and regional revitalization using the latest digital technologies have become essential important social issues. However, small and medium-sized enterprises (SMEs) that account for more than 75% of Japan's GDP are not fully utilizing ICT due to lack of information and limited resources such as human resources and budgets. In addition, from 2020, in order to control the spread of the new coronavirus, each company is required to improve the environment by measures such as teleworking and telecommuting and to change the way of working.

Since October 2017, Ricoh Japan has been proposing scrum packages that combine edge devices, software, cloud services, etc. of its own and collaborative partners to digitize and streamline processes specific to each industry operation for small and medium-sized enterprises. Instead of proposing fragmented business improvement proposals using conventional individual products and services, we are characterized by proposals that capture the entire customer's business flow, and are supported by solutions using the necessary combinations of items rather than large-scale IT investments.

These solutions have helped reduce CO<sub>2</sub> emissions and reduce the spread of COVID-19 as productivity improves.

### Adaptation 2 Development and sales of Dye-Sensitized Solar Cell

The dye-sensitized solar cell (DSSC) is capable of generating high power even under weak light. This technology is attracting widespread attention as an effective power source supporting the Internet of Things (IoT) era, where everything is becoming connected.

Ricoh has developed a completely solid-state DSSC containing a solidified electrolyte, made possible through applying its organic photoconductor technology developed for multifunction printers (MFPs).

**RICOH EH DSSC Series**



High power output in areas with low light  
Safety with a solidified electrolyte  
A wide range of operating temperatures

## 4-5 Risk Management

As the environment surrounding the company becomes more complex and diversified, the Ricoh Group positions risk management as an essential initiative in appropriately controlling the various internal and external uncertainties that surround the Group's business and in implementing management strategies and achieving business objectives. All Group employees including the Board members are striving to improve risk management.

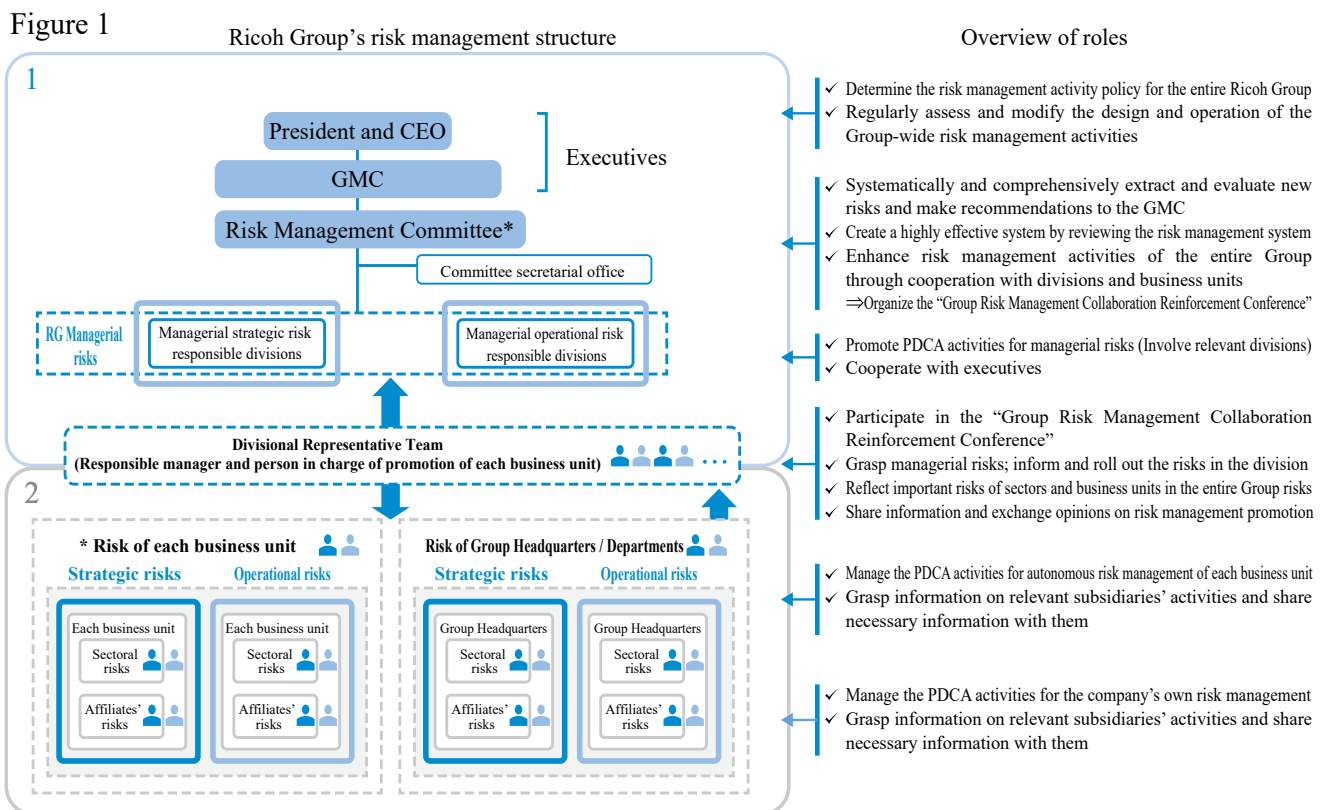
### Risk Management System and Risk Management Committee

