Progress in Environmental Action Plans

The Ricoh Group establishes environmental action plans and takes various approaches to achieve its goals of promoting innovative environmental conservation activities and of successfully carrying out environmental management on a global scale. The Group first identifies the overall environmental impact[1] of its corporate activities and determines the degree of impact.

	Goals
Environmental Management System (EMS) See pages 16–18.	● In order to continuously improve the EMS, it is essential for all Ricoh domestic and overseas business sites as well as production sites to acquire ISO 14001 certification by September 2000 and for the Ricoh Group as a whole to do so by the end of fiscal 2001 pursuant to standards that take environmental impact and one's business scope into consideration.
Environmental Management Information System See pages 19–20.	● Construct an environmental impact information system for copiers, facsimiles, and laser printers by the end of fiscal 2000 (by the end of fiscal 2001 for other product lines). ● Construct an environmental management information system by the end of fiscal 2000.
Resource Conservation and Recycling (Products) See pages 39–44.	● Establish a collection and recycling system for products and supplies, especially toner cartridges, in Japan, Europe, the Americas, China and Taiwan, and the Asia-Pacific region by the end of fiscal 2001. ● Increase the resource recovery rate for copiers, facsimiles, and laser printers, including toner cartridges, to 90% or more by the end of fiscal 2001.
Resource Conservation and Recycling (Business Sites) See pages 25–28.	● Ricoh is to reduce final waste 90%, compared with that in fiscal 1992, by the end of fiscal 2001. ● Achieve a 100% resource recovery rate (zero waste to landfill) at all domestic production sites by the end of fiscal 2000. ● Achieve a 70% resource recovery rate at all domestic nonproduction sites by the end of fiscal 2001. ● Achieve a 100% resource recovery rate (zero waste to landfill) at all overseas production sites by the end of fiscal 2001.
Energy Conservation (Products) See pages 35–37.	● Reduce a 30% energy consumption per product, compared with that in fiscal 1996, by the end of fiscal 2001. ● Increase the speed of duplex copying and the number of types of recyclable paper that can be used in copiers to promote the efficient use of paper and thus reduce CO_2 emissions during paper manufacturing.
Energy Conservation (Business Sites) See pages 29–30.	● Ricoh is to reduce CO_2 emissions at least 15% by the end of fiscal 2001 on a per sales basis (the target figure divided by revenue), compared with those in fiscal 1990. (Domestic and overseas production sites other than Ricoh's have set numeric goals of 15% or more each compared with that of fiscal 1990.)
Pollution Prevention (Products) See page 38.	● Reduce the volume of specified chemical substances, such as lead and polyvinyl chloride (PVC), at least 50% on a per product basis in all products introduced in fiscal 2001, compared with products introduced in fiscal 1997. ● Reduce the level of noise at least 2 dB and emissions of ozone and other by-products at least 20% for all copiers, facsimiles, and laser printers introduced in fiscal 2001, compared with products introduced in 1997.
Pollution Prevention (Business Sites) See pages 31–32.	● All domestic and overseas production sites, research centers, manufacturing subsidiaries of the Ricoh Group are to reduce Pollutant Release and Transfer Register (PRTR) substances at least 20%, and emissions at least 50%, compared with those in fiscal 1997, and completely eliminate landfill waste by fiscal 2001. ● The Ricoh Group is to completely eliminate the use of trichloroethylene, tetrachloroethylene, chloroform, and dichloromethane (except in the manufacturing of existing photosensitive materials) by the end of fiscal 2001 and to completely eliminate the use of dichloromethane in the manufacturing of existing photosensitive materials by the end of fiscal 2007.

Based on this determination, environmental action plans are drafted to effectively reduce the degree of the impact identified. The effects of the ensuing environmental conservation measures as well as the economic benefits gained are disclosed in the environmental accounting[2] of the Group.

1. See pages 21–22.
2. See pages 65–68.

Progress Made in Fiscal 2000

▶ Eleven of Ricoh's nonproduction sites acquired the integrated ISO 14001 certification in September 2000. Two hundred and eighty-six Ricoh Techno Systems business sites and four Ricoh Logistics business sites acquired multisite certification* in September and December 2000, respectively. At present, 446 domestic sales bases (sales companies) and overseas sales bases (Ricoh Corporation, Ricoh Europe B.V., Ricoh Hong Kong Ltd., and Ricoh Asia Pacific Pte. Ltd.) are making efforts to acquire certifications for EMS.

* Two or more business sites can be covered by one certification.

▶ A system to identify and analyze the environmental impact data of copiers, facsimiles, and laser printers has been established. This system is to start in June 2001. (A collection and recycling system is to be completed in August 2001.)

