RICOH

RICOH GROUP SUSTAINABILITY REPORT (ENVIRONMENT) 2009

Earning the public's trust
Activity reports from 3 perspectives: "Environment," "Corporate social responsibility," and "Economic"

Being a good corporate citizen means striving to be a valued and respected member of society by contributing to its sustainable growth. To this end, the Ricoh Group is committed to being outstanding in all areas of the environment, economic performance, and corporate social responsibility. We also openly communicate all our activities to the public. The Ricoh Group publishes information on its activities in reports written from three different perspectives: the environment, economic performance, and corporate social responsibility.

This report provides our shareholders, customers, and other stakeholders with information on our sustainable environmental management policies and business performance in fiscal 2009 to facilitate a better understanding of what we do and how we work.

■ For information related to this report, visit the websites listed below.

- Sustainable environmental management
  http://www.ricoh.com/environment/
- Corporate social responsibility
  http://www.ricoh.com/csr/
- IR (for shareholders and investors)
  http://www.ricoh.com/IR/
- Social contribution
  http://www.ricoh.com/about/csr_environment/sc.html
- Information security
  http://www.ricoh.com/about/security/index.html

■ Reporting Guidelines

In compiling this report, we have referred to the Sustainability Reporting Guidelines (version 3.0) and Biodiversity Resource Documents by the Global Reporting Initiative (GRI), as well as the Environmental Reporting Guidelines by the Japanese Ministry of the Environment to confirm items that should be reported. We have made every attempt to disclose as much information as possible.

● Structural Changes

Incorporating the same organization as the Environmental Action Plan (fiscal 2008 to 2010), the Report is now organized by the different stages of a product lifecycle. "Raw materials and Parts procurement," "Non-manufacturing," "Customers," "Distribution and Transportation" sections have been newly added to provide further details of the Ricoh Group's activities throughout the product lifecycle.

● Printed Version Suspended

The Sustainability Report 2009 is available in PDF format only. We have temporarily suspended publication of a printed version of the Report not only to minimize costs but also to encourage a new way of environmental communication that incorporates different types of media, such as internet materials (in PDF or HTML) and printed matter.

■ Cover photograph: Giant Pandas

The giant panda is native to the mountain forests that stretch from north to south China. They typically grow to between 120 and 190 centimeters tall and weigh 85-120 kilograms. With an estimated population of 1,600, the species is designated as an endangered species. Ricoh lent support to China's Sichuan Province government for its giant panda population recovery project from 2001 to 2007.

Profile of Organization

Ricoh Co., Ltd., was established in Japan on February 6, 1936. The Ricoh Group consists of Ricoh Co., Ltd., 302 subsidiaries, and 9 affiliates.*
The Ricoh Group engages in activities on a global scale that include the development, production, marketing, after-sales services, and recycling of office equipment including copiers and printers in five regions around the world (Japan, the Americas, Europe, China, and the Asia-Pacific region).
The Group has approximately 108,500 employees.

* The definition of a subsidiary/affiliate follows the U.S. Generally Accepted Accounting Principles (U.S. GAAP).

Ricoh Head Office
Ricoh Bldg., 8-13-1, Ginza, Chuo-ku, Tokyo 104-8222, Japan
Main number: +81-3-6278-2111
http://www.ricoh.com/

Major Product Lines

Imaging and Solutions

● Imaging Solutions

Digital copiers, color copiers, analog copiers, printing machines, facsimiles, diazo copiers, scanners, multifunction printers (MFPs), and printers as well as related supplies and maintenance services, related software, and others

● Network System Solutions

Personal computers, servers, networking equipment, network-related software, applications, services and support, and others

Industrial Products

Thermal media, optical devices, semiconductors, electronic component units, measuring instruments, and others

Other

Digital cameras, and others

Ricoh Group Main Brands

The Ricoh Group provides products and services under the following brand names.

RICOH savin LANIER
nashuatec Rex-Rotary Gestetner
infotec RICOH IBM InfoPrint Solutions Company™ IKON Document Efficiency At Work® A RICOH COMPANY

■ Report on the imagio MF 7070RC and the Law Concerning the Rational Use of Energy

In December 2008, we received notification from the Japanese Ministry of Economy, Trade and Industry on possible nonconformity of the recycled copier imagio MF 7070RC (on the market from January 2004 to January 2007) with Japan's Law Concerning the Rational Use of Energy. This problem occurred because we mistakenly used the standard for the start of new copier sales instead of the standard for the start of recycled copier sales. Reflecting on this incident, we have now set measures to improve compliance processes for every standard involved from product development to end sales. We will continue striving to develop products with energy-saving features that meet standards higher than those officially designated.

With the global environment in crisis, the Ricoh Group's commitment to a sustainable society is stronger than ever.

Departing from a model of mass production and mass consumption to build a new business model

Climate change is having a disastrous impact around the world, leading to a number of severe events. Various problems associated with the global environment are now emerging as large-scale crises. In the markets, the depletion and price volatility of natural resources, as well as increasingly stringent environmental regulations being set in Europe, have had a critical influence on business. These radical changes in the business world are challenging the traditional principles society and economies are built on. We must now depart from current societal models built on mass production, mass consumption and mass disposal and move toward the creation of a new society innovated with new values and rules. The Ricoh Group's businesses, providing our customers with imaging equipment, such as copiers, printers, and solutions, are also facing a time of great change. We can no longer continue with the current business model that depends on mass consumption of resources and energy to realize mass trade of great numbers of products. The Ricoh Group believes we should look to a new business model where products can be easily recycled and software can be updated easily so that products may be used for longer periods.

Strengthening global environmental measures with environmental impact reduction and biodiversity conservation efforts

The Ricoh Group has been engaged in sustainable environmental management that realizes environmental conservation and profit creation at the same time. In 2005, the Ricoh Group set up the Year 2050 Long-Term Environmental Vision to express its belief that advanced nations need to reduce their environmental impact to one-eighth of the fiscal 2000 level by 2050. Based on this, we nominated specific actions we should take in an environmental action plan to be implemented for every three-year period. In March 2009, we issued the Mid- and Long-term Environmental Impact Reduction Goals, outlining specific steps to realize this vision. This is a “World First” in terms of articulating numeric targets for environmental impact reduction in three areas: energy saving and global warming mitigation, resource conservation and recycling, and pollution prevention. To set these figures, we used 2020 and 2050 as standard years. The Goal has become a basis for more feasible activity plans that foresee the pathway to 2050. For global environmental conservation in particular, assisting the environment in maintaining and recovering its intrinsic capabilities to heal itself is as important as reducing the damage humans have imposed on the environment. To this end, the Ricoh Group set the Ricoh Group Biodiversity Policy in March 2009 and expressed specific biodiversity conservation policies to be integrated into our business activities. In addition to the conventional policies we have employed, such as procurement of paper products for better forest ecology conservation and biodiversity conservation projects we have been implementing in various parts of the world, we will implement a wider range of impact reduction initiatives across all business operations, including those upstream of the supply chain.

Stronger environmental management is even more necessary in times of recession as it helps improve our corporate values

In fiscal 2008, the Ricoh Group chose "intensification and acceleration of sustainable environmental management" as one the focus strategies for the new mid-term plan. To outline more specific activities for acceleration, targets have been set in the Mid- and Long-term Environmental Impact Reduction Goals in three areas: CO_2 emission reduction throughout the product lifecycle, promotion of resource conservation considering resource depletion, and management and reduction of chemical substances to minimize environmental risk. We will achieve these targets by developing technologies to improve the environmental conservation features of products (such as reduced electricity consumption) and to facilitate the application of such features, as well as technologies for innovative manufacturing processes that require less energy. In addition, we continue to work on production processes that use fewer minerals and fossil-based resources by more actively using recycled materials following the establishment of better programs for reuse and recycling

Shiro Kondo
President and Chief Executive Officer
近藤史朗

as well as promoting smaller products with longer lifecycles. While reducing the use of major materials that are at a high risk of depletion or switching to alternative materials, we concurrently carry out risk management on the chemical substances contained in all our products, with regards to their influence on the global environment as well as on people's health. We are committed to continuing to reduce and substitute chemicals that carry high risks. We recognize that current business is in the midst of a once-in-a-century scale recession, and though we may not see the light at the end of the tunnel, we also believe that economic crises also represent business opportunities for us, as we have seen in the past. The Ricoh Group will take every opportunity to improve our corporate value by further pressing ahead with the sustainable environmental management we have built over many years.

As a player in the "Environmental industrial revolution," we will continue to contribute to a more sustainable society through the development of innovative environmental technologies.

Environmental technology development as carried out by the business sector is the driving force that will lead society and the economy from the turbulence of the early 21st century into the future with striking new values. Accordingly, such development must yield innovation on a scale that can match that of the Industrial Revolution. Achieving our own environmental goals is not the only challenge we face. As a member of an industry that brings about constant innovation toward an "Environmental industrial revolution," we must also take up the challenge of helping to build a sustainable society in which the environment and the social and economic activities of people can both prosper. However, efforts undertaken on our own are not sufficient. We will continue working together with stakeholders throughout the world, including our customers, suppliers, shareholders and investors, NGOs and NPOs, and the public, to realize a sustainable society. Our goal is to become a corporation that continues to grow by taking care of the global environment.

The results of environmental impact reduction and economic value creation in fiscal 2008 and changes in sustainable environmental management indicators showing the level of sustainable environmental management.

Reducing environmental impact

The Ricoh Group has targets to reduce the environmental impact (integrated environmental impact)* of our major business activities in advanced nations by 20% in fiscal 2010 compared to the levels of fiscal 2000.

The integrated environmental impact in fiscal 2008 leveled off compared with the previous year. The decrease is attributable in some items mainly to the implementation of the Environmental Action Plan, which caused a reduction in environmental impact, while environmental impact at the procurement and manufacturing stages decreased due to the world recession. According to an evaluation we carried out for the accumulated unit sales of imaging products for the previous five years, the impact at the customer-use stage increased as consumption of electricity and paper increased in line with the increase in the number of units sold. To reflect these results, the Environmental Action Plan starting from fiscal 2008 calls for strategies to encourage greater use at the customer end of energy-saving and duplex-copying functions in addition to the conventional measures, such as those to increase resource recycling and strengthen development of environmental technologies.

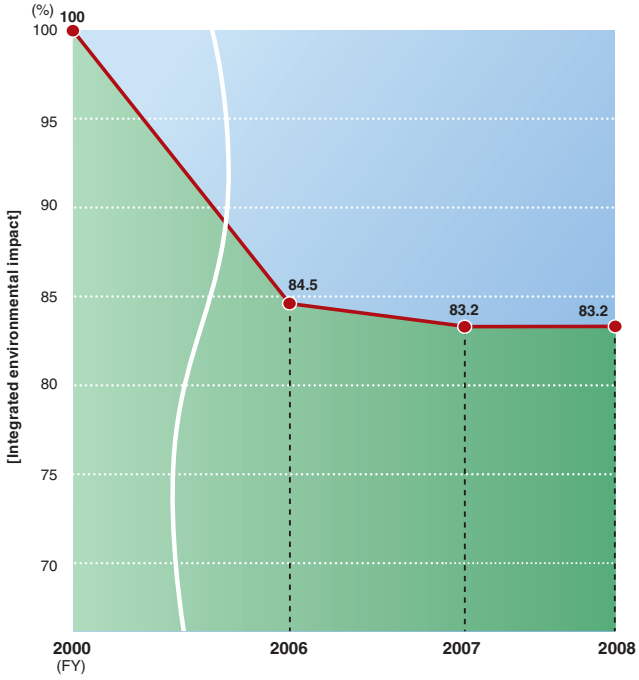
* See page 58.

Business results for fiscal 2008 and future goals

The Ricoh Groups consolidated net sales in fiscal 2008 decreased by 5.8% from the previous year to ¥2,091.6 billion. In the Imaging and Solutions sector, total sales of printers increased due to a stronger sales structure and the expanded printer business, while sales across the entire sector were largely impacted by the global recession and the strong yen. In the Industrial Products and Other sectors, sales remained on a low note. As a result, total sales decreased from the previous term in the Imaging and Solution sector, Industrial Products sector and other sectors. Accordingly, operating income decreased 58.9% from the previous year to ¥74.5 billion. Going forward, the Group will target net sales of ¥2,300.0 billion and operating income of ¥170.0 billion by the end of fiscal 2010.

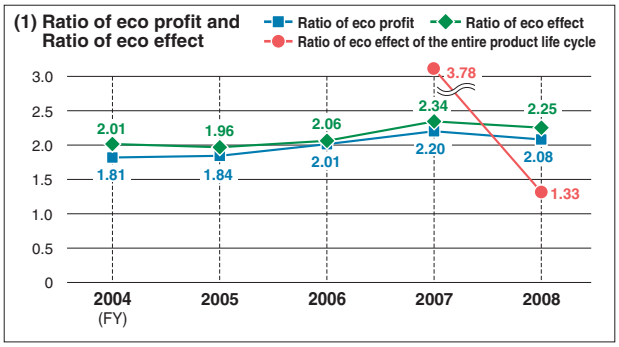
* For more details on the business results, please see the “Investor Relations” page on our website at: http://www.ricoh.com/IR/

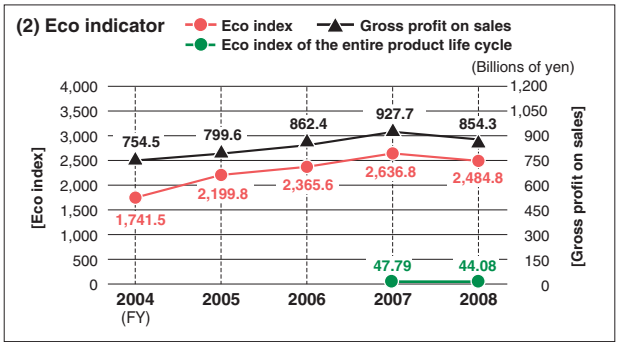
Changes in integrated environmental impact (Operations in advanced nations)*



* The production and printing businesses are not included.

Changes in the Ricoh Group’s sustainable environmental management indicators





Review of environmental accounting

Environmental accounting is designed to present the costs incurred for environmental conservation activities during a given period in comparison to the resulting benefits.

Such costs and benefits represent how well the environmental impact reduction activities by the Ricoh Group and across the entire lifecycle of its products performed. We therefore present the environmental conservation effects and environmental impact for the entire product lifecycle, including during our upstream and downstream operations, together with those by the Ricoh Group, so that readers can distinguish and compare the environmental conservation effects and environmental impact of the Group and those generated throughout the product lifecycle.

When we look at the overall trends of the Ricoh Group, the Eco Index, the ratio of the gross profit on sales to the total environmental impact, decreased from fiscal 2007 due to sluggish economic activity both in Japan and overseas as well as the strong yen (see graph (2)).

The Ratio of Eco Profit, an indicator of the cost effectiveness of sustainable environmental management activities, and the Ratio of Eco Effect, an indicator that takes into account social cost reduction values, dropped slightly from fiscal 2007 due to the negative global economic environment (see graph (1)).

Corporate environmental accounting data* by item indicates that, while the environmental costs for recycling in both the upstream and downstream processes decreased from fiscal 2007, the costs and investment for R&D for future environmental impact reduction (such as R&D to improve environmental features of the products) increased.

Economic benefits showed a slight drop in fiscal 2008, reflecting a decrease in production due to the world economic slump and lower sales of recycled products. We will continue strengthening our energy-saving, resource conservation and pollution prevention measures not only within the Group's operations but also for the entire lifecycle of our products, while further working to reduce the environmental impact and improve the efficiency of our business operations, so that we may realize complete sustainable environmental management.

* See page 61.

The Ricoh Group's sustainable environmental management indicators (fiscal 2008)	Results in fiscal 2008	Calculation formula
REP: Ratio of Eco Profit	2.08	Total economic benefit (35.82) / Total environmental conservation cost (17.26)
REE: Ratio of Eco Effect	2.25	[Total economic benefit (35.82) + Social cost reduction values (0.3 + 2.60)] / Total environmental conservation cost (17.26)
Eco Index	2,484.8	Gross profit on sales (854.3) / Total environmental impact (34,380.6) × 10^5
RPS: Ratio of Profit to Social Cost	160.1	Gross profit on sales (854.3) / Total social cost (5.34)

* Unit: Billions of yen.

Sustainable environmental management indicators of the entire product lifecycle (fiscal 2008)	Results in fiscal 2008	Calculation formula
REP: Ratio of Eco Profit	2.08	Total economic benefit (35.82) / Total environmental conservation cost (17.26)
REE: Ratio of Eco Effect	1.33	[Total economic benefit (35.82) + Social cost reduction values (-15.37 + 2.60)] / Total environmental conservation cost (17.26)
Eco Index	44.1	Gross profit on sales (854.3) / Total environmental impact (1,938,032.5) × 10^5
RPS: Ratio of Profit to Social Cost	2.8	Gross profit on sales (854.3) / Total social cost (300.86)

* Unit: Billions of yen.

* Environmental accounting data: Base units for raw materials production and fuel consumption were revised in fiscal 2008 to reflect the start of the new Environmental Action Plan. Evaluation was made using methods based on newly acknowledged information. The numerical figures in the graphs on the previous page were corrected to reflect these changes.

Our Commitment to Society and External Recognition

Commitment to Society

■ Leadership Declaration on the "Business and Biodiversity Initiative"

Ricoh signed the Leadership Declaration on the "Business and Biodiversity Initiative" [1] at the ninth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 9), held in Germany in May 2008, thereby committing ourselves to assessing and analyzing the impacts of our business activities on biodiversity and to its conservation.

1. http://www.business-and-biodiversity.de/en/homepage.html

■ The UN Global Compact

Ricoh became the second Japanese company to sign the UN Global Compact (GC) [2] in April 2002. In June 2007, Ricoh also became a signatory to Caring for Climate: The Business Leadership Platform [3] by GC.

2. In January 1999, then Secretary-General of the United Nations, Kofi Annan, called for signatories to the Global Compact and its 10 principles in the areas of human rights, labor, the environment and anti-corruption. See http://www.unic.or.jp/globalcomp/organiz.htm
3. http://www.unglobalcompact.org/Issues/Environment/Climate_Change/index.html

■ The Poznań Communiqué

The Ricoh Group expressed our support for the communiqué [4] announced at the 14th Conference of the Parties to the United Nations Framework Convention on Climate Change held in December 2008 in Poznań, Poland. We agree with its vision that we must build a system on a scale that incorporates all of society to actively engage in the issues of climate change. The Ricoh Group is the only Japanese company that has so far announced its commitment to the communiqué.

4. http://poznancommunique.com/

■ Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB)

The Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB) [5] was established on April 1, 2008 by corporations that actively engage in biodiversity conservation. Ricoh has been participating in the program since its inception as one of the founding players.

5. See page 70. http://www.jbib.org

External Recognition

■ Voted One of the Global 100 Most Sustainable Corporations in the World

In January 2009, Ricoh was voted one of the Global 100 Most Sustainable Corporations in the World [6] for the fifth year in a row as assessed by Corporate Knights Inc. of Canada based on analytical data presented by Innovest Strategic Value Advisors of the U.S.A.

6. http://www.global100.org/

■ Rated AAA in Environmental Rating by Tohmatsu

In November 2008, Ricoh was awarded the highest rating, AAA, in the Environmental Rating by Tohmatsu Evaluation and Certification Organization Co., Ltd. for the fourth consecutive year.

Ricoh Stocks Incorporated in Leading SRI Indices*

In Japan, Ricoh's stocks are incorporated in a large number of eco funds and SRI funds. In addition, the Morningstar Socially Responsible Investment Index has included Ricoh since its establishment in 2003. Ricoh has also been a constituent member of the Dow Jones Sustainability Indexes (DJSI), provided by Dow Jones & Company (U.S.A.) and SAM Group (Switzerland), for seven consecutive years and of the FTSE4 Good Global Index for six years' running. The latter index is published by FTSE Group, a joint venture between *The Financial Times* (U.K.) and the London Stock Exchange.

* As of May 1, 2009

MS-SRI モーニングスター社会的責任投資株価指数 Morningstar Socially Responsible Investment Index

Dow Jones Sustainability Indexes Member 2008/09

FTSE4Good

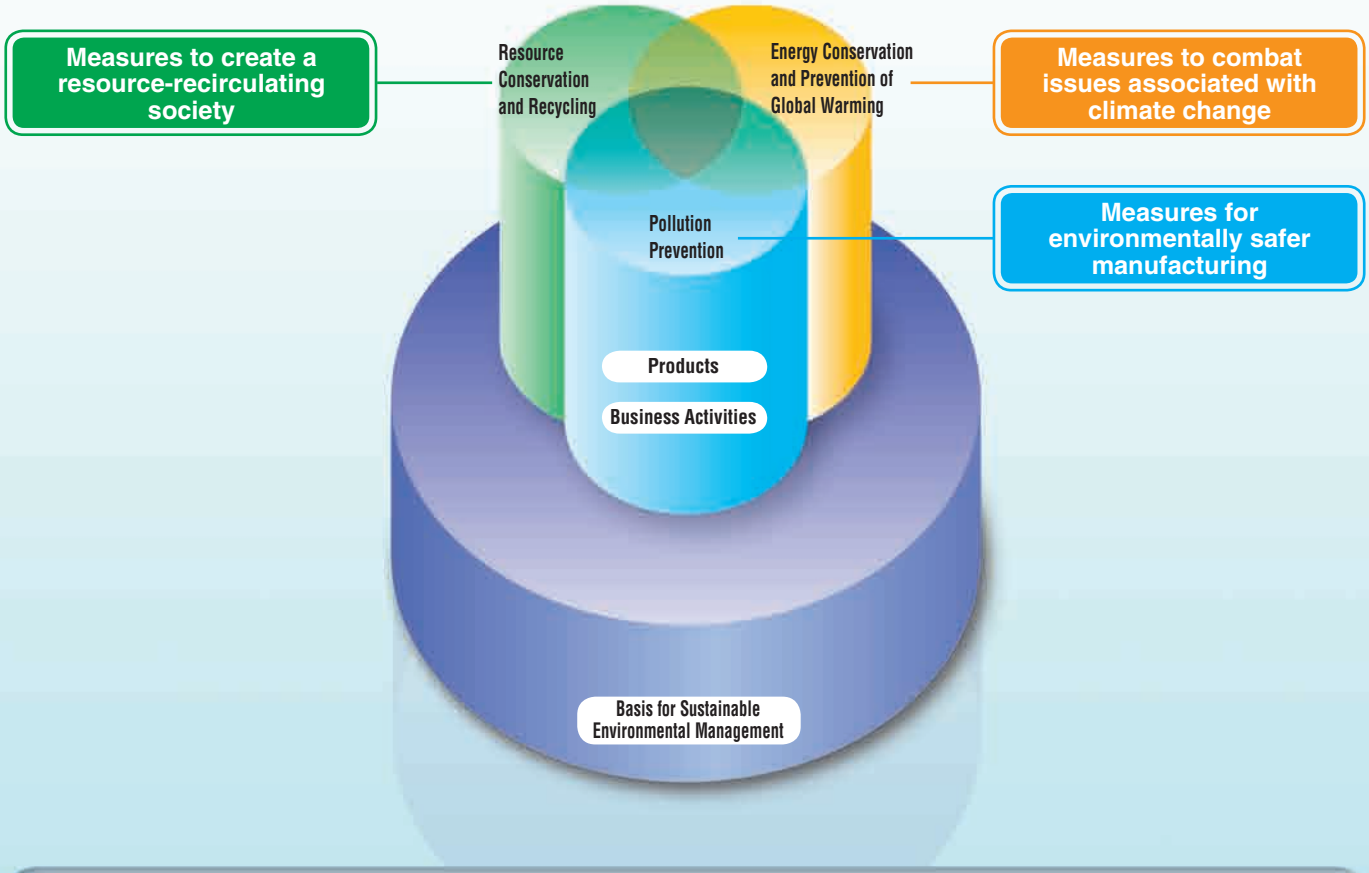
■ Major awards and recognition Ricoh received

April 2003	Received the 12th Grand Prize for the Global Environment Award
May 2003	First Asian company to win the 2003 World Environment Center (WEC) Gold Medal
Dec. 2004	Ranked first in the 8th Corporate Environmental Management Level Survey organized by Nikkei Inc. (for the 4th time)
July 2005	Given the world's highest rating for corporate social responsibility by Oekom Research AG of Germany in its Environmental Ranking of the IT Industry
July 2007	Won the Grand Pearl Prize in the environmental management section of the Fifth Japan Sustainable Management Awards
Dec. 2007	Ranked top in five categories in Japan Customer Satisfaction study by J.D. Power Asia Pacific, Inc. (monochrome & color copier/ multifunctional copier, monochrome & color laser printer, and solution provider [system planning and construction] categories)
Jan. 2008	Ranked the highest, AAA, by Innovest Strategic Value Advisors, Inc. of the U.S. in its social and environmental rating

Overall Picture of Sustainable Environmental Management

The Ricoh Group's sustainable environmental management aims at simultaneously achieving environmental conservation and profits. This policy is carried out through development of environment-oriented technologies and in all activities conducted by all employees. Initiatives have been taken in the three core areas of energy conservation and prevention of global warming, resource conservation and recycling, and pollution prevention for both products and business activities. To efficiently advance these activities, a basis for sustainable environmental management was established.

Overall Picture of the Ricoh Group's Sustainable Environmental Management (Basis and Three Pillars)



Editorial policy of the Ricoh Group Sustainability Report (Environment) 2009

The Ricoh Group aims to promote sustainable environmental management that contributes to environmental conservation while generating profits. This report provides information on the concept of, and specific measures and activities for, sustainable environmental management as well as on environmental accounting in an easy-to-understand manner in order to facilitate communication with society and to earn its trust.

● Target readers

This report is prepared for all present and future stakeholders of the Ricoh Group's sustainable environmental management. It was compiled not only to report on the results of our activities, but also to introduce our environmental policies and the ideas behind the policies, as well as to explain how we proceed with our projects. We have adopted a communication style that we hope will inspire our readers to engage in environmental conservation activities and encourage other people to do so too, thus creating a ripple effect throughout society.

● Policy for information disclosure

Disclosing information worldwide

Environmental problems are a global issue, and therefore in tackling environmental issues it is very important to act in close concert with the individual countries and communities in which the Ricoh Group operates. This report describes the Ricoh Group's sustainable environmental management activities that are based on global partnerships.

Disclosing financial information

To successfully carry out sustainable environmental management, the Ricoh Group endeavors to improve its management system by looking at all aspects of management from an environmentally-friendly point of view. The Ricoh Group identifies the effects and economic benefits of environmental conservation for each business unit and for the entire Ricoh Group and discloses relevant information through its environmental accounting.

Feature Article

Sustainable Environmental Management Network ❶

Sustainable Society Established through Partnerships

We are expanding the network for sustainable environmental management, aiming to build a sustainable society in cooperation with a variety of partners, including our customers, public organizations, and local communities.

100% solar and wind powered billboard in Times Square in New York (simulated picture)
* Solar power operation started in April 2009.

In addition to its products, services, and solutions, The Ricoh Group offers information and know-how the Group has built up through its wide engagement in sustainable environmental management, thus contributing to reducing the environmental impact on society as a whole.

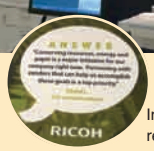
Ricoh Americas Corporation (RAC)

Acting as a green partner for our customers, we propose ideas for reducing environmental impact at various stages of business.

Today, environment is one of the key aspects when a customer chooses IT equipment. Ricoh Americas Corporation (RAC), regional sales headquarters for the Americas, regards the Ricoh Group's global strategy embodied in its Total Green Office Solution (TGOS) as the core of its sales strategy. Accordingly it offers customers a wealth of environmental improvement know-how, including ideas for energy saving, recycling, and reducing the environmental impact of paper usage. At RAC's showroom, Ricoh Technology Portal, seminars and events are held to help our many customers recognize how Ricoh's hardware and solutions contribute to reducing environmental impacts at different stages of their businesses. In this way, we will continue to offer ideas for reducing environmental impact across the lifecycle of a product, to positively meet our customers' needs as we pursue our goal of building a sustainable society.

Ron Potesky
RAC Senior Vice President of marketing

Ricoh Technology Portal (New York)



Information board with tips for reducing environmental impact

Ricoh Electronics, Inc.

Expanding the sustainable environment management network as a local leader, while supporting green marketing at sales subsidiaries

Ricoh Electronics, Inc. (REI), a manufacturing subsidiary in the U.S., has actively expanded its network for sustainable environmental management. As the first Zero-Waste-to-Landfill plant in California, it has held environmental seminars to provide know-how at the request of local governments and private organizations, while helping its customers and suppliers with their Zero-Waste-to-Landfill activities. In addition, it has supported green marketing at sales subsidiaries, arranging visits to the plant and holding seminars that offer know-how useful for reducing environmental impact at production sites to our manufacturing customers.

Yoshinori Yamashita
President of REI, giving a lecture at a seminar

Environmental seminar held for companies

Cooperating in an Environmental Seminar for the U.S. Senate

The Sergeant at Arms of the U.S. Senate purchases IT equipment including copiers and printers at the request of Senators and committees. Recognizing the ability of Ricoh Americas Corporation (RAC) to present proposals for reducing environmental impact, it named RAC as a partner for an environmental seminar for Senators and Senate employees. RAC offered specific information useful for selecting IT equipment, including energy-saving functions of products and concepts for reducing environmental impact over a product's lifecycle.

Voice 1 Voice of Sergeant at Arms of the U.S. Senate

Proposals for reducing environmental impact over the lifecycle of a product were new to us.

Inquiries from Senators and committee members about environmental functions of IT equipment and environmental activities of suppliers have increased, reflecting the recent surge in interest in environmental problems. In light of this, we have requested suppliers to offer environmental information, so that Senators and Senate employees can gain a better understanding of environmental solutions. Of the suppliers, Ricoh, which has enjoyed great trust for its sustainable environmental management, presented completely new proposals for reducing environmental impact over the lifecycle of a product. We would like Ricoh to continue to offer us advanced information on energy saving, recycling products, and other relevant topics. We expect that these activities will enable us to provide more accurate knowledge about environmentally friendly options for the Senate and lead to an increase in orders for products that help reduce our environmental impact.

Sergeant at Arms, U.S. Senate and an RAC employee (from left)
Ms. Vicki L. Sinnett, Mr. Ed Jankus, Mr. Tracy I. Williams, Mr. Kimball B. Winn, Lance A. Helmick (RAC), Ms. Diane Adams

Supporting the Olympic Games with Priority Given to the Environment, Society, and the Economy

The Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC) aims to hold the Olympic Games with a focus on the environment, society, and the economy. In the IT area, the committee aims to send accurate information to 15,000 media outlets all over the world with the minimum environmental impact and has already started to work on it. Ricoh Canada, Inc. (RCI) agrees with this idea and, as an official supporter, is supporting the reduction of the environmental impact caused by the paper used in copiers and printers for the Olympic Games. RCI is trying out many ideas to improve document management at the World Cups in the winter of 2009, including efforts to increase the volume of double-sided printing.

Voice 2 Voice of the Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games (VANOC)

Olympic Logotype
Ricoh Canada is an official supporter of the Vancouver 2010 Olympic and Paralympic Winter Games.

VANOC and RCI employees (from left)
Mr. Ward Chapin, Ms. Ann Duffy, Mike Fast (RCI), John H. Gartland (RCI)

Hoping to achieve a sustainable Olympic Games with the cooperation of RCI.

We are asking sponsors and official supporters for cooperation in our sustainability strategies so that the Olympic Games can be held successfully and many citizens will be able to say, not only during the event but also afterwards, "We are glad the Olympic Games were held here." Ricoh Canada, Inc. (RCI) has offered us many proposals that fit with our strategies, including the efficient location of equipment and a product recycling program to be implemented after the Games. One particularly excellent aspect of the proposals is a scheme where many improvement concepts will be presented based upon the results after each measure has been carried out. We hope that the Vancouver 2010 Olympic and Paralympic Winter Games will set a good example for running future Olympic Games. We continue to hope that RCI will offer us their full support in accomplishing our missions, even after the Games are finished.

Feature Article

Manufacturing Reform towards a Resource-Recirculating Society

Renovation efforts to greatly reduce the consumption of new resources and energy are now in progress with the aim of developing a manufacturing system for the next generation.

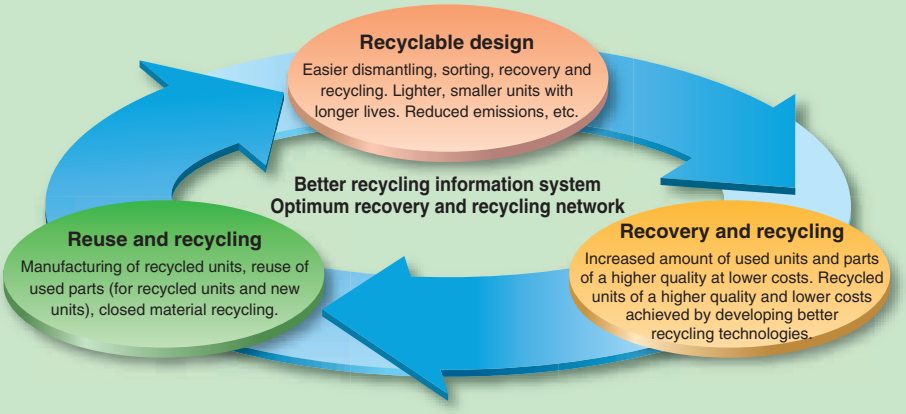
Resource depletion is increasingly becoming a reality, pushing manufacturing companies to change their methods of production. The Ricoh Group is shifting gear to realize a manufacturing style that matches the new era with the Comet Circle, a concept to realize a sustainable society.

The Comet Circle helps us use more recycled resources in more efficient ways

The Ricoh Group first introduced the Comet Circle in 1994 as a concept to promote our efforts to realize a sustainable society. It encourages reductions in the unnecessary use of resources and energy not only in manufacturing and sales of products but also in the total lifecycle, including upstream and downstream distribution.

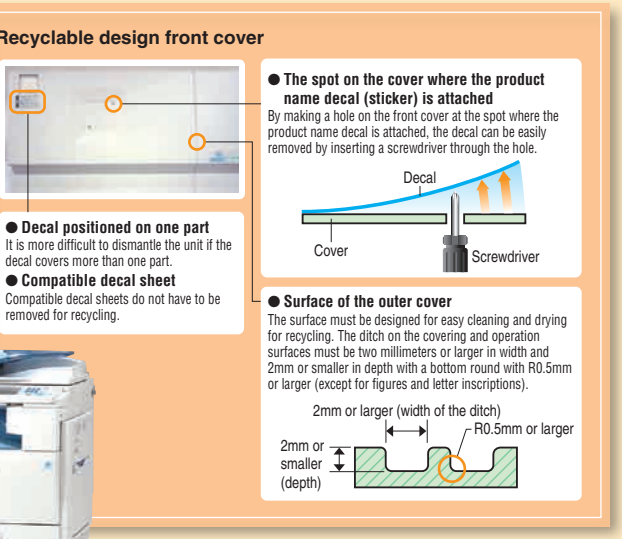
For more than 15 years, the Ricoh Group has been promoting reuse and recycling programs with a focus on efficient use of resources and energy, while developing a network for recovering and recycling used products and parts, and designing products that can be more easily recycled. We are now accelerating the effects of the Comet Circle and pursuing various types of reform to realize a next generation manufacturing system that will enable us to reduce consumption of new resources and energy.

Resource conservation and recycling with Ricoh Group products



Product designing for easier recycling

Making products smaller and lighter while reusing and recycling used parts is a very effective way to conserve resources. Since 1993, the design division of the Ricoh Group has been developing original design methods under a firm policy on recyclable design. The main features of this include “parts designed for recycled copiers,” “easier dismantling and sorting,” “recyclable parts with higher values,” “high quality materials that can be reused,” “closed loop recycling” and “design of products that are durable enough for transport for recovery and reuse after recycle.” For easier dismantling and sorting, the number of dismantling processes was almost halved from 3,500 in the 1994 models to 1,800 in the 1999 or later models. More recently, we have set a regulation to give an estimation of the number of dismantling processes at the time of designing new products. These are just some examples of our efforts to reduce the man-hours and costs associated with assembly by improving the design of products so that they are easier to recycle. A design objective that ensures both products and packaging have sufficient strength to endure transportation is also followed closely. We have developed “resource-recirculating eco packaging,” [1] a packaging system which uses reusable resin packages for all our products. 1. See page 26.



Multifunctional digital color copier: imagio MP C2200 [2]
The unit has the same footprint as its monochrome counterparts, helping customers to save office space.
2. See page 25.

Voice 1 Voice of Employees

We develop products in smaller sizes with longer lives by fully using the Group’s accumulated know-how

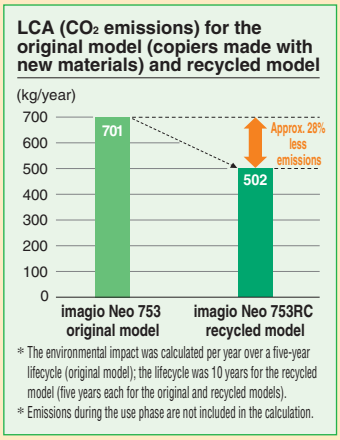
Ricoh has a long history of recyclable design, and we designers work hard every day to make our products more suitable for recycling. Design requirements that call for manufacturing using recovered parts often stand in the way of development of new mechanisms. However, the major effects of our everyday efforts have led to the development of new high-quality recycled products and the creation of new opportunities to reuse high-functional parts. Ultimately, we have been greatly contributing to reducing production costs. In April 2009, we revised level 6 of our “policy on recyclable design” to include standards for using larger amounts of recycled materials and making parts smaller and longer-lasting. We are now planning to expand the scope of our “recyclable design” concept for resource conservation and recycling from individual parts to the actual machine structure.

Members of the Recycling Technology Workshop (from left)
Mr. Masanori Yamanaka, Mr. Toshiyuki Mae (leader), Mr. Masaki Kimura

Creating a global network to facilitate the profitable use of reused parts

Recycling is most efficient both environmentally and economically when the recovered items are used in or close to the original form. To provide the recovered resources with greater value, we recover used copiers and manufacture new recycled copiers which are launched back in the market. We first dismantle and clean the recovered copiers, and change the necessary parts to rebuild the recycled copiers, which are sold with the same quality assurance as a new machine. Since December 2001, when we first launched the recycled multifunctional digital copier imagio MF6550RC in the market, we have expanded our lineup of recycled copiers, and in fiscal 2006, we achieved total sales of 10,000 units, making the recycled copier business profitable for the first time. The average rate of used parts in the production of the recycled copier, imagio Neo 753RC, reached 88% in weight. With this achievement, we have reduced the environmental impact by about 28% in the total lifecycle and by about 94% at the production phase compared with the original model [1]. We are also engaged in further increasing the rates of used parts for production, while developing an optimal global-level network for recycling based on the highly efficient network we have already built within Japan. We will continue to pursue innovations in order to realize a manufacturing style that is superior in terms of both quality and economics.

Recycled copier, imagio Neo 753RC [2]. This recycled multifunctional digital copier was awarded the Good Design Sustainable Design Award.



* The environmental impact was calculated per year over a five-year lifecycle (original model); the lifecycle was 10 years for the recycled model (five years each for the original and recycled models).
* Emissions during the use phase are not included in the calculation.

1. Data are taken by comparing imagio Neo 753RC and imagio Neo 753 (the original model).
2. See page 26.

We need to reduce the environmental impact of society to a level that the Earth's self-recovery capabilities can deal with.

The purpose of environmental conservation activities is to reduce environmental impact to a level that the Earth's self-recovery capabilities can deal with and sustain the global environment. The Ricoh Group, by considering how the relationship among the three Ps (planet, people, and profit) in environmental, social, and economic activities has changed over time, defines the kind of society we should pursue and carries out its responsibility as a company to create such a society.