The Ricoh Group's risk management systems can be divided into two main levels, as shown in Figure 1 below.

- ① Managerial risks, which are selected and managed autonomously by the GMC for management items of particular importance within the management of the Ricoh Group.
- ② Division risks and Business unit risks that each business organization is responsible for managing its own business.

These two levels exist for the purpose of clarifying bodies responsible for risk management so as to facilitate agile decision-making and swift action in response to each level of risk, and together form an integrated risk management system. The management of some risks may be transferred from one level to another, due to changes in the level of impact caused by environmental changes.

The role of each risk management body is shown on the right-hand side of Figure 1.



\*Chaired by Executive Officer, Fellow, or a person in a similar role.

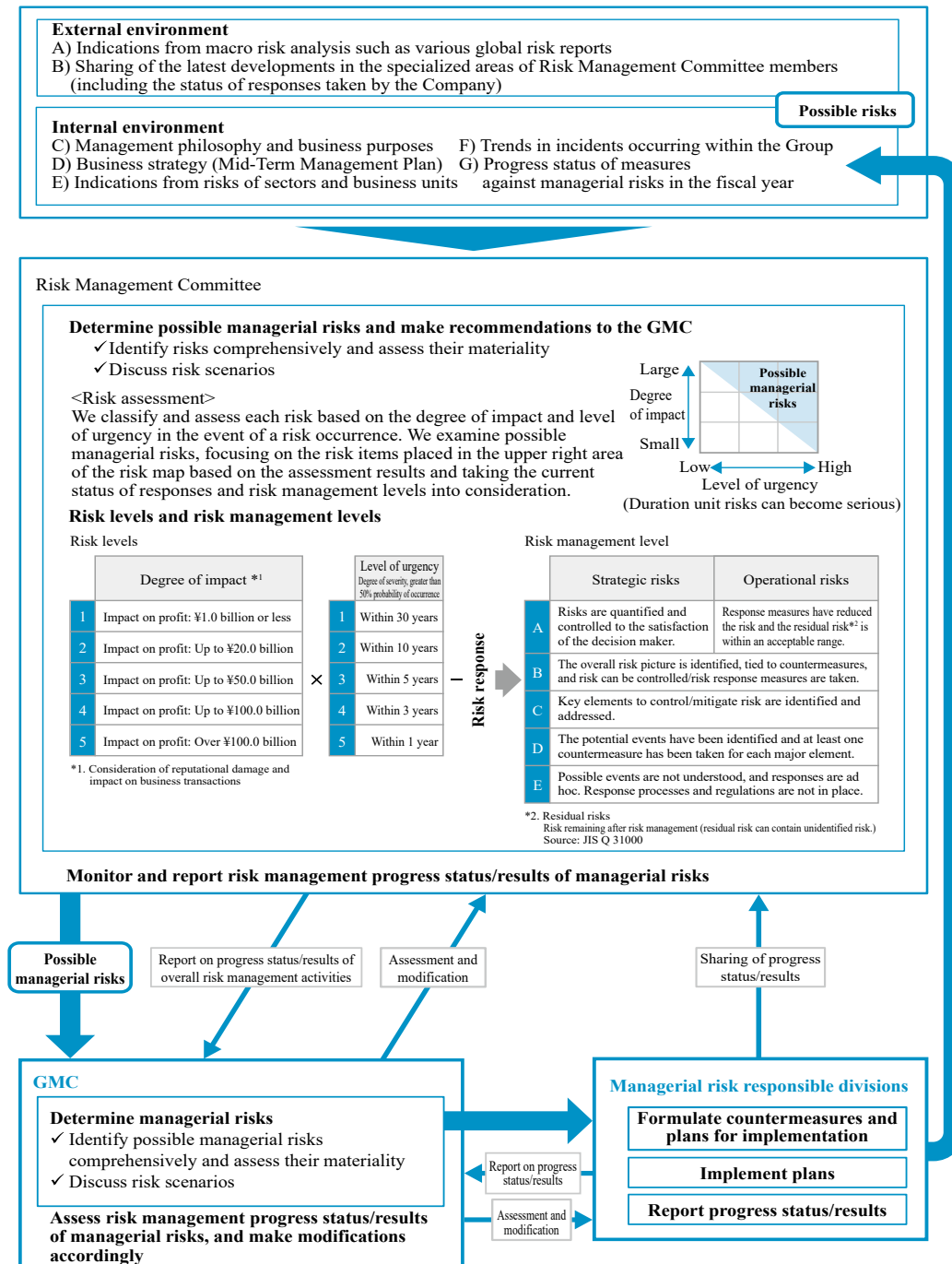
## Process of determining managerial risks

