Review of Environmental Impact Reductions Achieved in Fiscal 2000

Business Sites

Resource Conservation and Recycling

Results for Fiscal 2000

The total final disposal amount of waste was reduced by 35.6% from the fiscal 1999 level.

- Total amount of waste discharged: ····· 35,300 tons
- Total final disposal amount of waste: ····· 3,919 tons

(See pages 25–28.)

All 16 production sites in Japan achieved zero waste, as did production sites in France, the United States, and Mexico. The Ricoh Group is now promoting activities to achieve zero waste at production sites in the U.K., Taiwan, and China. The Aoyama Office and Fukui Ricoh, one of Ricoh's sales companies, also achieved zero waste. The Group will make further improvements to its recycling activities while restricting the amount of waste generated and the amount of resources used.

Zero waste activities are essential in promoting the efficient use of resources, to create a resource-recirculating society. Such activities are also important in encouraging all employees to participate in environmental conservation activities. Through zero waste activities, many employees become more aware of environmental conservation and better understand the importance of environmental conservation activities as a whole. The Group will continue to promote the voluntary activities of employees, thereby helping them to become more environmentally conscious.

Energy Conservation

Results for Fiscal 2000

- CO_2 emissions: ····· 243,586 tons
- Decrease in CO_2 emissions from the fiscal 1999 level: ····· 0.85%

* Ricoh reduced total CO_2 emissions by 9.8% and CO_2 emissions per sales unit by 20.1% from fiscal 1990 levels.

(See pages 29–30.)

The Ricoh Group drew up an action plan in 1998 using an index of CO_2 emissions per sales unit to reduce CO_2 emissions. According to the action plan, by fiscal 2010 the Group is to have reduced CO_2 emissions per sales unit output by 56% from the fiscal 1990 level while aiming for a favorable expansion of the Group's business scale and a reduction in total CO_2 emissions in accordance with the Kyoto Protocol. In fiscal 2001, the Ricoh Group plans to decrease sales unit CO_2 emissions by 15%. Ricoh, however, already attained this target in fiscal 2000, and most of its affiliates achieved a 15% decrease in the same year. Ricoh also reduced total CO_2 emissions by 9.8% from the fiscal 1990 level.

New measures taken to achieve the final goal by fiscal 2010 include using new energy sources, such as solar and wind power. Ricoh is already using solar power, albeit on a limited scale, in the transportation of products as part of its manufacturing process. In addition, we participated in the Green Power Certification System implemented by JNEC. We will endeavor to attain our goal by taking versatile measures in addition to those mentioned above.

Pollution Prevention

Results for Fiscal 2000

The Ricoh Group reduced the use of PRTR substances by 12% and the discharge of PRTR substances by 16% from fiscal 1999 levels.

- Amount of PRTR substances used: ····· 41,907 tons
- Amount of PRTR substances discharged: ····· 21,894 tons

(See pages 31–32.)

In order to reduce the environmental impacts of the chemical use and discharges from the sites, the Ricoh Group aims at reducing the use of PRTR (Pollutant Release and Transfer Register) substances by 20% and the discharge of such substances by 50% from fiscal 1997 levels by fiscal 2001.

The most efficient way to reduce the environmental impact of harmful chemical substances is to use alternatives that have less impact on the environment. However, for chemicals that have no alternatives, coefficients based on the degree of environmental impact are assigned to each substance to control their use and discharge. The total use/discharge of PRTR substances is calculated by multiplying the use/discharge of each chemical by the environmental impact coefficient assigned to it and totaling the product of all chemicals. Ricoh has already attained the fiscal 2001 target for total use. As for the total amount discharged, we have made significant achievements from the beginning of our activities. By the end of fiscal 2001, we will have attained the target for that term by implementing such measures as totally stopping the use of dichloromethane used in cleaning parts.

