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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 plant-based plastic for products.

- Commercialize plant-based 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 CO₂ emissions by 12% by fiscal 2010 (Ricoh 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 46](#)

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

(5) Reduce CO₂ 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 CO₂ 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

- ▶ Plant-based plastics 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 plant-based 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 CO₂ 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 CO₂ were reduced by 34%.
 - ▶ Total CO₂ emissions by non-manufacturing subsidiaries in Japan decreased 5.1%.
 - ▶ CO₂ emissions per ton kilometer of transportation were improved by 6.2% from the previous year.
 - ▶ CO₂ 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)