The Risk Management Committee was established as an advisory body to the Group Management Committee (GMC), for the purpose of strengthening risk management processes across the entire Ricoh Group. The committee is chaired by the corporate officer in charge of risk management and has experts from each organization as members to ensure comprehensive coverage of risks and substantial discussions, and to propose to GMC specific risks requiring response or focus in terms of the management of the Ricoh Group.

The GMC and Risk Management Committee determine managerial risks based on a comprehensive recognition of risks that exert a significant impact on management, including impact on interested parties, in light of the Company's management philosophy and business purpose, and are actively involved in countering these risks. (Figure 2: Process of determining managerial risks)

Managerial risks are classified and managed as "strategic risks" and "operational risks" based on their characteristics. Strategic risks cover a wide range of risks that affect management, from risks related to the accomplishment of short-term business plans to emerging risks in the medium- to long-term.

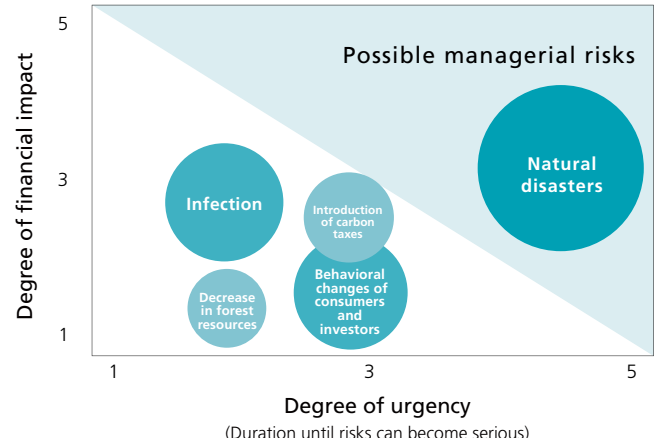
Figure 2: Process of determining managerial risks



## Monitoring of climate change risk and the relationship with the key management risks

Climate change risks are assessed annually at the management level by the ESG Committee, which oversees risks and makes decisions on investments in necessary countermeasures. In assessing risks, we use two axes, impact and urgency, in prioritizing investments for countermeasures. As for "Natural Disaster Risks," we manage the risks as high priority management risks for the entire company due to their high urgency and medium level of impact.

In this fiscal year, we invested in countermeasures against flooding at our key production and R&D sites in Japan.



## 4-6 Metrics and Targets

### Environmental Goals (Zero-carbon area)

The Ricoh Group aims to achieve substantially zero GHG (greenhouse gas) emissions throughout the entire value chain by 2050, and has obtained SBT certification for the 2030 target as a 1.5°C target in Scope 1, 2, and 3 (see p.12). We have become a member of "RE100," which aims for 100% introduction of renewable electricity, and have set targets for 2050 and 2030, while promoting GHG reduction through exhaustive energy-saving activities and active use of renewable energy sources.