Products

Resource Conservation and Recycling

Results for Fiscal 2000

- Number of copiers collected worldwide: 181,039 units
- Amount of toner cartridges collected worldwide: 812 tons
- Resource recovery rate (Second half of fiscal 2000)
  Copiers: 96% in Japan, 77% in the Americas, 50% in Europe
  Cartridges: 77% in Japan, 98% in the Americas, 100% in Europe

(See pages 39–44.)

The Ricoh Group believes that for resources to be used effectively, it is most important that consumers be able to use products for a long period. However, the life of any product is limited. Therefore, the Group is building a system to recover and recycle used products on a global scale to conserve resources. In fiscal 2000, the Ricoh Group recovered and recycled 181,039 used copiers and 812 tons of toner cartridges worldwide. In the future, the Group will strengthen this activity, especially in the Americas and Europe. In fiscal 2001, the Group expects to achieve higher recovery and recycling rates for used copiers and toner cartridges.

Collection and recycling costs are currently higher than the profits obtained from the reuse of products and the sale of recycled materials. Ricoh, by recovering used copiers and toner cartridges, aims to create an environmental management system that reduces the environmental impact of business operations while making acceptable profit. To this end, we will promote more environmentally friendly products and the more profitable reuse of used products.

Energy Conservation

Results for Fiscal 2000

The Ricoh Group reduced the energy consumption of the following products from fiscal 1996 levels.

- Color copiers and multifunctional copiers: 33.5%
- Black-and-white copiers and multifunctional copiers: 10.5%
- Facsimiles: 79.7%

(See pages 35–37.)

The Ricoh Group already attained its fiscal 2001 energy conservation target for color copiers thanks to the remarkable advancements made in energy consumption efficiency, mainly those found in the highly energy-efficient products introduced in fiscal 2000. One in particular was a user-friendly black-and-white copier that boasted the energy consumption of approximately one-fourth that of a traditional copier. Copiers based on the Group's QSU technology* were introduced at the end of the fiscal year and, therefore, did not contribute much to the amount of energy conserved in fiscal 2000. The machines are expected to play a major part in energy conservation in fiscal 2001, however.

Ricoh believes it is possible to increase energy conservation by developing technologies that provide both energy-saving and user-friendly functions. For black-and-white copiers, we developed QSU technology, which enables quick start up (10 seconds) from standby mode (which consumes 7 W of power). The reduced startup time makes users more willing to take advantage of the standby mode.

Thanks to the development of QSU technology, we have already achieved the quantitative target for fiscal 2006 as stipulated in the Law concerning the Rational Use of Energy for products with printing speeds under 50 sheets per minute.

* See page 36.

Pollution Prevention

Results for Fiscal 2000

- Ozone emissions per imaging device: 0.013 mg/m^3
- Dust emissions: 0.060 mg/m^3
- Noise emitted while in standby mode: 45.9 dB (A)
- Noise emitted during operation: 68.2 dB (A)

(See pages 31–32, 38.)

To reduce the environmental impact of chemical substances contained in products, the Ricoh Group made efforts to reduce the lead, vinyl chloride, and hexavalent chromium contents of its products by at least 50% from the fiscal 1997 level. In June 2001, the Group will introduce products that contain smaller amounts of these substances.

The costs of properly handling the above-mentioned substances are predicted to increase. The Ricoh Group calculates that in five years the overall cost for the substances, including collection and recycling costs, will be at its highest. While promoting cost efficiency based on this calculation, the Group intends to further reduce the use of such substances. As for the small quantities of ozone and dust that are emitted during the operation of products and the noise pollution that is created, the Ricoh Group has set targets for their reduction and is striving to attain them. We have already made far more improvements than expected for ozone emissions, and will be able to achieve the targets also for dust and noise.

The Ricoh Group established limits for noise pollution in 1992 and for the amount of substances emitted from products in 1993. Since then, the Group has regularly lowered the limits and improved its technologies to comply with the standards. The Ricoh Group will continue to conduct environmental activities in consideration of customer needs as part of its efforts to improve customer satisfaction.