



Environmental Action Plan up to Fiscal 2010 and the Results of Fiscal 2009

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 the use of resources. [Page 21](#)

- Develop resource-saving technologies to reduce the input of new resources 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 27](#)

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 41](#)

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.
- Reduce packaging material waste per production volume in the manufacturing of imaging products outside Japan by 30% compared to fiscal 2007 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) Develop environmental technologies for energy conservation [Page 21](#)

- Develop technologies to increase the energy efficiency of products and production processes that contribute to the reduction of CO₂ emissions from business and society as a whole.

(2) Improve the energy-saving performance of products. [Page 24](#)

1) Achieve Ricoh's energy-saving targets.

(3) Reduce greenhouse gas emissions in production activities. [Page 37](#)

- Reduce CO₂ emissions by 12% by fiscal 2010 (Ricoch and manufacturing subsidiaries in Japan) compared to fiscal 1990 figures.
- Reduce CO₂ emissions by 10% by fiscal 2010 (manufacturing subsidiaries outside of Japan) compared to fiscal 1998 figures.
- Reduce emissions of greenhouse gases other than CO₂ by 10% by fiscal 2010 (semiconductor business sector) compared to fiscal 1995 figures.

(4) Reduce greenhouse gas emissions in non-production activities. [Page 48](#)

- Reduce CO₂ emissions to a level that is below fiscal 2006 figures (Ricoch and non-manufacturing subsidiaries in Japan).

(5) Reduce CO₂ emissions in logistics. [Page 53](#)

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

(6) Expand CO₂ emission reduction efforts to involve suppliers. [Page 35](#)

(7) Contribute to the reduction of environmental impact at customers' sites. [Page 50](#)

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 48](#)

- 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 31](#)

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 44](#)

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% (Ricoch production sites and manufacturing subsidiaries) compared to fiscal 2000 figures.
- Reduce environmentally sensitive substance emissions by at least 80% (Ricoch 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 31](#)

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 72](#)

Progress Made in Fiscal 2009

- ▶ While developing technologies to downsize products and extend their lives, we began developing technologies to use recycled resources heading toward 100% reuse and recycling and to reduce the use of materials with high depletion risks and replace them with other materials.
- ▶ Weight of parts reused reached 1,703 tons.
- ▶ Weight of parts reused reached 6,934 tons.
- ▶ Amount of recycled plastic used reached 960 tons.
- ▶ Amount of resources recirculated reached 24,712 tons.
- ▶ We released the imagio MP 6001GP, a multifunctional digital copier using biomass toner onto the market in November 2009.
- ▶ Waste generation was reduced by 5.7%.
- ▶ Ricoh Gotemba Plant: Achieved a 24.4% reduction. Tohoku Ricoh Co., Ltd.: Achieved a 16.3% reduction. Ricoh Elemex: Achieved a 26.9% reduction.
- ▶ RIF: Reduced by 3.3% RPL: Increased by 5.6% REI: Reduced by 19.3%
- ▶ Reduced by 23.3%.
- ▶ We are developing technologies to make our products more user-friendly and more energy-efficient as well as a production process technology to maximize thermal use efficiency.
- ▶ Our copiers, multifunctional copiers, and printers all meet energy-saving goals.
- ▶ Total emissions were reduced by 13.5%. *Increases of CO₂ due to business growth through M&A 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.
- ▶ Reduced by 9.2% for the boundary set for the 15th Environmental Action Plan (FY 2005-2007). Increased by 7.6% when emissions due to business growth (Ricoch Thermal Media) are included.
- ▶ Emissions of greenhouse gasses other than CO₂ were reduced by 47%.
- ▶ Total CO₂ emissions by non-manufacturing subsidiaries in Japan decreased 9.5%.
- ▶ CO₂ emissions per ton kilometer of transportation were improved by 2.6% from the previous year.
- ▶ We reduced CO₂ emissions in cooperation with model suppliers, specifically by setting targets for fiscal 2009 with our suppliers and providing them with in-house know-how.
- ▶ We made proposals to customers to encourage them to use the energy-saving mode. In fiscal 2010, we will continue to visualize the environmental impact of our products in use and make proposals to reduce their environmental impact both inside and outside Japan.
- ▶ We set targets for fiscal 2009 and achieved them. [Rate of continuous use of the energy-saving mode] •Machines that recover from energy-saving mode in 10 seconds (including those equipped with the 10-second recovery mode) Target: 100% Result: 100% •Other machines Target: 90% Result: 99%
- ▶ Emissions of environmentally sensitive substances from products were ensured to meet the Blue Angle requirements enacted in January 2007. Seventeen models of copiers, multifunctional copiers and printers released in fiscal 2009 meet the Ricoh standards for ozone, dust and VOCs.
- ▶ In the LCA-based manufacturing process, we established a global system to manage health risks to local residents.
- ▶ Achieved a 74% reduction by reducing the use of solvents, substituting them with substances with a lower environmental impact, and recycling wasted solvents.
- ▶ Achieved an 85% reduction through substituting with substances with lower environmental impact and the introduction of decontamination equipment.
- ▶ The group-wide environmental debt was estimated with the inclusion of companies newly added to the target of consolidated accounting and with consideration given to the removal and new installation cost imposed in and after fiscal 2008.
- ▶ The influences caused by asset retirement obligations were identified and analyzed, and checked in the accounting audit.
- ▶ Using the system we established in fiscal 2008, we communicated information on the REACH regulation and received the cooperation of our suppliers. We also provided key-person education in the Ricoh Group, with a view to increasing the speed and accuracy of information communication.
- ▶ All the Ricoh Group's targeted organizations (99) conducted biodiversity conservation activities.