#### Ricoh Group environmental goals (zero-carbon)

##### Goals for 2050

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

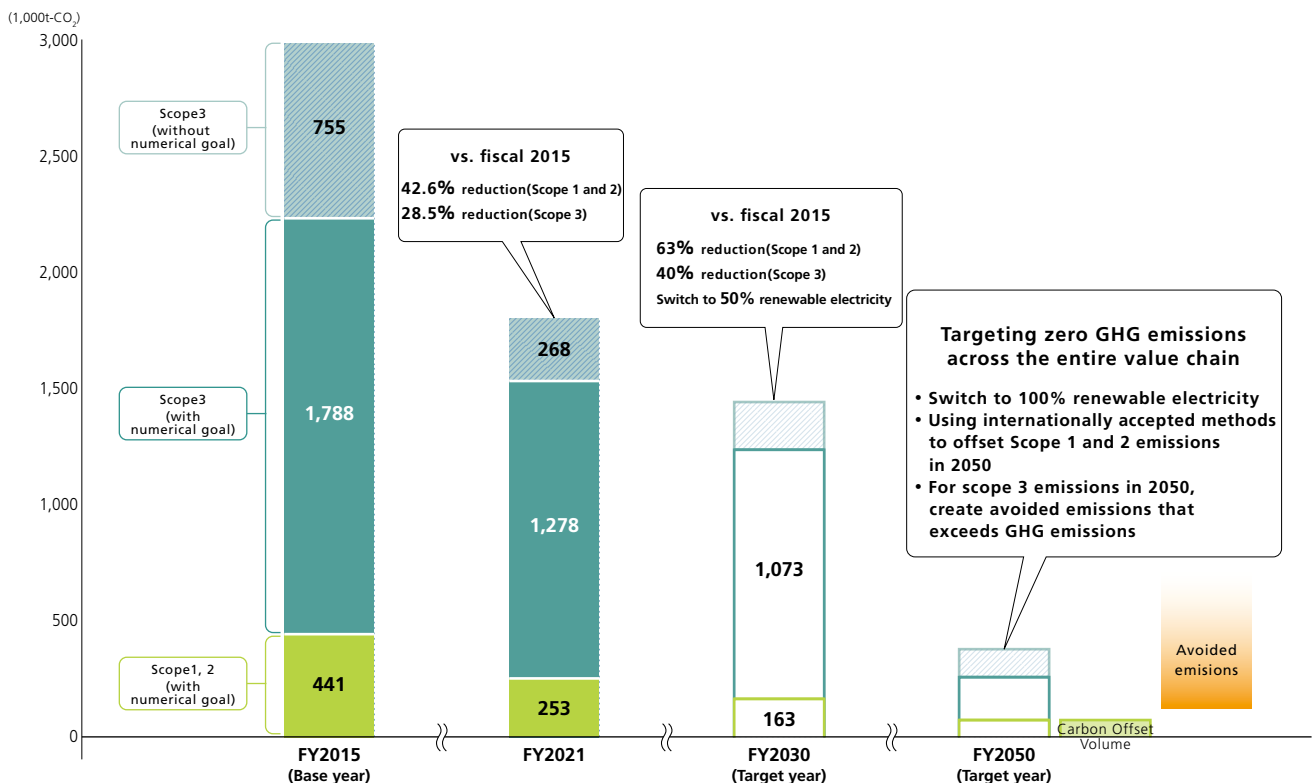
##### Goals for 2030

- GHG Scope 1\*<sup>1</sup> and 2\*<sup>2</sup>: 63% reduction compared to 2015 level
- GHG Scope 3\*<sup>3</sup>: 40% reduction compared to 2015 level
- Switch 50% of electricity used in business operations to renewable energy

\*1 GHG Scope 1: All direct GHG emissions from our manufacturing plants, offices, vehicles, etc.