Society and the global environment in the past

In the past, the environmental impact caused by society was kept within the limit of the global environment's self-recovery capabilities. After the Industrial Revolution in the 18th century, however, the world entered an age of mass production, mass consumption, and mass disposal, which significantly increased environmental impact. At the end of the 20th century, some people began to warn against a deteriorating global environment and its impact on human society. Today, companies that are not seriously committed to environmental conservation cannot gain support from society.

Current efforts by society and businesses

Today, people are paying more attention to activities that reduce damage to the global environment, including recycling and prevention of global warming. Manufacturers face such challenges as promoting smaller products with longer lifecycles, energy conservation, and resource recycling, as well as providing the maximum benefit to society and companies with minimum resources. Global companies as well are expected to support and promote the awareness of environmental conservation in developing countries and regions so that they can achieve economic progress with minimum environmental impact. Another important issue is to increase the self-recovery capabilities of the global environment by such efforts as improving forest ecosystem conservation.

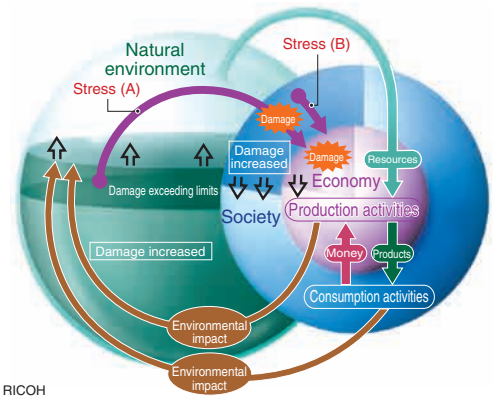
To achieve the ideal society

To keep environmental impact within the natural environment's self-recovery capabilities, setting specific goals for the prevention of global warming, resource conservation, and pollution prevention is essential. Based on the Year 2050 Long-Term Environmental Vision [1] and as milestones on the path to attaining a long-term vision of the ideal sustainable society, the Ricoh Group has adopted the Mid-and Long-term Environmental Impact Reduction Goals [2], and the Environmental Action Plans [3], and has been working in accordance with these policies. To preserve the global environment for future generations, we need to continue taking action with greater environmental awareness and ever clearer goals.

1 & 2. See page 15. 3. See page 17.

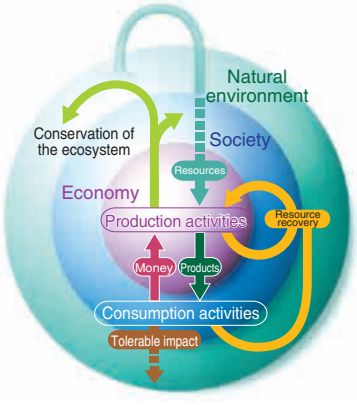
Three Ps Balance™: Representing the Relationship between the Global Environment and Society

■ Status Quo



Our environmental impact on the Earth has exceeded the planet's life-sustaining abilities as well as its self-recovery capabilities.

■ Pursuing the Ideal Society



Environmental impact remains within the self-recovery capabilities of the global environment.

* For more information, please visit http://www.ricoh.com/environment/management/earth.html

The Ricoh Group contributes to the development of a sustainable society based on the Comet Circle concept.

For the Ricoh Group to become the type of organization we envision, not only does the Group need to realize change towards the creation of a sustainable society but society as a whole also needs to realize such change. In 1994, we established the Comet Circle as the basis to encourage such change. The Comet Circle expresses the greater picture of our environmental impact reduction scheme, which includes not only the scope of the Ricoh Group as a manufacturer and sales company but also the entire lifecycle of our products, including upstream and downstream of our business activities. Being well aware that product manufacturers like Ricoh, because of their involvement in the early phases of a product's lifecycle, can make the greatest contribution to reducing environmental impact, we engage in all business taking into account the Comet Circle.

Flow of the Comet Circle

Each circle in the chart below represents our partners that can help develop a sustainable society. The new resources harvested by the materials supplier from the natural environment (upper right) will be turned into a product through moving from the right to left along the upper route, finally reaching the users (customers). The used products will follow the route below from left to right.

(1) Identifying and reducing the total environmental impact at all stages of the lifecycle

To reduce the environmental impact throughout the entire product lifecycle, we must identify the degree of impact at each stage, from business process to transportation, by all involved parties—the Ricoh Group, suppliers, customers and recycling companies. Using the Sustainable Environmental Management Information System, which covers all of these stages, we identify the environmental impact to promote development of environmental technology and reuse and recycling of our products, thus striving to reduce the total environmental impact.

(2) Putting priority on inner loop recycling and promoting a multitiered recycling system

Resources have the highest economic value when they are manufactured into products and used by customers. The Ricoh Group puts priority on reusing and recycling products and parts, expressed as the inner loops of the Comet Circle, to return used products to their highest economic value. When a part cannot be reused in a product, we will recycle it as a material. In such cases, we make every effort to recycle the part into a material with a quality as high as possible or to recycle it in the closed loop recycling system, or a system which allows the recycled material to be used within the Group, thereby achieving the highest possible economic value. We also repeat recycling as many times as possible under the "multitiered recycling system" to reduce the need to use new materials and ultimately reduce the volume of waste generated.

● More economically rational recycling

In a sustainable society, used products should not be treated as waste but as valuable resources. That is, a recycling system must be developed in which products and money flow in opposite directions in the post-product-use stages as well as the original production and marketing stages. The Ricoh Group, making use of an upgraded design, has established a system to reuse parts repeatedly in production. In partnership with recycling companies, we have been working on quality improvement of recycled resources and minimization of energy used and costs needed for reuse and recycling. This way, we are promoting a more economically rational recycling system that has a smaller impact on the environment.

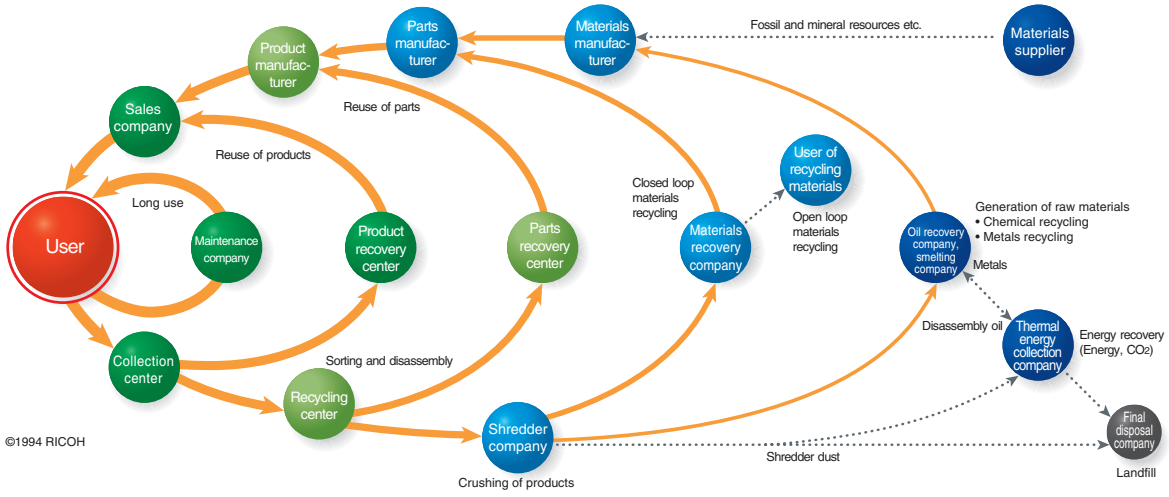
● Reducing the needs of new resources with greater use of recovered resources

Since the initiation of the Comet Circle in 1994, the Ricoh Group has built a system under which used products are recovered and reintroduced into the market, giving way to more efficient use of resources. Given the possibility that some mineral resources may be depleted in the near future, manufacturing styles cannot be said to be sustainable if they require large amounts of resources. The Ricoh Group will accelerate our shift to the new style of manufacturing, whereby the value of resources is maximized through recycling and use of new resources in production is greatly reduced.

(3) Establishing a partnership at every stage

To effectively reduce the environmental impact, close communication and information-sharing among partners is critical. The Ricoh Group strives to reduce its environmental impact in all of its business areas through partnerships with parties at all stages of the product lifecycle. The initiatives include the reduction of environmentally sensitive substances in cooperation with materials and parts manufacturers, improved efficiency in transportation, and green marketing. We also offer solutions to our customers to reduce the environmental impact of their offices. By disclosing information and know-how garnered through these activities and working with local communities, the Ricoh Group helps reduce the environmental impact of society as a whole.

Concept of a Sustainable Society: The Comet Circle™



* For more information, please visit http://www.ricoh.com/environment/management/concept.html

Establishing the Mid- and Long-Term Environmental Impact Reduction Goals based on the Year 2050 Long-Term Environmental Vision

Advanced nations need to reduce their environmental impact to one-eighth the fiscal 2000 levels by 2050.
Based on this perception, the Ricoh Group has established the 2050 Environmental Impact Reduction Goals for the three key areas of energy conservation, resource conservation, and pollution prevention: A world first for business.

Importance of environmental conservation actions that are based on a long-term vision

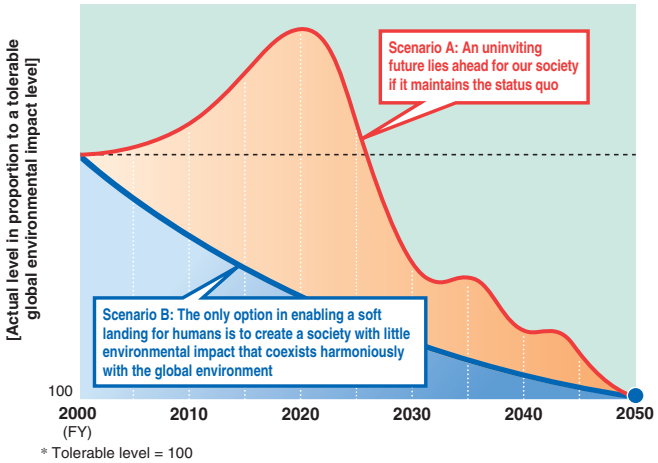
To conserve the global environment and achieve a sustainable society, it is necessary to limit environmental impact to a level within the Earth's self-recovery capabilities. To meet this requirement, we must first envision an ideal society and global environment; then we must create a long-term vision to realize our ideals and aggressively promote environmental conservation activities. Global environmental conservation is a challenge for which there is no second chance, and we will never be able to realize our vision if we act on short-term goals. With this perception in mind, we gathered and analyzed a variety of information from the IPCC reports and many other information sources to allow us to envision human society in 2050. What will our society be like in 2050? The world's population will have reached nine billion. Fossil and mineral resources may have run out. Restrictions may be imposed on the use of land. At the same time, energy sources may have shifted from oil to alternative energies in the hope of preventing global warming. These might lead to substantial changes in social and business models. Without the efforts by all companies to change the status quo in their activities with the 2050 prospects in view, we cannot avoid the worst scenario possible for the global environment. In light of these facts, we formulated the Year 2050 Long-Term Environmental Vision in 2005. In doing so, we recognized that advanced nations need to reduce their environmental impact to one-eighth of the fiscal 2000 levels by 2050 and concluded that it was necessary to set up specific action plans under this vision.

Setting targets using the back-casting method in the three areas

The Ricoh Group uses the back-casting method to set targets. In this approach, we first set final goals and then determine target values as milestones on the journey to these goals. We have set the Year 2050 Long-Term Environmental Vision based on the Three Ps Balance as our final goals, and in March 2009 we issued the Mid- and Long-Term Environmental Impact Reduction Goals to describe specific steps to realize this vision to further strengthen and accelerate our activities with clearly articulated targets. In the Goals, we set numeric targets for environmental impact reduction in three key areas— energy conservation and global warming prevention, resource conservation and recycling, and pollution prevention—using 2020 and 2050 as the standard years. As the major targets, we chose "CO_2 emission reduction throughout the product lifecycle," "reduction of new input of resources with prospects of resource depletion," and "management and reduction of chemical substances to minimize environmental risks." We use the numerical targets in the environmental action plans we issue every three years in order to develop highly effective actions to achieve the goals.

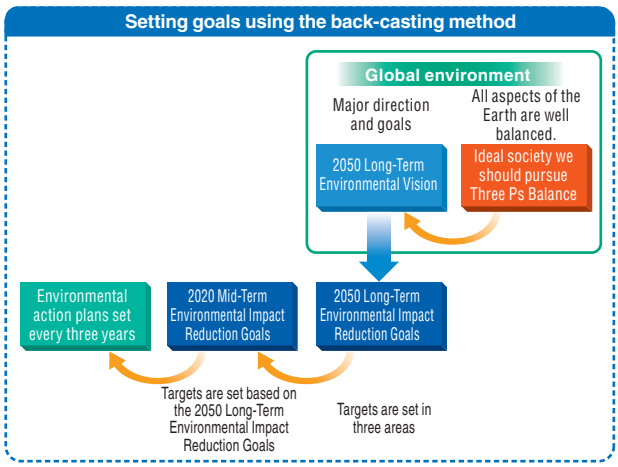
* As the year 2050 is now generally recognized as the target year in the business world, the Ricoh Group changed the name of the vision from the "Extra-Long-Term Environmental Vision" to "Year 2050 Long-Term Environmental Vision."

Two scenarios for reducing global environmental impact



* Tolerable level = 100

Setting environmental targets



Measures to reduce environmental impact in terms of absolute value and to restore the Earth's self-recovery capabilities

With the Mid- and Long-Term Environmental Impact Reduction Goals, the Ricoh Group has become the first company to set a variety of specific environmental goals to be achieved for the three key areas. We did so because we acknowledge that global warming is not the only impact we are expected to face in the world in 2050. Also, if we set reduction of CO_2 emissions as the only goal for our activities, other types of impact, those caused by careless treatment of chemical substances or wasteful use of natural resources, for example, may occur in the process. If that were to happen, environmental impact reduction goals might be achieved in a defined area, but the environmental impact might increase more than the amount reduced in other areas or processes. Also, goals set based on units and factors alone, which are efficiency-based relative indices, might not be effective for environmental conservation in practical terms. Therefore, it is very important to acknowledge the total amount of environmental impact for the entire lifecycle of products and set goals using "absolute values."

In addition, while reducing our impact on the environment, it is essential to maintain or restore the Earth's self-recovery capabilities. Based on this idea, we laid down the "Ricoh Group Biodiversity Guidelines" in March 2009 to articulate the measures we take in our business activities to protect biodiversity. With the new guidelines, we will expand our conservation activities for maintenance and recovery of nature's self-recovery capabilities to a wider range of environmental impact reduction measures, which correctly reflect the impact we have on biodiversity throughout all supply chains.

Major Ideas in the Ricoh Group Mid- and Long-Term Environmental Impact Reduction Goals

Mid- and Long-Term Goals		Concept	Major activities
Energy Conservation and Prevention of Global Warming	**Reduce the total lifecycle CO_2 emissions by the Ricoh Group (including emissions of the "five gasses" converted into CO_2) by 30%* by 2020 and by 87.5% by 2050 from the fiscal 2000 level.** * Equal to 34% reduction from the fiscal 1990 level (for domestic CO_2).	• Set targets for the entire lifecycle with the aim of achieving the reduction levels set for society as a whole based on the warnings of IPCC. • Reduce the CO_2 directly emitted from business activities by setting targets for each stage, including production and distribution. • Reduce electricity consumption of the products in an active manner by setting high targets. • Collaborate with suppliers at the procurement stage.	• Develop technologies that improve the environmental functions of products and facilitate the use of such products. • Make suggestions to customers to help them fully enjoy the environmental functions of our products. • Realize "low carbon manufacturing" through innovation of production processes. • Actively use solar power and other renewable energies for electric generation. • Reduce CO_2 emissions at the procurement stage by making products smaller and their lives longer and by recycling more products. • Support suppliers in their environmental impact reduction measures. • Obtain more accurate information on CO_2 emissions during the distribution stage, increase distribution efficiency, and promote a modal shift.
Resource Conservation and Recycling	**(1) Reduce the new input of resources by 25% by 2020 and by 87.5% by 2050 from the fiscal 2007 level.** **(2) Reduce the use of or prepare alternative materials for the major materials of products that are at high risk of depletion (e.g., crude oil, copper and chromium) by 2050.**	• Discourage new input of resources and promote efficient use of the limited resources in business activities. • Recognize that resource conservation measures directly reduce production costs and help avoid risks accompanied by possible increases in resource prices and ensure stable supplies of products in the future. Position the measures as a central part of management.	• Develop technologies to make products/parts smaller and lighter. • Develop technologies to improve reliability of products/parts, such as technologies to make product life longer. • Increase recovery rates of used products. • Increase recycling rates of products/parts/materials by developing technologies for recycling and efficient use of recycled items. • Reduce the use of materials at a high risk of depletion or replace them with other materials, such as biomass plastics and toner inks.
Pollution Prevention	**Reduce the impact of chemical substances on the environment by 30% by 2020 and 87.5% by 2050 from the fiscal 2000 level.**	• Implement risk management that covers not only impact on the environment but also impact on human health. • Carry out risk management taking information on consumption, emissions, hazards, and exposure of chemical substances into consideration. • Give priority to the high-risk chemical substances in reduction and replacement in order to prevent possible pollution.	• Increase the level of chemical substance management system to improve risk management. • Promote reduction and replacement of high-risk chemical substances.

* Targets are set based on the business areas and market share for fiscal 2000 (see the news release at http://www.ricoh.com/info/090501.html).

Environmental Action Plan up to Fiscal 2010 and the Results of Fiscal 2008

The Ricoh Group's 16th Environmental Action Plan (FY 2008-2010) * Target year is set for fiscal 2010 unless otherwise specified.

1 Using resources effectively to realize a resource-recirculating society

(1) Develop environmental technologies aiming to reduce environmental impact. Page 19

- Develop environmental technologies contributing to the reduction of environmental impact in business and society as a whole.

(2) Increase recirculation of resources and use resources effectively to reduce the use of new resources in products. Page 24

1) Promote the reuse of parts.

- Increase the use of reusable parts recovered from used products to 1,910 tons by fiscal 2010 (Japan).
- Increase the use of reusable parts recovered from used products to 6,000 tons by fiscal 2010 (outside Japan).

2) Promote PCMR (plastic closed material recycling) (Japan).

- Achieve the fiscal 2010 target for the quantity of recycled plastic used. Fiscal 2010 target: 750 tons.

3) Increase the amount of resources recirculated from used products (outside Japan).

- Increase the amount of resources recirculated from used products (the amount reused + the amount recycled) to 16,000 tons by fiscal 2010.

4) Use biomass resins for products.

- Commercialize biomass toners.

(3) Reduce waste generated by production activities. Page 38

1) Reduce waste of resources in the thermal media business.

- Reduce the amount of waste generated by 10%, compared to fiscal 2006 figures.

2) Reduce waste of resources relating to packaging materials.

- Reduce packaging material waste per production volume in the manufacturing of imaging products in Japan by 30%, compared to fiscal 2006 figures.

3) Reduce waste generated in the manufacturing of polymerized toners.

- Reduce waste generated per production volume by 17%, compared to fiscal 2007 figures.

2 Developing frontier environmental technologies to cope with climate change problems and promoting business activities that reduce energy consumption

(1) Promote development of energy-saving technologies. Page 19

- Develop technologies to save energy consumed by products and innovate production processes that contribute to the reduction of environmental impact in business and society as a whole.

(2) Improve the energy-saving performance of products. Page 21

1) Achieve Ricoh's energy-saving targets.

(3) Reduce greenhouse gas emissions in production activities. Page 33

- Reduce CO_2 emissions by 12% by fiscal 2010 (Ricoh and manufacturing subsidiaries in Japan) compared to fiscal 1990 figures.
- Reduce CO_2 emissions by 10% by fiscal 2010 (manufacturing subsidiaries outside of Japan) compared to fiscal 1998 figures.
- Reduce emissions of greenhouse gases other than CO_2 by 10% by fiscal 2010 (semiconductor business sector) compared to fiscal 1995 figures.

(4) Reduce greenhouse gas emissions in non-production activities. Page 46

- Reduce CO_2 emissions to a level that is below fiscal 2006 figures (Ricoh and non-manufacturing subsidiaries in Japan).

(5) Reduce CO_2 emissions in logistics. Page 50

- Improve by 1% or more by the basic quantity unit (compared to the previous fiscal year's figures).

(6) Expand CO_2 emission reduction efforts to involve suppliers. Page 31

(7) Contribute to the reduction of environmental impact at customers' sites. Page 48

1) Survey the frequencies of energy-saving and duplex copying functions used and raise their rates of use.

(8) Promote the use of environmental functions at the offices of the Ricoh Group. Page 46

- Promote the use of energy-saving functions at offices of the Ricoh Group.

3 Upgrading chemical substance control aiming at environmentally safer manufacturing and business activities

(1) Improve environmentally-friendly functions. Page 27

1) Promote measures to reduce chemical emissions.

- Observe Ricoh standards that cover such substances as ozone, dust, and VOCs.

(2) Upgrade risk management relating to chemical substances. Page 42

1) Establish a global system for management of risks from chemical substances.

2) Reduce environmentally sensitive substances.

- Reduce the amount of environmentally sensitive substances used by at least 30% (Ricoh production sites and manufacturing subsidiaries) compared to fiscal 2000 figures.
- Reduce environmentally sensitive substance emissions by at least 80% (Ricoh production sites and manufacturing subsidiaries) compared to fiscal 2000 figures.

3) Make estimations of environmental debt and reflect the result in the financial accounts.

- Make estimations of environmental debt associated with PCBs and asbestos available for the premises of Group companies covered by the consolidated accounting.
- Incorporate the environmental debt in the financial accounts of the Ricoh Group.

(3) Enhance the management of chemical substances contained in products. Page 27

1) Respond to the REACH Regulation.

- Upgrade systems for management and information transmission necessary for responding to the REACH Regulation.

4 Conserving biodiversity

(1) Promote ecosystem conservation activities to enhance the self-recovery capabilities of the global environment. Page 68

Progress Made in Fiscal 2008

▶	Biomass resins and other alternative materials, as well as technologies to reduce the size and weight of products and improve the operating life, are being developed.
▶	Weight of parts reused reached 1,735 tons.
▶	Weight of parts reused reached 4,898 tons.
▶	Amount of recycled plastic used reached 821 tons.
▶	Amount of resources recirculated reached 13,623 tons.
▶	Research has been continued to realize commercial use of biomass toners.
▶	Waste generation was reduced by 8.0%.
▶	Reduced 8% at Ricoh Gotemba Plant; Increased 6%* at Tohoku Ricoh Co., Ltd.; Increased 20%* at Ricoh Elemex Corporation. *Amount increased for FY2008 due to procurement in China boosting the ratio for these sites, but the total reduction goal of 30% for FY 2010 was achieved.
▶	Reduced by 2.2%.

▶	Development was started for new technologies to further save electricity consumption in product operation and to further improve efficiency of heat utilization during production.
▶	Our copiers, multifunctional copiers, and printers all meet energy-saving goals.
▶	Total emissions were reduced by 9.6%. (Increases of CO_2 due to business growth exceeding 4%/year and change of the electricity conversion factor were calculated based on CDM. Based on this idea, the emissions for Ricoh Printing Systems, Ltd. and Yamanashi Electronics Co., Ltd. are treated as increases due to business growth.)
▶	Total emissions: Reduced by 9.6% for the boundary set for the 15th Environmental Action Plan (FY 2005-2007). Increased by 2.7% when emissions due to business growth (Ricoh Thermal Media) are included.
▶	Emissions of greenhouse gasses other than CO_2 were reduced by 34%.
▶	Total CO_2 emissions by non-manufacturing subsidiaries in Japan decreased 5.1%.
▶	CO_2 emissions per ton kilometer of transportation were improved by 6.2% from the previous year.
▶	CO_2 reduction activities using the RICO2RET were developed in cooperation with those suppliers designated as model suppliers.
▶	Suggestions were made for customers to improve the use of energy-saving modes at customers' sites. In Japan, activities to make suggestions for environmental impact reduction by visualizing the impact during product operation were implemented.
▶	Copiers and multifunctional copiers were set with an energy-saving mode with higher efficiency at 16 sites of Ricoh Co., Ltd. The use of the energy-saving mode will be expanded to the entire group in fiscal 2009.

▶	Emissions of environmentally sensitive substances from products were ensured to meet the Blue Angel requirements enacted in January 2007. Seventeen models of copiers, multifunctional copiers and printers meet the Ricoh standards for ozone, dust and VOCs.
▶	Risk management evaluation systems were studied. Use and emissions of major chemical substances were surveyed.
▶	The use of environmentally sensitive substances was reduced by 70% compared to fiscal 2000 figures.
▶	The emissions of environmentally sensitive substances were reduced by 80% compared to fiscal 2000 figures.
▶	A preliminary survey on a global scale was completed for PCBs and asbestos for the companies covered by the consolidated accounting. The environmental debt (including possible debt) was estimated to be 3.46 billion yen.
▶	Influences caused by asset retirement obligations are analyzed for the Ricoh Group.
▶	The REACH Compliance Working Group was established for the entire Ricoh Group. The WG published common operational regulations and information sheet entry guidelines and prepared systems and schemes necessary to comply with the REACH.

▶	Ecosystem conservation activities have been actively carried out in and outside of Japan. Japan: Total of 541 projects (production sites and manufacturing subsidiaries: 135 projects; sales subsidiaries: 371 projects; non-manufacturing sites: 35 projects) Outside Japan: Total of 69 projects (production sites and manufacturing subsidiaries: 39 projects; sales subsidiaries: 30 projects)

Our aim is to bring about an "industrial revolution of the environment" through the development of innovative environmental technologies, thereby realizing a low-carbon society.

■ Concept of Product Development

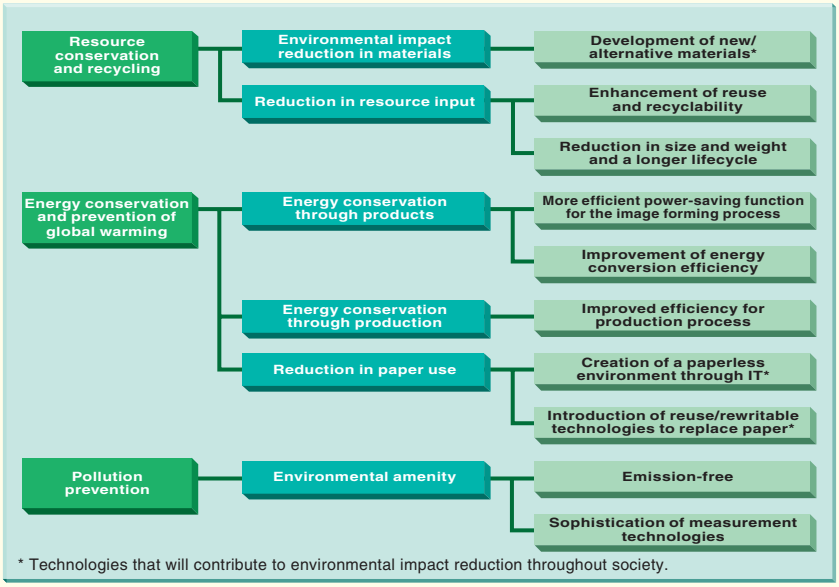
The Ricoh Group develops products that during their lifecycles keep the integrated environmental impact* below the limit at which the global environment becomes unsustainable. First, Eco Balance data on the environmental impact caused by overall business activities are identified and, based on the results, targets for products covered by the action plans are set (Plan). LCA-based designs are then drawn up, and production process technologies are developed to achieve the targets (Do). Results from these designs and process technologies are again reviewed alongside the Eco Balance data (Check) before being reflected in the next targets (Act). In addition to technological development directly related to products, we also work on technological development that will help reduce the environmental impact of society as a whole. We are promoting various activities—such as the development of new/alternative materials, creation of a paperless environment through information technologies, and introduction of reuse/rewritable technologies to replace paper—to further evolve Ricoh's core technologies into environmental technologies that can be applied in a wider variety of areas.

* See pages 5, 58 and 59.

■ Target for Fiscal 2010

◎ Develop environmental technologies that will help reduce the environmental impact of society as a whole as well as of business activities.

Focused areas for environmental technologies

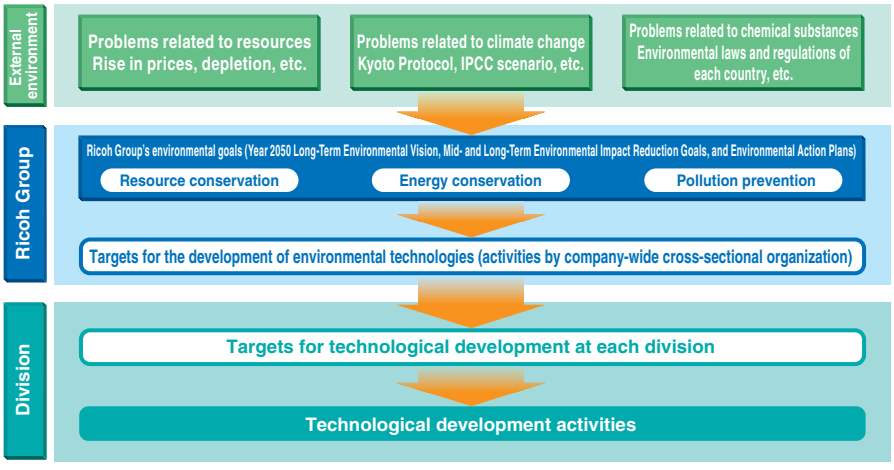


* Technologies that will contribute to environmental impact reduction throughout society.

Acceleration of development of environmental technologies

The development of environmental technologies is one of the most important efforts to realize sustainable environmental management. It is the basis for providing customers with products that are low in environmental impact throughout their lifecycle from the procurement of materials and use by customers to their recycling, as well as for simultaneously realizing both a reduction in environmental impact and the creation of economic value. The Ricoh Group is well aware that existing technologies are not sufficient for creating products that will help solve the current problems of climate change and resource depletion, meet environmental laws and regulations, and expedite the realization of a low-carbon and resource-recirculating society. Based on this recognition, the Ricoh Group established the Environmental Technology Development Promotion Working Group, a company-wide cross-sectional organization with 92 staff members, in January 2008 with the aim of accelerating and promoting the development of innovative environmental technologies. In fiscal 2008, we set targets in the area of technological development based on the Ricoh Group's environmental goals (Year 2050 Long-Term Environmental Vision, 2050 Long-Term/2020 Mid-Term Environmental Impact Reduction Goals, and Environmental Action Plans), and reflected these targets in the technological strategy of each division, which is to be reviewed in fiscal 2009, and technological development activities performed under the strategy. Six focus areas have been selected under the three fields of "energy conservation," "resource conservation," and "pollution prevention;" and various development activities are conducted for each of these areas.

Ricoh's approach to the development of environmental technologies



Promotion of LCA-based design

LCA-based design is a process where targets are set to reduce the environmental impact of products throughout their lifecycles, and the PDCA cycle is used to achieve these targets. Ricoh developed the LCA calculation tool in fiscal 2006 to enable designers to carry out LCA-based design in a more efficient and effective manner. This tool is now actively utilized to conduct an LCA for products in the process of development based on their specifications, and, in accordance with the results, set environmental impact reduction goals for each product.

Life Cycle Assessment (LCA)
LCA means quantitatively identifying which and how much environmental impact exists in the life-cycle of a product, from the resource extraction for the production of raw materials to manufacturing, transportation, marketing, use, maintenance, collection, recycling, and disposal. LCA may also be applied to part of the above cycle.

Development of alternative materials using biomass resins

As part of its efforts to develop alternative materials to realize a low-carbon and resource-recirculating society, Ricoh is working on the development of components and toners for copiers by utilizing biomass resins. Biomass resins have been receiving increasing attention recently as they are recyclable and contribute less to global warming than their petroleum-based counterparts. In 2002, we launched development of biomass plastic for application in our copiers, and in 2005, rolled out the industry's first multifunctional digital copier equipped with biomass components in its main unit (50% biomass content). In October 2008, we also released the imagio MP C2200, a multifunctional copier for which our new biomass plastic components with a higher biomass content (approximately 70%) are used. As collection and recycling of toners after printing is rather difficult, it is important to reduce the environmental impact of their components—currently, petroleum-based resins constitute the primary components. Ricoh has worked on the commercialization of biomass toners since 2006, and is planning to release them to market in fiscal 2009.

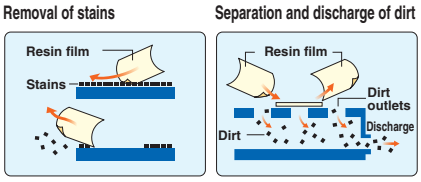
Disclosure of information using environmental labels

It is important not only to develop environmentally-friendly products through the use of environmental technologies and LCA-based design, but also to disclose information in an easy-to-understand manner. Ricoh is actively engaged in introducing Type I environmental label certifications so that customers will understand that our products are environmentally friendly. We are also working to disclose our environmental information in accordance with Type III environmental declarations.

* For details on environmental labels, refer to our web site: http://www.ricoh.com/environment/label/index.html

Dry washing technology for parts recycling

Recycling can never be labeled effective if it generates significant environmental impact in its process. Based on this recognition, Ricoh has been making solid progress in developing resource-recirculating production systems. The development of original dry washing technology is among the latest examples.



The sheets of resin film are hit hard against the surface in a high-speed air flow to remove the stains.

Only dirt is discharged, and the sheets of resin film are circulated and used repeatedly.

Previously, we used water to remove toner stain from used parts, which inevitably involved wastewater treatment and energy consumption to dry the washed parts. Using the newly developed technology, which cleans to a quality as high as that of ultrasonic cleaning processes, toner stains are scraped off by blasting with tiny sheets of film, rather than water, at high speed. This was first put into practical use for Ricoh Gotemba Plant's organic photoconductor unit cartridge recycling process, which saw considerably less operation time and less energy use for wastewater treatment and drying processes. We also made this technology available for the recycling process at Ricoh Industrie France S.A.S. in fiscal 2008.

TOPIC

Development of Reflective Display

Electronic paper based on inkjet printing technology, realizing significant reduction of environmental impact and costs

Ricoh constantly pursues technological development aimed at reducing the environmental impact of paper consumption and, as part of these efforts, has succeeded in developing a reflective display with fine pixels based on inkjet printing technology to replace the display function of paper. With this technology, which is expected to be utilized for various applications including electronic books and advertisements, transistor electrode patterns are traced on a special resin that becomes hydrophilic when exposed to the UV light, which is coated on the thin, pliable paper-like plastic base (electronic paper), realizing a resolution as high as that of existing electronic paper. While existing electronic paper, which is fabricated by fine semiconductor processing technology, requires a complicated production process and a large-scale vacuum facility, making the environmental impact and costs excessively large, Ricoh's technology is expected to reduce the environmental impact and reduce costs by half.

Development of user-friendly and energy-saving technologies

■ Concept

Products that are not easy to use will not be chosen by customers, even if their energy-saving performance is solid. Such products can neither contribute to energy conservation nor help prevent global warming. Ricoh is further developing its unique energy-saving QSU (Quick Start-up) technology*, which allows users to make copies whenever they need to. We are also expanding the product lineup of QSU-equipped machines with a view to reducing recovery time from energy-saving mode to less than 10 seconds for all our models in the future. Meanwhile, reducing unnecessary paper consumption (indirect energy saving) is important since paper production consumes a lot of energy. Ricoh helps decrease the environmental impact caused by customers' paper consumption by offering highly productive duplex copying functions, digitization, and by promoting sales of recycled paper.

* Ricoh's original energy-saving technology that enables quick recovery from energy-saving standby mode.

■ Targets for Fiscal 2010

◎ Achieve Ricoh's energy-saving goals.

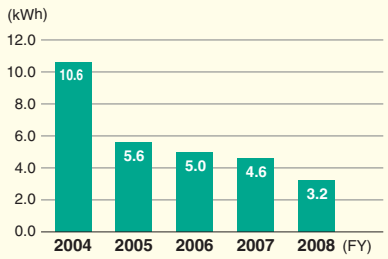
■ Review of Fiscal 2008

In the field of high-speed multifunctional copiers, we launched the imagio MP 7501/6001 series equipped with our original energy-saving technology "HYBRID QSU" to realize a recovery time from energy-saving mode (sleep mode) of 10 seconds [1]. These models offer both user-friendliness and energy conservation by enabling warm-up to be completed quickly while users set documents and make copy settings, even when the energy-saving mode is activated. These models also achieve the Typical Electricity Consumption (TEC) [2] of 7.73 kWh [3]. In addition, sales of copiers using QSU technology with a recovery time of less than 10 seconds from energy-saving mode are steadily increasing, thus reducing CO_2 emissions by approximately 48,200 tons a year (see graph ❹).

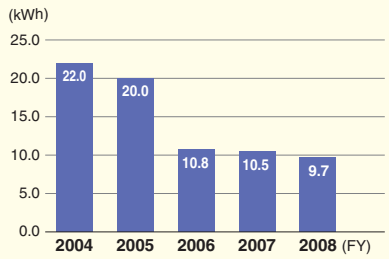
<Japan>

Changes in energy consumption

❶ Monochrome copiers and multifunctional copiers



❷ Color copiers and multifunctional copiers



◎ Energy conservation values are calculated as follows:
Σ(<Energy consumption when recovery time is 10 seconds (kWh) [1]> × Annual number of units marketed)/ΣAnnual number of units marketed

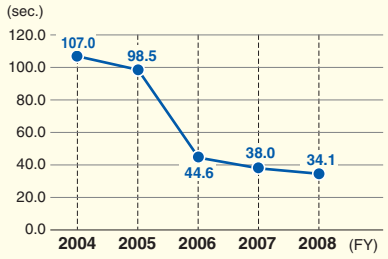
1. Energy consumption when recovery time is 10 seconds: Based on TEC measured for models with a 10-second recovery time from energy-saving mode in accordance with the method defined by the International ENERGY STAR Program. (Electricity consumption in standby mode was measured for models with a recovery time of more than 10 seconds.)

* Graphs ❶ and ❷ were compiled based on the number of units marketed in Japan.

<Global>

Changes in recovery time from energy-saving mode

❸ Color copiers and multifunctional copiers

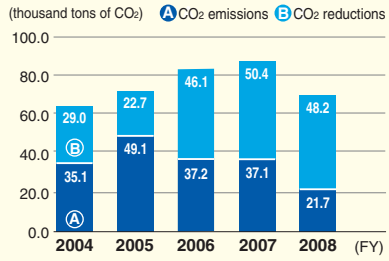


◎ Energy conservation values are calculated as follows:
Σ(<Recovery time from sleep mode (sec.)> × Annual number of units marketed)/ΣAnnual number of units marketed

1. Less than 30 seconds in the case of the existing imagio MP 7500/6000 series.
2. The measuring procedure is defined by the international ENERGY STAR Program.
3. 9.22 kWh for imagio MP 7501 SP and imagio MP 7501; 6.75 kWh for imagio MP 6001 SP; 7.60 kWh for imagio MP 6001.

Effect of QSU technology

❹ Reduction in CO_2 emissions through the use of QSU technology



* Ⓐ + Ⓑ : CO_2 emissions generated if there had been no QSU-equipped models
Ⓐ : Actual CO_2 emissions
Ⓑ : CO_2 emissions reductions realized by the QSU-equipped models

■ Future Activities

We will further improve QSU technology, so that more customers will use energy-saving mode, and pursue user-friendliness (shorter recovery time from energy-saving mode) and energy-saving for color copiers.

