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 successfully carrying out environmental management on a global scale. The Ricoh Group first identifies the overall Eco Balance of corporate activities to determine the degree of environmental impact. Based on this analysis,

	Goals
Environmental Management System (See pages 15–16.)	●In order to continuously improve the EMS, it is essential for all Ricoh domestic and overseas business bases as well as production bases 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.
Environmental Management Information System (See pages 17–18.)	●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 a system to collect and provide information on environmental accounting, environmental improvement activities, regulations, environmental labels, and customers by the end of fiscal 2000.
Resource Conservation and Recycling (Products) (See pages 37–42.)	●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 43–46.)	●Ricoh is to reduce final waste 90%, compared with that of fiscal 1992, by the end of fiscal 2001. ●Achieve a 100% resource recovery rate (zero waste) 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 2000. ●Achieve a 100% resource recovery rate (zero waste) at all overseas production sites by the end of fiscal 2001.
Energy Conservation (Products) (See pages 47–48.)	●Reduce the energy consumption per product 30%, 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 49–50.)	●Ricoh is to reduce CO_2 emissions at least 15% by the end of fiscal 2001 on a per sales basis, compared with those of fiscal 1990. (Domestic and overseas production sites other than Ricoh's have set numeric goals of 15% or more each.)
Pollution Prevention (Products) (See pages 51–52.)	●Reduce the volume of specified chemical substances, such as lead and 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 emitted 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 53–54.)	●The Ricoh Group is to reduce the use of substances subject to PRTR at least 20% and emissions 50% or more, compared with those of fiscal 1997, and completely eliminate landfill waste by fiscal 2001. ● The Ricoh Group is to completely eliminate the use of trichloroethylene and tetrachloroethylene by fiscal 2001. ●Restrict the use of dichloromethane to the manufacturing of existing organic photosensitive materials by the end of 2001 and completely eliminate its use by the end of fiscal 2007.*

environmental action plans are drafted to effectively reduce the impact identified. The effects of the ensuing environmental conservation measures as well as the economic benefits gained are shown in the annual environmental accounting and publicized in the following year's environmental report.

Progress Made in Fiscal 1999

▶ Eleven of Ricoh's nonproduction bases are being merged under the environmental management system to acquire ISO 14001 certification by September 2000. A multisite system will be adopted for 446 sales bases (sales divisions, branches, and dealers), eight Ricoh Logistics business bases, and 286 Ricoh Techno Systems business bases. An environmental management system will also be established for overseas sales bases (Ricoh Corporation, Ricoh Europe B.V., Ricoh Hong Kong Ltd., and Ricoh Asia Pacific Pte. Ltd.).

▶ An environmental impact database and a waste measuring system are already in operation for the manufacturing processes at some business sites. A power monitoring system is currently being tested. A product information system on product use is in operation. An environmental impact database for maintenance was also started. Test operations for similar systems for design and procurement processes have started.

▶ The establishment of a cost accumulation system was completed in fiscal 1999 as part of the environmental accounting information system. The cost accumulation system was in operation at Ricoh from the second half of fiscal 1999.

▶ As of fiscal 1999, Ricoh's internal IT system includes databases on environmental laws and 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**
Nineteen collection centers and six recycling centers are in operation in Japan. A nationwide system is scheduled to be established by the end of fiscal 2000. Preparations for a similar system are underway in Europe, the Americas, China and Taiwan, and the Asia-Pacific region.

▶ **Toner Cartridge Collection System**
A toner cartridge collection system is in its final stage of completion in Japan, Europe, and the Americas. Preparations for a similar system are underway in China and Taiwan and the Asia-Pacific region.

▶ **Resource Recovery System for Toner Cartridges**
In Japan, Europe, and the Americas, toner cartridges are recovered and a resource recovery system is being constructed. Preparations for a similar system are underway in China and Taiwan and the Asia-Pacific region.

▶ The copier resource recovery rate in the second half of fiscal 1999 was 87% in Japan. Efforts to achieve similar results are being made overseas.

▶ In fiscal 1999, final waste was reduced 89.4%.

▶ As of March 2000, seven business sites (Ricoh Fukui, Ricoh Numazu, Ricoh Gotemba, Ricoh Hatano, Ricoh Atsugi, Ricoh Unitechno, and Part Component System's Sagamino Plant) achieved zero waste. All business sites are to achieve zero waste by the end of fiscal 2000.

▶ Achieved 59.6% in fiscal 1999.

▶ As of fiscal 1999, zero waste has not been achieved at any site. However, Ricoh Industrie France continues to achieve a 99% resource recovery rate.

▶ In fiscal 1999, energy consumption for black-and-white copiers was 92.5% that of fiscal 1996. (See notes to the Annual Power Consumption graph on page 47 for calculations.)

▶ In fiscal 1999, energy consumption for facsimiles was 59.6% that of fiscal 1996. (See notes to the Changes in Energy Consumption of Facsimiles graph on page 47 for calculations.)

▶ The duplex* copying/printing function of copiers and laser printers was improved through to advanced paper feed technology. Some series of copiers marketed in fiscal 1999 were able to sustain 100% duplex copying productivity while continuously printing.
*Duplex copying productivity (%) = (Time spent on simplex → duplex copying)/(Time spent for simplex → simplex copying) ×100

▶ Paper weighing 64g/m^2 can be used in all copiers, facsimiles, and printers marketed in fiscal 1999. Recycled paper containing 70% or more recovered paper can be used in all copiers, facsimiles, and printers marketed in fiscal 1999.

▶ Ricoh reduced CO_2 emissions 10.3% in fiscal 1999, compared with those of fiscal 1990. Six domestic production subsidiaries out of seven reduced CO_2 emissions 24.5–66.7%.

▶ Lead-free solder, polyolefinic harnesses, and hexavalent-chromium-free steel boards are to be used in all products marketed in and after fiscal 2001.

▶ As of fiscal 1999, the level of noise emitted during operation was reduced 1.7 dB and that while on standby was reduced 2.5 dB, compared to 1997 levels. Ozone emissions were reduced 20%, despite a slight increase in dust emissions, compared with those of fiscal 1997.
(Calculations are based on the weighted number of copiers sold and uses a productivity of 50 sheets per minute for all machines.)

▶ Substance use was reduced 13.2% and emissions 16.7% in fiscal 1999.

▶ The use of trichloroethylene was completely eliminated at all domestic and overseas business sites as was the use of tetrachloroethylene at all domestic business sites. Only one overseas business site currently uses tetrachloroethylene and is expected to completely eliminate its use in fiscal 2001.

▶ New addition in year 2000.