\*2 GHG Scope 2: Indirect GHG emissions from the consumption of electricity and heat that we purchase

\*3 GHG Scope 3: Emissions in the supply chain from business activities (procurement, transportation and use categories)

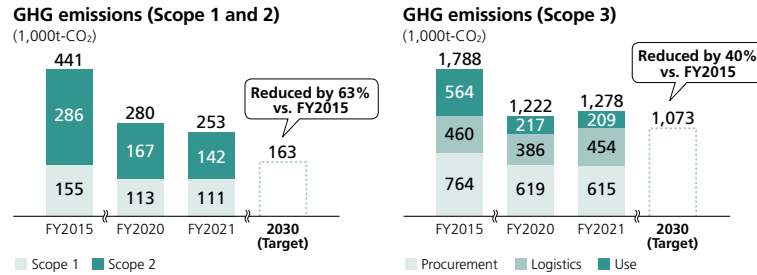


## Performance in FY2021

### Performance of Scope 1,2,3

While the GHG emissions increased in FY2021 due to the recovery of our business activities from the impact of the new coronavirus, GHG Scope 1, 2 emissions were reduced by approximately 9.5% compared to FY2020 due to the promotion of renewable energy and active energy saving activities. This is a significant decrease of 42.6% compared to the base year set by SBT, which is FY2015. We will further accelerate the introduction of renewable energy sources as GHG emissions are expected to increase in line with the recovery of business activities.

Although GHG Scope 3 emissions have increased by approximately 4.5% since FY2020, they have decreased by 28.5% compared to the base year.



Data collection scope: Ricoh Company, Ltd. (production and non-production sites), domestic and overseas production-related companies, domestic non-production-related companies, and overseas sales companies (major sites)  
Data coverage: This data covers more than 99% of the Ricoh Group.

### GHG Scope 1, 2

	FY2015 (Base year)	FY2018	FY2019	FY2020	FY2021
Emissions (1,000 tons)	441	375	339	280	253
Reduction rate (Compared to the 2015 level)	—	15.0%	23.1%	36.5%	42.6%

### GHG Scope 3(Cat 1, 4, 11)

	FY2015 (Base year)	FY2018	FY2019	FY2020	FY2021
Emissions (1,000 tons)	1,788	1,624	1,463	1,222	1,278
Cat. 1 Purchased Goods and Services	764	761	723	619	615
Cat. 4 Upstream Transportation and Distribution	460	488	453	386	454
Cat. 11 Use of Sold Products	564	375	287	217	209
Reduction rate (Compared to the 2015 level)	—	9.2%	18.2%	31.7%	28.5%

Within Scope 3, emissions from categories 1, 4, and 11 are significant, for which our environmental targets have been set as key targets for reduction. The total emissions of each category under Scope 3 in FY2021 amounted to 1,546 thousand tons.

Scope 3 Categories	GHG emissions (1,000tons)
<b>Total</b>	<b>1,546</b>
Cat.1 Purchased Goods and Services	615
Cat.2 Capital Goods	111
Cat.3 Fuel- and Energy-Related Activities Not Included in Scope 1 or Scope 2	34
Cat.4 Upstream Transportation and Distribution	454
Cat.5 Waste Generated in Operations	15
Cat.6 Business Travel	9
Cat.7 Employee Commuting	50
Cat.8 Upstream Leased Assets	(N/A)
Cat.9 Downstream Transportation and Distribution	0.1
Cat.10 Processing of Sold Products	12
Cat.11 Use of Sold Products	209
Cat.12 End-of-Life Treatment of Sold Products	28
Cat.13 Downstream Leased Assets	(N/A)
Cat.14 Franchises	(N/A)
Cat.15 Investments	9



The Ricoh Group calculates GHG emissions (Scope 1, 2, and 3) from its own business activities and sets the reduction of these emissions as an environmental target. On the other hand, GHG emissions are likely to increase with business growth and as companies enter into new businesses. However, for example, by improving the energy-saving performance of a newly developed multifunction printer and reducing its power consumption, it is possible to reduce society's GHG emissions by replacing older models. Moreover, the digital printers which Ricoh aims to expand its sales into the market will ultimately reduce the environmental impact from society's perspective as a whole by curbing inventory and reducing electricity consumption, compared to existing offset printers, in response to the market's growing need for a wider variety of products and smaller lot volumes. Thus, the amount of GHGs reduced in society by Ricoh's products and solutions was calculated as the avoided emissions, which was converted into 1,033 thousand tons of CO<sub>2</sub> in fiscal year 2021.