Segment environmental accounting of product energy conservation (Benefit on cost in color QSU product development)

Costs			Effects		
			Economic benefits		Effect on environmental conservation
Item	Main costs	Costs	Internal benefits	Customer benefits	
R&D cost	Cost of developing energy-saving units, parts, etc.	¥583.3 million	Sales contribution ¥1,155.3 million	Reduction in payment for consumed power supply ¥422.5 million	Reduction in CO_2 emissions 6,943.4 tons

* The reduction in payment for consumed power supply and CO_2 emissions is the annual benefit brought from 8 hours of operation per day, 20 days a month. Internal benefits refer to benefits on gross profits in sales results in fiscal 2008.

Evolution of energy-saving technology QSU

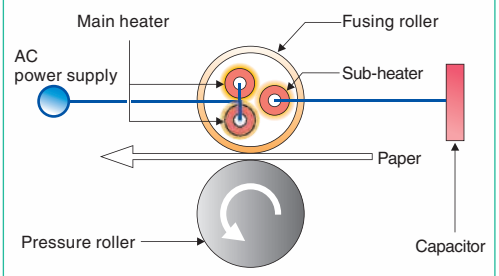
QSU (Quick Start-up) is Ricoh's original energy-saving technology developed to achieve effective energy conservation for copiers. It enables quick recovery from the energy-saving mode, allowing users to make copies whenever they need to. According to a customer survey, the longer it takes to recover from energy-saving mode, the less the energy-saving mode is used. Ricoh has poured its efforts into developing QSU technology in a way that satisfies both user-friendliness and energy conservation so that our customers will use the energy-saving mode more often. In 2001, we launched the imagio Neo 350 series, the first multifunctional monochrome copiers equipped with QSU, and received the Minister of Economy, Trade and Industry Prize, the highest prize of the Energy Conservation Grand Award presented by the Energy Conservation Center, Japan (ECCJ). Following that, we introduced HYBRID QSU, an integration of traditional QSU technology and capacitors (electric storage devices), in high-speed multifunctional monochrome digital copiers, and have since reinforced the lineup of QSU-equipped products [1]. In fiscal 2006, Ricoh developed Color QSU technology, which adopts the IH [2] fusing system and successfully achieved a reduction in recovery time from the energy-saving mode for multifunctional color copiers, which had been a difficult challenge. The imagio MP C4000 released in June 2008 features Color QSU technology and new color PxP toner, realizing a recovery time from the sleep mode [3] of less than 15 seconds. We also developed energy-saving printers that use our GELJET technology, including the IPSiO GX 2500 launched in September 2007, which boasts a maximum energy consumption of less than 35 watts, which is equivalent to the energy consumption of a fluorescent light.

1. Capacitors are incorporated only in the 100V machines marketed in Japan.
2. IH stands for "Induction Heating," a technology that heats metal instantly with the magnetic force generated by an electric current passing through a coil. This technology is also widely adopted in electric rice-cookers and stoves.
3. A type of energy-saving mode See page 23.

● HYBRID QSU Technology

Traditional QSU technology is combined with a capacitor (electric storage device) to store electricity while in standby mode so that it can be used for start-up and printing operations. This technology is adopted by high-speed type multifunctional copiers.

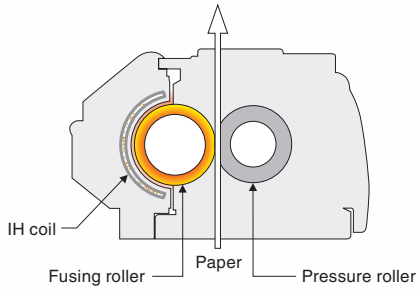
HYBRID QSU Technology



● Color QSU Technology

This technology, based on IH (Induction Heating) that uses magnetic force to produce heat, has been further improved in such a way to cause the fusing roller itself to generate heat. The technology enables color copiers to both be user-friendly and highly energy efficient.

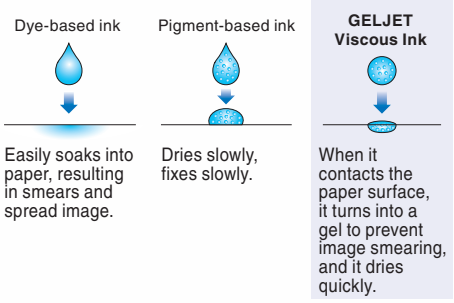
Color QSU Technology



● GELJET Viscous Ink

GELJET Viscous Ink is a pigment-based ink with high viscosity and high penetration, which enables high-speed duplex printing on plain paper with a picture quality as high as that of laser printers. Its low energy consumption also allows users to save running costs.

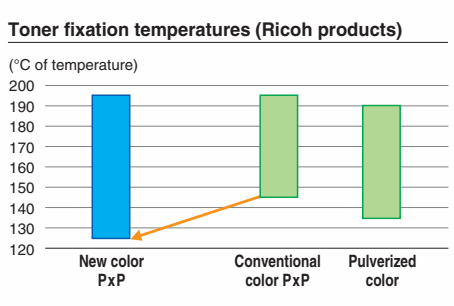
GELJET™ Viscous Ink



● New Color PxP Toner

Toner designed to fuse at an even lower temperature than its predecessor, which realizes a shortened warm-up time, faster continuous output, and less energy consumption when in use.

New Color PxP Toner



Efforts to realize a more user-friendly energy-saving mode and a recovery time of 10 seconds

Our assessment of the impact of our products on global warming shows that, while there are emissions of greenhouse gases (GHG) from Ricoh Group operations such as production, transportation, marketing, and maintenance, a significant level of CO_2 emissions is also generated while the products are used at customers' sites. The energy-saving mode is automatically activated to minimize power consumption when products are left in standby mode for a certain period of time, and thus it contributes to energy conservation on the part of customers who use Ricoh copiers. To maximize energy-saving effects, it is necessary to set the time of the shift to a higher energy-saving mode to be as short as possible (see the table on the right). According to a customer survey, many customers feel that the waiting time is too long when the recovery time from the energy-saving mode exceeds 10 seconds. Therefore, to encourage customers to use the energy-saving mode without the stress of waiting, Ricoh has been committed to technological development aimed at reducing the recovery time from the energy-saving mode to less than 10 seconds. For monochrome multifunctional copiers, we achieved a recovery time from the sleep mode [1] of less than 10 seconds [2] when we released the imagio Neo 350 in February 2001, and we have since introduced this feature to many other models. In terms of color multifunctional copiers, we reduced the recovery time from the sleep mode to only less than 15 seconds [2] for the imagio MP C4000. For models whose recovery time from the sleep mode still exceeds 10 seconds, the "preheating level 2" button is provided to realize a recovery time of 10 seconds while allowing customers to save energy—although not as much as when in sleep mode—to the maximum extent possible. In this way, Ricoh is offering its customers a way to promote energy conservation without sacrificing user-friendliness.

1. A type of energy-saving mode
2. When used at a room temperature of 20°C. This figure may vary depending on the conditions and history of use.

Energy-saving mode levels and their effects

Setting	Description	Energy-saving effects
Preheating	A standby mode that allows quick recovery. Some models are equipped with a "preheating level 2" button to realize a recovery time of approximately 10 seconds while allowing customers to save energy—although not as much as when in sleep mode—to the maximum extent possible.	Small
Low power consumption	The temperature of the fusing heater is lowered to realize energy conservation while the short-time recovery is maintained.	Middle
Sleep	The power button* on the control panel is automatically turned off to realize the highest level of energy-saving. If the product is cooled to room temperature, the recovery time may be as long as the warm-up time.	Large

* In addition to the power button on the control panel, the products also have the main switch on their body.
* See the manual for each model for specific energy consumption information and other data related to each setting in the energy-saving mode.

Preventing Global Warming through Reduced Paper Consumption

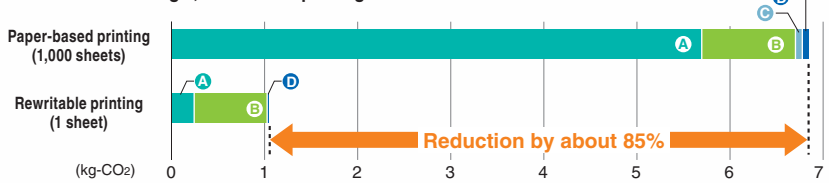
RECO-View RF Tag Sheet—capable of displaying data on rewritable RF Tags

<Ricoh (Japan)>

In fiscal 2003, Ricoh developed the RECO-View RF Tag Sheet by combining RF tags with Ricoh's own rewritable technology, making the RECO-View RF Tag Sheet capable of rewriting and displaying data written on cards or sheets. This sheet displays digital data recorded on a tag, and the display changes as the tag is rewritten. A sheet is capable of being rewritten approximately 1,000 times*, making it possible to cut CO_2 emissions by 85% across its lifecycle compared to paper-based printing. This tool also helps prevent human error, as operators are able to visually check information on the management of operation processes written on RF tags, and it is currently utilized in a wide variety of areas, including logistics, medical care, and office work.

* This number may vary, depending on the condition of use.
* Visit http://www.reco-view.com for further details of the RECO-View RF Tag Sheet.

CO_2 emissions during 1,000 times of printing Ⓐ Manufacturing Ⓑ Use Ⓒ Collection Ⓓ Disposal



[Data coverage] ● Manufacturing: materials and manufacturing processes ● Use: RW printer (calculation based on electricity consumption)/laser printer (calculation based on electricity consumption and toners) ● Collection: 100-km of transport by a 4-ton truck from the usage site ● Disposal: waste disposal (with thermal recovery)/waste disposal (w/o thermal recovery)/landfill/collection of used paper (for paper-based only)
[Source] ● Paper: J-LCA database ● Rewritable Sheet: on materials, 4000ss by Independent Administrative Institution National Institute for Materials Science's Ecomaterials Center ● Electricity & gas, data from the Japanese Ministry of the Environment ● Printer, data on IPSiO NX810 ● Collection and disposal: Japan Tappi Journal 55(6) 838- 852(2001)

Global promotion of use of recycled resources based on the "Comet Circle"

■ Concept

Based on the concept of the Comet Circle that puts "Priority on Inner Loop Recycling," the Ricoh Group is working on recycling materials with less environmental impact and higher economic efficiency by finely prioritizing reuse and recycling processes. As resource depletion becomes an ever pressing issue, the development, design, procurement, production, and collection/recycling divisions at Ricoh are cooperating in such activities as "reduction in size/weight of products and a longer product lifecycle," "enhancement of reuse and recyclability," "promotion of closed-loop material recycling," "improvement of the quality of recycled machines," and "reduction of packaging materials" as part of efforts to pursue effective utilization of resources and minimize the use of non-recycled, virgin resources in production. We are also striving to invent alternative materials, such as biomass resin, as a measure against the risk of resource depletion, and develop recycling process technologies with lower environmental impact.

■ Targets for Fiscal 2010

◎ Increase the quantity of reused parts obtained from used products to 1,910 tons by fiscal 2010. (Japan)

◎ Increase the quantity of reused parts obtained from used products to 6,000 tons by fiscal 2010. (Outside Japan)

◎ Accomplish the fiscal 2010 target quantity of recycled plastics used (750 tons in Japan).

◎ Increase the quantity of resources collected from used products and recirculated (quantity of reused resources + quantity of recycled resources) to 16,000 tons by fiscal 2010. (Outside Japan)

◎ Commercialize biomass toners.

■ Review of Fiscal 2008

The quantity of reused parts obtained from used products was 1,735 tons in Japan and 4,898 tons overseas. The quantity of resources collected from used products and recirculated overseas was 13,623 tons, and efforts are currently being made to further promote recycling to accomplish the set target. The quantity of recycled plastics used in Japan increased to 821 tons, exceeding the target quantity of fiscal 2010. The number of used copiers collected and the recycling rates in fiscal 2008 shown below does not include data in the Americas due to a system failure there. The quantity of used toner cartridges collected in terms of weight saw a decline, as shown below, but this is partly due to the weight reduction of each cartridge.

■ Future Activities

We will continue to effectively use recovered resources by increasing production and sales of recycled copiers as well as through extended use of recycled parts and materials, and thus provide our customers with products with less environmental impact and higher economic efficiency. For this purpose, it is important to improve resource recycling technologies, and increase the collection rate and collection quality of used products. By effectively utilizing collected resources while minimizing the use of virgin natural resources, Ricoh will contribute to creating a sustainable society.

Segment environmental accounting of the product recycling business (Japan)

Costs		Effects			
		Economic benefits		Effect on environmental conservation	
Items	Costs	Items	Benefits		
Product recycling cost	¥632 million	Sales	¥12,999 million	Amount of resource recovery: 26,440 tons Down 2,229 tons from that in the previous year	Amount of final disposal: 117 tons
Collection/resource recovery cost	¥2,197 million	Social effect	¥2,115 million		
Total cost	¥2,829 million				

* Social effect refers to the cost of waste disposal that customers no longer have to pay.

<Global>

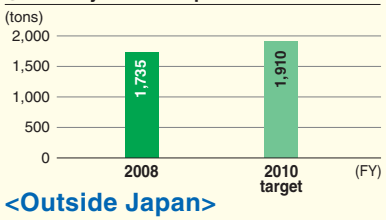
❶ Collection results and recycling rates for copiers and toner cartridges

	Amount of used products collected			Recycling rate
	Fiscal 2006	Fiscal 2007	Fiscal 2008	Fiscal 2008
Copiers	307,047 units	319,643 units	264,899 units*	98.7%*
Toner cartridges	1,023 tons	993.5 tons	982.6 tons	99.0%

* Figures do not include data for the Americas. Please see Review of Fiscal 2008.

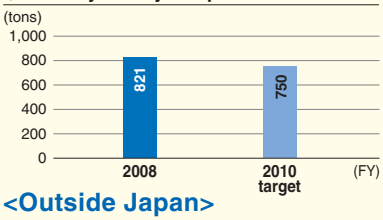
<Japan>

❷ Quantity of reused parts



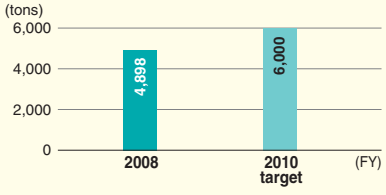
<Japan>

❸ Quantity of recycled plastics



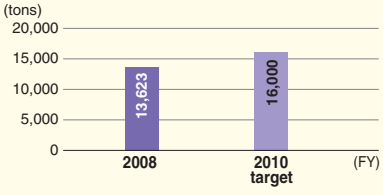
<Outside Japan>

❹ Quantity of reused parts



<Outside Japan>

❺ Quantity of recirculated resources



Recyclable design
<Ricoh (Japan)>

Recyclable design is an essential approach to promoting resource conservation and product recycling. To introduce recyclable design, an organization that is now known as the Recycling Technology Workshop was established in 1993. The workshop formulated the company's first recyclable design policy based on the Comet Circle, and has built up know-how in various areas, such as grading of materials, strength design with future reuse taken into consideration, reuse of high value-added parts, recycling of high-quality materials, improvement of ease of disassembling and sorting, and strength design for reducing packaging materials. After designing copiers and printers, designers carry out recyclable design self-assessments to make necessary improvements, and in this way, designers' consideration to recycling has already become a part of their core design process. In addition, we hold a recyclable design seminar twice a year to discuss how to deal with revised rules and new laws and regulations. The participants include designers of not only Ricoh's design division but also of its Group companies and suppliers, and in fiscal 2008, seminars were held in February and August, attracting about 60 attendees in total.

TOPIC

Release of imagio MP C2200, Resource-saving Type Color Multifunctional Model

imagio MP C2200, a downsized, lightweight color multifunctional copier

The footprint is 33% smaller than that of monochrome machines. The model also features high energy-saving efficiency, biomass resin components, and many other cutting-edge environmental technologies.

Unlike other color multifunctional copiers, the size of the imagio MP C2200 launched in October 2008 is even smaller than monochrome copiers. Color copiers, which use several color toners, require a complicated mechanism, and this makes it difficult to downsize them as has been done with monochrome copiers. However, for the imagio MP C2200, we changed the paper feeding route and duplex unit drastically, and reduced the size of each mechanism to fit the size of Ricoh's smallest modules to make the footprint approximately 33% smaller than that of traditional monochrome copiers [1], and make the weight approximately 20% lighter than its precedent color copier [2]. In addition, our new biomass plastic with an approximate biomass content of 70% has been used for the manual pocket, setting a new example of a resource-saving product made of recyclable materials. The imagio MP C2200 is also prominent in terms of energy saving by employing the new color PxP toner [3] to reduce Typical Electricity Consumption (TEC) by approximately 30% [4] to help customers save space and energy.

The inner finisher is designed in such a way that it can be mounted inside the body

1. In comparison with the imagio MP 2550, the footprint of the main body with the duplex unit, hand-feeding tray (closed), and inner finisher is 33% smaller.
2. In comparison with the imagio MP C2500. No automatic document feeder (ADF).

3. See page 22.

4. The measuring procedure is defined by the International ENERGY STAR Program. In comparison with the TEC value of the imagio MP C2500 SP (3.74).

Promotion of recycled copier business
<Ricoh Group (Global)>

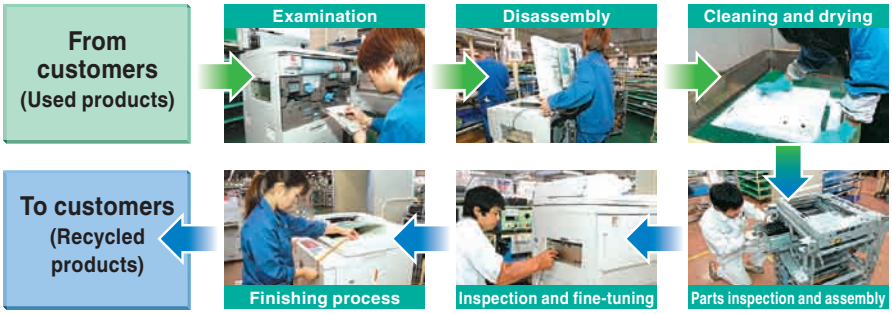
Ricoh copiers are offered mainly for lease in Japan, and every leased copier is placed under our management. This system facilitates the collection of used machines, and allows us to effectively utilize resources. The know-how accumulated through this practice is also made available in countries where the business model differs from that of Japan to help develop their recycling system. However, the collection of used machines requires energy- and cost-consuming transportation, and therefore, if collected products are not effectively utilized, collection will only create substantial losses. Ricoh has adopted resource conservation and recycling as one of the pillars of its environmental conservation activities since the early 1990s, and has been working on the recycling of collected copiers, laser printers, toner cartridges, and supplies. More than 200,000 units of our used products are collected each year, and fully recycled* or reused. Furthermore, in order to continuously promote recycling, it is also necessary to create economic value from recycling. Ricoh therefore has been engaged in recycling copiers in Japan by collecting used machines from the market and relaunching them back to market. Since the release of its first recycled copier in October 1997, Ricoh has expanded its lineup more actively than any other company to offer a wide variety of recycled machines with a copying productivity ranging—as of fiscal 2008—from 35 pages per minute to 75pp/min. Ricoh is also planning to release its first recycled color copier in 2009.

* The recycling rate of copiers is more than 99.5%.

Improvement of recycling quality with recycling information system

In addition to product information from the procurement of materials to sales, the Ricoh Group also controls information on each of office equipment unit after sales using the recycling information system. Ricoh's recycling information system is an original traceability system designed specifically for collection and recycling purposes, whereby each unit collected is bar-coded to trace its status throughout the process. The conditions of copiers used by customers are also recorded in the monitoring database within the system. The system allows efficient production and quality improvement of recycled products due to its ability to manage on a individual unit basis, enabling identification of which collected items are currently going through which process. Used copiers are first collected by Ricoh's local sales subsidiaries/dealers or our Green Centers located in 11 cities across Japan, and sorted by model and quality level at Aggregation Centers to determine whether each collected machine will be recycled or dismantled for parts reuse or material recycling. Only products that have passed rigorous inspections are finally sent to recovery centers. At recovery centers, used products are examined again to note their condition (quality, deterioration, etc.), and then disassembled, cleaned, and washed. Data stored in the hard disc is also erased. In the assembling process, deteriorated parts and supplies are replaced with new ones. Assembled products then go through paper feeding tests, fine-tuning, and a finishing process before shipped to ensure they meet the same standards as those for regular products. The finished recycled products are provided with the same quality warranty as that for new products.

Recycling process for copiers



IPSiO SP 4210, a printer with resource-recirculating type toner cartridge

<Ricoh (Japan)>

Ricoh released the IPSiO SP 4210, an A4 monochrome laser printer with a resource-recirculating type toner cartridge in January 2009. For this product, Ricoh retains the ownership of cartridges (containers), and customers purchase only their content—toner. The effective utilization of collected and recycled cartridges has led to a 10% reduction in the price of toner. The new model is expected to help customers save both time and costs necessary for collection and recycling, and further promote resource recirculation.

Promoting eco packaging

<Ricoh Group (Japan)>

Ricoh has long been working to reduce the use of packaging materials. In 1994, we started "eco packaging" which uses less cardboard. In 2001, we introduced further advanced "resource-recirculating eco-packaging" materials to the market. These resin-based packaging materials can be used repeatedly. As of fiscal 2008, about 70% of copiers shipped from Japanese factories were packaged in these resource-recirculating eco materials. In addition, we are engaged in activities in which we deliver products simply wrapped in damage-protection film to the customers direct from the factory. Through these efforts, we are reducing consumption of packaging materials by some 1,350 tons each year, equivalent to about 1,750 tons of CO_2 emissions.

imagio Neo 753RC/603RC received the Sustainable Design Award

<Ricoh (Japan)>

In fiscal 2008, imagio Neo 753RC/603RC, Ricoh's recycled multifunctional digital copiers, received the Sustainable Design Award, a new award category established as part of the Good Design Awards presented by the Japan Industrial Design Promotion Organization (JIDPO). The Sustainable Design Award is given to products recognized for their prominent roles in the realization of a sustainable society in view of current global environmental problems. The reasons for selecting the imagio Neo 753RC/603RC according to JIDPO were because they reflect Ricoh's devoted, globally outstanding commitment to the recycling of collected products; their overall shape is straightforward and simple; overall build and finishing are sound; and the operability of the interface and maintainability are high.

Resource-recirculating eco packaging

We offer products that are kind to the environment and people by reducing and strictly managing environmentally-sensitive substances.

■ Concept

Aiming to reduce the impact on the global environment and enhance end-user comfort and safety levels, the Ricoh Group is tackling important issues by establishing a strict management system for environmentally-sensitive substances contained in its products, reducing ozone, dust, and volatile organic compounds (VOCs) emitted when products are used, and ensuring that its supplies are safe. Environmentally-sensitive substances contained in products will affect the environment when the products come to the end of their lifecycle and are improperly disposed of. An ecobalance assessment shows that reducing the use of these substances will ultimately lessen the environmental impact a product has during its lifecycle and reduce recycling costs to a great extent. The Ricoh Group is making efforts to reduce environmentally-sensitive substances and create a reliable management system that covers the entire manufacturing flow, including suppliers.

■ Targets for Fiscal 2010

◎ Observe Ricoh standards that cover such substances as ozone, dust, and VOCs.
◎ Strengthen the system for management and communication to comply with the REACH Regulation.

■ Review of Fiscal 2008

Concerning emissions of environmentally sensitive substances generated by products, Ricoh was also able to quickly satisfy the Blue Angel requirements, which came into force in January 2007, and all the copiers, multifunctional copiers, and printers of 17 series launched in fiscal 2008 meet the Ricoh standards for ozone, dust and VOCs.

■ Future Activities

We will continue our efforts to further reduce the use of environmentally sensitive substances in products.

<Global>

● Achievement of standards for environmentally-sensitive chemical substances

	Ricoh standards (mg/h) [1] (Blue Angel requirements enforced in January 2007)		Models that achieved the standards [2]
	Color	Monochrome	
Ozone	3.0	1.5	17
Dust	4.0	4.0	
Styrene	1.8	1.0	
Benzene	< 0.05	< 0.05	
TVOC	18	10	

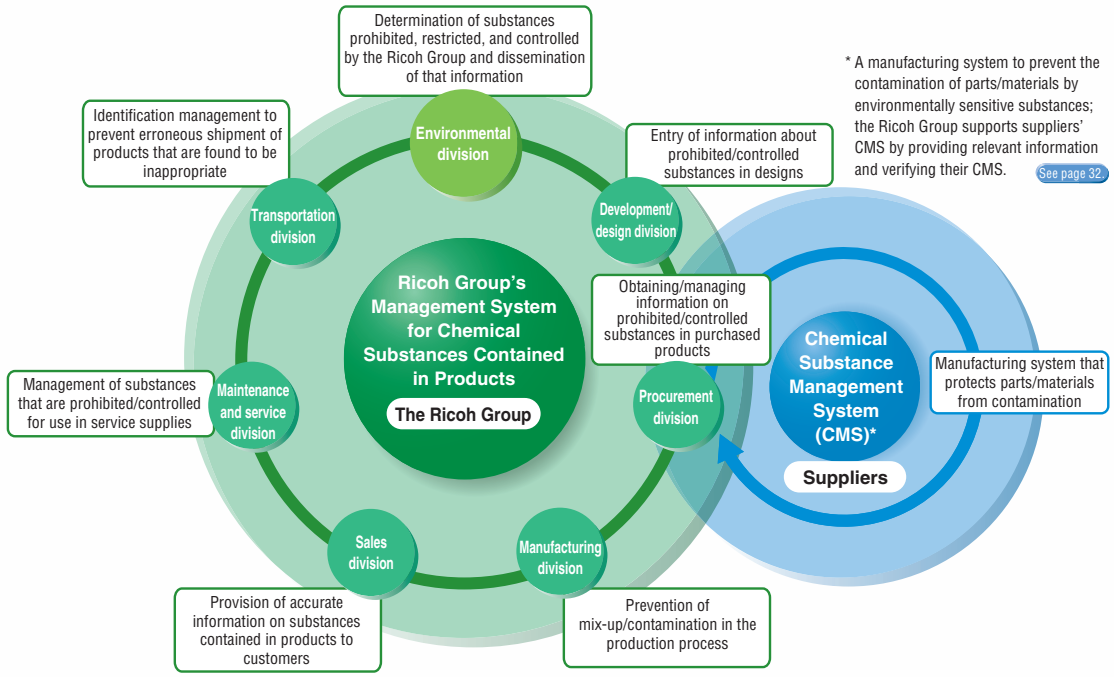
1. Ricoh standards also meet the Blue Angel requirements.
2. Figures indicate the number of product series, including copiers, multifunctional copiers, and printers, launched in fiscal 2008 that achieve these standards.

Controlling the use of environmentally-sensitive substances

<Ricoh Group (Global)>

Ricoh set original standards for environmentally sensitive substances that could be used in its products in 1993 as part of efforts to reduce these substances. Since then, it has regularly reviewed the standards to incorporate the latest regulations and scientific knowledge and has controlled chemical substances accordingly. In addition, all the divisions engaged in production (design, procurement, manufacturing) have jointly worked to improve the chemical substance control system. As of the end of March 2006, a chemical substance management system (CMS) for suppliers was created on a global basis. At the same time, the chemical substance control system within the Ricoh Group was strengthened, completing the management system for chemical substances contained in products within Japan. We completed a system for use outside Japan in July 2006. Ricoh is currently working on upgrading the management system for chemical substances contained in products by establishing a "first response flow" in case any harmful chemical substances should find their way into products to prevent the expansion of pollution (shipment of parts or products) and the recurrence of such an accident. In addition, Ricoh also began—as part of its risk management—to review the list of chemical substances controlled by the Group in fiscal 2007 to tighten the restriction and control of the use of chemical substances that can potentially cause harm to the human body and the environment, and we expanded the list to about 3,400 substances in fiscal 2008. To comply with the REACH Regulation*, we have also been working since fiscal 2007 on the establishment of a communication system to ensure that chemical substance information is communicated to every corner of the supply chain. * See page 28.

Management system for chemical substances contained in products and CMS



Compliance with the REACH Regulation

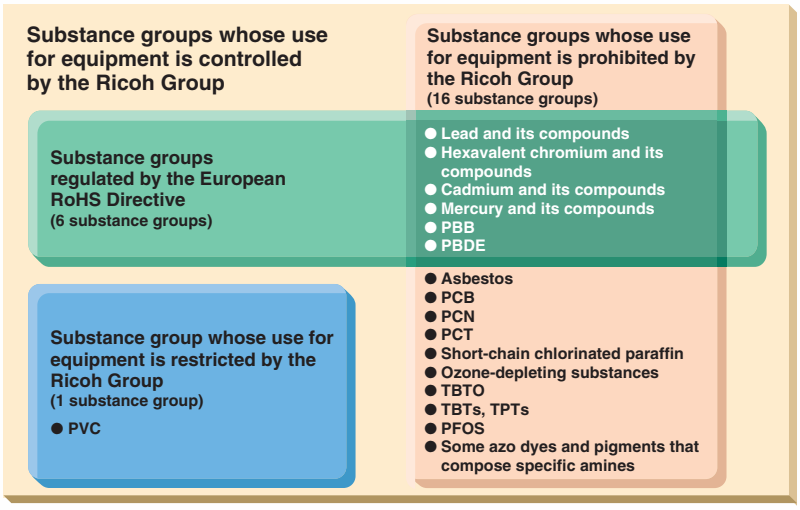
<Ricoh Group (Global)>

The REACH Regulation [1], a new European regulatory framework on chemical substances, requires all chemical substances contained in products and parts exported to Europe which exceed a certain quantity to be registered by May 2018. The communication of information regarding equipment and other articles containing such chemical substances is also mandatory under the regulation, and it is said that the number of chemical substances subject to this regulation will eventually exceed 1,500. The Ricoh Group established the REACH Compliance Working Group with 180 attendees from the production division (including the general sales division) in February 2008 to solidify Ricoh's REACH compliance system. The core mission of the working group is to develop a system that will allow us to collect and manage chemical substance information accurately and efficiently from partners both upstream and downstream in the supply chain, including manufacturers of materials, chemicals, and parts, as well as Ricoh Group's production facilities, and to provide the information to customers upon their request.

In fiscal 2008, the working group prepared common rules regarding, and a database for, the communication of chemical substance information on the basis of the system of the Joint Article Management Promotion-consortium (JAMP) [2]. We held an explanation meeting for 408 Japanese suppliers in November 2008 and requested them to provide their chemical substance information. We also held a similar meeting for 693 Chinese suppliers in February 2009, and 92 South Korean suppliers in April 2009. In fiscal 2009, we will further strengthen and improve our system to ensure it works smoothly in the future, aiming to start REACH registration in 2011.

1. REACH Regulation
This is a new EU regulatory framework for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). It requires the registration and management of all chemical substances used in business in accordance with their conditions of use to ensure safe assessment of chemical substances. It came into force on June 1, 2007, and regulations have been gradually enforced since June 1, 2008.
2. See page 29.

The relationship among substance groups whose use for equipment is either prohibited, restricted, or controlled by the Ricoh Group and substance groups regulated by the European RoHS Directive

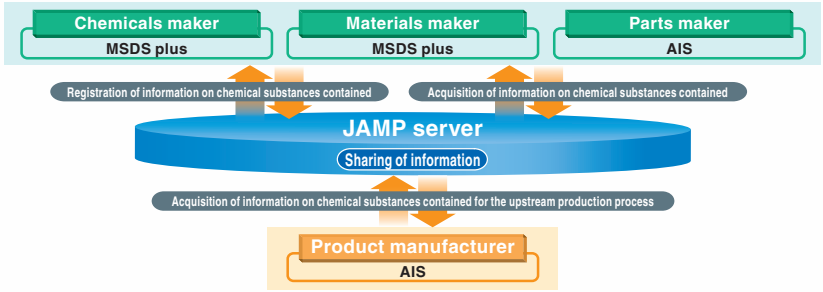


Collaboration with JAMP <Ricoh Group (Global)>

In accordance with the REACH Regulation, all manufacturers exporting products to Europe now need to get ready for full compliance. Since this regulation is being applied across the entire supply chain, manufacturers of materials, chemicals, and parts in the upstream and middle-stream must provide information on chemical substances used by them to each client they deal with. To ensure this information is communicated and disclosed efficiently and smoothly, it was recognized in the industry that there is a need to develop common rules, formats, and a database that can be shared by all manufacturers. Based on this recognition of the need to develop and disseminate the common industry-wide communication system to share information on chemical substances contained in articles [1] to enhance the competitiveness of the industry, the Joint Article Management Promotion-consortium (JAMP) was established in September 2006. Ricoh agrees with the purpose of JAMP, and, as one of the promoter companies, supports the operation of its organization and database sharing and the related system development. One of the major missions of JAMP is to create the Material Safety Data Sheet plus (MSDS plus) and the Article Information Sheet (AIS) [2], which are basic sheets used for the communication of information on chemical substances contained in products. JAMP is also developing a portal system to allow manufacturers to register their chemical substance information in the JAMP server and share it among members. This will eliminate the need for each manufacturer to develop their own communication systems, and enable them to meet the details of the REACH Regulation efficiently. Through the activities of JAMP, Ricoh will continue to play an important part in the realization of a society in which the impact of chemical substances on the environment is minimized.

1. All objects that have a shape and whose size is measurable, including manufactured goods, semi-manufactured goods, and components.
2. The basic communication sheets recommended by JAMP to provide information on chemical substances contained in products.

Communication system developed by JAMP to communicate information on chemical substances contained in articles



Views held by JAMP

INTERVIEW

Japan Environmental Management Association for Industry (JEMAI) (JAMP Secretariat)

Mr. Hiroshi Yokoyama
Vice President, Department of Environmental Business and Technology, JEMAI (JAMP Secretariat)

Realizing seamless communication of chemical substance information through the cooperation of the Ricoh Group and other environmentally advanced companies

The world's first industry-wide organization

Unlike traditional regulations that restrict the use of chemical substances proved to be hazardous to people and the environment, the REACH Regulation takes a new approach under the concept of risk management and places focus on the assessment of the hazard level, quantity, conditions, and risk of exposure of each chemical substance. If this kind of risk management spreads, we can grasp a better understanding of how to manage and use a huge number of chemical substances in an effective and appropriate manner, and thereby realize a society in which the impact of chemical substances on the environment is minimized on a global scale. JAMP was established under the leadership of 17 promoter companies including manufacturers of electrical machinery, chemicals, and precision machinery for the purpose of developing a mechanism for seamless communication of information on chemical substances contained in products. JAMP is said to be the world's first industry-wide organization of this kind.

Efficient communication of information to be provided along with products

The number of JAMP member companies was more than 345 as of May 2009, and the JAMP Global Portal System will be put into full operation in June. Thanks to this system, information on chemical substances, which is currently provided upon request from downstream manufacturers to upstream manufacturers, will be delivered from the upstream to the downstream along with products in a smooth manner. Ricoh has been playing an important role in JAMP as a member of the Project Planning & Implementation Committee and the Internationalization Planning & Implementation Committee to support the administrative work for the operation of the organization, and to improve the performance of JAMP's system and ensure its international harmonization. The supply chain of Japanese manufacturers covers the entire Asian region, and therefore JAMP's system is expected to improve the competitiveness of the Asian region as a whole. I ask for Ricoh's continued active support in the international standardization of the JAMP system.

* JAMP's URL: http://www.jamp-info.com/

Chemical substance control for supplies

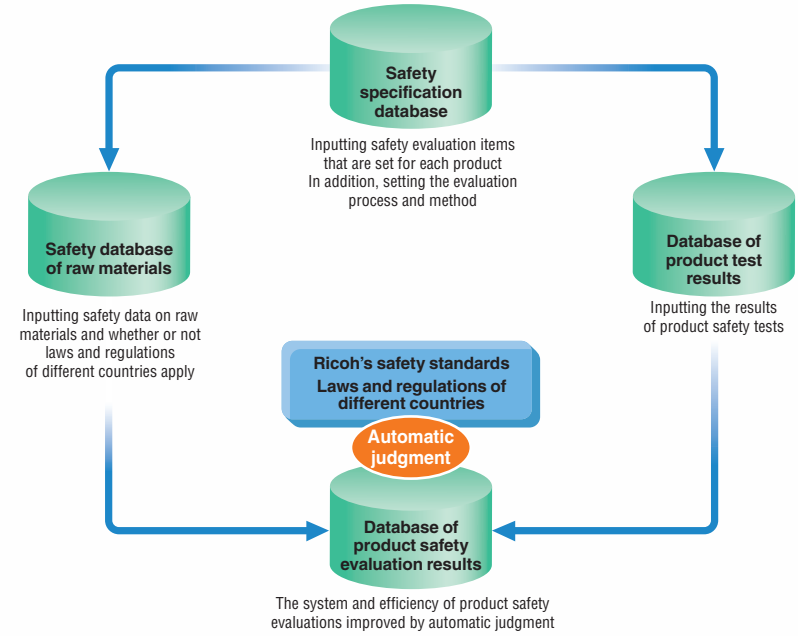
<Ricoh Group (Global)>

Various chemical substances are used in supplies, including toner and developer. Based on the belief that "product safety is a basic condition for customer satisfaction," the Ricoh Group ensures the safety of its supplies through appropriate chemical substance control. We use an information system called RECSIS [1] to evaluate safety. Depending on the type of product, we set items for which safety should be confirmed, create MSDS [2], evaluate new chemical substances, check on the method of treatment and disposal, consult the relevant laws and regulations, and prepare safety specification data for products. RECSIS can also be used to make automatic safety judgments by referring to the laws and regulations of different countries as well as Ricoh's standards for the chemical substances contained in supplies. In fiscal 2008, using this system's raw material database, we took further steps to satisfy the REACH Regulation [3], for which a pre-registration process commenced in June 2008.

1. Ricoh Environmental & Chemical Safety Information System
2. Material Safety Data Sheet

3. See page 28.

Safety evaluation system for supplies



Reduction in environmentally-sensitive substances generated while in use

<Ricoh (Japan)>

Ricoh has established its own standards on chemical emissions* generated by products while in use and endeavors to reduce these emissions. Chemical substances emitted by products like copiers and printers are measured at the emission-measuring testing laboratory located within the company. Ricoh is certificated as an official testing laboratory by Germany's BAM (Bundesanstalt für Materialforschung und -prüfung; Federal Institute for Materials Research and Testing), and measurement data from Ricoh's testing laboratory will be recognized in registering for the Blue Angel, a German environmental label.

* Chemical emissions are chemical substances emitted by products and include ozone, dust, and volatile organic compounds (VOCs).

Emission-measuring testing laboratory (Ricoh Ohmori Office)

We strive to reduce the environmental impact of our products across their lifecycle by creating solid partnerships with suppliers.

■ Concept

The Ricoh Group promotes green procurement activities that place emphasis on partnerships with suppliers. Green procurement refers to the procurement of raw materials, parts, and products with less environmental impact. Parts and products so designed are manufactured in plants that are advanced in environmental conservation. The purpose of green procurement is to reduce the environmental impact over the entire lifecycle of Ricoh products and to reduce the costs to the Ricoh Group and its suppliers by using resources and energy effectively. Moreover, by establishing these activities, we aim to contribute to global environmental protection and reinforce management practices of the Ricoh Group and its suppliers. The basic policies for our activities until fiscal 2010 are to reduce the environmental impact of procured parts; to maintain and update the chemical substance management systems (CMS); and to collect information on the environmental impact in order to comply with the REACH Regulation. We have also introduced our own paper procurement standards and rules regarding the composition ratio of recycled pulp, and we perform procurement activities by paying full consideration to biodiversity conservation.

■ Target for Fiscal 2010

◎ Work with suppliers to reduce their CO_2 emissions.

■ Review of Fiscal 2008

Activities for reducing CO_2 emissions contribute not only to the prevention of global warming but also to reduction of costs, leading to the reinforcement of suppliers' management practices. Based on this recognition, Ricoh is actively working with its suppliers to upgrade their operational processes and reduce CO_2 emissions. In fiscal 2008, we organized an energy-saving seminar for major suppliers in the area of imaging equipment, and encouraged them to formulate their own plans and voluntarily work toward the reduction of CO_2 emissions. We are also conducting various activities jointly with model suppliers to help them achieve their targets to create best practices in the reduction of CO_2 emissions. As regards recycled paper, of which we had suspended sales since January 2008 due to the problems concerning the falsification of the content of recycled pulp by paper manufacturers, we resumed sales in April 2009 after auditing the factories and making sure of the quality of the paper, including the recycled pulp content.