▶ The establishment of a cost accumulation system was completed in fiscal 1999. The cost accumulation system has been in operation at Ricoh from the second half of fiscal 1999.

▶ As of fiscal 2000, all targeted systems have been completed (i.e., databases on environmental laws and their revisions, product recycling/energy conservation measures, external queries, World Wide Web inquiries, and the kinds of waste generated at business sites as well as information from environmental label forums, forums on the business environment surrounding sales, and the CO_2 Forum).

▶ **Product Collection and Resource Recovery System**
Nationwide networks of collection and recycling centers are completed in Japan. In Europe, the Americas, China and Taiwan, and the Asia-Pacific region, collection systems are almost completed and resource recovery systems have, with the exception of some countries, already started.
Toner Cartridge Collection and Resource Recovery System
In Japan, Europe, the Americas, China and Taiwan, and the Asia-Pacific region, collection systems are almost completed, and resource recovery systems have, with the exception of some countries, already started.

▶ In Japan, the copier resource recovery rate in the second half of fiscal 2000 was 96%. In Europe, the Americas, China and Taiwan, and the Asia-Pacific region, resource recovery rates were 60%–80%. The toner cartridge resource recovery rate in Japan in the second half of fiscal 2000 was 77%. In Europe and the Americas, the resource recovery rates were at least 95%.

▶ In fiscal 2000, final waste was reduced by 93.6%.

▶ As of March 2001, 16 domestic production sites and Group manufacturing subsidiaries (Fukui Plant, Numazu Plant, Gotemba Plant, Yashiro Plant, Hatano Plant, Atsugi Plant, Ikeda Plant, Part Component System's Sagamino Plant, Ricoh Elemex's Ena Site, Ricoh Elemex's Okazaki Site, Ricoh Unitechno, Ricoh Keiki, Tohoku Ricoh, Ricoh Microelectronics, Hasama Ricoh, and Ricoh Optical Industries) all have achieved zero waste to landfill.

▶ Achieved 76.7%, surpassing the goal for fiscal 2000.

▶ As of fiscal 2000, Ricoh Industrie France and Ricoh Electronics, Inc. (all six business sites) achieved zero waste to landfill.

▶ In fiscal 2000, energy consumption of black-and-white copiers and multifunctional copiers was reduced by 10.5%, compared with that in fiscal 1996. (See notes to the Changes in Energy Consumption of Black-and-White Copiers and Multifunctional Copiers graph on page 35 for calculations.)

▶ In fiscal 2000, energy consumption of facsimiles was reduced by 79.7%, compared with that in fiscal 1996. (See notes to the Changes in Energy Consumption of Facsimiles graph on page 35 for calculations.)

▶ In fiscal 2000, energy consumption of color copiers and multifunctional copiers was reduced by 33.5%, compared with that in fiscal 1996. (See notes to the Changes in Energy Consumption of Color Copiers and Multifunctional Copiers graph on page 35 for calculations.)

▶ The duplex copying/printing function* of copiers and laser printers was improved through advanced paper feed technology.
Black-and-white digital multifunctional copiers marketed in fiscal 2000 were able to sustain 100% duplex copying productivity during continuous printing.

* Duplex copying productivity (%) = (Time spent on simplex → duplex copying)/(Time spent on simplex → simplex copying) × 100

▶ Ricoh reduced CO_2 emissions by 20.1% in fiscal 2000, compared with those in fiscal 1990.
Seven domestic production affiliates reduced CO_2 emissions by 5.6%–68.6%.

▶ Lead-free solder (Sn-Ag-Cu), halogen-free harnesses (polyolefinic products), and hexavalent-chromium-free steel boards are being used in production sites.
The Aficio 1022/1027 (imagio Neo 220/270) series (marketed in June 2001) incorporates these materials.

▶ As of fiscal 2000, the level of noise emitted during operation and while on standby was reduced 2.3 dB and 2.5 dB, respectively, surpassing the 2-dB reduction goal for the current fiscal year. Ozone emissions were reduced by 20%, compared with that in fiscal 1997, but reductions in dust emissions, although improving, had not achieved the 20% target rate. The target is expected to be reached in fiscal 2001.
(Calculations are based on the weighted number of all copiers, facsimiles, and printers introduced and use a copying productivity of 50 sheets per minute for all machines.)

▶ PRTR substance use was reduced by 24.1% and emissions by 26.9% in fiscal 2000.

▶ The use of trichloroethylene and chloroform was completely eliminated at all domestic and overseas business sites.
The use of tetrachloroethylene was completely eliminated at all domestic business sites. Only one overseas business site has not completely eliminated the use of tetrachloroethylene but is expected to do so in fiscal 2001.

▶ The use of dichloromethane in fiscal 2001 has been restricted to the manufacturing of existing photosensitive materials only, and a search for a suitable replacement began.