1,000t-CO<sub>2</sub>

Avoided emissions (FY2021)		1,033t
Contribution through	Evaluation targets	Avoided emissions
<b>Solutions/services related to energy conservation</b>	<ul style="list-style-type: none"> <li>Amount (CO<sub>2</sub> equivalent) reduced through the introduction of energy efficient solutions/services to customers' sites, including conversion from offset printing to digital printing and duplex and multipage functions of MFPs, and CO<sub>2</sub> emissions reducing activities with suppliers.</li> </ul>	762
<b>Provision of energy-saving products</b>	<ul style="list-style-type: none"> <li>Amount (CO<sub>2</sub> equivalent) reduced through the introduction of models to customers' sites with enhanced energy-saving functions for Multi Function Printers (MFPs), printers and other equipment as well as LED lamps to replace conventional lighting, among other energy-efficient products.</li> </ul>	197
<b>Resource saving in products</b>	<ul style="list-style-type: none"> <li>Amount (CO<sub>2</sub> equivalent) reduced associated with procurement of raw materials and parts by lowering the input of new resources as a result of promoting reuse of recovered equipment, use of recycled materials, production of more compact, lightweight models, and use of ecological silicone-top linerless labels.</li> </ul>	74

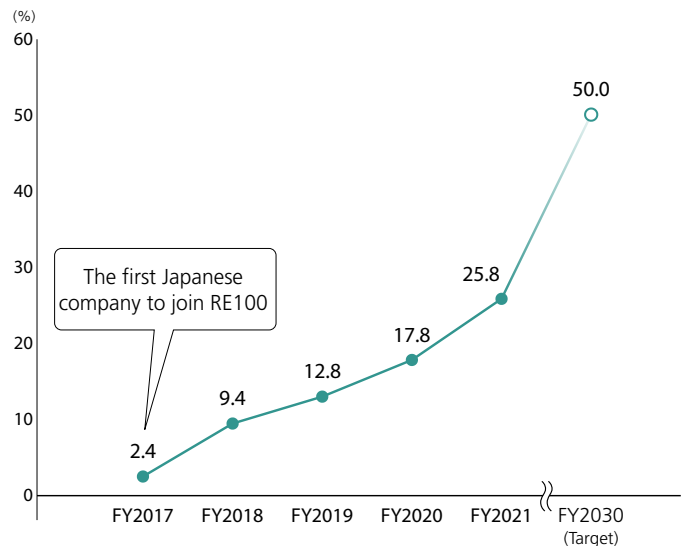
### Performance of Renewable energy

In FY2021, the Ricoh Group's overall renewable energy usage ratio was 25.8%, an increase of 8 points from last year.

#### Renewable energy for electric power

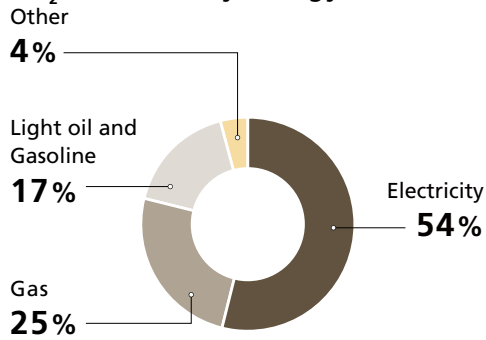
	FY2017	FY2018	FY2019	FY2020	FY2021
Renewable energy usage ratio	2.4%	9.4%	12.8%	17.8%	25.8%

As shown on P.33, 54% of Ricoh Group's Scope 1 and 2 CO<sub>2</sub> emissions based on energy sources in FY2021 were attributed to electric power, indicating that the shift to renewable energy for electric power is an important initiative. Electricity consumption by region is approximately 60% in Japan, followed by the Americas, Europe, China, and the Asia-Pacific region.

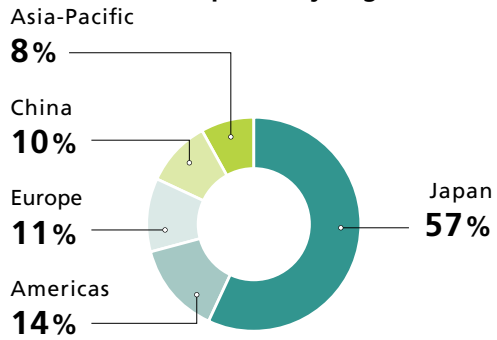


\*Figures for FY2020 were revised due to revision of some regional data.

### CO<sub>2</sub> emissions by energy



### Power consumption by region



As a result of efforts such as installing solar panels, switching to green power, and purchasing renewable electricity certificates at overseas production bases, the ratio of renewable energy consumption in Europe and China exceeded 70% of total electricity consumption in FY2021, and in Asia, it increased to about 60%.