■ Future Activities

Based on the know-how and experience accumulated through the joint activities with model suppliers, we will compile guidelines on how suppliers can improve their processes to reduce CO_2 emissions. Through these guidelines, we will also share information with suppliers even more actively to help them continue with their efforts to reduce CO_2 emissions.

Countermeasure against the problem concerning the falsification of the content of recycled pulp

<Ricoh Group (Japan)>

In January 2008, eight papermakers were found to have falsified the content of recycled pulp for their recycled paper products, and at the end of April were ordered by the Japan Fair Trade Commission to stop such practices. Ricoh immediately suspended sales of recycled paper marketed under its brand name in January, but, after factory audits confirmed the quality of recycled paper, including their content of recycled pulp, Ricoh resumed sale of recycled paper, including 100% recycled paper, in April 2009.

Recycled paper marketed by Ricoh

The factory audits conducted by Ricoh were special audits for which check items under the recycled pulp content verification system* of the Japan Paper Association were combined with Ricoh's own check items (quality of recycled pulp contained, quality stability [flow rate and concentration of the pulp, etc.], and the production line on sites, etc.).

* Recycled pulp content verification system : http://www.jpa.gr.jp/file/topics/20080404044926-2.pdf

Green purchasing

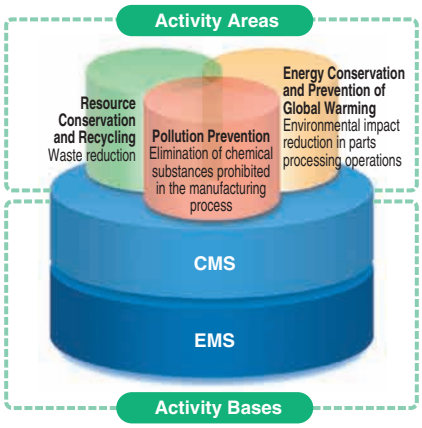
<Ricoh Group (Global)>

The Ricoh Group is promoting green purchasing, which promotes the active use of environmentally-friendly products, as a user of paper, stationery, office equipment, etc. In April 2002, the Ricoh Group formulated Green Purchasing Guidelines in Japan for eight categories: paper, stationery, office equipment, OA equipment, home appliances, work gloves, work uniforms, and lighting. Production and non-production sites outside of Japan are also promoting green purchasing by establishing their own standards.

Green procurement activities in partnership with suppliers

Ricoh's support for suppliers' environmental conservation activities is provided in three areas: resource conservation and recycling, pollution prevention, and energy conservation and prevention of global warming. As part of this support, we have assisted suppliers in building the foundations of their environmental conservation activities, namely environmental management systems (EMS) and chemical substance management systems (CMS) since 1998. In addition, since the results of analysis of greenhouse gases generated during the lifecycle of Ricoh products show that the emissions during upstream production, such as the production of materials and parts, account for a large share of total emissions, the Ricoh Group began to support and promote suppliers' CO_2 reduction activities in fiscal 2007 by utilizing Ricoh's know-how acquired through its efforts to reduce CO_2 emissions during the production process. In fiscal 2008, about 100 of our suppliers introduced the Ricoh

Suppliers' activity areas and bases



CO_2 Reduction & Evaluation Tool ($RICO_2RET$), which enables the visualization of CO_2 emissions in the parts production process, and started initiatives for reducing CO_2 emissions based on the CO_2 emission level measured for each process and facility using $RICO_2RET$.

Establishing CMS at suppliers <Ricoh Group (Global)>

To ensure that products do not contain environmentally sensitive substances, it is necessary to monitor the upstream manufacturing process at every step. To help establish a chemical substance management system (CMS)* across its entire supply chain, the Ricoh Group commenced a program to train and certify suppliers' employees as CMS examiners in 2005. In addition to internal audits facilitated by their own companies, certified examiners will conduct audits upstream at second- and third-tier suppliers that deal with important processes involving environmentally sensitive substances and will support them in establishing a CMS. As of the end of March 2009, 1,250 CMS examiners at 597 suppliers were certified, and CMS was introduced at 1,985 sites of 944 first-tier suppliers, as well as at 147 second- and third-tier suppliers with important processes involving environmentally sensitive substances. The suppliers' CMS is checked every two years for certification renewal, and in fiscal 2008, 181 suppliers completed the renewal procedure. * See page 28.

Seminar for Japanese suppliers

Utilization of $RICO_2RET$—a tool for calculating CO_2 emissions during parts manufacturing

To reduce the environmental impact of its products effectively, Ricoh has developed the Ricoh CO_2 Reduction & Evaluation Tool ($RICO_2RET$) to calculate and visualize the CO_2 level emitted during the manufacturing process of parts, and is promoting the use of this tool at suppliers' sites to expedite the reduction of CO_2 emissions. With this tool, the volume of CO_2 emissions can be obtained by process to manufacture for one single unit of a part or by the facility used for processing, by simply entering the required information, such as the type and quantity of parts materials or manufacturing supplies, and the amount of energy consumed by the use of production equipment, air conditioners, and lighting fixtures. By visualizing the CO_2 level emitted at each stage of the parts production process in this way, the tool allows suppliers to quickly identify any necessary improvement points in the production process, and has brought about the shortening of processes, synchronization of multiple processes, and other effects that could not have been achieved if the production process had not been reviewed from the viewpoint of the environment. In addition, through the improvement activities based on $RICO_2RET$, suppliers have come up with new methods and technologies, and other value-added ideas that can be applied to other processes. The visualization of the CO_2 level also proves to be very effective in the reduction of the environmental impact of lights, air conditioners, air compressors, and other equipment that is not directly connected with the production process. We will continue to expand these CO_2 reduction efforts throughout the supply chain.

TOPIC

Supporting CO_2 Reduction Activities at Suppliers

A seminar was organized to support CO_2 reduction activities at sites of suppliers

A fact-finding survey conducted in July 2008 regarding CO_2 reduction activities at 174 first-tier suppliers revealed that only about 40% of them were conducting some kind of activity aimed at reducing the environmental impact of CO_2 emissions across the lifecycle of their products, while the majority of them had an environmental management system (EMS) in place as the basis of their environmental activities. One of the main reasons CO_2 reduction activities had not been progressed as intended was because there was difficulty on the part of suppliers in measuring the exact amount of CO_2 emitted from their site facilities. These findings led Ricoh to organize a seminar for suppliers regarding CO_2 reduction throughout their entire site in October 2008 as the first step in the company's efforts to help suppliers reduce their CO_2 emissions. The major items on the agenda included the calculation method for CO_2 emissions using conversion coefficients, basic knowledge on energy management, and best practices at some sites. We also explained effective ways of using $RICO_2RET$, our CO_2 level visualization tool, to the 66 attendants from 45 suppliers so that they can fully utilize the tool to upgrade their CO_2 reduction activities.

We will reduce total CO_2 emissions by 12% by the end of fiscal 2010 to help prevent global warming.

■ Concept

The Ricoh Group has set goals that it wants to achieve by the end of fiscal 2010, aiming to lead effective efforts to prevent global warming. Since a reduction in total CO_2 emissions is important in preventing global warming, the Ricoh Group companies in Japan have set a higher goal of reducing total emissions by 12% over the fiscal 1990 figure by the end of fiscal 2010, compared with the goal for Japan of a 6% reduction as set out in the Kyoto Protocol. Our Group companies are striving to reduce global warming under this goal, which has been set in anticipation of an expansion in the scale of business. In addition, the Group is making preparations for the Clean Development Mechanism (CDM) [1] as a scheme to prepare as far as possible for a rapid expansion of business through M & As and, although unlikely, increased CO_2 emissions due to worsening of CO_2 emissions conversion coefficients. Efforts will also be made to reduce greenhouse effect gases other than CO_2 by 10% over the fiscal 1995 level by the end of fiscal 2010. In March 2009, the Group also set mid- to long-term goals of reducing total lifecycle CO_2 emissions by 87.5% by 2050 and 30% by 2020 from the fiscal 2000 level [2].

1. See page 37. 2. See pages 15 and 16.

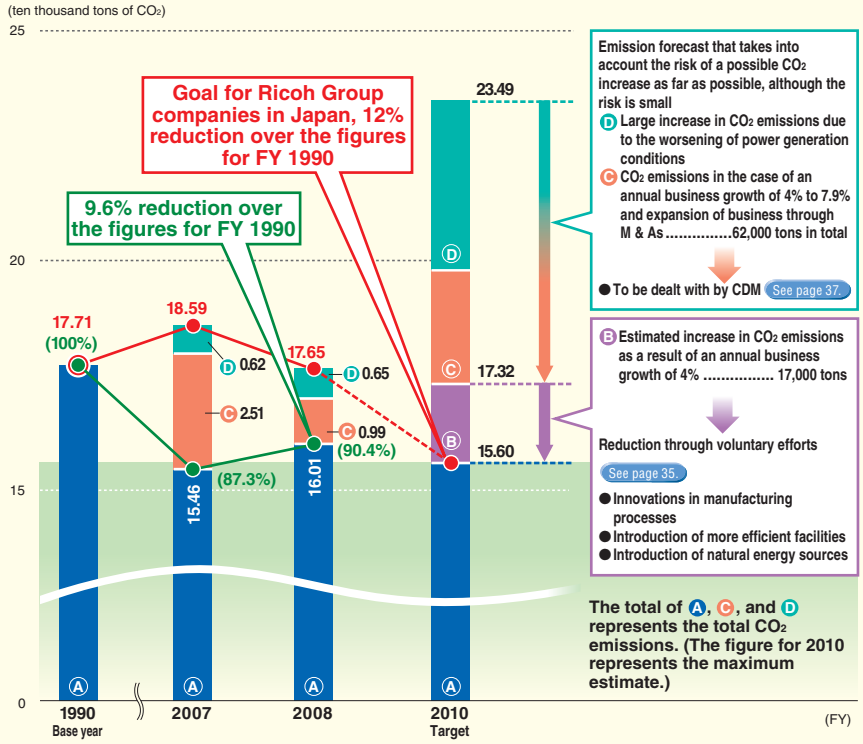
■ Targets for Fiscal 2010

◎ Reduce CO_2 emissions by 12% (Ricoh and manufacturing subsidiaries in Japan, compared to fiscal 1990 figures) by fiscal 2010.

◎ Reduce CO_2 emissions by 10% (manufacturing subsidiaries outside of Japan, compared to fiscal 1998 figures) by fiscal 2010.

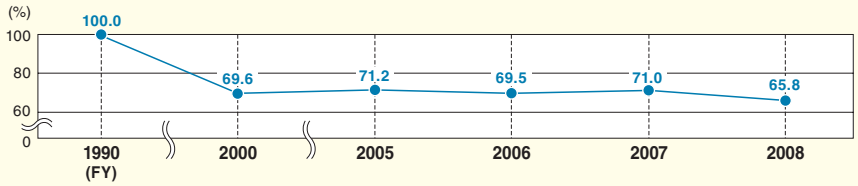
◎ Reduce greenhouse gas emissions (except CO_2) in the semiconductor business division by 10% (compared to fiscal 1995 figures) by fiscal 2010.

Scenario for reductions in total CO_2 emissions for Ricoh Group (Production) in Japan up to fiscal 2010



* The figures for fiscal 2008 and the following years include the results for Ricoh Printing Systems, Ltd. and Yamanashi Electronics Co., Ltd., while those for the preceding years have been adjusted accordingly (included in C).

[Supplementary] Changes in CO_2 emissions/sales basic unit (Ricoh Group in Japan)



Segment environmental accounting of energy conservation activities at business sites (Japan)

Costs			Effects			
			Economic benefits		Effect on environmental conservation	
Item	Main cost	Costs	Item	Benefits	Reduction item	Amount
Business area cost	Cost of global warming prevention	¥273.7 million	Reduction in lighting and heating expenses	¥1,424.6 million	CO_2 emissions (Reduction amount)	48,956.0 tons

* The amount of reduction in CO_2 emissions is the total of reductions realized through measures taken by respective sites to prevent global warming (including the effects of reduction measures taken in the past).

■ Targets for Fiscal 2020 and 2050

	Target for fiscal 2020	Target for fiscal 2050
Ricoh Group Total lifecycle CO_2 emissions (including emissions of the five gasses converted into CO_2)	30% reduction* (compared to fiscal 2000 figures) *Equivalent to a 34% reduction compared to the fiscal 1990 level (CO_2 emissions in Japan)	87.5% reduction (compared to fiscal 2000 figures)

■ Review of Fiscal 2008

CO_2 emissions at production sites decreased 0.3% in Japan from the fiscal 1990 level and increased 2.8% outside Japan over the fiscal 1998 level (see graphs ❶ and ❸). This suggests that efforts to reduce CO_2 emissions, particularly those to innovate manufacturing processes, have brought steady results, in consideration of business growth since fiscal 1990.
In real terms, this represents a 9.6% reduction over fiscal 1990 levels, because Ricoh will introduce CDM to cope with any increase in CO_2 emissions caused by business growth of over 4% per year and changes in CO_2 emissions conversion coefficients (See Ⓐ, Scenario for reductions in total CO_2 emissions for Ricoh Group (Production) in Japan up to fiscal 2010 on Page 33). As for greenhouse gases other than CO_2, the semiconductor business division achieved a 34% reduction, and the entire Ricoh Group, a 26% reduction, over fiscal 1995 levels (see graph ❹).

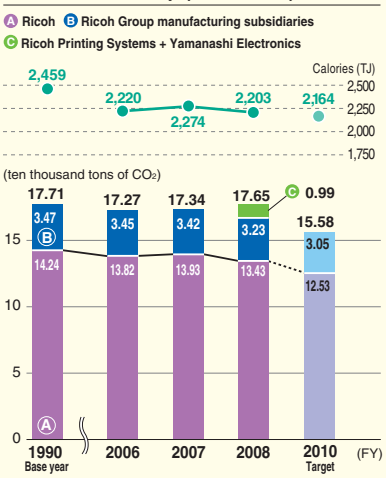
■ Future Activities

In order to offset an increase in CO_2 emissions caused by annual growth of up to 4% through voluntary efforts, Ricoh will promote efforts to reduce CO_2 emissions particularly by innovating production processes to reduce energy consumption in manufacturing as part of its efforts to continue reducing CO_2 emissions at production sites in fiscal 2009 and thereafter. In particular, efforts will be made to reduce the increase in CO_2 caused by growth of over 4%, especially aiming to reform processes in the supply sector and the parts business in China, which have shown marked growth. Positive efforts will also be made to introduce high-efficiency facilities and new energy sources to make investment more effective and operations more efficient. Also, we are preparing for the introduction of CDM in order to realize a 12% reduction over the fiscal 1990 levels in total CO_2 emissions in Japan, even taking into consideration a maximum possible increase in CO_2 emissions.

<Japan>

Energy consumption
(CO_2 conversion and calories)

❶ The Ricoh Group (Production)



Breakdown of major energy consumption

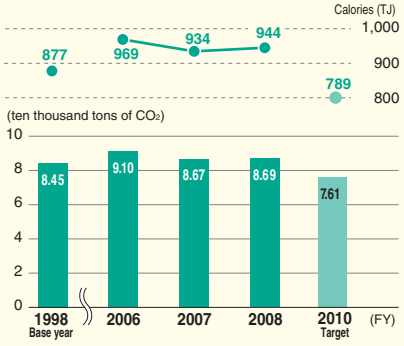
❷ The Ricoh Group (Production)

	FY 2005	FY 2006	FY 2007	FY 2008
Kerosene (kℓ)	2,205	1,525	1,389	1,404
Heavy oil A (kℓ)	2,706	2,730	2,706	2,945
Town gas (1,000 m³)	15,400	15,899	15,789	14,059
Natural gas (1,000 m³)	6,079	7,219	7,257	6,450
Electric power purchased (1,000 kWh)	274,273	291,276	296,150	313,902

<Outside Japan>

Energy consumption
(CO_2 conversion and calories)

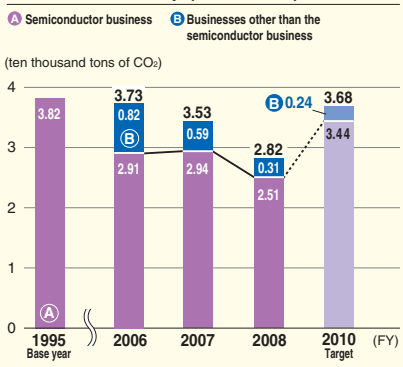
❸ The Ricoh Group (Production)



<The Entire Ricoh Group>

Greenhouse gas emissions other than CO_2* (CO_2 conversion)

❹ The Ricoh Group (Production)



* NF_3 and substances that have a global warming effect and designated in the Kyoto Protocol

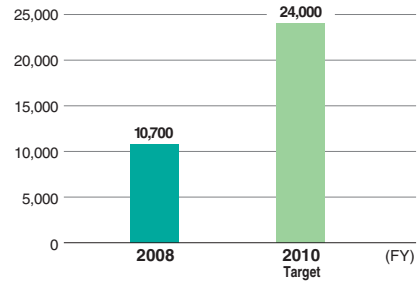
* The following CO_2 emissions coefficients are used in the graphs above.
❶ and ❹ : Guidelines for accounting and reporting of greenhouse gas emissions from industrial commercial sectors (2003) by the Japanese Ministry of the Environment
❸ : GHG Protocol

Setting a target for CO_2 reduction through improvements in business activities

<Ricoh Group (Japan)>

In its activities, the Ricoh Group gives priority to innovations in production processes and the introduction of high-efficiency equipment and natural energy, so that it can achieve the goal of reducing total CO_2 emissions in Japan by 12% by fiscal 2010 from the fiscal 1990 level. To ensure that we achieve this goal, it is necessary to make systematic reduction efforts. In 2003, Ricoh estimated growths in business up to 2010 (4% annually), and set a target for CO_2 reduction through voluntary efforts such as improvements in business activities without relying upon CDM of 61,000 tons. Of that amount, the Group aims to reduce 24,000 tons in the period between fiscal 2008 and 2010. By clarifying a mid-term reduction target, activities can be implemented systematically, although it may be a long time before the effects start to appear. In fiscal 2008, CO_2 emissions were reduced by about 10,700 tons through sustained efforts, including innovations in production processes.

Total reduction in CO_2 through improvements in business activities



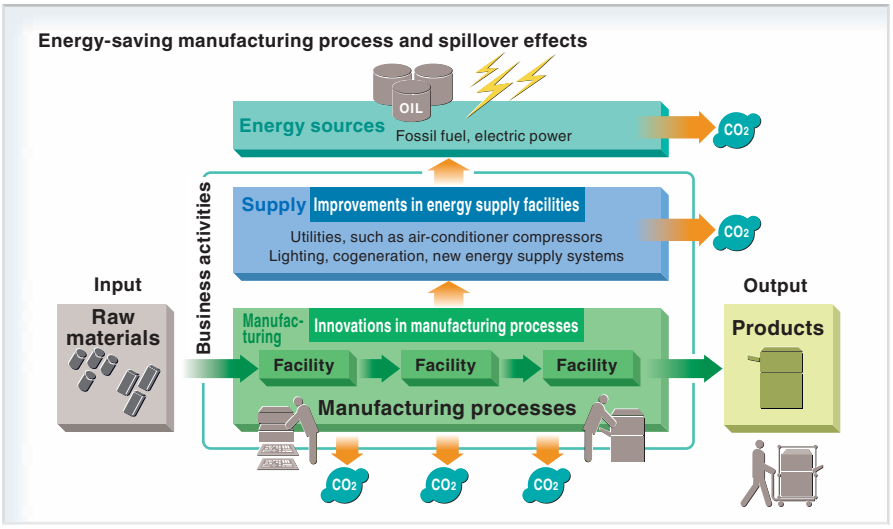
Innovations in Manufacturing Processes/Introduction of High-Efficiency Equipment/Introduction of Natural Energy

Innovations in manufacturing processes to achieve the goal of CO_2 reduction

<Ricoh Group (Global)>

To achieve the goal of reducing CO_2 emissions in Japan by 12% of the fiscal 1990 level by fiscal 2010, the Ricoh Group's energy-saving production process committee, which is made up of people in charge of the Group's major production sites in Japan, checks the manufacturing processes of those production sites, identifies energy losses, and assigns a quota to each on reducing CO_2 emissions. Focusing on innovations in manufacturing processes may save energy at downsized production lines and also have a spillover effect on associated equipment, such as air conditioners and air compressors, at production lines. To date, downsized production lines for organic photoconductors have been put in operation, while the size of toner filling devices has been dramatically reduced. In addition, innovative processes have been realized, including changes in the toner crush lines and thermal sheet painting methods. These technologies are being successively introduced into production lines outside Japan, aiming to achieve the ambitious goal of reducing total CO_2 emissions by 10% (compared to the fiscal 1998 level) at manufacturing subsidiaries outside of Japan.

Energy-saving manufacturing process and spillover effects



Shift to natural gas boilers

<Yamanashi Electronics Co., Ltd. (Japan)>

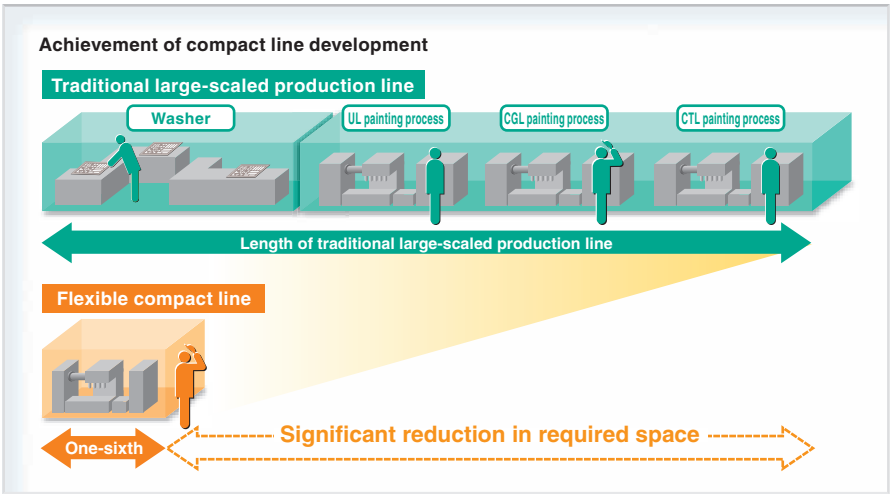
Yamanashi Electronics Co., Ltd., which joined the Ricoh Group in November 2006, produces selenium/organic photoconductor drums, among others. Over the period from April 2007 to August 2008 boilers at its main plants, the Miyahara and Osato plants, which were fueled by heavy oil and used for the production of organic photoconductors, were replaced with high-efficiency boilers using natural gas. As a result, not only was fuel consumption reduced but also the area needed to house the boilers shrunk by about 60%. In addition, the tanks for the storage of heavy oil became no longer necessary, and related and troublesome management work has been reduced. These efforts realize a reduction equivalent to about 531 tons of annual CO_2 emissions, or cost reduction of about ¥9.8 million (on a full capacity basis).

Natural gas boiler that takes up 60% less space than the previous boiler

Horizontal expansion of organic photoconductor compact lines
<Ricoh RS (Reprographic Supply) Products Division (Global)>

When organic photoconductors used for copiers and printers are manufactured, they have to be handled in clean circumstances with little dust. Traditional large lines required large energy for clean air conditioning, which required significant investment and caused much environmental impact. So the idea of a traditional production line where several organic photoconductors were put on a pallet was thoroughly reviewed, and a new production line was developed. This line adopts a method that sees the flow of one to two organic photoconductors at a time so that only part of the line requires clean air conditioning. In addition, the hot blast drying process, which required vast amounts of energy, was abandoned and new drying technology adopting an IH heating method was developed. This has led to far shorter start-up times and has significantly reduced energy consumption in the drying process.

As a result of these efforts, a microminiature organic photoconductor production line was developed: the line length was shortened to one sixth of the previous model, while the installation space was reduced to one sixteenth and the area needing clean air conditioning to only one ninety-second. Not only were the space and energy required reduced but facility costs and line start-up times have dropped significantly, while production efficiency improved by about 100%. By the end of March 2009, organic photoconductor compact lines had been installed at two bases in Japan and China. This has led to annual reductions in CO_2 emissions of about 2,300 tons, electricity consumption of about 6,300 MWh, and costs of about ¥650 million. As this is a successful example of innovative manufacturing process improvement which led to significant reductions in environmental and cost burdens, it was awarded the grand prize in the 2008 Ricoh Group Sustainable Development Award (Process Technology Innovation Segment).



Improvement of clean air conditioning of semiconductor production line
<Ricoh Yashiro Plant, Ricoh Electronic Devices Company (Japan)>

Clean circumstances strictly controlled by air conditioning are necessary for the production of semiconductors. With clean air conditioning, fresh air from outside is let into the air-conditioning system, which is mixed with air inside the system, so that air of a certain temperature, humidity, and purity can be introduced into the clean room. The energy necessary for this clean air conditioning accounts for half of the energy required for semiconductor production. At Ricoh Yashiro Plant, improvement efforts have been promoted, including the introduction of local clean air conditioning. Moreover in fiscal 2008, the air-conditioning system was optimized after being fully reviewed and checked. As a result of careful use in consideration of seasonal changes in temperature and reuse of heat from the production site, CO_2 emissions were reduced by about 410 tons a year.

Change in heating methods for parts molding process
<Ricoh Asia Industry (Shenzhen) Ltd. (China)>

In the parts production department of Ricoh Asia Industry (Shenzhen) Ltd. (RAI), heat energy used in the molding process, which requires heat for the dissolution of materials, had a significant environmental impact. In January 2009, the heating method for this process was replaced with an IH heating method. As a result, electricity consumption fell by about 28%, while energy needed for air conditioning also dropped as no extra heat is emitted from the device. In addition, the life of screws became six times longer than before, which resulted in a significant reduction in facility costs. This improvement produced a CO_2 reduction effect of 12.4 tons, and we plan to apply the new method to other facilities to achieve even greater effects.

Introduction of solar power boilers
<Shanghai Ricoh Digital Equipment Co., Ltd. (China)>

Use of natural energy is one effective way to continue energy conservation at business sites. Shanghai Ricoh Digital Equipment Co., Ltd. (SRD) introduced a boiler using solar power into its hot water supply system for the shower room in August 2008. This system applies a new method using not only electricity but also heat produced by solar power. Compared with traditional systems, electricity consumption can be reduced by 80%. The introduction of the system is expected to produce cost reduction effects of about 25,000 yuan (¥350,000), which is the equivalent of 22.7 tons of CO_2 emission per year.

Approach for CDM project

The CDM* allows advanced nations to conduct projects to combat global warming in developing countries, thereby helping those countries comply with their commitment to reduce greenhouse gas emissions as specified under the Kyoto Protocol. If businesses in advanced nations reduce greenhouse gases through projects in developing countries, they may have that reduction reflected in their own CO_2 reduction goals under certain rules, and ultimately such reduction is used by the governments of their countries to meet national targets. Developing countries benefit from this mechanism as well since they are given opportunities to receive investments and technology transfers. Ricoh estimates the maximum increase in CO_2 emissions caused by rapid business expansion associated with M & A and external factors such as changes in CO_2 emissions conversion coefficients at 138,000 tons, and is preparing for CDM to mitigate the increase. When selecting CDM projects, Ricoh takes cost performance into account. In addition, by using networks with environmental NPOs, Ricoh strives to choose projects that contribute to the conservation of ecosystems and improvement of living standards of the local people. In terms of the organizations that execute projects, Ricoh assesses their commitment to corporate social responsibility. In June 2008, a 30,632-ton credit for emissions regarding wind power generation projects in India was transferred to Ricoh's account, Ricoh's first acquisition of such a credit. Ricoh is steadily promoting efforts for acquiring further credits.

* CDM: Clean Development Mechanism

The Ricoh Group established the following criteria for the selection of CDM projects

(1) Projects should be valuable from the perspective of biodiversity and ecosystem conservation. As for afforestation projects, they should be recognized by environmental NGOs.
(2) Projects should be socially recognized by every stakeholder.

CDM projects promoted by Ricoh

Project name	Progress of projects		
	Approval of methodology	Registration with the UN	Credit transfer/acquired credit volume (tons) (CO_2)
Wind power generation <India>	———	December 15, 2006	30,632 tons in June 2008, 59,000 tons currently in the transfer process
Bagasse electricity generation <El Salvador>	———	November 30, 2007	Monitoring and review under way for certification (190,792 tons)
Environmental afforestation <Ecuador>	February 15, 2007	Preparation of project design under way	

Wind power generation <India>

The rapid economic growth in India has caused concern about the increased number of low cost, coal-fired power stations that satisfy the growing need for power. Responding to this concern, Ricoh is taking part in a number of wind power projects carried out in various parts of India in order to switch from fossil fuel to wind energy to generate electricity.

Bagasse electricity generation project <El Salvador>

El Salvador is giving priority to electricity generation from bagasse as a CDM project of the UN, aiming to reduce its dependence on fossil fuel. CO_2 emissions from sugar refining, which is one of the major industries of El Salvador, can be reduced by switching from fossil fuel-fired power generation to bagasse (pulp left after the juice has been extracted from sugar cane) power generation to supply energy to refining factories. Under this project, in which Ricoh is taking part, generators capable of producing a total of 45 MW were introduced in 2002 through 2005. In addition, Ricoh helped improve energy utilization efficiency by introducing a cogeneration system and has created a system of selling surplus electricity through electric power companies.

Environmental afforestation <Ecuador>

Although the Choco Manabi region in Ecuador is famous worldwide for its biodiversity, forests were cut down by stockbreeders, but afterwards the deforested areas were abandoned as the livestock business in Ecuador went into a recession. Under the project, seeds to grow seedlings for reforestation purposes are collected, local people are employed to conduct afforestation, and virgin forests are maintained and managed. It is difficult to measure the CO_2 absorption levels in afforestation projects, which makes it difficult to obtain the approval of the UN CDM Executive Board. This project was the first afforestation project that was invested in solely by an individual Japanese corporation, where the CDM Executive Board approved the methodology. It is also the world's first case approved among the projects for which the main purpose is biodiversity conservation.

Having achieved Zero-Waste-to-Landfill at our global sites, we are making every effort to reduce discharged matter and alleviate wastage of resources.

■ Concept

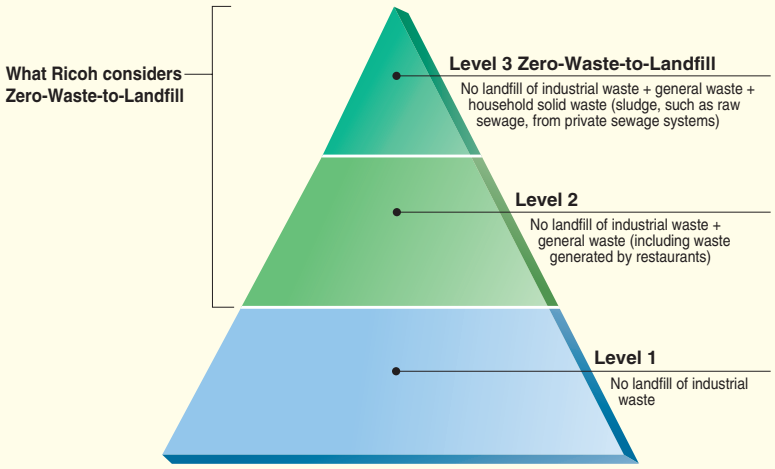
The Ricoh Group is working globally to maximize resource productivity, primarily by limiting the amount of matter generated that will be discharged, reducing water consumption, and reducing paper consumption. The Ricoh Group promotes Zero-Waste-to-Landfill* activities as a part of its sustainable environmental management system by efficiently using resources, improving production efficiency, reducing discharged matter disposal costs, and improving corporate quality by promoting employee awareness of environmental conservation. In fiscal 2001, the Ricoh Group achieved Zero-Waste-to-Landfill at its major global production sites. These activities are now promoted at non-production sites and sales subsidiaries worldwide. Furthermore, since fiscal 2008, new reduction efforts focusing on resource waste alleviation in the thermal media business, discharged matter generated during the production of polymerized toners, and packaging materials used in production and for transportation between sites inside and outside of Japan have been promoted. In addition, an audit system for waste disposal service providers was introduced in Japan, aiming to upgrade and expand proper waste disposal methods.

* Zero-Waste-to-Landfill means a 100% resource recovery rate and no waste used as landfill.

■ Targets for Fiscal 2010

◎ Reduce the amount of discharged matter in the thermal media business by 10% from the level in fiscal 2006.
◎ Reduce the amount of discharged matter from packaging materials by production volume in the production of imaging systems in Japan by 30% from the level in fiscal 2006.
◎ Reduce the amount of discharged matter per production volume in production of polymerized toners by 17% from the level in fiscal 2007.

Definition of Zero-Waste-to-Landfill Levels by the Ricoh Group



■ Review of Fiscal 2008

Although the Ricoh Group's amount of discharged matter increased overall (see graph ❶ on Page 39), some improvement has been achieved in the three priority areas. Discharged matter in the thermal media business was reduced by 8.0% over fiscal 2006. As for packaging material waste from production of imaging systems, we introduced various measures aiming to achieve the targets in fiscal 2010, after visualizing the current condition and detecting reduction potential. Discharged matter from polymerized toner production fell by 2.2% per production volume compared to the level of fiscal 2007.

■ Future Activities

As for discharged matter in the thermal media business and polymerized toner production, the production, development, and design divisions will co-operatively select improvement themes and continue to make efforts to reduce wastage of resources. As for packaging materials used in production, steady efforts will be made to implement the introduced measures.

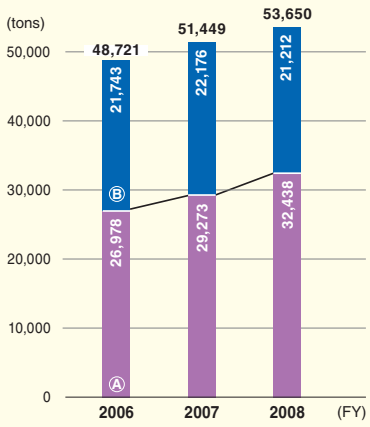
Segment environmental accounting of recycling activities at business sites (The Entire Ricoh Group)

Costs			Effects			
			Economic benefits		Effect on environment conservation	
Item	Main cost	Costs	Items	Benefits	Reduction item	Amount
Business area cost	Resource circulation cost	¥1,460.8 million	Reduction in discharged matter disposal costs	-¥70.9 million	Final amount of discharged matter disposal (reduction amount)	-159.4 tons
			Proceeds from sale of valuables	¥299.6 million		

<The Entire Ricoh Group>

Total amount of waste generated

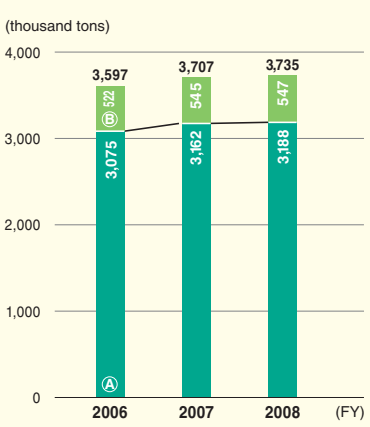
❶ The Ricoh Group (Production)



* As for sludge, the volume after drying is considered as its volume.

Volume of industrial water used

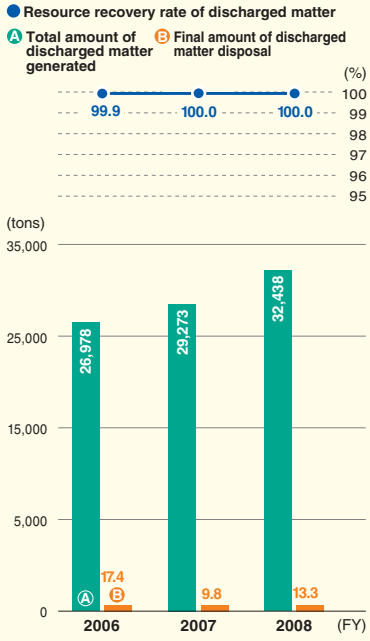
❷ The Ricoh Group (Production)



<Japan>

Resource recovery rate of discharged matter/ Total amount of discharged matter generated/ Final amount of discharged matter disposal

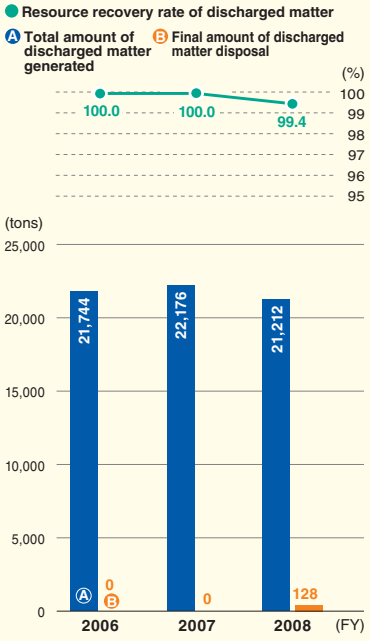
❸ The Ricoh Group (Production)



<Outside Japan>

Resource recovery rate of discharged matter/ Total amount of discharged matter generated/ Final amount of discharged matter disposal

❹ The Ricoh Group (Production)



* Final amount of discharged matter disposal consists of sludge in the private sewerage systems of Shanghai Ricoh Digital Equipment Co., Ltd. used in landfills and part of sludge used in landfills as a result of Ricoh Thermal Media (Wuxi) Co., Ltd. coming on line.

Resource recovery rate of discharged matter:
Amount of resource recovered/amount discharged
Total amount of discharged matter:
Amount of discharged matter generated at business sites
Final amount of discharged matter disposal:
Amount of discharged matter used in landfills and incinerated

* The graphs ❶ to ❸ include data for Ricoh's non-production sites.

Auditing waste disposal service provider

<Ricoh (Japan)>

Ricoh has been making efforts to enhance the audit of waste disposal service providers since 2005, so that waste generated by Ricoh will be disposed of properly and appropriately by reliable partners. In the past, because each business site audited these service providers individually, evaluations were sometimes inconsistent due to differences in the knowledge and experience of the auditors. To address these issues, Ricoh established uniform audit standards for the Ricoh Group, conducted auditor training for employees engaged in waste disposal at respective business sites, and certified them as auditors. Ricoh then audited all the service providers that have business relations with the Group's production sites. Any service providers where any incongruity was detected were given directions and requested to make improvements, and after a few days, a confirmation audit was completed. In fiscal 2008, Ricoh strove to raise the audit level by improving the efficiency of audits and promoting an auditor rotation system as well as follow-up education. The Ricoh Group will continue making efforts to ensure even more reliable and efficient waste disposal.

Auditing of a waste disposal service provider

Views held by a waste disposal service provider

INTERVIEW

ECO KEIKAKU CO., LTD.

Mr. Michihiro Bouyama
General Manager, Planning and Marketing Section, Environmental Contribution Division

Mr. Tsunataka Inoue
President

Mr. Sadao Aoki
Director, Eco-Space Ranzan; Environmental Contribution Division

We are making efforts for appropriate disposal of waste, establishing voluntary standards which are even higher than the legal standards.

