

We are making every effort to reduce discharged matter and alleviate the waste of resources at our global sites.

■ Concept

The Ricoh Group is working globally to maximize resource productivity, primarily by limiting the amount of matter generated that will be discharged, reducing water consumption, and reducing paper consumption. Since fiscal 2008, new reduction efforts have been promoted. These focus on resource waste reduction in the thermal media business, the packaging materials used for transportation between production sites inside and outside of Japan, as well as the discharged matter generated during the production of polymerized toners. In addition, we established a system in 2005 to conduct audits of contract waste disposal service providers to ensure appropriate disposal of our waste in Japan. To enhance this system, in October 2009 we launched a scheme to recognize excellent service providers.

■ Targets for Fiscal 2010

- ◎ Reduce the amount of discharged matter in the thermal media business by 10% from the level in fiscal 2006.
- ◎ Reduce the amount of discharged matter from packaging materials by production volume in the manufacture of imaging systems by 30% from fiscal 2006 levels inside Japan, and from 2007 levels outside Japan.
- ◎ Reduce the amount of discharged matter per production volume in the production of polymerized toners by 17% from the level in fiscal 2007.

■ Review of Fiscal 2010

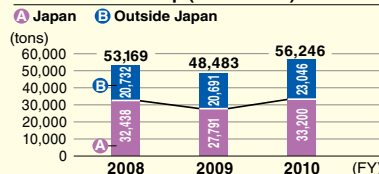
In fiscal 2010, the Group's total amount of discharged matter increased by 16.0% compared with the previous fiscal year (Graph ①). In the area of discharged

matter generated during the production of polymerized toners, reduction per production volume reached 19.5% from the fiscal 2007 level. Discharged matter from packaging materials used for site-to-site transportation decreased in five out of the six target production sites in Japan, due to the introduction of resource-circulating packaging and the review of delivery methods, while five out of the six sites failed to achieve the target of a 30% reduction, largely attributable to an increase in parts procurement from overseas. Discharged matter from the thermal media business increased by 8.6% over the fiscal 2006 level, reflecting an increase in production among other factors.

<The Entire Ricoh Group>

Total amount of discharged matter generated

① The Ricoh Group (Production)

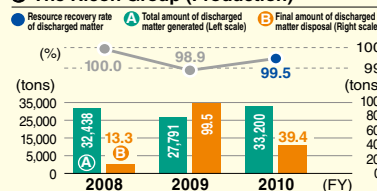


* The total amount of discharged matter generated outside Japan for fiscal 2008 and 2009 has been revised.

<Japan>

Resource recovery rate of discharged matter/Total amount of discharged matter generated/Final amount of discharged matter disposal

② The Ricoh Group (Production)



Resource recovery rate of discharged matter:

Amount of resource recovered/amount discharged

Amount of water removed by dehydration, drying, or deacidification is excluded from the calculation for the fiscal 2009 and 2010 rates.

* Graphs ① to ④, above, include data for Ricoh's non-production sites.

* Residue left after intermediate treatment is included in the calculation of the amount of resources recovered and final disposal amount for fiscal 2009 and 2010 (Graphs ② and ④). Amount of residue from refuse incineration is included in the final disposal amount, even if energy is recovered from the incineration process. Increases in the final amount of discharged matter disposal in Japan in fiscal 2009 and 2010 are attributable to this change in the calculation basis.

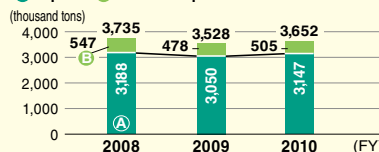
■ Future Activities

Under the new Environmental Action Plan, starting in fiscal 2011, we will continue to make efforts to reduce discharged matter focusing on the three priority areas. In the area of polymerized toner production, the new plant of Tohoku Ricoh Co., Ltd., which went on line in fiscal 2010, will be a new target site. To promote activities to reduce packaging materials for transportation to production sites, we plan to expand target sites in this priority area to 16 locations in Japan and overseas.

Volume of industrial water used

③ The Ricoh Group (Production)

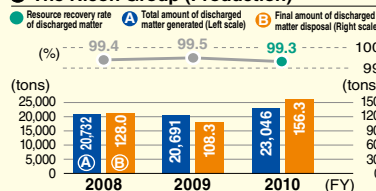
A Japan B Outside Japan



<Outside Japan>

Resource recovery rate of discharged matter/Total amount of discharged matter generated/Final amount of discharged matter disposal

④ The Ricoh Group (Production)



* The total amount of discharged matter generated outside Japan for fiscal 2008 and 2009 has been revised. The final amount of discharged matter disposal in fiscal 2008 consists of sludge in the private sewerage systems of Shanghai Ricoh Digital Equipment Co., Ltd., used in landfills, and part of the sludge used in landfills as a result of Ricoh Thermal Media (Wuxi) Co., Ltd. coming on line.

Developing a closed water recycling system using ozone micro-nano bubble technology

<Ricoh Co., Ltd. (Japan)>

Ricoh has been developing recycling technologies to manufacture its products with the minimum use of virgin resources. In December 2010, Ricoh, REO Research Institute, and the National Institute of Advanced Industrial Science and Technology (AIST) succeeded in the joint development of a closed recycling system for industrial water used in the polymerized toner production process. This system, which was developed

using ozone micro-nano bubble technology*, will help substantially reduce the environmental impact of the water treatment process and make it possible to produce polymerized toner without using virgin water resources. The first system will be completed within fiscal 2012 for use in the production process of Tohoku Ricoh Co., Ltd..