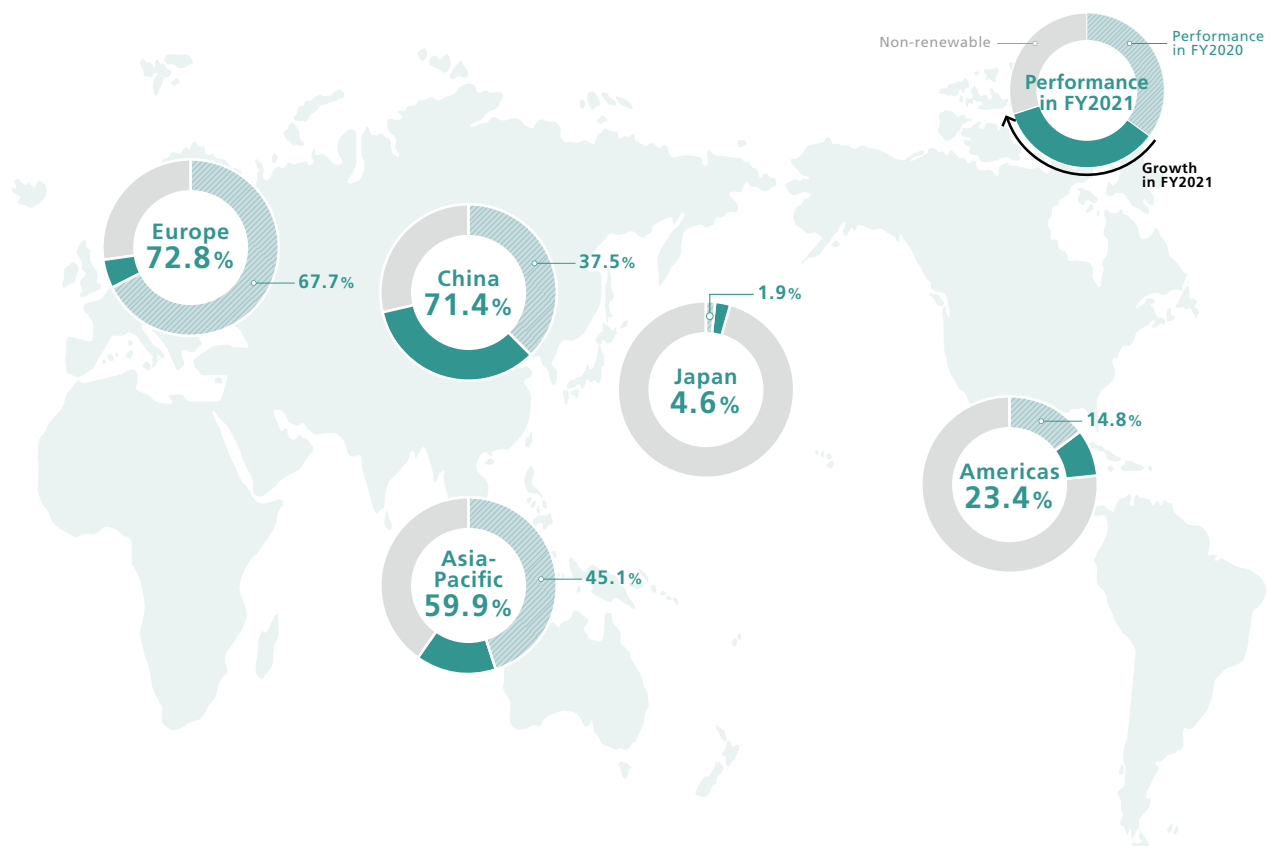
Also, in the Americas, the ratio of renewable energy increased to about 23% in FY2021 from approximately 15% in FY2020.

Although the procurement landscape for renewable electricity has not been fully established in Japan, the ratio increased from approximately 2% in FY2020 to approximately 5% in FY2021 as a result of our efforts such as the conversion of 100% of the electricity used at our head office to renewable energy and the promotion of ZEB at our sales offices.

Although the number of companies promoting the use of renewable energy has increased rapidly in Japan since the Japanese government's Declaration of Carbon Neutrality in 2020, the speed of renewable energy policy and changes on the supply side have not kept pace with the evolving needs of the demand side. We will work with companies willing to lobby the Japanese Government to accelerate and encourage companies to reduce the cost of renewable electricity and diversify their procurement methods with the goal of realizing the introduction of advanced renewable energy sources.