Ricoh's audit standards boost our level of management

Our waste disposal operation was audited by the Ricoh Group in June 2006. We are engaged in comprehensive recycling business to handle all the processes from the collection/transportation and intermediate processing to final disposal at four bases in Saitama and Gunma prefectures. Our company has disposed of various types of waste generated by the Ricoh Group including toner cartridges for about 10 years. Our company has acquired ISO14001 certification and is the only private company in Japan that has been certified as a designated facility in compliance with the Law for Improvement of Designated Facilities for Industrial Waste Disposal. We have set voluntary standards which are stricter than the legal standards, so we are confident that we can be audited by any prefectural organization or any company at any time. We were, however, rather surprised by Ricoh's audit. Ricoh selected items to be checked from a viewpoint similar to that of waste disposal service providers, rather than that of companies consigning waste disposal. Their audits gave us some hints for improving the level of our management. While audits did not reveal any particular problems with our management, they advised us to check more closely the service providers handling part of our business on consignment. In response, we immediately introduced measures for improvement.

We have developed safe original toner cartridge recycling technology

In 2007, our company developed toner cartridge disposal technology using steam from incineration to cope with dust. Waste to which toner adheres could cause a dust explosion. Because of this, only a few service providers handle such waste, and this technology has helped not only the Ricoh Group but also several other manufacturers. We have engaged ourselves in community-based business for the 39 years under the slogan "We have borrowed the Earth from our children." Accordingly, we regard leaving a good global environment to the next generation as our social responsibility. Even waste can be considered important goods consigned by our customers. We will take good care of it and continue to realize appropriate management. As a company contributing to the environment, we would like to contribute to the realization of a resource-recirculating society.

Efforts for reducing packaging materials used in production <Ricoh Group (Global)>

Packaging materials used for transportation among production bases both inside and outside Japan tend to increase, reflecting the global expansion of the production network, which is imposing increased environmental and cost impacts. Packaging materials used in production refer to those used for the procurement of parts or transportation of half-finished goods, instead of those used for the delivery of products to our customers. The Ricoh Group aims to reduce packaging materials used in production of imaging products in Japan by production volume by 30% from the fiscal 2006 level by fiscal 2010, and is making efforts for the achievement of this target. The shipper packs the items but it is the business site that accepts the items that disposes of the packaging materials. This makes it necessary for business sites to co-operate in order to effectively reduce packaging material waste. To do so, first of all, it is necessary to visualize the volume and details of packaging materials used for transportation among bases and come up with ideas to reduce them. Then, numerical targets should be set after considering to what level they can be reduced, which should be followed by the implementation of related measures. In fiscal 2008, meetings for exchanging information for reducing packaging materials used in production were held with the participation of the related sections at three bases. At the meetings, the current volume of such materials was visualized and plans for reduction were mapped out.

Steps to reduce packaging materials used in production

1. Visualize current volume
2. Select candidate measures for reduction
3. Quantification of reduction measure potential
4. Decisions on measures for reduction/formulation of plans

Reducing packaging waste in transportation between global production sites

<Ricoh Asia Industry (Shenzhen) Ltd. (China)/ Ricoh Elemex Corporation (Shenzhen)/Ricoh Gotemba Plant (Japan)>

All the parts and half-finished goods transported from Ricoh Asia Industry (Shenzhen) Ltd. (RAI) to manufacturing subsidiaries and production sites throughout the world used to be placed in corrugated cardboard boxes, which were then carried in containers. Waste materials are recycled by the business sites accepting the goods as corrugated cardboard, but recycling does cause some environmental impact and wastage of resources, which ultimately made it necessary to reduce used packaging materials. In light of this, returnable racks that can be used repetitively were introduced in fiscal 2007 for the transportation of some parts including scanner units from RAI to the Ricoh Gotemba Plant. In fiscal 2008, such racks were introduced for the transportation of ADF units from Ricoh Elemex Corporation (Shenzhen) to the Ricoh Gotemba Plant. At the same time, efforts were also made to improve the load-carrying efficiency, which led to the simultaneous realization of an annual reduction of packaging material waste by an annual amount of about 105 tons and a ¥13.7-million cost decrease.

Transportation by returnable rack

Reducing packaging materials in cooperation with suppliers

<Tohoku Ricoh Co., Ltd. (Japan)>

Packaging materials used in production tended to increase at Tohoku Ricoh Co., Ltd. Corrugated cardboard boxes from suppliers comprised a large percentage of these materials. In light of this, the weights of packaging materials used in production and disposed of by Tohoku Ricoh, and the amounts of respective types of packaging material waste were clarified. Hundreds of types of parts are used for each product. The weights of corrugated cardboard boxes used for respective types of parts were clarified by product, and efforts for their collection/recycling as well as a shift to polyethylene containers, which can be reused or recirculated, were promoted in cooperation with suppliers. Analyses of packaging materials used for the procurement of parts of broad printers showed that more corrugated cardboard is used for their transportation from other countries to Japan compared with their transportation within Japan, where it is easier to introduce returnable racks and boxes. The analyses also revealed that packaging tended to be excessive in transportation outside Japan. We thus requested two suppliers outside Japan to cooperate with us in minimizing space in corrugated cardboard boxes so that each box could contain more parts and products, or they could be reduced in size, and we introduced measures accordingly.

Box designed to contain more parts in a smaller space, with each compartment made large enough to contain four units and the amount of corrugated cardboard used halved

Activities to reduce packaging materials used in production

<Ricoh Elemex Corporation (Japan)>

Ricoh Elemex Corporation selects parts for which improvement measures should be taken after surveying delivery dates and weights of parts, and at the same time applies its accumulated know-how about the transportation of peripheral equipment. In January 2009, it introduced a trial system to reuse packaging materials for parts imported from China—materials that were previously disposed of—for transportation between Ricoh Elemex and a Japan-based supplier, in the same group as the Chinese supplier. In the future, efforts will be made to improve the bulk rate of boxes for imported parts and to introduce returnable containers.

Developing and raising the level of Zero-Waste-to-Landfill activities

<Ricoh Group (Global)>

Zero-Waste-to-Landfill activities* are carried out at Ricoh's sites all over the world. The Ricoh Group defines Zero-Waste-to-Landfill as a 100% resource recovery rate, or no waste used as landfill. Zero-Waste-to-Landfill was achieved at its major production sites in Japan in March 2001 and at production sites outside of Japan in March 2002. Thus, the Group achieved Zero-Waste-to-Landfill at all its major global production sites. Since then, these activities have been promoted at non-production sites worldwide and at companies that have newly joined the Group. At sites that have already achieved Zero-Waste-to-Landfill, efforts are being made to raise the level of Zero-Waste-to-Landfill, including controlling the volume generated and the conversion of waste into useful materials, under the concepts of sustainable environmental management.

* See page 38.

No-wastewater plant in China

<Ricoh Thermal Media (Wuxi) Co.,Ltd. (China)>

In the Wuxi area of China, where many chemicals manufacturers are located, pollution of water in Lake Tai, a place of scenic beauty, by wastewater from plants has become a major issue. Ricoh Thermal Media (Wuxi) Co., Ltd. (RTM) in Wuxi, China, which started operation in July 2007 as a production site for thermal paper, has a facility for disposing of its wastewater on site and has emitted no wastewater since the beginning of its operation. In addition, it acquired ISO 14001 certification in March 2008, only eight months after the beginning of its operation. Furthermore, RTM applied a new production method which led to a reduction of energy consumption by about 60% compared to that used in conventional manufacturing processes. Thus, RTM is now attracting much attention as a leading player in addressing environmental problems.

Ricoh Thermal Media (Wuxi) (Wuxi, China)

Efforts are being made on a global scale to reduce the amount of chemical substances used/discharged, based upon the idea of risk management.

■ Concept

The Ricoh Group is engaged in risk management of chemical substances by applying a risk evaluation method in compliance with the Strategic Approach to International Chemicals Management (SAICM), to minimize the risk throughout the lifecycle of chemicals and to share related information. All the chemical substances used, discharged, and disposed of in the manufacturing processes of Ricoh products are controlled under this management. We will establish a global scheme by fiscal 2010, whereby chemical substances will be reduced and managed after risk evaluation considering the hazard levels [1] and exposure/used amount (or discharged amount), and information on such evaluation will be shared. As a measure against chemical substances contamination of business sites and underground water, we have established a system where respective sites make efforts for prevention in compliance with the uniform standards of the Group. In case of contamination, it can be promptly detected and purified under the system. As for soil and underground water contamination, PCBs, and asbestos, the Group promptly makes efforts to understand environmental liabilities[2] that could affect its financial accounting.

1. Harmfulness to human beings and the environment

2. See page 44.

■ Targets for Fiscal 2010

- ◎ Establish a chemical substances risk management system on a global scale.
- ◎ Reduce use of environmentally sensitive substances by more than 30% compared to the fiscal 2000 level (Ricoh's production sites and manufacturing subsidiaries).
- ◎ Reduce the amount of environmentally sensitive substances discharged by more than 80% compared to the fiscal 2000 level (Ricoh's production sites and manufacturing subsidiaries).
- ◎ The environmental liabilities of PCBs and asbestos in land owned by the consolidated Group companies can be estimated.
- ◎ The environmental liabilities are reflected in the financial accounting of the Ricoh Group.
- ◎ Chlorine organic solvents used by the Group, including companies that become new members of the Group, are completely eliminated.

■ Review of Fiscal 2008

We made further discussions about the scheme to assess risk management. The use of environmentally sensitive substances was reduced 69.9% from fiscal 2000, while the amount emitted decreased 80.3% from fiscal 2000 (Graph ❶). As part of the environmental liabilities survey, we completed a global pre-survey of the Ricoh Group concerning PCBs and asbestos covering the consolidated companies and calculated environmental liabilities reflecting the results. As for chlorine organic solvents used, we formulated a plan to completely eliminate the use of such solvents and started activities to achieve the goal by fiscal 2010.

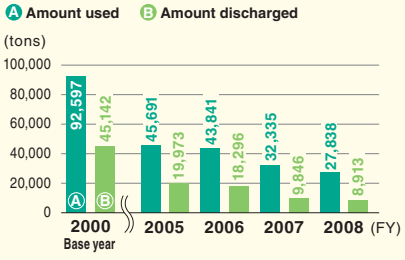
■ Future Activities

We will actively promote the establishment of a risk management system and its upgrading, aiming to realize new global management of chemical substances by the Ricoh Group.

<The Entire Ricoh Group>

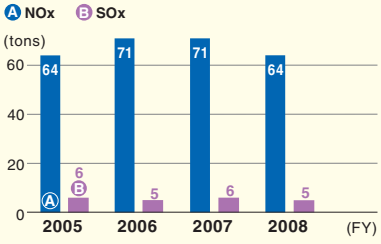
Changes in the amount used and discharged of environmentally sensitive substances [1]

❶ The Ricoh Group (Production)

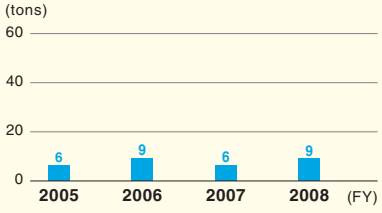


Changes in the amount of NOx, SOx and BOD

❷ The Ricoh Group (Production) Air



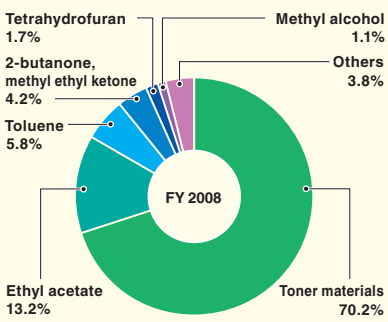
The Ricoh Group (Production) Water (BOD) [2]



1. Data for the substances specified in the environmental action plan, which consists mainly of the substances covered by the PRTR Law and includes other chemical substances used by the Group in large quantities.
2. Represents total emissions directly released into public-use water areas.

* Graph ❷ does not include data for Shanghai Ricoh Digital Equipment.

❸Breakdown of the use of environmentally sensitive substances The Ricoh Group (Production)



Segment environmental accounting of pollution prevention activities at business sites (The Entire Ricoh Group)

Costs			Effects			
			Economic benefits		Effect on environmental conservation	
Item	Main cost	Costs	Items	Benefits	Items	Amount
Business area cost	Pollution prevention cost	¥269.7 million	Reduction in social cost	¥107.1 million	NOx SOx BOD	−5.3 tons 0.3 tons −2.8 tons
			Amount of risk avoidance effect (incidental effect)	¥2,077.2 million	Environmentally sensitive substances (calculated with the conversion potential)	428.7 tons

Chemical Substance Control

Establishment of chemical substance risk management system

<Ricoh Group (Global)>

The Ricoh Group is promoting the establishment of a chemical substance risk management system on a global scale based upon the concept of risk management. The risk management system the Ricoh Group aims to establish will satisfy the following four requirements: (1) safety data will be available for all the chemical substances used in the manufacturing processes of Ricoh products and discharged/emitted into the environment, and the amounts used and discharged in respective processes can be confirmed and managed; (2) the risks of chemical substances on the employees/local residents and the environment, as well as the global environment, will be evaluated; (3) efforts for management and reduction will be made to eliminate risks exceeding acceptable levels; and (4) information on risks based on the results of such evaluation will be shared with the related parties through good communication, and agreements reached. We aim to establish such a system by fiscal 2010.

Schedule of activities for establishment of risk management system

March 2009	• Material balances of processes are made clear for chemical substances used in large quantities.
March 2010	• A risk management system covering human beings and the environment is established and put into operation.
March 2011	• Risk management and reduction activities are being carried out through the introduction of green and sustainable technology. • Information on risks is shared with the related parties through good communication.

Hazard indicator	Hazard classification in GHS [1]
Evaluation method	Risk = hazard class x exposure amount x amount (used or emitted into the environment)
Evaluated substances	All the chemical substances (whether they are harmful or not, risks should be judged based upon amounts used, emissions into the environment, exposure amounts, etc.)
Managed group	Global (Ricoh Group)
Action	Clarification of material balances (PRTR calculation method) Registration of MSDS (including GHS hazard classification) Risk evaluation Risk management/reduction Realization of risk communication

1. GHS (Globally Harmonized System of Classification and Labeling of Chemicals): classification of chemical substances in compliance with the internationally standardized rules according to their types of harmfulness and degrees.

Chemical substance control and information disclosure

<Ricoh Group (Global)>

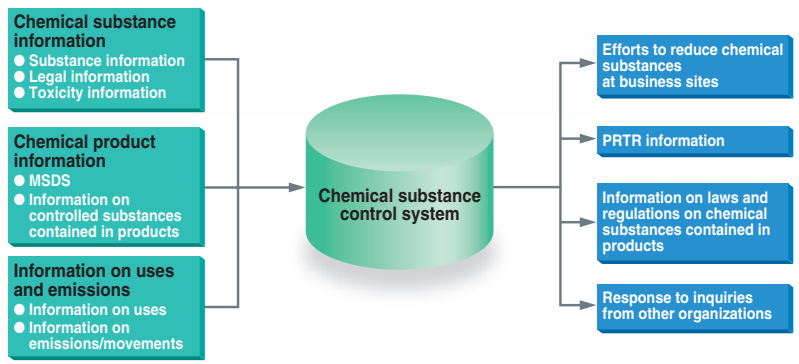
The Ricoh Group uses its chemical substance control system to monitor data on chemical substances used, discharged, and disposed of at business sites. The system is designed to promote reduction in the use of chemical substances, to prepare materials for PRTR reporting, and to speedily respond to inquiries from around the world concerning the amount of chemical substances used.

Efforts for complete elimination of chlorine organic solvents

<Yamanashi Electronics Co., Ltd. (Japan/Thailand)>

Chlorine organic solvents are chemical substances used for the production of organic photoconductors, or imaging components of copiers and printers. As they carry considerable risks for the environment and human beings, the Ricoh Group completed the elimination of chlorine organic solvents from all production processes for organic photoconductors in fiscal 2005, including those produced by companies outside the Group on consignment. Yamanashi Electronics Co., Ltd., however, which joined the Group in November 2006, still used chloroform and dichloromethane, which are chlorine organic solvents, in some of its lines for producing organic photoconductors. We have been striving to reduce the amounts of chlorine organic solvents used and discharged since the latter half of fiscal 2006. Furthermore since fiscal 2008, we have been working to develop a solvent formula that does not use chlorine organic solvents. In the production of organic photoconductors, formulation of solvents is an important skill that can cause delicate differences in quality, so it is necessary to let our business partners know if there are any changes. We set about the development of a new formula in fiscal 2008 and provided explanations for our suppliers on our plan for changes. In fiscal 2009, we aim to fully abolish the use of chlorine-based organic solvents during fiscal 2010 by establishing a formula and changing the formula of manufactured products at two plants in Yamanashi and one plant in Thailand.

Chemical substance control system



Establishment of All-Site Soil Contamination Risk Management System/Efforts Concerning Asbestos and PCBs

Surveys of soil contamination completed at all sites

<Ricoh Group (Global)>

If soil or underground water contamination goes unnoticed, it could affect the health of people in the neighborhood. Because of this, the Ricoh Group has worked hard to survey and purify major production sites since the 1990s, from the two viewpoints of corporate social responsibility and environmental risk management. The Ricoh Group has established Basic Policies Concerning Soil and Underground Water Contamination in the Standards for the Management of Risks Related to Soil and Underground Water Contamination. According to the policies, the Group started surveying the history of all Group business sites—including both the production and non-production sites of subsidiaries of Ricoh's subsidiaries*—in fiscal 2004, and this was completed in fiscal 2006. At present, efforts are being made for the maintenance and improvement of management of soil and underground water contamination risks while surveys of new business sectors acquired by Ricoh through M&A, etc. are being promoted.

* See page 47.

Asbestos and PCBs

<Ricoh (Japan)>

As for asbestos used at Ricoh's business sites and facilities, a survey was conducted on sprayed asbestos. Measures to prevent dispersal, such as containment and enclosure, have been taken at all relevant sites and the substance has been confirmed at a level that will not negatively affect human beings, people in adjacent neighborhoods or employees. We will continue our systematic efforts for improvement and removal of asbestos. In the meantime, Ricoh has surveyed all PCB-containing products held by Ricoh, and has managed them and completed notification in compliance with relevant laws and regulations. In fiscal 2008, related measures were introduced at three business sites. Ricoh plans to introduce similar measures at other sites successively and complete their disposal by fiscal 2016.

Ricoh Group's Basic Policies Concerning Soil and Underground Water Contamination

(1) Top priority is given to controlling impact on the living environment in the neighborhood.
(2) Efforts will be made to carry out surveys and measures to cope with contamination caused by the Ricoh Group's business activities.
(3) Laws, regulations, and ordinances set by national and local governments shall be observed.
(4) Efforts will be made to establish risk communication with local governments and residents.
(5) Soil is checked for contamination when land is purchased/transferred or rented/returned.

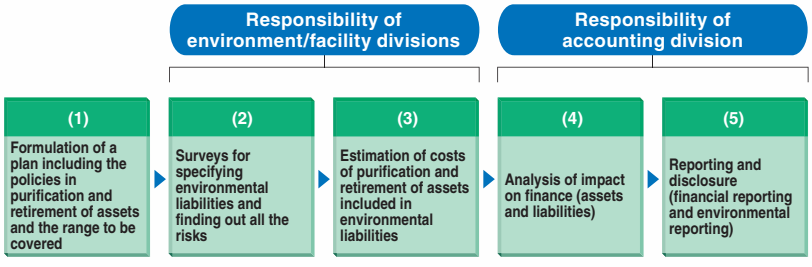
Understanding environmental liabilities

<Ricoh Group (Global)>

Companies are responsible for environmental contamination and anything that can lead to environmental contamination, whether caused by their past, current, or future business activities, and they must therefore make efforts into the future to prevent contamination or its expansion, while at the same time take necessary measures such as purification and repair. In fiscal 2007, the Ricoh Group examined sites for soil/underground water contamination, asbestos, and PCBs as well as its responsibility to recover the original states, through cooperation among the accounting, environment, and facility divisions, in order to appropriately reflect the impact on corporate performance of fulfilling the obligation that should be assumed by companies (environmental liabilities) in financial accounting. In light of the survey results, the Group estimated (1) the amount of asset retirement obligations* calculated in compliance with the accounting standards, (2) the amount that could become liabilities in financial accounting in the future in compliance with laws or contracts, and (3) the costs of purification and monitoring the Ricoh Group will carry out according to its own policies, although such purification or monitoring is not required by laws or contracts. The estimated future expenditure of asset retirement obligations of the Ricoh Group recognized as of the end of fiscal 2008 was ¥1,050 million (¥300 million after discounts, calculated according to the accounting principles). Besides the liabilities in financial accounting, we also confirmed that ¥1,200 million could become liabilities in the future in compliance with laws and/or contracts, while ¥1,210 million could become necessary for purification and monitoring carried out as the Group's voluntary efforts.

* Payment obligation required by laws or contracts concerning future retirement of fixed assets. This obligation includes that for the retirement of harmful substances contained in fixed assets, as well. In Japan, the Accounting Standard for Asset Retirement Obligations will be introduced in fiscal 2010.

Implementation flow and roles of the environmental liabilities calculation project



Survey results of underground water pollution and purification efforts at the Ricoh Group's production sites (Average for fiscal 2008)

	Business site	Pollutant	Survey result (mg/ℓ)	Standard value in Japan (mg/ℓ)	Measures in implementation
Japan	Ricoh Ohmori Office	Trichloroethylene	0.052	0.03	• Regular monitoring
	Ricoh Optical Industries	Cis-1,2-dichloroethylene	0.10	0.04	• Pumping up underground water • Bioremediation • Regular monitoring
		Trichloroethylene	0.29	0.03	
		Tetrachloroethylene	0.67	0.01	
	Ricoh Elemex, Okazaki Plant	Trichloroethylene	0.96	0.03	• Pumping up underground water • Neutralization of soil gas • Regular monitoring
		1,1-dichloroethylene	0.18	0.02	
		Hexavalent chromium	2.5	0.05	
		Cadmium	0.076	0.01	
	Ricoh Elemex, Ena Plant	Cis-1,2-dichloroethylene	0.25	0.04	
		Trichloroethylene	2.2	0.03	
		Carbon tetrachloride	0.0055	0.002	
		Hexavalent chromium	0.52	0.05	
		Fluorine	5.5	0.8	
	Ricoh Keiki	1,1-dichloroethylene	0.035	0.02	• Pumping up underground water • Bioremediation • Regular monitoring
Outside of Japan	Ricoh Electronics Inc., Irvine Plant (U.S.A.)	Cis-1,2-dichloroethylene	0.013		• Pumping up underground water • Regular monitoring • Neutralization of soil gas
		Trichloroethylene	0.010		
		Tetrachloroethylene	2.7		
	Ricoh Industrie France S.A.S. (France)	Tetrachloroethylene	0.22		• Pumping up underground water • Regular monitoring
	Ricoh UK Products Ltd. (U.K.)	Cis-1,2-dichloroethylene	0.9		• Pumping up underground water • Regular monitoring • Original regiochemistry oxidation • Oil removal
		Trichloroethylene	0.27		
		Tetrachloroethylene	5.7		
		Vinyl chloride	0.097		
		Total petroleum hydrocarbons (TPH)	8.8		

* Contamination cases that seem to be attributable to natural causes are excluded.
* The highest densities recorded at the monitored wells are shown in the above survey results.
* The areas surrounding all business sites are not affected by pollutants.

Detection of contamination of underground water

<Ena Plant of Ricoh Elemex Corporation (Japan)>

A new well for pumping water was installed in the process of purifying contaminated soil and underground water at the Ena Plant of Ricoh Elemex Corporation in July 2007, and analyses were carried out. As a result of the analyses, carbon tetrachloride, a toxic substance, of up to 0.051 mg/l (25.5 times higher than the environmental standard value of 0.002 mg/l) was detected in the underground water near the borderline of the site, although the Ena Plant has never used carbon tetrachloride. We carried out a close resurvey of underground water and soil gas at the business site during the period from the detection of contamination to March 2008, but could not specify the source of contamination. We will continue to check for contamination by analyzing the quality of the water in the well, as well as purification work.

* http://www.ricohelemex.co.jp/news/2008/1218_2.html

We are promoting the renovation of the working style aiming to create an office environment with less environmental impact and higher operational efficiency.

■ Concept

Non-production sites of the Ricoh Group carry out energy-saving and Zero-Waste-to-Landfill activities using the PDCA cycle, adopting the same concept as production sites. They quantify the environmental impact of air-conditioning facilities, lighting, disposal of waste, etc. to see which part of the offices causes a higher environmental impact. Based upon the quantified data, systematic efforts are made to carry out measures with greater effects. The Ricoh Group promotes measures for improvement incorporating even the revision of employees' working styles and workflows, including how to manage documents and use of telephones and computers, so that environmental impact can be reduced and operational efficiency improved to a greater degree. We will continue to engage ourselves in sustainable environmental management of offices through the renovation of working styles.

■ Target for Fiscal 2010

◎ Control CO_2 emissions in non-production activities so that they will not exceed the emissions in fiscal 2006 (Ricoh and non-manufacturing subsidiaries in Japan)

■ Review of Fiscal 2008

CO_2 emissions in offices were reduced by 5.1% from fiscal 2006, as a result of improvement activities incorporating the revision of working styles and workflows. Activities participated in by all employees were also continued, and a campaign to have all employees leave the office without working overtime on particular days has produced significant results. Activities to promote the use of energy-saving features of Ricoh products in our own offices are also carried out, which have led to reduced environmental impact, and information obtained is being used as know-how to be referred to when we recommend such features to customers.

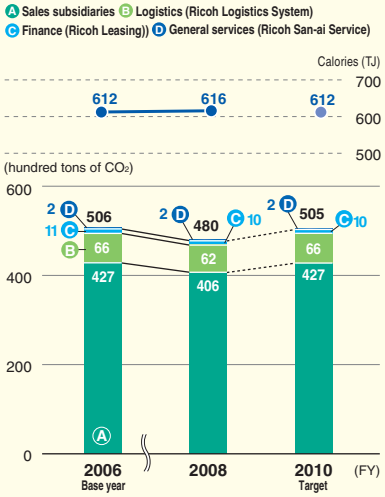
■ Future Activities

Particular efforts will be made for the reduction of CO_2 emissions, mainly through the improvement of operations. The know-how obtained will be shared within the Group, while being accumulated as know-how to be used in the office solution business as well as in recommendations to be provided for our customers.

<Japan>

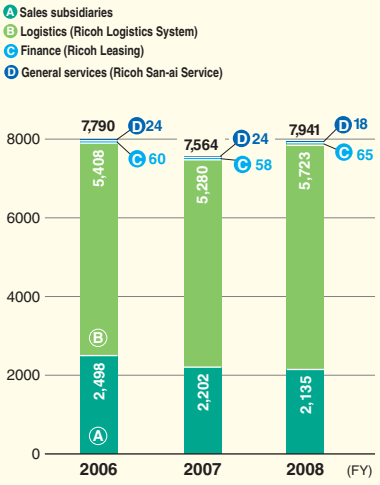
Energy consumption
(CO_2 conversion and calories)

❶ The Ricoh Group (Non-Production)



Total amount of discharged matter

❷ The Ricoh Group (Non-Production)



* The increases for Ricoh Logistics System in graphs ❶ and ❷ are due to the expansion of the area of data collection.

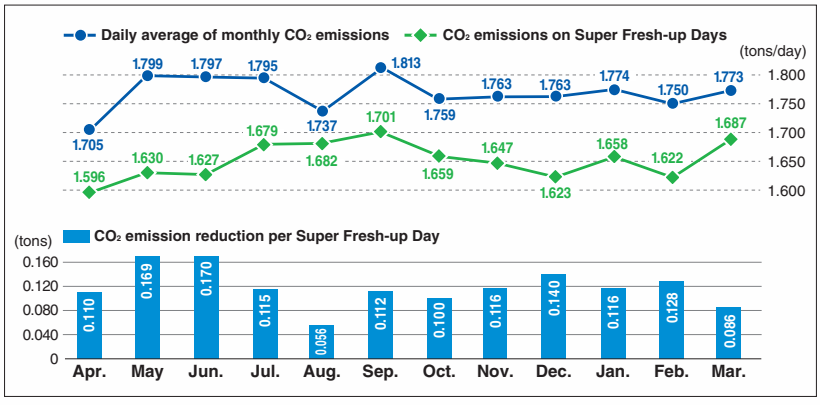
CO_2 reduction effect of Super Fresh-up Day

<Ricoh (Japan)>

Ricoh designates the third Wednesday of every month as a "Super Fresh-up Day," aiming at the prevention of excessive overtime work by employees, physical and mental refreshment, and the reduction of environmental impact at business sites. On a Super Fresh-up Day, employees are supposed to leave office and put out lights by 19:30. Our calculation of the effects of this measure at the Head Office where 1,624 employees work showed that CO_2 emissions were reduced by about 0.12 tons on average on a Super Fresh-up Day, or about 1.42 tons per year.

CO_2 emission reductions due to Super Fresh-up Days

Head Office: 1,624 employees, April 2008 – March 2009



Creation of new office environment <Ricoh Head Office (Japan)>

Ricoh Head Office has introduced some measures using Ricoh's office equipment and IT solutions, aiming to realize an office environment with less environmental impact and higher operational efficiency. Each floor of the Head Office has a space where all the office automation appliances are placed, so that higher efficiency and a reduction in paper use can be realized. We provide directions for printing using the desk computers and print documents after confirming which documents will be printed using the operation panels on office automation appliances, which leads to a reduction in paper wastage and energy caused by printing errors. The default is double-sided/multi-page printing, which helps us save paper. As part of recycling efforts, waste is divided into 11 types and Zero-Waste-to-Landfill has been achieved. In addition, leftover food from the cafeteria is recycled as organic fertilizer after the reduction of volume. Other energy-saving activities include individual setting of temperatures for each section on each office floor, putting out of lights during lunchtime, reduction of light (energy use) using automatic dimmers, and turning on lights only when there are people present using human detection sensors. Thorough efforts are being made for such activities while operations are carried out efficiently, aiming at further energy savings. Ricoh has organized eco tours to offer information on such efforts and opened the Head Office to the public for that purpose. In fiscal 2008, 15 groups, including customer companies and students/people from educational organizations, visited the office.

Select the document to be printed after confirming on the control panel

Introduction of electricity-assisted bicycles <Ricoh Technosystems Co., Ltd. (Japan)>

After the amendment of the Road Traffic Law in 2006, Ricoh Technosystems Co., Ltd. (RTS) started introducing electricity-assisted bicycles to replace the three-wheelers, which had been used by customer engineers as a means of transportation. Electricity-assisted bicycles allow us to be considerate of the environment without losing mobility. As of the end of March 2009, a total of 146 electricity-assisted bicycles were in operation mainly in the Tokyo area. They have been favorably accepted by engineers, who have made comments such as, "They are easy to park and offer us greater freedom of movement" and "We can shorten travel times when we visit customers." More electricity-assisted bicycles are planned to be introduced in the future.

Electricity-assisted bicycle

Surveys of soil and underground water contamination at 1,022 non-production sites completed <Ricoh Group (Global)>

The Ricoh Group started surveying the history of all Group business sites including non-production sites in fiscal 2004, aiming to establish a soil/underground water contamination risk management system on a global scale. The survey of owned and leased land at 1,022 non-production sites worldwide—including those for sales, logistics, services and technology development—was completed in September 2006, and it was confirmed that there were no contamination risks. As a result of completing the surveys, the Ricoh Group now understands and manages soil contamination risks at all its sites, including production sites*.

* See page 44.

TOPIC

Carrying Out Activities to Promote Use of Energy-Saving Modes

A survey at Ricoh Technology Center showed a 40% increase in use rate of energy-saving modes.

The Ricoh Group aims to raise the use rate of the energy-saving modes to help our customers reduce their environmental impact. Before recommending our customers to use energy-saving modes, we need to know in detail what inconvenience or dissatisfaction our customers might face. So the Group carried out activities to promote use of energy-saving modes in its own offices, and surveyed the effects to identify problems. At Building D of Ricoh Technology Center (Ebina, Kanagawa Prefecture), which is a designing and development base, the 39 copiers were put into energy-saving mode* after stickers saying "Currently in energy-saving mode" were attached to them, and monitoring was carried out for a month. As a result, the use rate of energy-saving modes rose by about 40%. Many positive opinions were provided: "Unlike the waiting time of copiers, the waiting time of printers didn't bother me," said one user. Another said, "I want to know more about the reduction effects of the energy-saving modes." In the meantime, other users pointed out some problems. One of them said, "There are several energy-saving modes and it's difficult to understand them." "It's off when I give instructions for printing, which worries me," says another. The Ricoh Group will promote such surveys in its own offices, and reflect their results in our activities to promote use of energy-saving modes at our customers' sites.

*A detailed explanation of the energy-saving modes is provided on Page 23.

We are carrying out activities in cooperation with our customers aiming to reduce environmental impact.

■ Concept

The Ricoh Group believes that the Group should make positive efforts for reducing not only the environmental impact caused by its business activities but also, in cooperation with our customers, the impact generated when our products are used by our customers. Based upon this concept, the Group has upgraded and expanded functions to control energy consumption and the volume of paper used and striven to upgrade the environmental efficiency of our products. We, however, believe it essential that these features are fully utilized so that environmental impact reduction efficiency can be raised even further. Accordingly, we are promoting activities to propose ideas while visualizing the environmental impact caused by use of our products.

Such proposals are not limited to those related to the use of Ricoh products. We also introduce and propose various efforts for reducing environmental impact as carried out in Ricoh's offices.

■ Target for Fiscal 2010

◎ Understand how far energy-saving features and double-sided printing are used and improve usage rates.

■ Review of Fiscal 2008

Ricoh Technosystems Co., Ltd. (RTS) positively proposed ideas for raising use rates of energy-saving modes at our customers' sites. Additionally, in Japan, we carried out activities to propose ideas for reducing environmental impact through the visualization of environmental impact, calculating environmental impact (CO_2 emissions) caused by respective customers when our products were used, and using infrastructure such as @Remote. A companywide PG was organized for the visualization of environmental impact, as a tool with calculation logic which can be applied both inside and outside Japan.

■ Future Activities

We will make efforts for raising the use rates of energy-saving and double-sided printing functions by customers outside Japan, while improving calculation accuracy of environmental impact in cooperation with product development sections.

Environmental impact reduction activities in cooperation with customers

<Ricoh Group (Global)>

The sales divisions of the Ricoh Group promote sales activities to help customers reduce environmental impact in the three areas of: (1) the offering of products/services with less environmental impact, such as sales of recycled copiers, kitting* in plants in Japan, (2) proposals for the reduction of environmental impact when Ricoh products are in use, through the visualization of CO_2 emissions, and (3) offering the know-how for reducing environmental impact which has been accumulated through our efforts at our offices, through sales subsidiaries and specialized consulting organizations.

* As products are shipped from plants in Japan after being equipped with options ordered by respective customers, they can be directly delivered to our customers.

Products and services to reduce environmental impact related to customers' activities

Customers' activities	Products/services	Details of contributions
Purchasing	Recycled MFP	• Control the amount of resources used in manufacturing processes and reduce energy consumption
	Plant kitting	• Reduce packaging materials • Reduce energy used for product transportation
	Net RICOH	• Offer information on green purchasing
Use	MFP/LP	• Reduce energy consumption and volume of paper use at offices
	Output management application	• Reduce the volume of paper use
	@Remote	• Offer information on use of appliances
Disposal	Services to collect appliances	• Reduce waste • Reuse/recycling
	Services to collect toner cartridges	• Reduce waste • Reuse/recycling

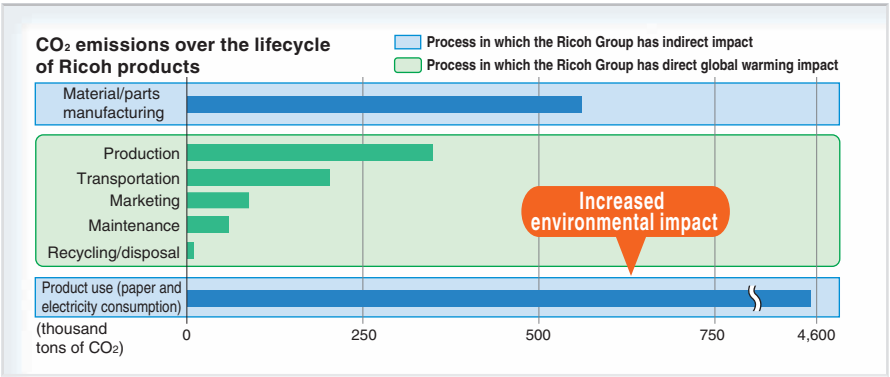
Activities to reduce environmental impact through visualization of CO_2 emissions

<Ricoh Group (Japan)>

Our assessment of the impact of our products on global warming shows that more greenhouse gases (GHG) are emitted from energy consumption and paper use as a result of product use by the customers than those directly emitted from Ricoh Group operations. This makes it important to improve efficiency to control paper use, and to reduce electricity consumption while our equipment is in use by customers.

In order to visualize the environmental impact of product use, the Ricoh Group offers services to estimate electricity consumption and paper use volumes based on data collected through @Remote*, the Group's original remote support service, and presents CO_2-converted data. We are promoting activities to propose effective ways to use product features and solutions obtained through our efforts at the Group's offices, referring to this data. By analyzing customers' ways of using products and by presenting the visualized effects, we would like our customers to positively use the environmental impact reduction features of our products.

* With this system, we carry out remote diagnosis of use of equipment through telecommunication lines including broadband, and prevent accidents and automatically deliver toners. This system also allows us to monitor CO_2 emissions. (http://www.ricoh.co.jp/remote/)



Live office

<Ricoh Group (Global)>

The Ricoh Group implements rigorous recycling measures through paperless offices and thoroughgoing separation of office waste to create environmentally friendly offices. We provide customers with the know-how we have gained from such practices by opening our offices to the public as "live offices." Live offices started in Japan, and more than 70 offices have now been opened. Such efforts have also expanded into other countries. Ricoh Asia Pacific Pte. Ltd. (RA), the Asia-Pacific Regional Headquarters, is helping its customers create environmentally friendly offices more often in this way. Through this initiative, we are helping extend the network of sustainable environmental management.

TOPIC

Green Marketing in Thailand

We are expanding the network of sustainable environmental management through green marketing of recycled copiers and by raising the awareness of customers.

Showroom of Ricoh (Thailand)

We are expanding the lineup of recycled copiers reflecting customer demand.

<Ricoh (Thailand) Ltd. (Thailand)>

Ricoh (Thailand) Ltd. (RTH), a sales subsidiary in Thailand, has been engaged in a full-fledged copier recycling business strategy since fiscal 2003, in response to customer demand for high-quality recycled copiers. Roughly 40 to 60% of all recovered copiers were recycled and sold from fiscal 2007 to 2008, thanks to improved collection infrastructure and recycling technologies, and the number of recycled copiers sold account now for about 20% of the total number of copiers sold. In recent years, RTH has expanded its lineup of recycled copiers including digital copiers, in response to customer demand for high-speed copiers. RTH is thus promoting green marketing that can offer high customer satisfaction, while proceeding with the reduction of environmental impact.

We are contributing to the realization of sustainable environmental management at customer companies through environmental proposals in business and events.

RTH has actively presented environmental proposals to its customers, including the reduction of waste disposal costs by applying a toner cartridge collection program, and of paper use volumes by promoting double-sided printing. In fiscal 2002, it became the first copier manufacturer in Thailand to acquire the environmental label of Thailand. It has continually acquired similar certifications, and advertised its products as environmentally friendly products. Furthermore, it contributes to the realization of customers' sustainable environmental management in various ways, helping them raise their environmental awareness by inviting them to tree planting activities and events on World Environment Day to strive for environmental conservation activities together.

The Ricoh Group is working to reduce CO_2 emissions and costs from transportation by global optimization of SCM.

■ Concept

To achieve a sustainable society, one of the most important issues is to reduce CO_2 emissions from logistics. To address this issue, it is essential to reduce costs in parallel with curbing CO_2 emissions. To achieve this purpose, opportunities for improvement in the logistic process are identified and logistic costs, and CO_2 emissions are visualized simultaneously to encourage improvements. In addition, the effects are leveraged by rapidly spreading the improvements horizontally within the Group. Environmental impact will be further reduced through efforts for optimizing the Global SCM (Supply Chain Management) giving priority to such efforts as improvement of cargo-carrying efficiency, modal shifts, and direct delivery to customers.