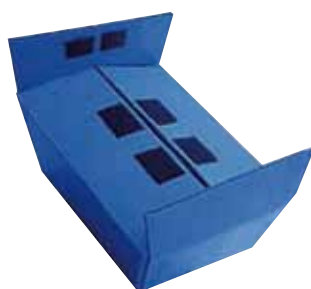
* For technological details See page 25.

Resource conservation by reducing packaging waste <Ricoh Group (Global)>

The Ricoh Group is working to reduce packaging waste over the whole delivery process ranging from suppliers to customers. To reduce the amount of packaging materials used for delivering products to our customers, we introduced “resource-recirculating eco packaging” in 2001. A similar model has been introduced to reduce packaging waste across the entire supply chain, for which we have developed original resource-recirculating packaging tools and systems. Previously, all the parts and units transported from Ricoh Asia Industry (Shenzhen) Ltd. (RAI) to production sites throughout the world were placed in corrugated cardboard boxes, which were then carried in containers. Waste materials are recycled by the business sites accepting the goods as corrugated cardboard, but recycling does cause some environmental impact and wastage of resources, which ultimately made it necessary to reduce used packaging materials. In light of this, returnable racks that can be used repetitively were introduced in fiscal 2007 for the



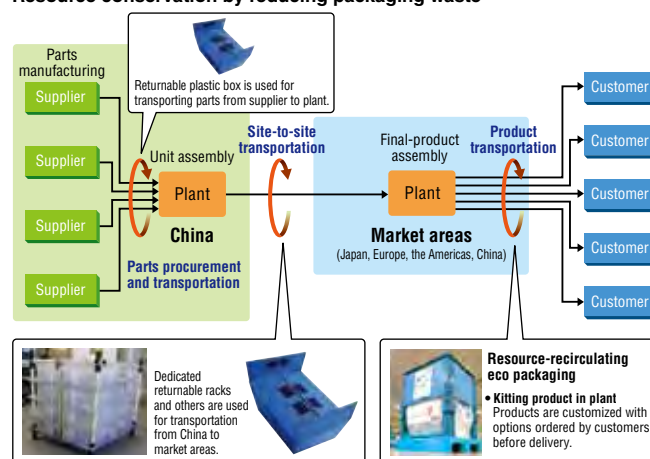
Transportation by returnable rack



Returnable plastic box used for transportation of parts from suppliers

transportation of some parts including scanner units from RAI to the Ricoh Gotemba Plant. In fiscal 2008, such racks were introduced for the transportation of ADF units from Ricoh Elemex Corporation (Shenzhen) to the Ricoh Gotemba Plant. Since fiscal 2009, use of this green packaging has been expanded globally, including for the transportation of items from RAI to Ricoh Industrie France S.A.S. (RIF). We have also worked to improve the load-carrying efficiency, which has led to the simultaneous realization of an annual reduction of packaging material waste by an amount of about 500 tons and an annual ¥45-million cost decrease. Improvement points were also identified in packaging used for the delivery of parts by suppliers, for which a huge amount of corrugated cardboard was consumed. To remedy this, the Group developed plastic boxes to be used repeatedly to transport parts from suppliers to RAI, and these have replaced corrugated cardboard boxes. In fiscal 2010, thanks to these returnable boxes, the amount of packaging materials used decreased by a total of roughly 212 tons and packaging costs by approximately ¥18.2 million.

Resource conservation by reducing packaging waste



Auditing waste disposal service providers and implementing a Certification Program for Excellent Waste Disposal Service Providers

<Ricoh Co., Ltd. (Japan)>

Ricoh has been making efforts to enhance the audit of waste disposal service providers since 2005 so that waste generated by the company will be disposed of properly and appropriately by reliable partners. We established uniform audit standards for the Ricoh Group, conducted auditor training for employees engaged in waste disposal at respective business sites, and certified them as auditors. Ricoh currently audits all the service providers that have business relations with the Group's production sites. In the event that any non-compliance is detected, the service provider is requested to make improvements, and is provided with assistance to carry them out. After a few days, a confirmation audit is conducted. In fiscal 2009, we revised our standards for service arrangements with waste disposal providers based on our audit standards. The revised standards have now been incorporated into the Ricoh Group Standards, a set of internal standards for entering new or renewing existing contracts with business partners. In addition, a Certification Program for Excellent Waste Disposal Service Providers has started, and we recognized the first certified vendor under this program in February 2010.¹ As of April 25, 2011, 33 sites at 23 companies have received certification under the program.²

In the certification program, we carefully conduct onsite inspections based on our own audit criteria, thereby detecting any risks of illegal waste disposal that might be overlooked in inspections through interviews or documents, thereby improving the operations of the audited service providers. We will cooperate with providers even more closely so that all of them can receive certification, thereby promoting the use of excellent waste disposal service providers.

- http://www.ricoh.com/environment/office/resource/03_01.html
- <http://www.ricoh.co.jp/ecology/office/resource/pop01.html> (Japanese)



Audit on a waste disposal service provider