### Renewable energy ratio by region in FY2021

#### How to read the pie chart



## 5. Sustainability Activities (Climate Change Related)

The Ricoh Group has been promoting climate change-related initiatives through years of environmental management. TCFD has been updated annually since we agreed to it in 2018.

1976	<ul style="list-style-type: none"> <li>Establishes the Environmental Promotion Section</li> </ul>
1992	<ul style="list-style-type: none"> <li>Establishes "Ricoch Group Environmental Principles"</li> </ul>
1994	<ul style="list-style-type: none"> <li>Establishes "Comet Circle", the concept of a circular economy</li> </ul>
1998	<ul style="list-style-type: none"> <li>Advocates a concept of "Environmental Sustainability Management"</li> <li>Establishes the Environmental Action Plan</li> </ul>
2002	<ul style="list-style-type: none"> <li>Establishes "3Ps Balance" as a concept of a sustainable society</li> <li>Signs the United Nations Global Compact</li> </ul>
2006	<ul style="list-style-type: none"> <li>Sets the long-term environmental vision for 2050</li> </ul>
2009	<ul style="list-style-type: none"> <li>Participates in the Japan Climate Leaders' Partnership as a founding member</li> <li>Sets medium-term environmental impact reduction goals</li> </ul>
2012	<ul style="list-style-type: none"> <li>Announces its support for The Carbon Price Communiqué to counter climate change</li> </ul>
2015	<ul style="list-style-type: none"> <li>Signs a contract to become an official partner of COP21</li> </ul>
2016	<ul style="list-style-type: none"> <li>Opens Ricoh Eco Business Development Center</li> </ul>
2017	<ul style="list-style-type: none"> <li>Sets Ricoh Group Environmental Goals for 2030/2050</li> <li>Becomes the first Japanese company to join the RE100</li> <li>Ricoh's Zero-Carbon Goals obtains "2.0 degree" approval by the Science Based Targets Initiative (SBTi)</li> </ul>
2018	<ul style="list-style-type: none"> <li>Establishes the ESG Committee</li> <li>Commits to recommendations of TCFD (August)</li> </ul>
2019	<ul style="list-style-type: none"> <li>Establishes the Risk Management Committee</li> <li>Implementation of 100% renewable electricity at A3 Multifunction Printer production sites worldwide</li> <li>Discloses information in accordance with the TCFD Framework (July)</li> </ul>
2020	<ul style="list-style-type: none"> <li>Revises Environmental Goals for 2030 and obtains "1.5 degrees" approval by the Science Based Targets Initiative (SBTi)</li> <li>Sets ESG Targets, including GHG reduction targets, to align with the Environmental Goals for 2030 and links them with executive remuneration</li> <li>Signs Sustainability Linked Loan Agreement with MUFJ Bank</li> <li>Endorses Uniting Business and Governments to Recover Better</li> <li>Endorses the "Business Ambition for the 1.5°C" campaign</li> <li>Endorses the "Race to Zero" campaign</li> <li>Revises TCFD disclosure (September)</li> </ul>
2021	<ul style="list-style-type: none"> <li>Revises 2030 target to 40% reduction in Scope3 (compared to 15 years) and 50% renewable energy usage ratio</li> <li>Introduces of a comprehensive evaluation system for renewable energy</li> <li>"TCFD related information" was initially published in the Securities Report (statutory disclosure document) (June)</li> <li>Publishes the first TCFD Report on decarbonization activities (September)</li> </ul>
2022	<ul style="list-style-type: none"> <li>Selected as one of the Top 200 Climate Leaders Asia-Pacific 2022</li> <li>Continued to be included in the 2021 climate change "A List", the highest rating by CDP</li> <li>Ricoh has signed a loan agreement for "Mizuho Eco Finance" which leverages the "Operation to Provide Funds to Support Climate Change Initiatives (Climate Change Response Operation)" operated by the Bank of Japan with Mizuho Bank, Ltd.</li> <li>Ricoh signed a loan agreement with Sumitomo Mitsui Trust Bank, Limited for Positive Impact Financing which is consistent with the financial principles advocated by the United Nations Environment Programme and Finance Initiative.</li> </ul>

For comments and inquiries concerning this report,  
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