■ Target for Fiscal 2010

◎ Reduce CO_2 emissions from logistics by 1% or more over the previous year (by the basic quantity unit).

■ Review of Fiscal 2008

We established a system to obtain data on CO_2 emissions during transportation in Japan from transport information, and put this system into operation in fiscal 2006. In fiscal 2008, the area for visualization using the system was expanded to cover transportation among bases such as ports and airports in different countries. As a result, logistics information between bases is linked with information on CO_2 emissions and we can now consider cost reductions and CO_2 emissions reductions at the same time, which will work to further accelerate improvement.

■ Future Activities

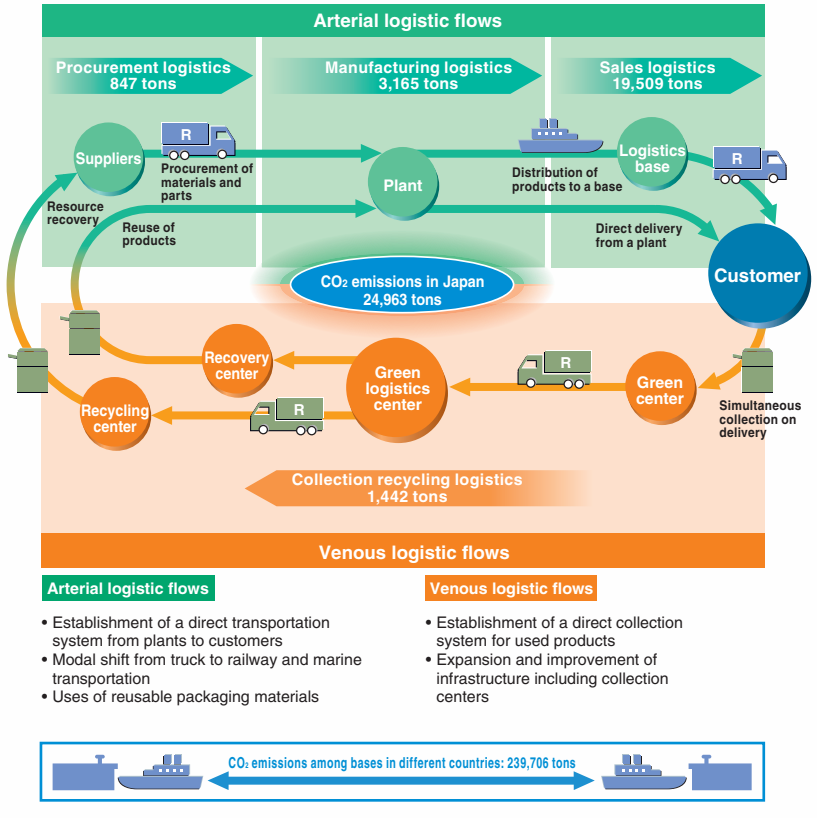
We will promote not only direct delivery to each customer and modal shifts but also improvement which is expected to lead to higher logistics efficiency, to realize the best condition for the entire Group on a global scale. As for information on CO_2 emissions, efforts will be promoted to collect information in Ricoh's business area outside Japan.

Efforts for reducing environmental impact via the supply chain as a whole

<Ricoh Group (Global)>

The Ricoh Group is promoting SCM (Supply Chain Management) in logistics for procurement, manufacturing, and sales, aiming to reduce costs and CO_2 emissions. The Ricoh Group's manufacturing bases are now in the Americas, Europe, China, and other Asian countries, which has caused year-to-year increases in transportation among global production sites. For example, the transportation volume of products and parts from China to Japan requires 400 to 600 40-feet containers every month. About the same number of containers are transported to the Americas and Europe. Efficiency improvement in logistics is an important issue in promoting business on a global scale. The Ricoh Group surveys all processes and promotes efforts on a global scale, including the improvement of cargo-carrying efficiency through reviewing packaging materials and mixed packing, modal shifts among warehouses, direct deliveries to customers, and by optimizing transportation routes through the introduction of the milk run system. The Group thus aims to reduce wastage related to space, transportation, trans-shipment, and packaging materials.

CO_2 emissions in logistics (FY 2008, Ricoh)



* CO_2 emissions in Japan (fiscal 2008 results) have been calculated in compliance with the Energy Saving Law.

Offering information to shippers to help reduce our environmental impact in logistics

<Ricoh Logistics System Co., Ltd. (Japan)>

To reduce the burden caused by distribution, it is important for Ricoh, as a shipper, and logistics companies to make related efforts in close cooperation. As a result of the 2006 amendment of the Energy Saving Law, logistics companies are now obliged to notify shippers, or those placing orders, of the weight and transportation distance of each load. Ricoh Logistics System Co., Ltd. (RLC), a logistics affiliate of the Ricoh Group, considered that it is necessary to notify the shippers of not only weight and distance but also vehicle types, amounts of fuel used, and loading rates which can significantly affect the environmental impact, so that companies can effectively reduce their environmental impact. Accordingly, RLC established a system to visualize detailed transport information as well as accompanying CO_2 emissions and started offering information to shippers in 2007. Offered information is actively used by shipping companies for improvement of delivery methods, types of packing, timing of transportation, etc., thereby helping to reduce environmental impact in logistics.

CO_2, NOx, and SOx emissions in transportation by Ricoh Logistics System

FY	CO_2 (tons)	NOx (tons)	SOx (tons)
2006	2,626.1	5.0	0.8
2007	2,678.2	5.1	0.8
2008	2,339.5	4.4	0.7

Improvement of logistics processes through improved cargo-carrying efficiency of trucks

<Tohoku Ricoh Co., Ltd./Hasama Ricoh, Inc. (Japan)>

As exhaust controls in Tokyo were tightened in 2003, more and more logistics companies shifted from traditional trucks to new types of trucks with larger bodies. As a result, some space had to remain vacant in truck bodies when the traditional way of loading in four layers was adopted. It thus became necessary to solve problems associated with increasing the number of layers, including the strengthening of packaging materials and securing the safety of workers when boxes were stacked high. We realized five-layer loading by enhancing the strength of the corrugated cardboard used for packing, improving the motion ranges of manual forklifts, and by other measures, which resulted in improving cargo-carrying efficiency to over 80%. Owing to this measure, truck transportation costs largely decreased, although loading/unloading and storage expenses slightly increased. Consequently, costs were reduced by about ¥8 million per year and CO_2 emissions by about 39 tons a year.

Improvement of transportation routes of products shipped to other countries using local ports

<Ricoh Group (Japan)>

Products exported from Tohoku Ricoh Co., Ltd. and Hasama Ricoh, Inc (both in Miyagi Prefecture), which are production sites for copiers and units/parts, were previously transported by truck to Yokoyama and shipped at ports in the Keihin area. The export routes were improved in fiscal 2008. Based on modal shift, cargo with a low loading rate that does not fill a 40-feet container is first carried by train to Yokohama, where it is placed aboard a ship together with other cargo. Containers with high loading rates are loaded into containers

Complete view of Takasago Container Terminal of Sendai Port (Photo provided by Shiogama Port and Airport Office, Tohoku Regional Bureau, Japanese Ministry of Land, Infrastructure, Transport and Tourism)

at plants, which are put aboard ships at Sendai Port and exported to Western nations. Products exported to Asian nations, which are exported in relatively small quantities and delivered to many different destinations, are carried together with other cargo of the Ricoh Group companies and suppliers, so that efficiency can be improved. These improvement measures brought about a reduction in costs of about ¥10 million a year, or a CO_2 equivalent of some 156 tons per year.

Expansion of direct delivery from plants to customers

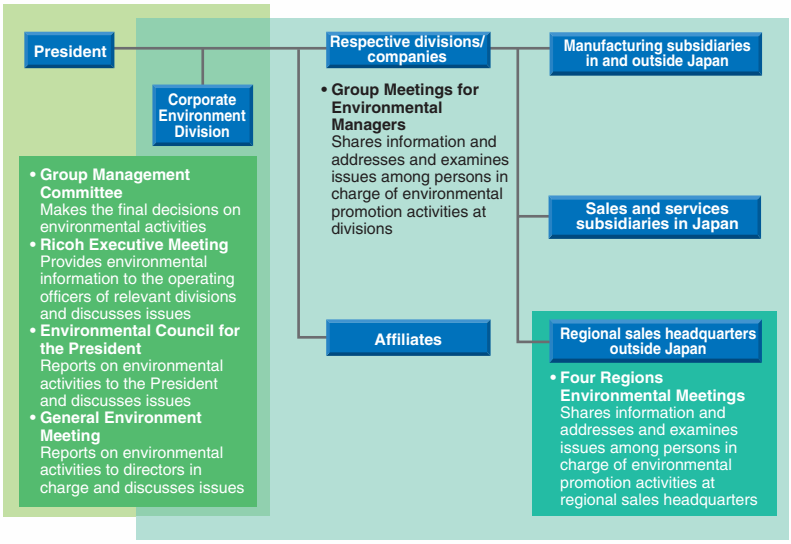
<Ricoh Group (Japan)>

In order to establish an efficient logistics system, it is also important to reduce waste in lead times and transportation routes themselves. The Ricoh Group previously manufactured products according to production schedules, stored products temporarily at inventory warehouses, and shipped them in response to orders placed by customers. This system has now been completely reviewed and new routes created. Products are now produced in response to customers' request, and directly delivered from plants to shops and customers all over Japan. This no-inventory/direct-delivery system has already been applied for some types of products produced at Ricoh Gotemba Plant and at Tohoku Ricoh Co., Ltd. By fiscal 2010, it will be introduced for large products as well, with great improvements in logistics efficiency expected. Owing to the new system, warehouse storage is no longer necessary, while the lead times for the delivery of products from plants to customers were shortened to four or five days. Logistics costs per product are likely to be reduced by more than ¥3,000 and CO_2 emissions by 2.6 tons or more annually.

Under the new environmental management system to promote our sustainable environmental management, decision-making efforts for environmental measures and those for business operations are inseparable.

The Ricoh Group's environmental management system (EMS) is an important tool in facilitating sustainable environmental management on a global scale, and is therefore, incorporated as an essential process of each business activity. We established a system to reflect the environmental action plan set by the management in the goals of respective divisions and provide feedback on the results of their actions to management. Under the system, the Group as a whole, and each of its business divisions, promotes the plan-do-check-act (PDCA) cycle. Furthermore, based upon the Group-wide Strategic Management by Objectives (SMO), which takes an environmental conservation perspective, the Ricoh Group continually evaluates the performance of respective divisions.

Organizational chart for the Ricoh Group's sustainable environmental management system



More Group members joining the environmental management system

The environmental management system (EMS) of the Ricoh Group covers all of the group companies subject to the consolidated accounting*. New businesses that are acquired through an M&A, for example, are also incorporated into the EMS. In fiscal 2008, we welcomed Yamanashi Electronics Co., Ltd. into the system.

* Please see Page 76 for the scope of data collection for environmental impact and environmental accounting.

Views held by a group company

INTERVIEW

Yamanashi Electronics Co., Ltd.

Aiming for a sustainable environmental management with long-term perspective as a member of the Ricoh Group

Leaders of Special Committee for Environment, Yamanashi Electronics Co., Ltd.

Kazuhito Toi
Chief, Quality Assurance Division

Shigehiro Morozumi
Head, Environment and Standards Promotion Office, Quality Assurance Division

Joining the Ricoh Group has had a positive impact on environmental activities

When we joined the Ricoh Group in November 2006 and subsequently adopted the Ricoh Group's environmental policies, our ideas and attitudes toward environmental conservation in undertaking business operations underwent great change. The Ricoh's policies were different from Yamanashi Electronics' original policies mainly in that "environmental conservation activities and business operation are implemented on the same axis," "environmental activities are carried out in co-operation with all stakeholders," and "environmental perspective is incorporated into manufacturing." Since then, we have been working on development of environmental technologies, energy conservation, Zero-Waste-to-Landfill activities, and management/activities for complete elimination of chemical substances in four working groups with different themes, namely "energy conservation," "waste reduction," "environmentally friendly products," and "measures against air pollutants."

Implementing environmental measures with longer-term goals

Joining the Ricoh Group changed the scope of our environmental goals from each year to three years. Also, to set mid-term goals, we now follow the back-casting method starting with long-term goals and long-term environmental visions. This method allows us to take rather radical action and implement innovative changes in production process and facilities as part of our business plan. As a result, we completed the transfer of energy sources for boilers in two factories* in 2007 and 2008, and we plan to discontinue the use of chlorine organic solvents in the near future. We will strive to continue activities to increase the quality of our sustainable environmental management.

* See page 35.

Upgrading the level of the environmental management system

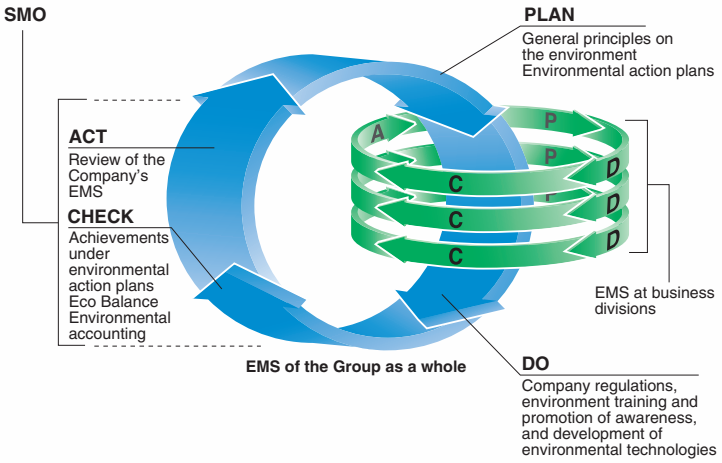
To realize sustainable environmental management, it is essential to pursue environmental conservation and business operations under a united decision-making scheme instead of implementing two separate, sometimes incompatible missions. The Ricoh Group first promoted the acquisition of ISO 14001 certification for each business site to fortify its environmental management system (EMS). Starting with Ricoh Gotemba Plant, which received ISO/DIS 14001 certification in 1995, all major Ricoh production sites worldwide were ISO 14001 certified as of March 2000. Then in 2001, the sales group in Japan as a whole gained ISO 14001 certification. Sales subsidiaries other than those in Japan are also making every effort to acquire ISO 14001 certification. The Group has thus promoted the creation of a climate for sustainable environmental management by all employees through the acquisition of ISO 14001 certification. In addition, in February 2007, Ricoh and its sales subsidiaries in Japan acquired integrated ISO 14001 certification, aiming to harmonize business activities and the environment and provide leadership to the business unit. As of fiscal 2008, each business division now sets its own targets and takes the initiative in environmental measures from various angles under the 16th Environmental Action Plan.

* For the status of the Ricoh Group's ISO 14001 acquisition, please visit http://www.ricoh.com/environment/base/iso.html

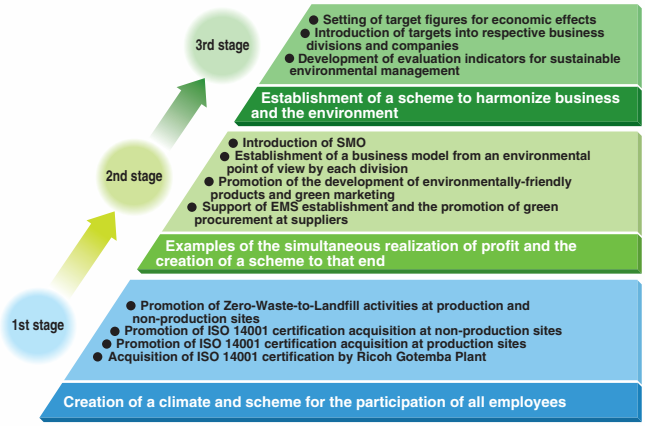
Strategic Management by Objectives

Ricoh introduced Strategic Management by Objectives (SMO) in 1999 to clarify evaluation standards for environmental conservation activities that are used in divisional performance evaluations. This system is based on the Balanced Scorecard system, a performance management system developed in the 1990s in the United States and characterized by the use of four perspectives. Ricoh has added a specific environmental conservation perspective to the system and is promoting SMO for global sustainable environmental management.

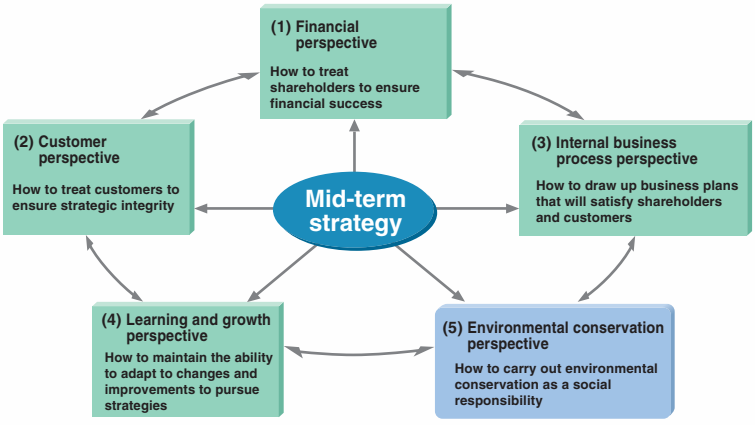
EMS of the Ricoh Group



Improvement in the EMS activity level



SMO of the Ricoh Group



Participatory approach by all employees

The Ricoh Group is making an effort to improve sustainable environmental management based on an "all-employee participatory approach." This "all-employee participatory approach" means that all employees in all divisions—such as R&D, product design, materials procurement, manufacturing, transportation, sales, maintenance/services and collection and recycling—participate in environmental activities. These activities are regarded as just as important as "QCD activities*," which involve pursuing profitability. To improve environmental activities, internal benchmarks and know-how are provided to all employees from time to time to make them more environmentally aware.

* QCD activities improve the management of Quality, Cost, and Delivery.

Risk management

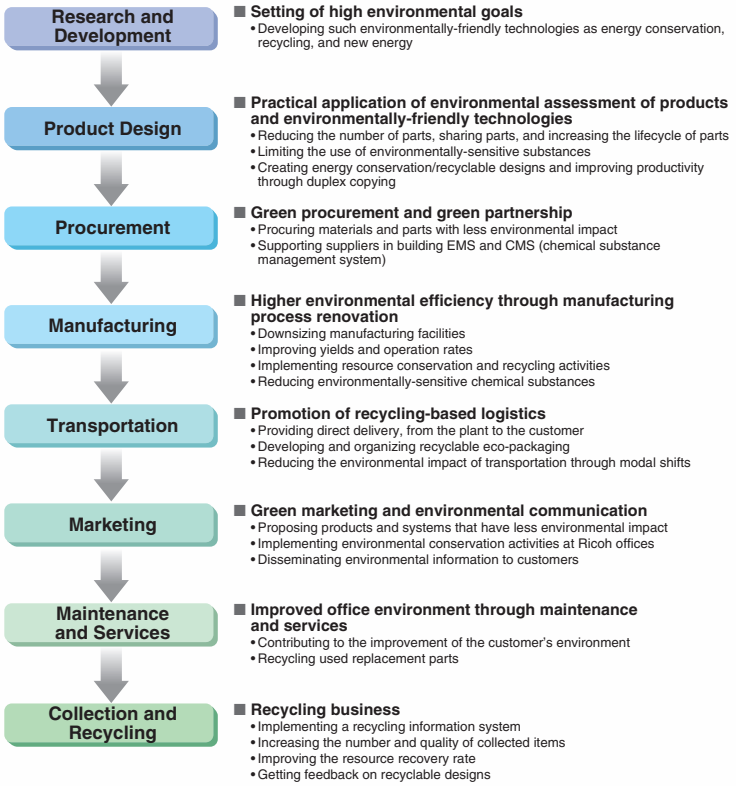
The Ricoh Group carries out risk management as an inner control function using the PDCA cycle based on the Ricoh Group's Total Risk Management Basic Rules. For initial measures taken in case of crises*, the Rules clearly define the sections in charge and reporting levels according to the different crisis categories. In line with the Rules, pertinent incidents are reported to the president and relevant officers and necessary measures are taken based on the president's policies. When an environmental crisis or an incident that seemingly will lead to an environmental crisis occurs, initial actions, including reporting and reception of information, instruction, actions and discussion, will be carried out as indicated in the accompanying flow chart.

* Crisis: an incident with a risk that continues and/or increases in size to the level at which the corporate operation of the Ricoh Group is severely affected.

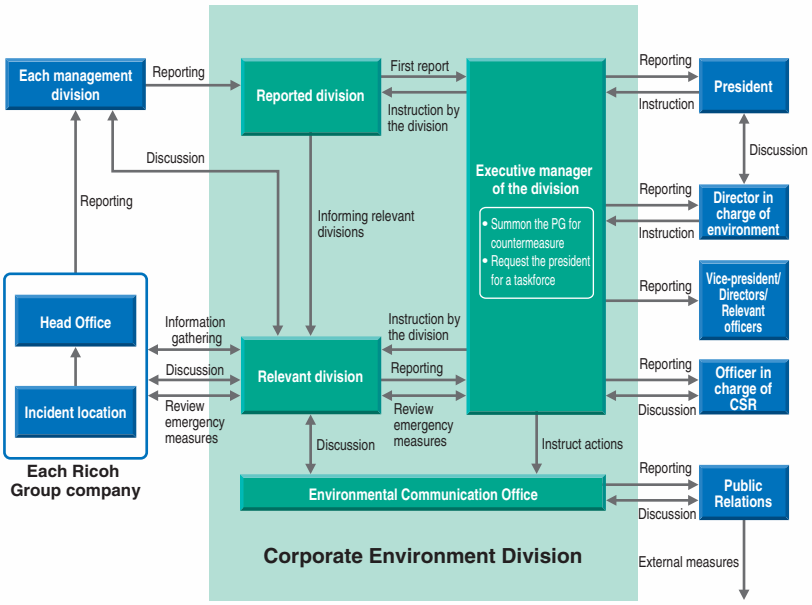
Penalties and fines concerning the environment (Ricoh Group)

	FY 2006	FY 2007	FY 2008
No. of cases	0	0	0
Amount	0	0	0

Sustainable environmental management activities participated in by all employees



Action flow for environmental crises



The Sustainable Environmental Management Information System supports the decision-making process for sustainable environmental management and promotes environmentally-friendly design.

The Sustainable Environmental Management Information System is designed to identify and promote the progress of sustainable environmental management. The system utilizes the Environmental Impact Information System to collect and process data on environmental impact and the Environmental Accounting System to collect and process data on environmental costs and effects. The collected data are processed and analyzed to identify the integrated environmental impact [1] of overall operations; draw up environmental action plans [2]; support decision-making in sustainable environmental management; promote environmentally-friendly design; improve activities by each division; process Corporate Environmental Accounting [3]; and disclose information to the public.

1. See page 59. 2. See page 17. 3. See page 61.

Environmental Impact Information System

This system collects and processes data on environmental impact caused by each operational process—including procurement, design, manufacturing, transportation/sales, use, maintenance/services, and collection/recycling—as well as by overall operations. Besides identifying the environmental impact of overall operations, the system automatically collects environmental data from the operational flow of each process, and such data is used to support PDCA in environmental improvement activities carried out at each process. Efforts are being made to improve the system so that it can be used more easily for data analyses and improvement activities as well as for the expansion of the items and range of collected data and improvement in precision. In fiscal 2008, we completed a system to obtain information on CO_2 emissions from the transportation phase on a global scale [1] as well as a system to deal with the REACH Regulation [2].

1. See page 50. 2. See pages 28, 29 and 30.

Environmental Accounting System

This system enables "Corporate Environmental Accounting" in a timely manner by collecting data on environmental conservation effects obtained from the Environmental Impact Information System and environmental cost data obtained from the accounting system, and processing this into sustainable environmental management indicators*.

* See pages 5 and 6.

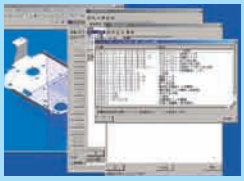
Sustainable Environmental Management Information System

Environmental Impact Information System

Procurement

This system promotes green procurement in accordance with environmental action plans and information on laws and regulations. The system collects information on weight, component substances, and chemical substances in raw materials and parts by utilizing a network of suppliers.

Design



This is a system to select the most suitable materials and parts from the viewpoint of environmental conservation and costs in order to promote environmentally-friendly design. This CAD system works in tandem with the procurement management system and the chemical substance control system.

Manufacturing

This system identifies the environmental impact caused by operations. It collects data on power consumption, the quantity of chemical substances used, CO_2 emissions, and waste discharged by all offices and sites, including production sites and non-production sites, such as the Ricoh Head Office.

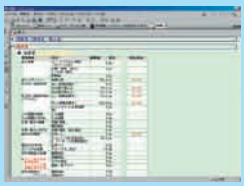
Transportation/Marketing

This system collects data on power consumption as well as the amount of gasoline used and waste generated in order to reduce the environmental impact caused by logistics sites, transportation processes, and sales sites. The collected data are used to support the PDCA cycle of EMS at each site.

Use

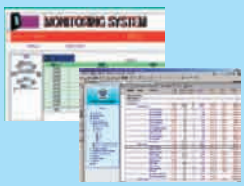
This is a system to share data about environmental performances by product (power consumption, duplex copying productivity, recyclable design, etc.) and use such data for environmentally-friendly design and information disclosure in catalogs. This system compiles environmental impact information by product based on design data.

Maintenance/Services



This is a system to identify and analyze environmental impact caused by maintenance work on products. The system collects related information from the database of product maintenance records and the database of power and gasoline consumed in the maintenance sites.

Collection/Recycling



This system provides an information infrastructure to utilize plans that were prepared at the design stage for the reuse or recycling of collected products and to store detailed information on the resource recovery process.

Data to process information collected

• Number of units produced (by process) • Weight of products • Value of sales
• Allocation information (relations between divisions/facilities and products)

Environmental impact information

Environmental accounting information

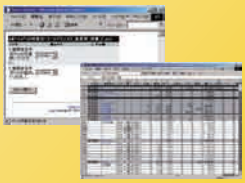
Integrated database

Analysis of information

Processing of information

Information needed for promoting PDCA (Plan-Do-Check-Act)* is output.

* See page 53.



Understanding Integrated Environmental Impact

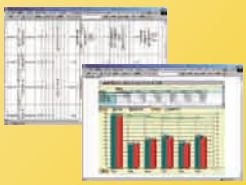
Using a sustainable environmental management information system, we collect extensive and diversified data covering all the operations of the Ricoh Group, allowing us to calculate the integrated environmental impact.

See pages 57 to 60.

Preparing and Managing Environmental Action Plans

An action plan is drawn up based on the integrated environmental impact calculated by the sustainable environmental management information system. Reduction targets are also established in the plan. We identify problems and take actions to address them as soon as possible by introducing automatic aggregation, continuously monitoring the results, and improving the precision of the data colleted in each process.

See pages 17 and 18.



Environmentally-Friendly Design

The sustainable environmental management information system is used together with our product lifecycle management tool to enable designers to incorporate environmental performance into product design in areas such as energy/resource conservation, the controlling of chemical substances, and LCA design.

See page 20.

Information Disclosure

Environmental information on products is disclosed to customers, suppliers, recycling companies and so forth on our web site and environmental labels.

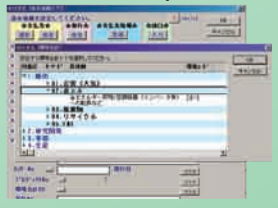
See page 20.

Environmental Accounting System

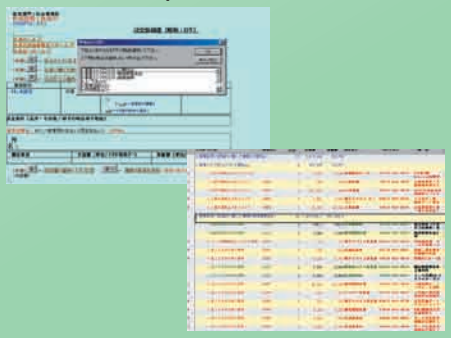
Accounting System

A space to enter the environmental accounting code was added to the accounting system to determine the cost of environmental conservation. Using information compiled on a daily basis makes it possible to calculate the cost of environmental conservation.

Environmental expenses



Environmental capital investment



Aggregate Database of Environment Accounting

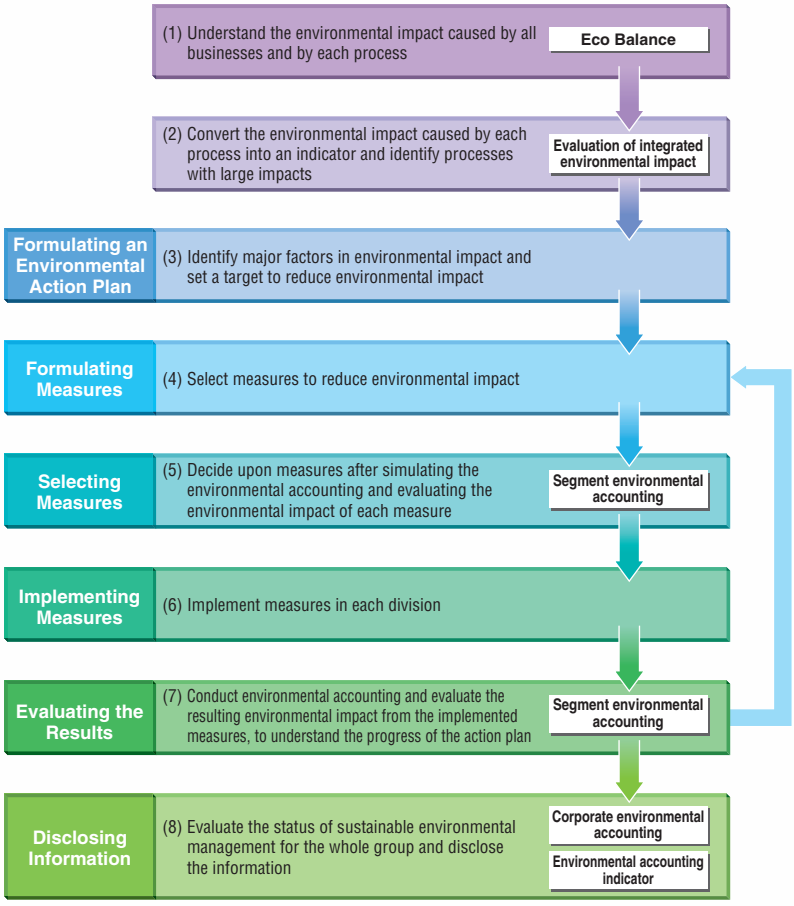
Data on the economic benefits of environmental conservation activities and the environmental conservation costs/ economic benefits for each company in the Ricoh Group are input to the aggregate database of environmental accounting on a quarterly or biannual basis to calculate these figures every six months.

Action plans are mapped out and sustainable environmental management is evaluated using Eco Balance, integrated environmental impact, and environmental accounting as tools.

The Ricoh Group believes that the environmental impact generated by advanced nations must be reduced to one-eighth the fiscal 2000 levels by 2050 (described in the Long-Term Environmental Vision [1]). For our part, we aim to reduce total lifecycle CO_2 emissions by the Group and the input of new resources as well as the impact of chemical substances on the environment by 87.5% (declared in the 2050 Long-Term Environmental Impact Reduction Goals [2]). We pursue these targets by improving the level of sustainable environmental management—that is, by promoting environmental conservation activities that reduce environmental impacts and enhance economic effects at the same time. To realize this, an appropriate scheme must be built so that appropriate action plans can be mapped out to reduce the environmental impact caused by all our businesses, effective measures can be examined and implemented, and the results will be properly evaluated and disclosed. At the Ricoh Group, Eco Balance [3], integrated environmental impact [4], and environmental accounting [5] serve as tools to operate the PDCA for improvement of sustainable environmental management and for evaluation of action plans, measures and activity results.

1. See page 15. 2. See pages 15 and 16.
3. See page 59. 4 & 5. See page 58.

PDCA and the roles of tools for sustainable environmental management



Understanding the environmental impact caused by all our businesses using Eco Balance and integrated environmental impact evaluation

The Ricoh Group obtains information on the environmental impact caused by all its businesses and by each process, using Eco Balance and integrated environmental impact as tools, to effectively reduce the environmental impact generated by processes with large environmental impact. First, Eco Balance is prepared based upon input and output data for each process and for each environmentally-sensitive substance. The data are collected by the sustainable environmental management information system [1]. At this stage, however, the significance of the environmental impact generated by each process cannot be compared because each process employs different environmentally-sensitive substances. Therefore, an integrated analysis method is used to convert the total environmental impact caused by business activities—including impact upon human health, depletion of resources, and impact upon ecosystems/biodiversity—into indicators to evaluate the integrated environmental impact and identify processes generating large environmental impacts. The Ricoh Group sets environmental action plans [2] based on its evaluation of the integrated environmental impact that is identified by Eco Balance.

1. See page 55. 2. See page 17.

Selecting measures by environmental accounting and evaluating activity results

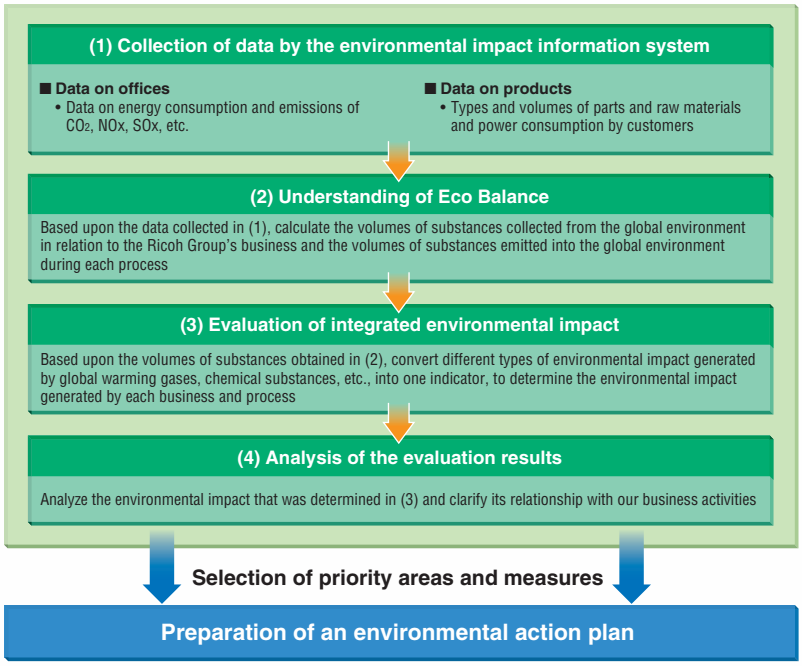
Reducing environmental impact using measures that will lead to the creation of benefits is crucial to promoting sustainable environmental management. The Ricoh Group uses environmental accounting to determine what measures should be taken for what processes and for what operations so that the maximum effect can be obtained. A number of improvement plans to reduce the identified environmental impact are examined in consideration of developments in society and laws/regulations and competitors to improve processes generating large environmental impact identified through evaluation based upon Eco Balance and the integrated environmental impact. Then, using segment environmental accounting, we simulate how much environmental impact is reduced and how much profit is created compared with the costs for each measure, while surveying the results of the individual measures.

Eco Balance of the Ricoh Group

The Ricoh Group introduced the concept of Eco Balance in fiscal 1998 to clarify the environmental impact caused by all its businesses and effectively reduce it. Currently, the Ricoh Group is calculating the integrated environmental impact using EPS, which is an integrated analysis method developed by IVL Swedish Environmental Research Institute Ltd. We adopted EPS because we found that its characteristics agree with the Ricoh Group's ideas about environmental impact caused by the collection of resources and the Comet Circle*, Ricoh's original concept aimed at establishing a sustainable society, after evaluating various methods adopted at home and/or abroad. We have mapped out environmental action plans based upon the concept of Eco Balance since fiscal 2002 and have applied the concept in the formulation of environmental goals that take a longer perspective since fiscal 2005.

* See page 14.

Flow of Eco Balance and evaluation of integrated environmental impact



Ricoh Group's Environmental Accounting

The Ricoh Group disclosed its environmental accounting for the first time in 1999. Subsequently, the Group has introduced corporate environmental accounting to determine the status of sustainable environmental management and disclose related information, as well as segment environmental accounting etc., that are used to prepare environmental action plans, select measures, and verify achievements. Thus efforts are being made to establish environmental accounting as a tool for sustainable environmental management.

● Corporate environmental accounting

The Ricoh Group calculates and announces the cost spent in its business activities for environmental conservation, as well as their conservation and economic effects, as quantitatively as possible. The Ricoh Group prepares such data in compliance with the Environmental Accounting Guidelines 2005—set by the Japanese Ministry of the Environment—by taking the necessary portion from the Eco Balance data and calculating the cost and effect (in quantity and monetary value) of its environmental conservation activities based on its own formulas and indicators. In fiscal 2007, the Group started disclosing its environmental impact from a product lifecycle perspective, in addition to direct environmental impact (i.e., environmental impact generated at business sites). See page 61.

● Segment environmental accounting

This is an environmental accounting tool to forecast the costs and environmental conservation/economic effects of individual investment activities and projects for environmental conservation from among all processes of operations and to evaluate their results, in order to judge the effectiveness of respective measures.

See pages 21, 24, 33, 38 and 42.

Eco Balance
Eco Balance means the preparation of a list of input and output data on environmental impact to identify, quantitatively measure, and report environmental impact caused by companies; or such a list itself. It is based upon the same concept as LCA, and direct environmental impact as well as indirect environmental impact is calculated.

Integrated environmental impact
This is an integrated indicator shown in ELUs (environmental load units), incorporating various types of environmental impact caused by environmental load. Substances that put a load on the environment cause various phenomena including global warming and air pollution, which negatively affect the ecosystem, biodiversity and human health. In addition to these, the depletion of resources is taken into consideration, and all these factors are incorporated into one single indicator that represents the significance of environmental impact overall. Determining the environmental load caused by all our businesses and calculating the integrated environmental impact allow us to formulate specific plans to reduce them. In calculation, we apply the EPS (Environment Priority Strategies for Product Design), a method developed by IVL Swedish Environmental Research Institute Ltd, to allow us to convert the results into monetary values (1 ELU = 1 Euro).

■ Review of Fiscal 2008

While the Ricoh Group's sales decreased 5.8% from the previous fiscal year, the integrated environmental impact for the whole group, including the impact imposed by new businesses and businesses targeting developing countries, increased by 5.5% over the previous fiscal year. The major cause of the impact was our business processes, such as procurement of raw materials and parts, and the use of our products by customers (through power and paper consumption). The level of impact generated at the stages of material and parts procurement and manufacturing decreased due to increased environmental efficiency in line with environmental action plans, as well as to the economic slowdown on a global scale. Meanwhile, we evaluated the environmental impact imposed in the customer-use phase by the Ricoh imaging equipment sold in the past five years. The result shows that power and paper consumption due to product use increases with the growing number of units sold.

(New businesses and businesses targeting developing countries)

The Eco Balance on this page includes data for new businesses, such as those that were acquired through M&A in and after fiscal 2000, and businesses that are targeted to developing countries. In the graph Changes in Integrated Environmental Impact (Page 5 "Summary of Sustainable Environmental Management"), though, these businesses are excluded in order to make feasible comparisons with the fiscal year 2000 standards.

* New Evaluation Method for LCA Data

● LCA Data

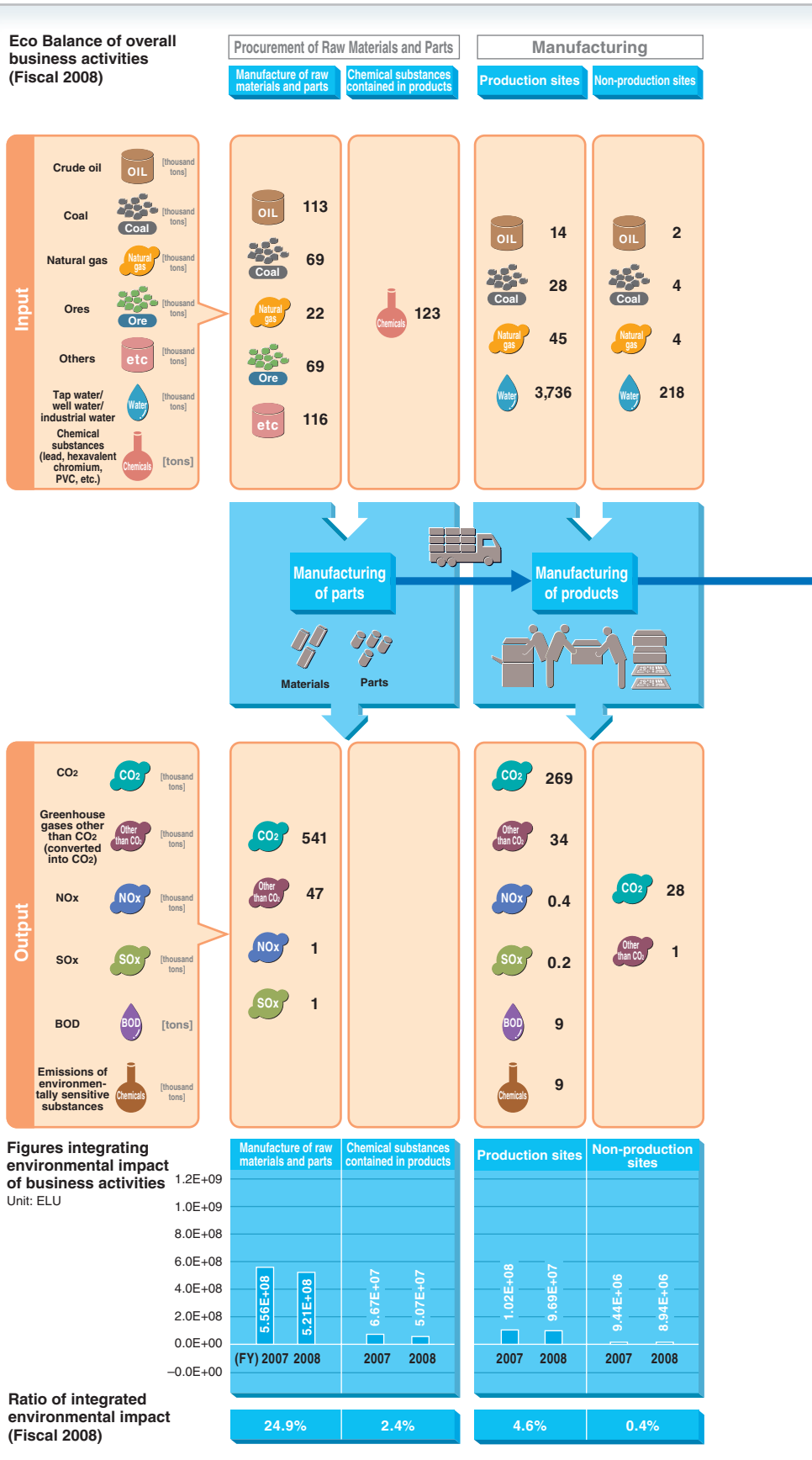
We now use data prepared by Mizuho Information & Research Institute, Inc. based on the LCA database published by the Life Cycle Assessment Society of Japan (JLCA).

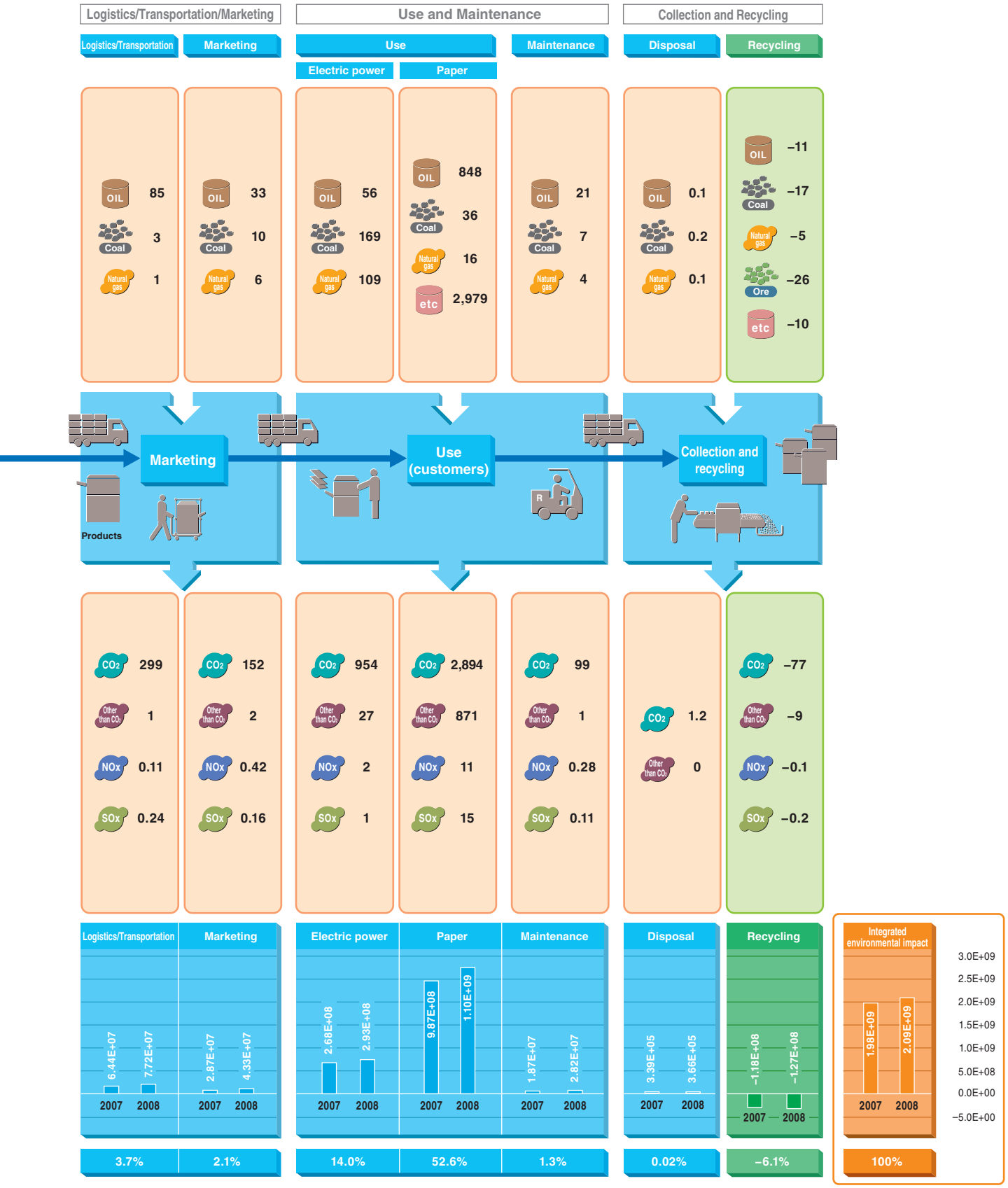
● Data for the Recycling Process Added

The recycling process after imaging products are recovered (material recycle, thermal recycle, incineration/land filling) was added.

Data Coverage for Environmental Impact

Data coverage (the ratio of sales for the companies and businesses from which data was collected to the sales of the companies and businesses in the whole group) for the fiscal 2008 Ricoh Group environmental impact (integrated environmental impact) was 99.3%. The data for newly acquired businesses through M&A (in and before fiscal 2007: 6.7% worth for Ricoh Printing Systems, Ltd., Yamanashi Electronics Co., Ltd. and InfoPrint Solutions Company LLC; in fiscal 2008: 5.8% for IKON Office Solutions, Inc.) were added to fiscal 2008 data.





"E+n" means "× 10^n"
(Example) 1.45E+08 = 1.45 × 10^8

Ricoh Group's corporate environmental accounting in fiscal 2008

Costs refer to expenditure on environmental conservation activities (in a broad sense), and consist of environmental investments and environmental costs (in a narrow sense).

● Environmental Investments
These investments correspond to "investments in fixed assets" in financial accounting. The amount of environmental investments is distributed as environmental costs over the service life of fixed assets in accordance with depreciation procedures.

● Environmental Costs
These environmental costs correspond to the "period cost" in financial accounting. (Depreciation cost of environmental investments is included.)

Environmental conservation costs are classified according to "Categories corresponding to business activities" defined in the "Environmental Accounting Guidelines 2005" of the Japanese Ministry of the Environment.

Cost unit: ¥100 million (Exchange rate: $1 = ¥100.55 €1 = ¥143.74)

Item	Costs			Economic Benefits		
	Environmental Investments	Environmental Costs	Main Costs	Monetary Effects	Category	Item
Business area costs	2.7	20.7	Pollution prevention cost ..... 2.7 Global environmental conservation cost ..... 3.4 Resource circulation cost 14.6	–2.3	a1	Energy savings and improved waste processing efficiency
				46.3	b	Contribution to value-added production
				20.8	c	Avoidance of risk in restoring environments and avoidance of lawsuits
Upstream/ Downstream costs	0.1	75.6	Cost of collecting products, turning recycled materials into saleable products, and so forth	228.0	a1	Sales of recycled products, etc.
				[21.2]	S	Reduction in society's waste disposal cost
Administration costs	0.8	48.0	Cost to establish and maintain environmental management system; costs of preparing environmental reports and advertisements	14.3	b	Effects of media coverage, environmental education and environmental advertisements
Research and development costs	4.1	26.4	Research and development costs for environmental impact reduction	51.1	a2	Contribution to gross margin through environmental research and development
				[4.9]	S	Reduction in user's electricity expenses thanks to an improved energy saving function and product performance
Social activity costs	0.0	0.5	Cost for nature conservation and green landscaping outside business sites	—	—	None
Environmental remediation costs	0.1	0.7	Costs of restoring soil and environment-related reconciliation			
Other costs	0.2	0.9	Other costs for environmental conservation			
Total	7.9	172.6		358.2	Sum of a1: 225.7, a2: 51.1, b: 60.6, and c: 20.8	
				26.0	Total S's	

a1: Substantial effect
a2: Estimated substantial effect
b: Secondary effect
c: Incidental effect
S: Social effect (Customer benefits)

- **Environmental investment rate: 0.8%**
  [= environmental investment (7.9)/total investment (969)]
- **Environmental R&D cost rate: 2.1%**
  [= Total environmental R&D cost (26.4)/Total R&D cost (1,244)]

Economic benefits refer to benefits that were obtained by environmental conservation activities and which contributed to the profits of the Ricoh Group in some form. Economic benefits are classified into five categories as follows:

● Substantial effect (a1)
This means economic benefits that fall into either of the following two cases:

1) Cash or cash equivalent is received as a benefit. This corresponds to "realized gain" in financial accounting.

2) The amount of savings in such costs that would have occurred if environmental conservation activities had not been conducted. This amount is not recognized in financial accounting.

● Estimated substantial effect (a2)
Substantial contributions to sales or profits whose value cannot be measured without estimation. They include improving the environmental performance of a product, which leads to an increase in sales or profit.

● Secondary effect (b)
The expected amount of contribution in the case that expenditure on environmental conservation activities is assumed to have contributed to profits for the Ricoh Group. If environmental conservation costs are assumed to be costs that are indispensable for the Ricoh Group to conduct its operations, for example, it can be safely said that such costs contribute to profit in some form. In practice, out of the effects generated by environmental conservation activities, those which do not appear as an increase in sales or profit or a reduction in costs are represented in monetary value calculated by the formula specified for each item.

● Incidental effect (c)
Expenditure on environmental conservation activities can help avoid the occurrence of environmental impact. Therefore, it can be safely said that the expenditure contributed to the avoidance of such damage of environmental impact that would have taken place without the expenditure. In practice, the incidental effect is computed by multiplying the expected amount of damage by an occurrence coefficient and impact coefficient.

● Social effect (S)
Social effect means such effect that is generated by expenditure on environmental conservation activities not for the Ricoh Group but for society. In practice, social effect means the amount of reduction in the expense of electric power and waste disposition that is enabled through environmentally-friendly products for customers.

* For the computation formulas, see page on the right.

Effect on environmental conservation means the effect of activities to prevent and control the occurrence of environmental impact and to eliminate and remove such environmental impact. The Ricoh Group reports the amount of reduction in the emission of substances with serious environmental impact for the current year as compared with the previous year (= emissions in the previous year – emissions in the current year).

● Conversion Coefficient
This is a weighting coefficient that is used in identifying environmental impact by totaling and weighting various types of environmental impact expressed in different units (CO_2 = 1). Values of coefficients are based on the Swedish EPS method.

● Converted Quantity of Reduction/ Converted Quantity of Impact
Converted quantity of reduction is obtained by multiplying environmental impact reduction by conversion coefficients and converted quantity of impact by multiplying total environmental impact by the coefficients. In other words, these values refer to the degree of seriousness of such environmental impact reduction and total environmental impact that are converted into figures in t-CO_2.

● Social Cost Reduction Values/ Social Costs
Social cost reduction values represent financial figures obtained by converting the converted quantity of reduction into money and social costs by converting the converted quantity of impact into money. Computations are made using the factor of 108 Euro/t-CO_2 of EPS Ver. 2000.

This is the quantity of substances with environmental impact emitted by the Ricoh Group in the current fiscal year.

Effect on Environmental Conservation				Environmental Impact			
Environmental Impact Reduction (tons)	Conversion Coefficient	Converted Quantity of Reduction	Social Cost Reduction Values	Total (tons)	Conversion Coefficient	Converted Quantity of Impact	Social Costs
Reduction in environmental impact caused at business sites				Environmental impact caused at business sites			
CO_2 28,182.6	1.0	28,183	4.38	CO_2 294,888	1.0	294,888	45.78
NOx 10.6	19.7	208	0.03	NOx 158	19.7	3,106	0.48
SOx 1.1	30.3	34	0.01	SOx 7	30.3	223	0.03
BOD –2.2	0.02	0	0.00	BOD 8	0.02	0	0.00
Final amount of waste disposal –148.8	104.0	–15,478	–2.40	Final amount of waste disposed 261	104.0	27,122	4.21
Emissions of environmentally sensitive substances	(Ricoh standards per substance)	6,655	1.03	Emissions of environmentally sensitive substances	(Ricoh standards per substance)	18,466	2.87
Environmental impact reduction in lifecycle as a whole				Environmental impact in lifecycle as a whole			
CO_2 –418,428	1.0	–418,428	–64.96	CO_2 5,157,736	1.0	5,157,736	800.68
NOx –1,380	19.7	–27,187	–4.22	NOx 15,069	19.7	296,855	46.08
SOx –1,549	30.3	–46,942	–7.29	SOx 17,375	30.3	526,473	81.73
Fossil fuel –	(Ricoh standards per substance)	–599,406	–93.05	Fossil fuel –	(Ricoh standards per substance)	7,631,598	1,184.72
Mineral resources –	(Ricoh standards per substance)	180,448	28.01	Mineral resources –	(Ricoh standards per substance)	2,627,164	407.84
Other –	(Ricoh standards per substance)	–78,813	–12.23	Other –	(Ricoh standards per substance)	3,140,500	487.53
Total (environmental impact reduction at business sites)		19,602	3.04	Total (environmental impact at business sites)		343,806	53.37
Total (environmental impact reduction in lifecycle as a whole)		–990,329	–153.74	Total (environmental impact in lifecycle as a whole)		19,380,325	3,008.59

* The figures for lifecycle as a whole include those for business sites.
* For quantity details on fossil fuel, mineral resources, and other resources, please see Pages 59 to 60 (Eco Balance) .
* "Environmentally sensitive substances" are those defined in the environmental action plans based on the substances subject to the PRTR Law and others that are in high use by the Ricoh Group.
* Please see Page 44 for the asset retirement obligations (environmental liabilities).

Data coverage
● **Companies: Major members of the Ricoh Group** See page 76.
● **Period: From April 1, 2008 to March 31, 2009 (for costs and total environmental impact)**
* Social cost is calculated using the factor 108 of Euro/t-CO_2 (15,524 yen/t-CO_2).

* Environmental impact reduction represents the difference of figures between fiscal 2007 and fiscal 2008.

(1) Formula of substantial effects

Reduction in heat, light, and water cost	Heat, light, and water expenses in the previous year – heat, light, and water expense in the current year
Reduction in waste disposal cost	Waste disposal expenses in the previous year – waste disposal expenses in the current year
Sales value of valuable materials	Sales value of valuable materials sorted from discharged matter
Sales of recycled products and parts	Sales of recycled products and parts
Subsidies	Environmental subsidies from the government, etc.

(2) Formula for estimated substantial effects

R&D profit contribution amount	Product gross margin × gross margin contribution rate calculated using environmentally-friendly points

(3) Formula for secondary effects

Contribution to value-added production	Gross profit on sales × environmental conservation costs / selling, general and administrative expenses, etc.
Effects on media coverage	Area of newspaper advertisement / newspaper page area × advertisement cost per page
Effects of environmental education	Number of people attending internal environmental education seminars × seminar fee for outside participants
Publicity from environmental advertisements	Number of visitors to environmental Web site × unit price of the sustainability report

(4) Formula of incidental effects

Amount of incidental effects	Standard amount × occurrence coefficient × impact coefficient x continuance coefficient
Items to be calculated	Areas of improvement to prevent pollution
Standard amount	Amount set aside for lawsuits, suspension of operations, and restoration
Coefficient	Occurrence coefficient and impact coefficient to be set according to occurrence frequency and affected extent

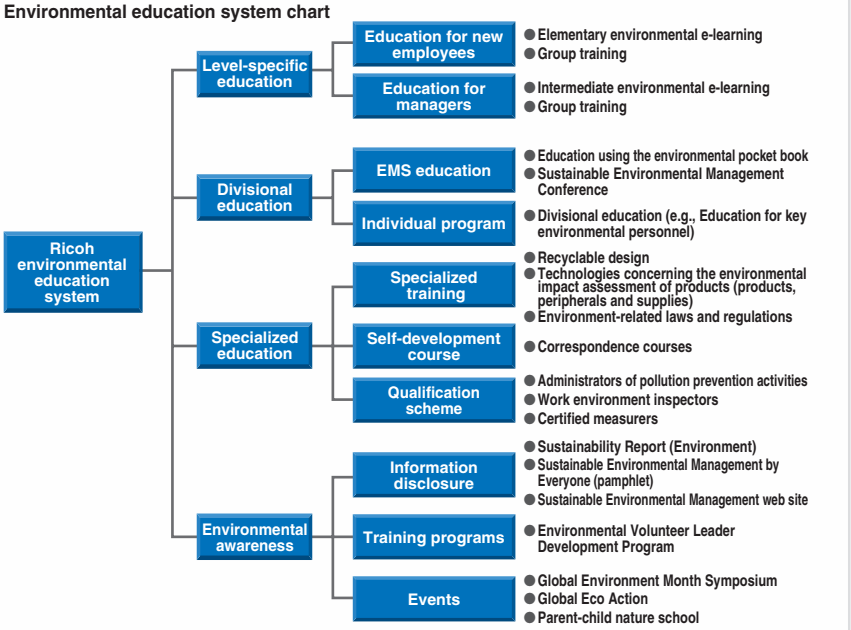
(5) Formula for social effects (economic benefits from use of products by customers)

Total electric power	Electric power consumption of a product × number of products sold
Electric power cost reduction effect	(Total electric power for old models – total electric power for new models) × electric power unit cost
Waste disposal cost reduction effect	(Weight of collected products – weight of final waste) × outside disposal unit cost

The core goal of our employee training is to ensure employees are well aware of their responsibility as global citizens and can serve as driving forces of the company's sustainable environmental management.

To realize sustainable environmental management with the full participation of all employees, clear instructions from top management and the active involvement of each division are essential. But also important is to give each of the employees opportunities to learn how to be proactive in pursuit of sustainable environmental management in their own operations. While sustainable environmental management is indeed a corporate act, it is also an act that can be realized only by the actions of individual employees. The outcome of sustainable environmental management activities of the Ricoh Group, therefore, greatly depends on the awareness and recognition of our 100,000 plus employees around the world. Through training and awareness-raising sessions, Ricoh employees learn to become good global citizens, good Ricoh Group employees, and specialists in sustainable environmental management.

Environmental education system chart



Elementary and intermediate environmental e-learning for employees

<Ricoh Group (Global)>

In fiscal 2006, an elementary e-learning course, "First Steps to Sustainable Environmental Management," was conducted over the in-house LAN for Ricoh employees. The curriculum covered "Companies' Missions in Global Environment Problems," "Activity Cases in Respective Divisions," as well as other subjects, and aimed to enhance understanding and awareness towards sustainable environmental management. In fiscal 2007, the program was expanded to cover employees of other Group companies in Japan. In fiscal 2008, a digested version of the elementary environmental e-learning was published in compact disc form with English subtitles and distributed outside Japan. In addition, intermediate e-learning material was developed to include such information as how to effectively incorporate environmental perspectives into daily business operations and how to evaluate the effects of sustainable environmental management. The new e-learning material has been used to train the managers and those in charge of environmental promotion in each division.

Elementary e-learning material with English subtitles

Organization of environment-related specialized training courses

<Ricoh Group (Japan)>

To develop personnel who can manufacture environmentally-friendly products or manage chemical substances properly at their workplaces as sustainable environmental management specialists, environment-related specialized training courses, such as LCA and recyclable design, are organized for employees.

Environment-related specialized training courses

Name of course
Life Cycle Assessment (LCA) (basic)
Life Cycle Assessment (LCA) (application)
Safety of Supplies (elementary)
Safety of Supplies (advanced)
Environment-Related Laws and Regulations
Noise (basic)
Recyclable Design
Thermal Design for Office Equipment
Ricoh Group's Chemical Substance Management System (outline)

Ricoh parent-child nature school held

<Ricoh Group (Japan)>

The seventh Ricoh parent-child nature school was held in July 2008 at Afan Woodland of Kurohime in Nagano Prefecture under the joint sponsorship of Ricoh and the C.W. Nicol Afan Woodland Trust. The aim of the two-day nature-experiencing program for Ricoh Group employees and their families was to learn the importance of nature conservation through hands-on experiences. Writer C.W. Nicol started buying parcels of land in abandoned community forests—now Afan Woodland—20 years ago, hoping to restore them to rich natural forests where wild animals and people could coexist. The 25 adults and children who participated thoroughly enjoyed the experience through activities, such as art therapy, a night hike, and a forest treasure hunt.


Participants sharing their thoughts and feelings at Afan Woodland

Ricoh Group's Sustainable Environmental Management Conference

<Ricoh Group (Global)>

Ricoh Group's 15th Sustainable Environmental Management Conference was held in February 2009 under the theme "Let's Accelerate Sustainable Environmental Management Now!" About 370 participants gathered at the Ricoh Ohmori Office to attend the conference. During the opening lecture, themed "Roles of Corporations in Realizing a Low-carbon Society," Masamitsu Sakuari, chairman, told the audience he expected the members to act quickly to determine the targets of the technological revolution and move on to its promotion. Shiro Kondo, president and CEO, then encouraged employees to enjoy the process of examining what each of them can do and what he/she wants to try and to put the ideas into action in his talk titled "Ricoh's Ideal Sustainable Environmental Management." Two Grand Prizes and four Encouragement Prizes were awarded in the 7th Ricoh Group Sustainable Development Awards. Upon announcement of "Treasure Program" by Ricoh Electronics (Award for Sustainable Environmental Management Improvement Activities) and "Development of OPC Compact Line"* by Ricoh RS Division (Award for Innovative Process Technologies), the improvements these two Grand Prize winners achieved were also explained. In October 2008, the Second Green Communication Strategy Meeting (Promotion of Sustainable Environmental Management by the Coordinated Efforts in the Four Areas) was held at the Shanghai head office building of Ricoh China Co., Ltd.(RCN), the China Regional Headquarters, with the participation of a total of 136 people from 13 family groups in China. In the China Region, sustainable environmental management is carried out as coordinated efforts of member companies that serve in four functions, namely, development/design, procurement/production, sales/services, and logistics. At the conference, the activities of these four sections in the previous year were reported. * See page 36.

Masamitsu Sakurai addresses Ricoh Group employees

TOPIC

Sustainable Environmental Management with Full Participation <Ricoh Electronics, Inc. (U.S.)>

"Treasure Program" helps all employees to recognize improvement opportunities and participate in sustainable environmental management.

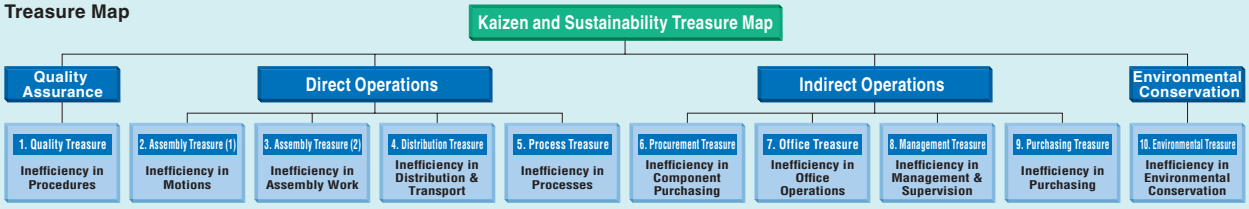
"Treasure Map," a tool to find opportunities for improvement of environmental impact and cost reduction

A manufacturing subsidiary in the U.S., Ricoh Electronics, Inc. (REI), has long been promoting full participation of employees in sustainable environmental management. In 2002, REI started the Treasure Program to boost the effects of such activities. In the Treasure Program, any waste ("MUDA") found in manufacturing processes and business operation is treated as "treasure" that can be turned into an opportunity for improvement ("Kaizen"). Using the Treasure Map, which lists the areas where large scales of MUDA are constantly found, including procurement, assembly, quality assurance, logistics, office operation, environmental conservation, employees look for treasures and submit a proposal for improvement.

Waste found creates opportunities for improvement. The results of improvement in environmental impact and costs are made visible

Employees at REI have found many "MUDA" items and turned them into treasure. The improvement activities carried out so far include "energy saving with skylights," "reuse of pallets," and "efficiency improvement for die-cuts." The improvement projects and their results are recorded in the Treasure Database, which is readily accessible and provides effects that would come from specific environmental impact and cost reduction activities. Based on the effects, the proposal is evaluated and "Treasure Points" are given to the proposer. Accumulated Treasure Points are converted as a bonus and paid to the employees with their regular salary. In fiscal 2008, this easy-to-understand and highly motivating system generated a total of 1,515 improvement activities, reducing 1.3 million tons of CO_2 emissions and $2.28 million in costs.

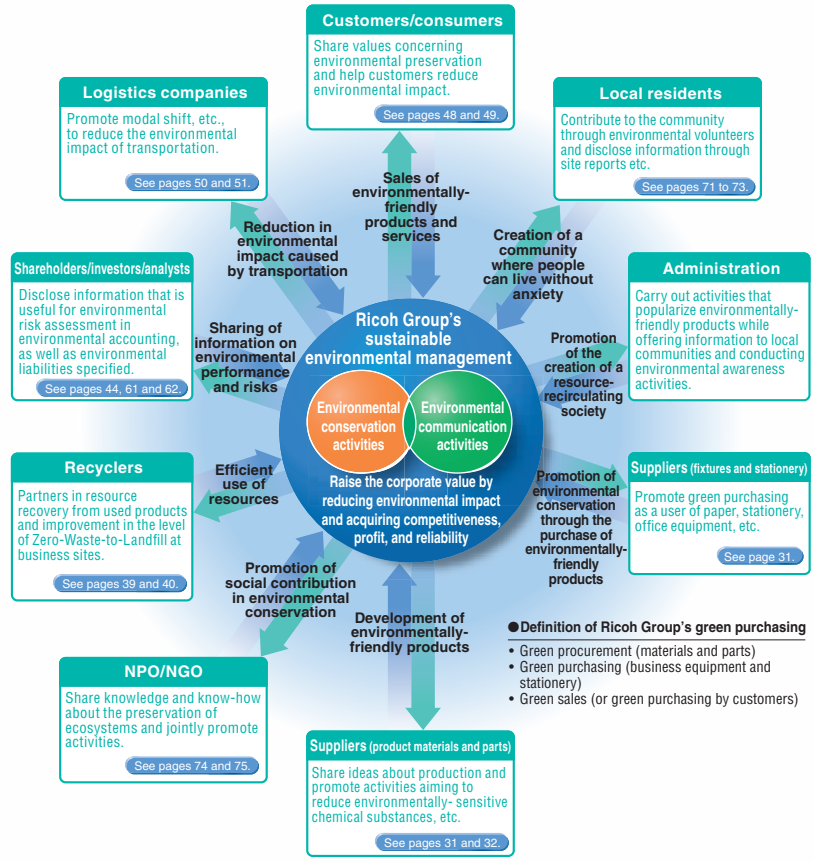
Treasure Map



We will promote communication with all stakeholders in good faith and expand the network of sustainable environmental management.

To be a going concern whose growth and development is desired by society, promoting environmental conservation activities alone is not enough. We have to make efforts to inform as many people as possible of our philosophy and activities so that we may win public trust and confidence. The active disclosure of information to internal and external stakeholders will contribute to the further activation of activities and the creation of a resource-recirculating society. With the firm belief that environmental communication and conservation activities are the two wheels of sustainable environmental management, the Ricoh Group is expanding its network of the conservation activities through the promotion of communication in good faith.

Sustainable environmental management and environmental communication



Issuance of Sustainability Reports (Environment)
<Ricoh Group (Global)>

The Ricoh Group's environmental report has been issued annually since it was first published in April 1998, which disclosed fiscal 1996 data. Since the 2004 edition, we have been issuing, in June, three reports: Sustainability Report (Environment), Sustainability Report (Corporate Social Responsibility), and Sustainability Report (Economic). The 2008 sustainability reports were awarded the Environmental Reporting Grand Prize (Minister of the Environment Award) at the 12th Environmental Communication Awards hosted by the Japanese Ministry of the Environment and the Global Environmental Forum. The Sustainability Report (Environment) 2008, meanwhile, was chosen as a recipient of the Excellence Award of the 12th Environmental Report Award hosted by Toyo Keizai, Inc. and Green Reporting Forum.

Receiving the Minister of the Environment Award from the Environmental Minister, Tetsuo Saito

Environmental reports issued by business sites
<Ricoh Group (Global)>

To enhance relationships with local communities, Ricoh Group business sites issue their own environmental reports as a means of communication with government offices, residents of neighboring areas, and family members of their employees. The Ricoh Group established guidelines [1] for the preparation of site reports on environmental conservation for its business sites in fiscal 2001, and this is currently used within the Group. The Environmental Report 2008 [2] of Ricoh Gotemba Plant received the Environmental Site Report Award of the 12th Environmental Report Award.

1. http://www.ricoh.co.jp/ecology/report/site.html
2. http://www.ricoh.co.jp/ecology/report/gotenba/index2008.html

Environmental web site
<Ricoh (Global)>

Ricoh's environmental web site [1] focuses on visibility, simplicity, and user-friendliness so that visitors can easily find the information they want, including environmental information of products and the latest news. It is also available in English and is linked to affiliates throughout the world. For children, the learning section, "Ecotoday Tempel-Tuttle Story," [2] provides stories about forest ecosystem conservation activities supported by Ricoh in various parts of the world, as well as quizzes and games to learn environmental issues in an enjoyable way.

1. Ricoh's sustainable environmental management: http://www.ricoh.co.jp/ecology/
2. Ecotoday Tempel-Tuttle Story: http://www.ricoh.co.jp/ecology/ecotoday/

External lectures
<Ricoh (Japan)>
Ricoh gives lectures to people in every sector, including companies and groups, aiming to expand the network of sustainable environmental management. Ricoh employees talk about the Group's environmental conservation activities so that people can refer to them when they carry out their own activities. The lectures are mainly about the concept of sustainable environmental management, environmental conservation activities in relation to Ricoh's main business, environment-conscious social contribution activities (forest ecosystem conservation by environmental volunteers), and so forth. In fiscal 2008, 33 lectures were delivered at national and other public entities, chambers of commerce and industry, companies, universities, etc.

Ricoh employees present lectures at the Special Symposium on Eco Products

World Exhibition of Copying Machines held at the National Museum of Emerging Science and Innovation
In August 2008, we held the "World Exhibition of Copying Machines: Sending Information on Paper" at the National Museum of Emerging Science and Innovation (Miraikan) in Odaiba, Tokyo. This is the second annual event we have organized to let people know about Ricoh's technologies and environmental conservation measures. The event is held during the summer vacation season. Under the theme of the year, "Sending Information on Paper," the mechanisms of copiers were explained in an easy-to-understand way. Children, families, and many other people visited the exhibition and enjoyed learning about Ricoh's image processing technologies and language character recognition technologies. A total number of 30,000 people visited the exhibition.

Children sticking their names on the "Promise Tree"

Supporting customers' sustainable environmental management
<Ricoh China Co., Ltd. (China)>
Ricoh China Co., Ltd. (RCN), sales headquarters for the China region, has been gaining customer trust by actively offering the know-how each Ricoh Group company in China has gained through the course of their environmental management activities. In addition to some 50 information briefing sessions with customers and 20 lectures held to date, RCN provides customers with various types of support in sustainable environmental management, including know-how in environmental impact and cost reduction and consultation on ISO14001 certificate acquirement and social contribution in environmental conservation.

Mitsuo Tanaka, manager of Environment Division, RCN, giving a lecture at g-GAT (Japan-China Association of Applied Technology in Electronics Businesses)

Exhibitions
<Ricoh Group (Japan)>
In December 2008, Ricoh participated in a general environmental exhibition titled Eco-Products 2008 held at Tokyo Big Sight. Ricoh presented the ideal state of the Earth Ricoh aims to realize, while comprehensively exhibiting technologies, products, and activities relating to sustainable environmental management. At the main booth, children enjoyed animated quizzes designed to teach the importance of biodiversity conservation, while demonstrations explaining Ricoh's sustainable environmental management and the Comet Circle were also given.

Environmental advertisements
<Ricoh Group (Global)>
Ricoh produces environmental advertisements to present its idea on sustainable environmental management based on actual company activities. In fiscal 2008, we produced advertisements with "environmental technologies" and "environmental conservation activities carried out with customers" as themes to emphasize our expanding network of sustainable environmental management by pursuing conservation activities in cooperation with customers. Ricoh's environmental advertisements are launched outside as well as inside Japan.

* http://www.ricoh.co.jp/ecology/communication/adv.html

Advertisement in a magazine introducing an example of sustainable environmental management

Supporting environmental activities by students

<Ricoh Americas Corporation, Ricoh (Global)>

Various companies of the Ricoh Group lend a hand to student environmental activities. For example, Ricoh Americas Corporation (RAC), the Ricoh Group's regional sales headquarters for the Americas, is one of the major sponsors of the International Science & Engineering Fair (ISEF). ISEF is one of the largest science contests for high school students. About 1,500 students, not only from the U.S. but also from more than 40 other countries and regions, participate in ISEF. RAC has been giving the Ricoh Sustainable Development Award since 2005 to studies contributing to making environmental conservation and business compatible. In fiscal 2009, the best awards were given to Mr. Andrew K. Miller and Ms. Hetal A. Vaishnav in the awarding ceremony held in Reno, Nevada. In addition, Ricoh sponsors the School Eco Awards which recognize eco-activities carried out at elementary and junior high schools all over Japan and essays about ecology. The fifth round of awards was given in March 2009.

(From left) RAC Mr. Bob Whitehouse, Mr. Hetal Anjibhai Vaishnav, Mr. Andrew Kipling Miller

Participating in Earth hour 2009, a global environmental event

<NRG Gestetner South Africa (Pty) Ltd. (South Africa) >

NRG Gestetner South Africa (Pty) Ltd., a sales subsidiary in South Africa, participated in "Earth hour 2009" held in March 28. Lights in offices and neon signs were turned off, and 74 employees spent the night at special events, including "candle nights" and "fire parties," with families, friends and other local residents. As a whole, NRG Gestetner contributed to a reduction of 300 kg of CO_2 emissions. There was also a lottery and six employees that participated in the event won a water powered clock.



Employees and their families and friends enjoying a fire party

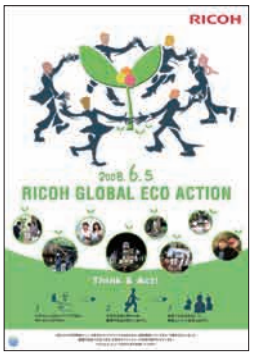
TOPIC

Ricoh Global Eco Action

On the day set to think about the environment and begin to take action, about 43,000 people in 31 countries and regions joined us.

Each year, Ricoh Global Eco Action is held to celebrate World Environment Day (June 5) and to raise the awareness of Ricoh Group employees in environmental conservation. In 2008, we called for the Ricoh Group members, our business partners and local governments throughout the world to participate in the third round of the annual event. In response to our invitation, a total of 43,000 people joined us from 65 companies located in 31 countries and regions. They took various eco actions of their choice, such as switching off lights at the office, turning off neon signs and advertising boards, leaving the office on time without working overtime, and taking eco-friendly transportation to work. In December 2008, winter day Eco Action was organized for member companies in Japan. Participation in the event was advertized at the LPGA Tour Championship Ricoh Cup, a women's golf tournament held at the end of November 2008. The chairperson of the LPGA (Ladies Professional Golfers Association of Japan) and 25 Cup players and 690 visitors responded to the invitation, further boosting the Eco Action community.


Teaching the importance of environmental conservation to children at a local elementary school (Ricoh Panama)



Poster to advertise Ricoh Global Eco Action

We preserve biodiversity by maintaining and improving the self-recovery capabilities of the global environment through our business activities as well as our social contribution activities.

As indicated in Ricoh's Environmental Principles[1], introduced in 1992, the Ricoh Group does not see environmental conservation activities and business management as two incompatible issues. Instead, we see conservation of the global environment as a natural responsibility as a global citizen. Conservation of the global environment requires measures not only to reduce impact of our business operations and products on the environment but also to maintain and improve the self-recovery capabilities of the global environment. Recognizing that our businesses depend on the global ecosystem and that biodiversity plays an indispensable role in the health of the ecosystem, the Ricoh Group laid down the Ricoh Group Biodiversity Guidelines. This is to further develop the various conservation measures we have been taking, such as ecosystem conservation activities, promotion of voluntary activities by employees, and "social contribution in environmental conservation" (e.g., awareness-raising programs to encourage other community members), and ecosystem preservation through CDM[2] projects. To these measures, we have added measures to reduce the impact of our business activities on biodiversity by using the new policy as our basic guideline on biodiversity preservation.

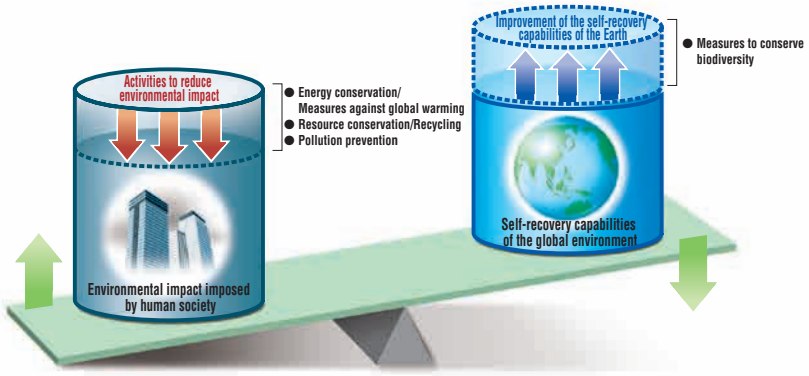
1. See page 77. 2. See page 37.

Ricoh Group Biodiversity Guidelines

Human society largely depends on the ecosystem. But our society has had a tremendous impact on the ecosystem, placing a wide-scale burden upon it. In the past 50 years, the biodiversity has been badly degraded due to human activities. If we do not act now to start conserving the biodiversity and change our way of using natural resources to a more sustainable approach, the survival of human society may even be at risk. To articulate this idea in a concrete form, the Ricoh group laid down the Ricoh Group Biodiversity Guidelines in March 2009. The Guidelines combined the existing measures of the Group toward global environmental conservation and new measures for biodiversity conservation to help develop and promote specific activities. With these Guidelines, the Ricoh Group will continue our efforts to realize an affluent society built on a sustainable global environment.

Ricoh Group's global environmental conservation

—Keep environmental impact within the self-recovery capabilities of the Earth—



Ricoh Group Biodiversity Policy

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

Basic Policy

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

1. **Management tasks**
   Treat biodiversity protection as essential for ensuring the sustainable growth of the company, and implement sustainable environmental management.
2. **Understanding and reducing impact**
   Assess, grasp, analyze, and set numerical targets for the impact on biodiversity of all our business activities, including raw materials procurement, and work continuously to reduce this impact.
3. **Implementation**
   Give priority to measures with a high degree of impact and effectiveness from a biodiversity and business perspective.
4. **Developing new technologies**
   Aim to realize a sustainable society, develop technologies that make use of biological resources, learn from the mechanisms of ecosystems and the nature of living things, and employ the knowledge gained to develop technologies and sustainable production processes.
5. **Working with local communities**
   From the perspective of sustainable development, work not only with government organizations, but also with local residents, NGOs, and other stakeholders to promote the protection of the precious global ecosystems and of the biodiversity of countries and regions where we conduct business.
6. **Involving each person**
   By getting executives to take the lead and implementing Group-wide educational initiatives, enhance recognition of the importance of biodiversity among all employees to enable them to act independently.
7. **Expanding the scope of our activities**
   By collaborating with customers, suppliers, other companies, NGOs, international organizations, and so on, share information, knowledge and experience concerning biodiversity, and expand the scope of our protection activities.
8. **Communication**
   Contribute to raising awareness of biodiversity protection among people at large by sharing the experience of our activities and achievements proactively.

Development of biodiversity conservation activities
<Ricoh (Global)>

Biodiversity conservation activities at the Ricoh Group first started in 1999, when we started the Forest Ecosystem Conservation Project with environmental NGOs and local communities throughout the world. This was to recognize our responsibility as a manufacturer of products that uses a good amount of paper to engage in the conservation of forest resources. Also in 1999, we started the Environmental Volunteer Leader Development Program to encourage employees to take initiative in environmental conservation activities. In 2003, we laid down the Environmental Standards for Paper Product Procurement as a measure for conservation of precious natural forests throughout the world. Since 2006, the Ricoh Global Environment Month Symposium has been held with biodiversity as the theme to promote understanding and cooperation in biodiversity conservation activities among different corporations. In 2008, when the Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB)* was established, we helped the organization as one of the founding members with the goal of promoting cooperation and active involvement of various companies in biodiversity conservation.

* http://www.jbib.org

Declaration on Business and Biodiversity
<Ricoh (Global)>

Ricoh signed the Leadership Declaration on the "Business and Biodiversity Initiative"* at the ninth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP9), held in Germany in May 2008. This initiative led by the German Government calls on businesses to take leading action to reduce degradation of biodiversity. The signatory corporations set voluntary goals , carry out assessment of the impact of their business activities on biodiversity, and incorporate countermeasures into environmental management systems.

* http://www.business-and-biodiversity.de/en/ homepage.html

Ricoh and biodiversity conservation

	Actions taken
1999	Forest Ecosystem Conservation Project started for biodiversity conservation
	Environmental Volunteer Leader Development Program started
2002	Ecosystem conservation activities incorporated into the Environmental Action Plan
	Use of FSC-certified paper started
	Environmental website for children opened with a theme of the Forest Ecosystem Conservation Project
2003	Environmental Standards for Paper Product Procurement laid down
2004	A CDM project (forestation for biodiversity conservation in Ecuador) started
	Display of ecosystem conservation activities started at the exhibition on Eco-Products
2006	Ricoh Global Environment Month Symposium started with a theme on biodiversity
2007	Feasible biodiversity assessment indices studied
2008	Became a member of Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB)
	Signed the Leadership Declaration on the "Business and Biodiversity Initiative"
	Influence of activities on biodiversity identified for each business area, principle ideas laid down

Raising the awareness of employees of the relationships humans share with nature
<Ricoh (Japan)>

The survival of human society is possible only due to biodiversity. If we are to realize a sustainable society, therefore, it is essential that each and every one of us gets actively involved in the conservation of biodiversity, the basis of the global environment's self-recovery capabilities. Based on the Ricoh Group Biodiversity Guidelines created in March 2009, we published the Biodiversity Conservation Activity Handbook to teach our employees the value of biodiversity and show them what each of them can do to conserve biodiversity. In April 2009, we started a website for environmental information called "Gaiaia," to encourage employees to take an interest in biodiversity conservation. In addition to these programs, we are planning to offer study sessions and fieldwork sessions to learn and understand the mechanisms of the global environment from the perspective of other life forms on Earth. We will continue to provide opportunities for employees to raise their awareness and take good actions to conserve biodiversity in the course of their daily work and private life.

Biodiversity Conservation Activity Handbook

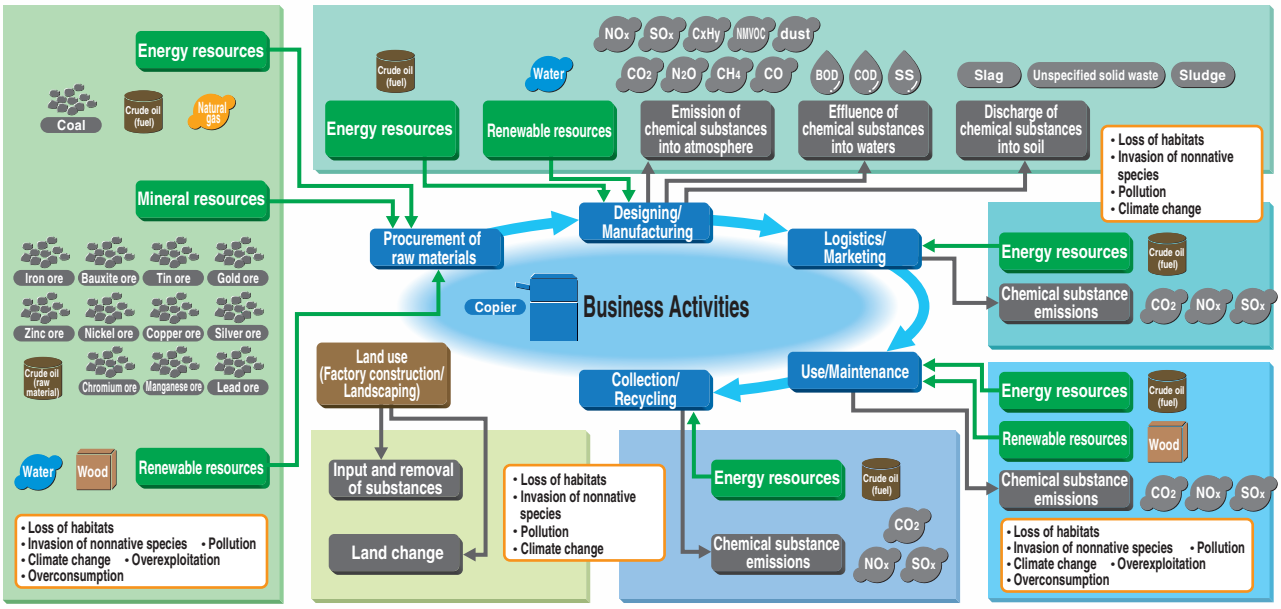
Gaiaia: Environmental website for raising employees' awareness of environmental conservation. (http://www.gaiaia.jp/)

Mapping of relationship between business activities and biodiversity
<Ricoh Group (Global)>

The Ricoh Group created a map to show the exact relationship between our business activities and biodiversity. The "Map of Corporate Activities and Biodiversity" follows the JBIB* format to show the relationship between corporate activities, such as product lifecycle and land use, and biodiversity at a glance. From the map, we learned that the copier industry has a large impact on the ecosystem during procurement of raw materials (e.g., paper pulp and metals) and during manufacturing (particularly in regard to water resources). We will use the information from the map in our conservation activities in close cooperation with each business division.

* See page 70.

Map of Corporate Activities and Biodiversity (Recycled multifunctional digital copiers)



Views held by the organization for business collaboration

INTERVIEW

Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB)

Dr. Naoki Adachi
Executive Director of JBIB
C.E.O. of Response Ability Inc.
PhD in plant science

We seek collaboration to find out what corporations can and should do to preserve biodiversity.

Collaboration among different industries: financial, electricity, housing, construction, etc.

Japan Business Initiative for Conservation and Sustainable Use of Biodiversity (JBIB) is a cross-sector organization started with 14 companies in April 2008. Its purpose is essentially to encourage collaboration among member companies in active efforts geared toward biodiversity conservation. In the first year, the number of member companies increased to 24 (as of April 2009). Although often mistaken, JBIB is not an organization created as a preparation measure for the COP10 in 2010*.

Identifies the relationship between corporate activities and biodiversity and uses knowledge in conservation

As a company with more than 10 years of experience in ecosystem conservation, Ricoh has been taking leadership in member activities as well as in the R&D section. In R&D, impacts of business activities on biodiversity are identified, and the "Map of Corporate Activities and Biodiversity" was developed as a tool to be used inside and outside the company to show the relationships between businesses and biodiversity. By reading the map, people can easily understand how the ecosystem and their business activities are related—harvesting agricultural and fishery products for food manufacturing companies, or mining of coal and iron ore for the steel industry, for example, are related. Now we are moving to the next step to assess the level of impact and develop a tool to start specific activities. As indicated in the Three Ps Balance, Ricoh has been carrying out ecosystem conservation projects in different parts of the world in the belief that Ricoh's businesses depend on the health of the global environment. This is a unique situation not seen in any other corporation. I hope Ricoh will continue assessing the impact of each part of their business activities, such as procurement and water use, to carry out effective activities. I believe they can set a leading example of essential biodiversity conservation activities for other corporations to follow.

* The 10th Conference of the Parties to the Convention on Biological Diversity (COP10) is scheduled for 2010 in Nagoya, Aichi Prefecture in Japan's Tokai Region.

Implementing the Environmental Action Plan

Sample Activities in Japan

Tree planting to celebrate Shinyugaku volunteer group
<Tohoku Ricoh Co., Ltd. (Japan)>

Tohoku Ricoh has been supporting Shinyugaku Satoyamanokai ("rural landscape conservation group for forests, play and learning"), a volunteer group for forest conservation, which was started in December 2007 in Shibata-gun, Miyagi Prefecture, Japan. On June 15, 2008, employees of Tohoku Ricoh Co., Ltd. joined the group at a celebratory ceremony and planted some 150 trees. A total of 32 other participants also joined in, including members of the volunteer group, representatives of Numabe Working Forest Co-operatives, Shibata-machi, Murata-machi, and the Social Welfare Council, and visitors from Taiyo no Mura, a public accommodation facility in the neighborhood. They spent an enjoyable hour planting trees selected to give a seasonal impact, such as different varieties of cherries, Japanese maples, oaks and chestnuts.

Oonomi Green Tourism
<Ishikawa Branch, Ricoh Chubu Co., Ltd. (Japan)>

The Ishikawa Branch of Ricoh Chubu Co., Ltd. in Japan has been encouraging its employees to participate in volunteer activities geared toward rural landscape conservation. In fiscal 2008, the attendance from the branch to various activities totaled 333. In June 2008, the branch signed the "Agreement on Supporting Activities to Use and Conserve the Rural Landscape," an initiative organized by Ishikawa Prefecture, and declared its will to support rural landscape conservation in the area. On May 11 and September 23, branch employees participated in rural landscape restoration activities organized by the Oonomi Green Tourism Council, a non-profit organization, in the Kumabuchi area of Nanao City, and the total attendance numbered 39. Those who experienced rice seedling transplanting and rice harvesting said they were excited to harvest the rice they planted in the spring. Many expressed their will to participate in another event.

Biodiversity study session
<Ricoh Human Resources Division (Japan)>

As the first step of biodiversity conservation, the Human Resources Division of Ricoh Co., Ltd. conducted a survey in September 2008 to learn what kind of life forms they have in the premises and the surrounding areas of the Ginza, Ohmori, Shinagawa and Shin-Yokohama offices. In March 2009, the survey results were discussed at a biodiversity study session held at the Ohmori Office with the participation of some 20 employees. Ms. Risako Noguchi of the Nature Citizen Institute gave a lecture entitled, "What is Biodiversity." This was followed by lectures by the Environment Division of Ricoh Co., Ltd., including one on "Ecosystem Conservation by Ricoh." Then Mr. Noriaki Mitsumori of the Nature Citizen Institute led a concept workshop—"Environmental Conservation and Restoration from the Viewpoint of Other Living Forms" —and fieldwork. The event was concluded with a question and answer session on biotope creation in the office.

Sample Activities outside Japan

Activities to recover the ecosystem in collaboration with the community

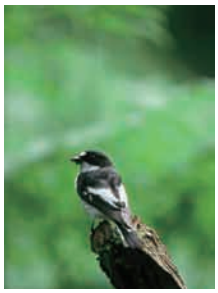
<Ricoh UK Products Ltd. (UK)>

Ricoh UK Products Ltd. (RPL), a manufacturing subsidiary in the U.K., announced that it would recover the ecosystem across the Telford area and held a ceremony to celebrate the beginning of these activities in June 2008. The results of the activities will be checked by monitoring the number of pied flycatchers, a species of bird that ranks high in the ecosystem.

BESST*, a local environmental network headed by RPL, has been central in the efforts to reduce environmental impact in the area, and RPL's commitment to recovering the environment will continue into the future.

* BESST (Business Environment Support Scheme for Telford): Consists of a variety of members including Japanese and local companies, public organizations, and educational/medical institutions.

RPL and Shropshire Wildlife Trust members participating in activities to recover the ecosystem



Pied Flycatcher

Mr. Nakanishi putting up the nest boxes, Managing Director of RPL (right)

Environmental conservation promotion for citizens

<Ricoh China Co., Ltd. (China)>

In June 2008, Ricoh China Co., Ltd. (RCN), the Ricoh Group's sales headquarters for China, supported the Environmental Conservation Agency of the Changning District of Shanghai in its environmental conservation promotion program for citizens at an event celebrating the World Environment Day. RCN awarded communities and schools that participated in tree planting and street cleanups. To raise awareness, RCN used panel displays and explained how bad environmental degradation has been caused by deforestation and drought and what people can do to conserve the environment at home and at the office.

RCN employees participating in the awareness-raising event on World Environment Day

Removing nonnative plants for ecosystem recovery

<Ricoh Europe B.V., Ricoh International B.V., Ricoh Europe SCM B.V. (The Netherlands)>

In September 2008, Ricoh Europe B.V., Ricoh's sales headquarters for Europe, along with Ricoh International B.V. and Ricoh Europe SCM B.V. helped out at the Zuidkennemerland National Park of the Netherlands, removing nonnative cherry trees from the area. The overgrowth of the species has been threatening the survival of animal and plant species in the area, giving a negative impact on the local vegetation pattern. The invasion has been claimed also as a cause of degradation of water quality. To respond to a request by PWN (Provincial Waterworks North-Holland), an organization responsible for maintaining water sources in nature sanctuaries and drinking water supplies for households in the area, a total of 53 staff members, including all managers, participated in the removal of unwanted trees.

Supporting environmental education in cooperation with an NPO

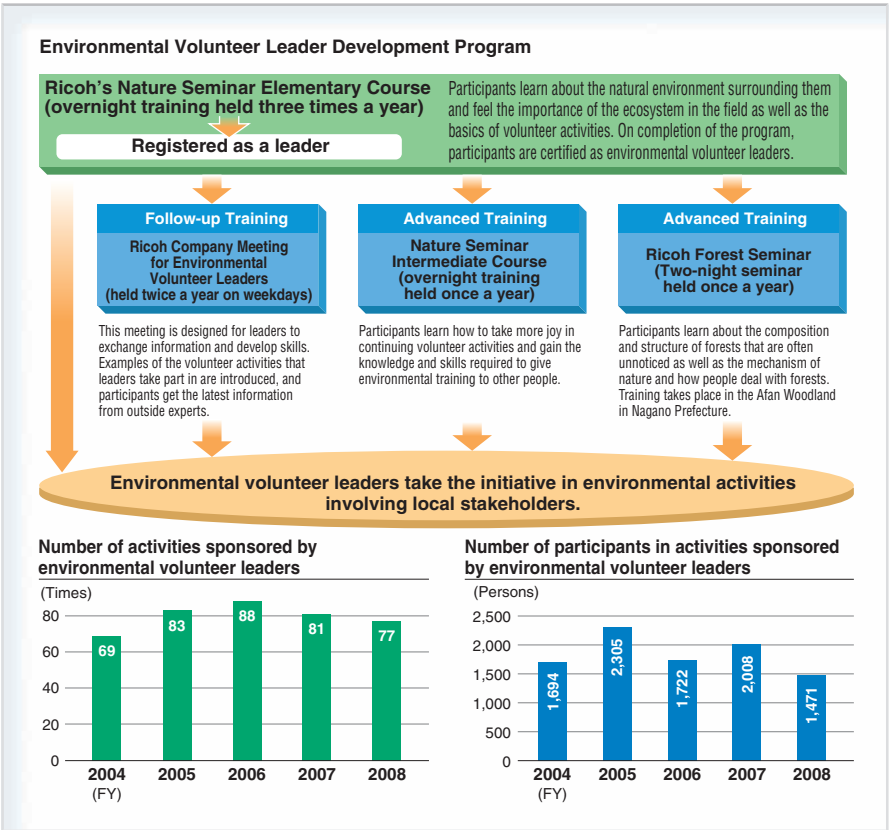
<Ricoh Australia Pty. Ltd. (Australia)>

Since 2003, Ricoh Australia Pty. Ltd. (RAP), a sales subsidiary, has supported the Earthkeepers™ program designed by the Institute for Earth Education, an international NPO. The program starts with a three-day stay in a natural bush setting and is designed to encourage children to feel, learn, think and take action to lead a sustainable life, through increasing their contact with nature. Over 400 children between 10 and 11 have participated in the program so far. RAP's employees have also participated in activities as staff.

Promotion of Environmental Volunteer Activities

<Ricoh Group (Japan)>

For the conservation of the global environment, it is important for each staff member to carry out related activities spontaneously inside and outside the company, maintaining a sense of being a global citizen. Ricoh launched the Environmental Volunteer Leader Development Program in June 1999 for its staff members. In fiscal 2001, the scope of the program was expanded to include staff members working at Group companies as well as retired employees. By the end of fiscal 2008, 452 environmental volunteer leaders, including directors, had been fostered. After taking part in the program, each participant engages in volunteer activities involving his or her division or community. The network of activities successfully increased its range from colleagues, families and friends to entire local communities.



Environmental Volunteer Activities

Ricoh Yadoriki Shinboku Group

The group started forest preservation work in the riverhead in the Yadoriki region in 2001, when it joined Kanagawa Prefecture's forest preservation partnership program. Since 2006, the group has been participating in management and monitoring of zelkova mixed forests in the Tanzawa-Oyama Kanagawa Prefectural Natural Park. Each of the 20 or so members tries to imagine how the forests would look 100 or 500 years later while working to make the area a valuable place for environmental studies.

Shishigaya Green Zone Conservation Group

The group started its activities in 2003 with a plot in Tsurumi-ku lent by the Green Environment Administration Bureau of Yokohama City. With about 20 members, consisting of Group company employees residing in the neighborhood and their families, the group meets on the third Saturday of every month to carry out various activities. The list of events undertaken to date includes observation of native dandelions, doll making with thinned woods, cherry and plum tree pruning, creating an insect reserve, and replacement of thatched roofs on old private residences designated as cultural assets.

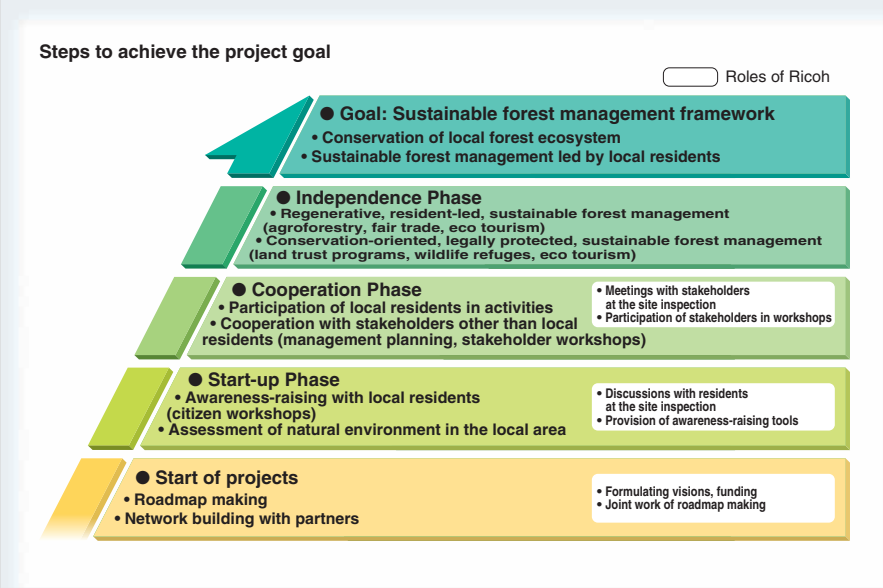
Ricoh Chiba's Fureai-no-Mori Rural Landscape Preservation Group

This volunteer group consisting of about 20 members has been working on the restoration of the rural landscape in Wakaba-ku, Chiba City, since 2004. On the third Saturday of every month, they meet to help the transition of the cedar-only forest into a mixed forest where children can interact and study a diverse array of animals, insects and plants. The group also provides fun activities for children, including vegetable gardening and beetle hunting, in addition to preparing home-style lunches using a variety of foods.

Forest Ecosystem Conservation Projects

<Ricoh (Global)>

On the earth, various life habitats exist and unique ecosystems are maintained in forests, lakes and ponds, coral reefs, and oceans. If these ecosystems are damaged, the natural environment that is indispensable for maintaining the life of human beings will be harmed. Ricoh places priority particularly on forest ecosystems with rich biodiversity and has been promoting forest ecosystem conservation projects since fiscal 1999 in partnership with environmental NGOs and local communities. Unlike simple afforestation, the main aim of these activities is to protect the habitats of indigenous species and the life of residents, and in such activities, priority is given to creating a partnership with environmental NGOs and local residents. The projects are financed by the social contribution reserve that Ricoh established to continuously carry out social contribution activities. Provided that approval is gained at the general shareholders' meeting, 1% of Ricoh's annual profit after deducting annual dividends is allocated for the reserve (up to ¥0.2 billion).



Ricoh's Forest Ecosystem Conservation Projects (As of the end of March 2008)

Start date	Country	Name/NGO	Activity	Phase progress			
				Start-up	Cooperation	Independence	Goal
June 1999	Bangladesh	Restoration of satoyama (community forests)/ Bangladesh Poush	Education of children, development of afforestation activities, and raising saplings (completed in fiscal 2007)				2007
February 2000	Sri Lanka	Conservation and restoration of forests at World Heritage Sites/ Field Ornithology Group of Sri Lanka	Preservation and expansion of forests where the Sri Lankan long-tailed fowl can live (completed in fiscal 2007)				2007
March 2000	Philippines	Restoration of tropical rain forests*/ Conservation International	Restoration of rich forests where the Philippine Eagle and other forest creatures can coexist with people				
October 2000	Malaysia	Restoration of tropical forests and orangutan habitats*/WWF	Expansion of the habitats of endangered species, including the orangutan				
November 2001	China	Restoration of temperate forests and giant panda habitats*/WWF	Conservation of habitats for endangered species, including 437 vertebrates, such as the giant panda, and 4,000 plants, to prevent their extinction (completed in fiscal 2007)				2007
November 2001	Japan	Conservation of the Afan Forest in Kurohime, Nagano*/ C.W. Nicol Afan Woodland Trust	Conservation of natural forests that have enough space and food for bears, dormice, and other animals to live and where people can feel close to nature				
November 2001	Japan	Conservation of the Yanbaru Forest in Okinawa*/ Yanbaru Forest Trust	Conservation of habitats of endangered species unique to the region, including Rallus okinawae				
March 2002	Ghana	Restoration of tropical rain forests*/ Conservation International	Preservation of forests through sustainable agriculture, specifically, raising cocoa in the shade of trees so that people can live with other living things				
May 2004	Russia	Conservation of Taiga, the northern limit habitat of tigers*/ Friends of the Earth Japan (FoE Japan)	Conservation of rich forests where many wild animal species, including the Amur tiger, live harmoniously with people				
August 2007	China	Conservation of biodiversity at the Three Parallel Rivers, a World Heritage Site*/ Asia Green-Culture Association	Conservation of forests at a World Natural Heritage Site where rare wildlife, including golden monkeys, can be observed				
August 2007	Brazil	Restoration of forests in Boa Nova, lowland tropical forests along the Atlantic coast*/ Bird Life Asia	Restoration of tropical forests along the Atlantic coast which have shrunk to 7% of their original size to create a society where people can live together with forests				

* Projects covered under the social contribution reserve system

Restoration of Boa Nova Lowland Tropical Forests

The Boa Nova Lowland Tropical Forests area along the Atlantic coast in Bahia, Brazil, is the nation's third largest vegetative area after the Amazon and the shrub grassland area and serves as an important habitat for rare species. Habitat destruction due to illegal lumbering, plantations, slash-and-burn farming, overgrazing, and other human activities has shrunk the area to 7% of its original size. Bird Life Asia, an environmental NGO, has been carrying out a reforestation project with agroforestry and bird tourism to create a resource-recirculating society whereby the residents and forests can exist in harmony. Ricoh has been supporting the program since 2007. In fiscal 2008, events and activities provided by Ricoh included an ecological survey of hummingbirds (the symbol of the project), field studies with local elementary schoolchildren, seminars for residents, and surveys on firewood usage. Also, 80 land owners were invited to related ceremonies.

Humming bird, the project's symbol

Local children participating in a field study

Afan Woodland Conservation Project

Ricoh started the Afan Woodland Conservation Project in 2001 in cooperation with the C.W. Nicol Afan Woodland Trust in Kurohime, Nagano Prefecture. Once degraded, forest ecosystems cannot recover easily—sometimes it requires hundreds of years if left to natural capacities only. It is therefore important for us to help the forests recover their wounds. With the project goal set as "Recovering and conserving the stable growth for prolonged periods of natural forests by supporting the natural processes of succession," the group selected trees that needed priority for growth care, while providing an environment where the trees can best recover themselves using their natural capabilities. The results of work so far are obvious in the increasing number of wildlife species in the forests. With the image of the woodland 100 years from now in mind, the project repeats the "activities as planned" and "survey to inspect the results" so that human interaction can always result in the best way to enhance the woodland's self-recovery capabilities.

Forest recovered by the project activities

Activities to Build a Wider Network

Ricoh Global Environment Month Symposium

<Ricoh (Japan)>

In June 2008, the Third Ricoh Global Environment Month Symposium was held under the theme of year, "Sharing the benefits of biodiversity: corporations and local communities for sustainable development." This series has been organized since 2006 with the main theme of "For Joint Creation of Sustainable Society." About 180 people attended this year, including people responsible for environmental issues in private businesses, representatives of environmental NGOs, students, and managers, executives and employees of the Ricoh Group. In the section to introduce examples, some cooperative projects between companies and NGOs were introduced, and a lecture was given on the tropical rain forest restoration project in Ghana, which Ricoh supports as a forest ecosystem conservation project. In a panel discussion, many opinions and views were exchanged. The typical view can be summarized as: "Our business activities largely depend on the resources and other services that ecosystems provide for human society. Based on this idea, businesses must collaborate with various stakeholders, including local communities, NGOs and governments, to conserve biodiversity."

Environmental study web site for children

<Ricoh (Global)>

Ricoh's environmental web site has a learning section for children. The "Ecotoday Tempel-Tuttle Story*" covers forest ecosystem conservation activities supported by Ricoh, which are explained in an easy-to-understand way, using examples from Russia, Ghana, Malaysia, and Japan, and children can learn about environmental problems through quizzes and games.

* http://www.ricoh.com/environment/ecotoday/

Targeted Period/Scope of This Report

Targeted Period

This report describes the sustainable environmental management activities of the Ricoh Group in fiscal 2008 (April 1, 2008 to March 31, 2009).

Environmental impact and environmental accounting data: fiscal 2008 data
Descriptions in articles and chronological tables: fiscal 2008 data (in principle)

The environmental impact and environmental accounting data are taken from the Ricoh Group's major business sites in five regions—Japan, the Americas, Europe, China, and the Asia-Pacific region—and as such, may differ from Ricoh Group data presented elsewhere in this report, e.g., in the organization profile. The Ricoh name refers to Ricoh Co., Ltd, not the Ricoh Group as a whole.

● Important Organizational Changes Made During the Report Period

◎ As of August 1, 2008, Ricoh Elemex Corporation became a fully owned subsidiary of Ricoh Co., Ltd. through a stock exchange.

◎ On October 31, 2008, acquisition of IKON Office Solutions, Inc. (IKON. Consolidated number of employees: about 24,000 (as of September 30, 2008); consolidated sales: USD 4,167 million [term ended September 2008]) by Ricoh Americas Corporation (RAC. Regional sales headquarters of Ricoh Co., Ltd. for the Americas) was completed. IKON, as a result, has become a fully owned subsidiary of RAC.

● Past and Future Reports

The Ricoh Group has published annual environmental reports every year since 1997, which covered fiscal 1996. The 2009 Report in English was issued in September 2009. The 2010 Report in English will be issued in September 2010.

Scope of Collection of Environmental Impact and Environmental Accounting Data

Environmental impact and environmental accounting data are collected from Ricoh's production and non-production sites and Ricoh Group companies that have established their own sustainable management systems.

■ Japan

- **Ricoh production sites:**
  Atsugi Plant, Hatano Plant, Numazu Plant, Gotemba Plant, Fukui Plant, Ikeda Plant, Yashiro Plant
- **Ricoh non-production sites:**
  Head Office, Ohmori Office, Ricoh System Center, Shin-Yokohama Office, Ricoh Service Parts Center [1], Research and Development Center, Software Research Center, Toda Technical Center, Applied Electronics Laboratory, Technology Center
- **Ricoh Group major manufacturing subsidiaries:**
  Tohoku Ricoh Co., Ltd.; Hasama Ricoh, Inc.; Ricoh Unitechno Co., Ltd.; Ricoh Optical Industries Co., Ltd.; Ricoh Keiki Co., Ltd.; Ricoh Microelectronics Co., Ltd.; Ricoh Elemex Corporation; Ricoh Printing Systems, Ltd.; Yamanashi Electronics Co., Ltd. [1]
- **Ricoh Group major non-manufacturing subsidiaries:**
  Ricoh Logistics System Co., Ltd.; Ricoh Hokkaido Co., Ltd.; Ricoh Tohoku Co., Ltd.; Ricoh Sales Co., Ltd.; Ricoh Chubu Co., Ltd.; Ricoh Kansai Co., Ltd.; Ricoh Chugoku Co., Ltd.; Ricoh Kyushu Co., Ltd.; Ricoh Technosystems Co., Ltd.; Ricoh IT Solutions Co., Ltd.; Ricoh Business Expert, Ltd.; Other sales subsidiaries; Part Component System Co., Ltd. [2]; Ricoh Leasing Co., Ltd. [1]; Ricoh San-ai Service Co., Ltd. [1]; Other sales subsidiaries in Japan

■ The Americas

- **Manufacturing subsidiary:**
  Ricoh Electronics, Inc. (U.S.A.)
- **Non-manufacturing subsidiaries:**
  Ricoh Americas Corporation (U.S.A.)
  Ricoh Canada Inc. (Canada) [1]
  Ricoh Latin America, Inc. (U.S.A.) [1]

■ Europe

- **Manufacturing subsidiaries:**
  Ricoh UK Products Ltd. (U.K.)
  Ricoh Industrie France S.A.S. (France)
- **Non-manufacturing subsidiaries:**
  Ricoh Europe PLC (U.K.) and other sales subsidiaries in the region

■ China

- **Manufacturing subsidiaries:**
  Ricoh Asia Industry (Shenzhen) Ltd. (China)
  Shanghai Ricoh Facsimile Co., Ltd. (China)
  Shanghai Ricoh Digital Equipment Co., Ltd. (China)
  Ricoh Thermal Media (Wuxi) Co., Ltd. (China) [1]

■ Asia-Pacific Region

- **Non-manufacturing subsidiary:**
  Ricoh Asia Pacific Pte. Ltd. (Singapore) and other sales subsidiaries in the region

1. Environmental impact data only
2. Environmental accounting data only

Corporate Philosophy/General Principles on the Environment/Management Philosophy/ Principles of the Environmental Reporting

Corporate Philosophy

The Ricoh Group's corporate philosophy "The Spirit of Three Loves" was established by its founder, Kiyoshi Ichimura. He explained the philosophy as follows: Everyone at least loves himself/herself. As time passes, however, this feeling of love grows and expands to include all people, plants, and animals in the world. This philosophy drives the Ricoh Group toward better sustainable environmental management.

—The Spirit of Three Loves—
Love your neighbor
Love your country
Love your work

Management Philosophy

Ricoh's management philosophy was formally introduced in 1986 based on the corporate philosophy of "The Spirit of Three Loves" in order to establish and nurture the corporate culture and system to ensure survival in a time filled with increasing change, information-oriented societies, diverse values, and more intense competition.

Our Purpose To constantly create new value for the world at the interface of people and information

Our Goal To be a good global corporate citizen with reliability and appeal

Our Principles
- To think as an entrepreneur
- To put ourselves in the other person's place
- To find personal value in our work

Environmental Principles

Ricoh introduced the Ricoh Environmental Principles, which are based on its management philosophy, in 1992 and revised them in 1998, 2004, and 2008. These principles show Ricoh's commitment to sustainable environmental management and are widely disclosed to the public through various media, including Web sites. Based on these principles, Ricoh Group companies have independently established and managed their own rules regarding the environment according to their business type.

Basic Policy

As a global citizen, the Ricoh Group is obligation-conscious of environmental conservation. In addition, we strive to honor our environmental responsibilities and concentrate group-wide efforts in environmental conservation activities, implementation of which we believe to be as significant as our business operations.

Action Guideline

1. Achieve superior targets
   Complying with laws and regulations as a matter of course, we dutifully fulfill our environmental responsibilities, setting targets that go ahead of those that society currently requires, and by achieving these, create economic values.
2. Develop innovative environmental technologies
   We will take steps to develop and promote innovative environmental technologies that will give increased value to our customers and can be utilized by various people.
3. Encourage all employees to participate in environmental activities
   In all our business activities, we strive for awareness of environmental impact, thereby involving all Ricoh employees in implementing continuous improvements to prevent pollution, and use energy and natural resources more efficiently.
4. Be attentive to product lifecycle
   To provide our products and services, we spare no effort to reduce environmental effects in all stages of the product lifecycle, from procurement, manufacturing, sale, and logistics, to usage, recycling, and disposal.
5. Improve employees' environmental awareness
   We at Ricoh wish each employee to be attentive to a broader range of social issues and mindful of enhancing environmental awareness through proactive learning processes, designed to commit the employee to environmental conservation activities according to his or her responsibility.
6. Contribute to society
   By participating in and supporting environmental conservation activities, we will contribute to creating a sustainable society.
7. Optimize communication with stakeholders
   Ricoh Group will expand its environmental conservation activities with stakeholders. In addition, we will fully communicate and proactively cooperate with our stakeholders to reassure communities of our dependability and commitment to the environment.

February 2008

Principles of the Environmental Reporting

In fiscal 2001, Ricoh established principles of environmental reporting, which comprise requisites for providing information useful to stakeholders when they make their decisions on sustainable environmental management. The environmental reporting is based on corporate accounting principles as no official principles or terminology have been developed for sustainable reporting.

1. The environmental reporting must contain true statements about companies' state of sustainable environmental management [1].
2. The environmental reporting must fairly represent the results of all the sustainable environmental management activities [2].
3. The environmental reporting must clearly represent the facts necessary for stakeholders not to misjudge the environmental impact of companies [3 & 4].
4. The environmental reporting must continuously reflect the principles and procedures of basic data processing and representation methods every fiscal year and may not change those principles, procedures, and representation methods without good reason [5].

Notes:
1. "Companies" refer to the Ricoh Group as a whole, Group companies, and/or their business sites, depending on the coverage and level of the report.
2. The avoidance of disclosing negative information shall not be regarded as a fair representation of all information.
3. The state of companies' environmental risk management shall be included in the information stakeholders use in decision making.
4. Significant subsequent events shall be described in the report. Subsequent events refer to events that occur during the period from the day after the reporting period ends to the date the report is completed. Such events may influence the state of companies' sustainable environmental management from the next fiscal year onward.

   Examples of significant subsequent events are as follows:
   a) Critical damage caused by environmental pollutants and similar causes
   b) The announcement and implementation of large environment-related investment projects
   c) The assignment and transfer of significant environment-oriented business transactions
   d) Significant, controversial environment-related cases that arose or were solved
   e) The announcement of significant development in environment-oriented technologies

   Subsequent events disclosed as notes are useful as supplemental information to determine the state of companies for future sustainable environmental management.
5. Ongoing applications may be cancelled only if there is good reason and it has been determined that environmental reporting would be more rational if it followed procedures or if there were changes in representation. "Good reason" includes significant changes in company management policies, business reorganization, drastic technological innovation, and amendments in and the abolition of relevant laws, regulations, and standards.

Index by Term

Our earth,
Our tomorrow

Please send all comments and inquires regarding this report to:

● The Americas

Ricoh Americas Corporation
Environmental Management and Product Compliance
19 Chapin Road BLDG. C Pine Brook, NJ 07058 USA
Phone: +1-973-808-7645 Facsimile: +1-973-882-3959
E-mail: environmentinfo@ricoh-usa.com
http://www.ricoh-usa.com

● Europe, Africa, and the Middle East

Ricoh Europe PLC
66 Chiltern Street, London W1U 4AG, United Kingdom
Phone: +44-20-7465-1000 Facsimile: +44-20-7224-5740
E-mail: emo@ricoh-europe.com
http://www.ricoh-europe.com

● Asia and Oceania

Ricoh Asia Pacific Pte. Ltd.
Regional Environmental Management Group
103 Penang Road #08-01/07, VISIONCREST Commercial, Singapore 238467
Phone: +65-6830-5888 Facsimile: +65-6830-5830
E-mail: webmaster@rapp.ricoh.com
http://www.ricoh-ap.com

● China

Ricoh China Co., Ltd.
17F., Huamin Empire Plaza, No.728 Yan An Xi Road,
Shanghai, China P.C 200050
Phone: +86-21-5238-0222 Facsimile: +86-21-5238-2070
E-mail: contact@rcn.ricoh.com
http://www.ricoh.com.cn/

● Japan

Ricoh Co., Ltd.
Corporate Environment Division
Ricoh Bldg., 8-13-1 Ginza, Chuo-ku, Tokyo 104-8222, Japan
Phone: +81-3-6278-5209 Facsimile: +81-3-3543-9347
E-mail: envinfo@ricoh.co.jp
http://www.ricoh.com/environment/